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Memorandum

M4W41-SLF-07-933

To: H. Hampt E6-35 Date: December 3, 2007

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

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071894

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 transmittal contains the following information for sample delivery group WSCF20071894:

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

SLF/grf

Attachments 4

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M4W41-SLF-07-933

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071894
Data Deliverable Date: 06-dec-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
A08-010	B1PPJ2	W07P002598	WATER
	B1PPJ3	W07P002599	WATER
S08-010	B1PVR9	W07P002606	WATER
	B1PVT1	W07P002605	WATER
	B1PVT3	W07P002601	WATER
	B1PVV0	W07P002603	WATER
	B1PVV1	W07P002602	WATER
	B1PVV4	W07P002600	WATER
	B1PVV6	W07P002604	WATER
W08-010	B1PX22	W07P002586	WATER
	B1PX23	W07P002587	WATER
	B1PX24	W07P002588	WATER
	B1PX25	W07P002589	WATER
	B1PX28	W07P002594	WATER
	B1PX29	W07P002595	WATER
	B1PXF5	W07P002590	WATER
	B1PXH0	W07P002591	WATER
	B1PXX6	W07P002592	WATER
	B1PXX7	W07P002593	WATER
	B1PXX8	W07P002596	WATER
	B1PXX9	W07P002597	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Twenty-one (21) groundwater samples were received at the WSCF Laboratory on October 22, 2007. 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" 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,* pages 14 through 17, 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 41 through 42 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.

All QC controls are within the established limits.

Conductivity – Hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 43 for QC details. Analytical Note(s):

- Duplicate QC was analyzed on a non-SGRP sample.

All QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 44 through 47 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1PV14 (SDG# 20071881).

- Silver, Barium, Cobalt, Chromium, Copper, Iron, Potassium, Magnesium, Manganese, Nickel, Strontium, Vanadium and Zinc contamination detected in the Blank was evaluated and affected sample results were C flagged.

- Calcium, Magnesium and Sodium – Ineffective spike concentrations. Spike recoveries were marked "N/A". Check and high standards were analyzed to ensure linearity.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 48 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1PVH3 and B1PVL0 (SDG# 20071792); and, B1PX38 (SDG# 20071797).

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 49 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1PLC5 (SDG# 20071863), B1PVY2 (SDG# 20071881), B1PLC7 (SDG# 20071916), and B1PVT1 of this SDG.

All QC controls are within the established limits.

Total Organic Carbon – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Method Spike were analyzed with this delivery group per the GRP Letter of Instruction. See page 50 for QC details.

All QC controls are within the established limits.

Total Organic Halides – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 51 for QC details. Analytical Note(s):

- .Sample results were X flagged if carbon column breakthrough > 10%.

All QC controls are within the established limits.

Organic Comments

TPHD-WA – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank, Laboratory Control Sample and a Laboratory Control Sample Duplicate were analyzed with this delivery group. See page 55 for QC details.

All QC controls are within the established limits.

TPHG-WA – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Blank, Laboratory Control Sample and Laboratory Control Sample Duplicate were analyzed with this delivery group. See page 56 for QC details.

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, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 63 through 64 for QC details. Analytical Note(s):

- Technetium-99 – Duplicate and Matrix Spike were analyzed on sample# B1PVY4 (SDG# 20071859).

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-07-933

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 57 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 12/3/07

Client Services: P.D. Mix 12/3/2007

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#: WSCF20071894
Report Date: 29-nov-2007
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 29-nov-2007 13:09:48

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071894

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33829	1	34228	38381	BLANK		Total Organic Carbon
33829	2	34228	38381	METHSPIKE		Total Organic Carbon
33829	3	34228	38381	SPK-RSD		Total Organic Carbon
33829	4	34228	38381	MS	W07P002501	Total Organic Carbon
33829	5	34228	38381	MSD	W07P002501	Total Organic Carbon
33829	5	34228	38381	SPK-RPD	W07P002501	Total Organic Carbon
33829	16	34228	38381	MS	W07P002586	Total Organic Carbon
33829	17	34228	38381	MSD	W07P002586	Total Organic Carbon
33829	18	34228	38381	SAMPLE	W07P002586	Total Organic Carbon
33829	17	34228	38381	SPK-RPD	W07P002586	Total Organic Carbon
33829	19	34228	38381	SAMPLE	W07P002587	Total Organic Carbon
33829	20	34228	38381	SAMPLE	W07P002588	Total Organic Carbon
33829	21	34228	38381	SAMPLE	W07P002589	Total Organic Carbon
33829	22	34228	38381	SAMPLE	W07P002590	Total Organic Carbon
33829	23	34228	38381	SAMPLE	W07P002591	Total Organic Carbon
33829	24	34228	38381	SAMPLE	W07P002592	Total Organic Carbon
33829	25	34228	38381	SAMPLE	W07P002593	Total Organic Carbon
33835	2	34235	38385	BLANK		Anions by Ion Chromatography
33835	12	34235	38385	BLANK		Anions by Ion Chromatography
33835	3	34235	38385	LCS		Anions by Ion Chromatography
33835	8	34235	38385	SAMPLE	W07P002595	Anions by Ion Chromatography
33835	9	34235	38385	SAMPLE	W07P002597	Anions by Ion Chromatography
33835	10	34235	38385	SAMPLE	W07P002601	Anions by Ion Chromatography
33835	11	34235	38385	SAMPLE	W07P002605	Anions by Ion Chromatography
33835	5	34235	38385	DUP	W07P002606	Anions by Ion Chromatography
33835	6	34235	38385	MS	W07P002606	Anions by Ion Chromatography
33835	7	34235	38385	MSD	W07P002606	Anions by Ion Chromatography
33835	4	34235	38385	SAMPLE	W07P002606	Anions by Ion Chromatography
33835	7	34235	38385	SPK-RPD	W07P002606	Anions by Ion Chromatography
33912	1	34314	38459	LCS		Total Alkalinity as mg/L CaCO3
33912	13	34314	38459	LCS		Total Alkalinity as mg/L CaCO3
33912	25	34314	38459	LCS		Total Alkalinity as mg/L CaCO3
33912	4	34314	38459	DUP	W07GR02652	Total Alkalinity as mg/L CaCO3
33912	15	34314	38459	DUP	W07P002568	Total Alkalinity as mg/L CaCO3
33912	22	34314	38459	SAMPLE	W07P002595	Total Alkalinity as mg/L CaCO3
33912	23	34314	38459	SAMPLE	W07P002597	Total Alkalinity as mg/L CaCO3
33912	24	34314	38459	SAMPLE	W07P002601	Total Alkalinity as mg/L CaCO3
33914	1	34303	38467	BLANK		ICP-200.8 MS All possible meta
33914	2	34303	38467	LCS		ICP-200.8 MS All possible meta
33914	4	34303	38467	MS	W07P002313	ICP-200.8 MS All possible meta
33914	5	34303	38467	MSD	W07P002313	ICP-200.8 MS All possible meta
33914	5	34303	38467	SPK-RPD	W07P002313	ICP-200.8 MS All possible meta
33914	7	34303	38467	MS	W07P002320	ICP-200.8 MS All possible meta
33914	8	34303	38467	MSD	W07P002320	ICP-200.8 MS All possible meta
33914	8	34303	38467	SPK-RPD	W07P002320	ICP-200.8 MS All possible meta
33914	28	34303	38467	SAMPLE	W07P002598	ICP-200.8 MS All possible meta
33914	29	34303	38467	SAMPLE	W07P002599	ICP-200.8 MS All possible meta
33914	30	34303	38467	SAMPLE	W07P002601	ICP-200.8 MS All possible meta
33914	31	34303	38467	SAMPLE	W07P002605	ICP-200.8 MS All possible meta

33914	32	34303	38467	SAMPLE	W07P002606	ICP-200.8 MS All possible meta
33902	1	34304	38469	BLANK		ICP-200.8 MS All possible meta
33902	2	34304	38469	LCS		ICP-200.8 MS All possible meta
33902	4	34304	38469	MS	W07P002336	ICP-200.8 MS All possible meta
33902	5	34304	38469	MSD	W07P002336	ICP-200.8 MS All possible meta
33902	5	34304	38469	SPK-RPD	W07P002336	ICP-200.8 MS All possible meta
33902	19	34304	38469	SAMPLE	W07P002594	ICP-200.8 MS All possible meta
33902	20	34304	38469	SAMPLE	W07P002595	ICP-200.8 MS All possible meta
33902	21	34304	38469	SAMPLE	W07P002596	ICP-200.8 MS All possible meta
33902	22	34304	38469	SAMPLE	W07P002597	ICP-200.8 MS All possible meta
33964	1	34366	38494	LCS		Total Alkalinity as mg/L CaCO3
33964	14	34366	38494	LCS		Total Alkalinity as mg/L CaCO3
33964	9	34366	38494	DUP	W07GR02735	Total Alkalinity as mg/L CaCO3
33964	3	34366	38494	DUP	W07P002605	Total Alkalinity as mg/L CaCO3
33964	2	34366	38494	SAMPLE	W07P002605	Total Alkalinity as mg/L CaCO3
33964	4	34366	38494	SAMPLE	W07P002606	Total Alkalinity as mg/L CaCO3
34059	1	34462	38644	LCS		Conductivity
34059	3	34462	38644	DUP	W070000983	Conductivity
34059	10	34462	38644	SAMPLE	W07P002600	Conductivity
34059	11	34462	38644	SAMPLE	W07P002602	Conductivity
34059	12	34462	38644	SAMPLE	W07P002603	Conductivity
34059	13	34462	38644	SAMPLE	W07P002604	Conductivity
34170	1	34571	38774	BLANK		Total Organic Halides
34170	3	34571	38774	LCS		Total Organic Halides
34170	6	34571	38774	SAMPLE	W07P002586	Total Organic Halides
34170	7	34571	38774	SAMPLE	W07P002587	Total Organic Halides
34170	8	34571	38774	SAMPLE	W07P002588	Total Organic Halides
34170	9	34571	38774	SAMPLE	W07P002589	Total Organic Halides
34170	10	34571	38774	SAMPLE	W07P002590	Total Organic Halides
34170	11	34571	38774	SAMPLE	W07P002591	Total Organic Halides
34170	12	34571	38774	SAMPLE	W07P002592	Total Organic Halides
34170	14	34571	38774	MS	W07P002593	Total Organic Halides
34170	15	34571	38774	MSD	W07P002593	Total Organic Halides
34170	13	34571	38774	SAMPLE	W07P002593	Total Organic Halides
34170	15	34571	38774	SPK-RPD	W07P002593	Total Organic Halides
34134	1	34537	38906	BLANK		ICP Metals Analysis, Grd H20 P
34134	2	34537	38906	LCS		ICP Metals Analysis, Grd H20 P
34134	4	34537	38906	MS	W07P002570	ICP Metals Analysis, Grd H20 P
34134	5	34537	38906	MSD	W07P002570	ICP Metals Analysis, Grd H20 P
34134	5	34537	38906	SPK-RPD	W07P002570	ICP Metals Analysis, Grd H20 P
34134	17	34537	38906	SAMPLE	W07P002594	ICP Metals Analysis, Grd H20 P
34134	18	34537	38906	SAMPLE	W07P002595	ICP Metals Analysis, Grd H20 P
34134	19	34537	38906	SAMPLE	W07P002596	ICP Metals Analysis, Grd H20 P
34134	20	34537	38906	SAMPLE	W07P002597	ICP Metals Analysis, Grd H20 P

w13qlog v4.2 29-nov-2007 13:09:48

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071894

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			38577	BLANK		NWTPH-D TPH Diesel Range (Wa)
			38577	LCS		NWTPH-D TPH Diesel Range (Wa)
			38577	MS	W07P002595	NWTPH-D TPH Diesel Range (Wa)
			38577	MSD	W07P002595	NWTPH-D TPH Diesel Range (Wa)
			38577	SAMPLE	W07P002595	NWTPH-D TPH Diesel Range (Wa)
			38577	SPK-RPD	W07P002595	NWTPH-D TPH Diesel Range (Wa)
			38577	SURR	W07P002595	NWTPH-D TPH Diesel Range (Wa)
			38577	SAMPLE	W07P002597	NWTPH-D TPH Diesel Range (Wa)
			38577	SURR	W07P002597	NWTPH-D TPH Diesel Range (Wa)
34294	1	34693	38909	BLANK		NWTPH-GX TPH Gasoline Range
34294	2	34693	38909	LCS		NWTPH-GX TPH Gasoline Range
34294	4	34693	38909	DUP	W07P002595	NWTPH-GX TPH Gasoline Range
34294	5	34693	38909	MS	W07P002595	NWTPH-GX TPH Gasoline Range
34294	6	34693	38909	MSD	W07P002595	NWTPH-GX TPH Gasoline Range
34294	3	34693	38909	SAMPLE	W07P002595	NWTPH-GX TPH Gasoline Range
34294	6	34693	38909	SPK-RPD	W07P002595	NWTPH-GX TPH Gasoline Range
34294	7	34693	38909	SAMPLE	W07P002597	NWTPH-GX TPH Gasoline Range

w13qlog v4.2 29-nov-2007 13:09:48

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20071894

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33927	1	34327	38562	BLANK		TC99 by Liquid Scin.
33927	2	34327	38562	LCS		TC99 by Liquid Scin.
33927	4	34327	38562	DUP	W07P002535	TC99 by Liquid Scin.
33927	3	34327	38562	MS	W07P002535	TC99 by Liquid Scin.
33927	12	34327	38562	SAMPLE	W07P002598	TC99 by Liquid Scin.
33927	13	34327	38562	SAMPLE	W07P002599	TC99 by Liquid Scin.
33928	1	34328	38726	BLANK		Tritium by Liq Sct column prep
33928	2	34328	38726	LCS		Tritium by Liq Sct column prep
33928	4	34328	38726	DUP	W07P002598	Tritium by Liq Sct column prep
33928	3	34328	38726	MS	W07P002598	Tritium by Liq Sct column prep
33928	5	34328	38726	SAMPLE	W07P002598	Tritium by Liq Sct column prep
33928	6	34328	38726	SAMPLE	W07P002599	Tritium by Liq Sct column prep
33928	7	34328	38726	SAMPLE	W07P002600	Tritium by Liq Sct column prep
33928	8	34328	38726	SAMPLE	W07P002602	Tritium by Liq Sct column prep
33928	9	34328	38726	SAMPLE	W07P002603	Tritium by Liq Sct column prep
33928	10	34328	38726	SAMPLE	W07P002604	Tritium by Liq Sct column prep

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-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	HEIS 6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
LA-519-401	LA-519-401: SPECIFIC CONDUCTANCE	
	ASTM D1125	Standard Test Methods for Electrical Conductivity and Resistivity of Water
	EPA SW-846 9050A	SPECIFIC CONDUCTANCE
	EPA-600/4-79-020 120.1	CONDUCTANCE
	HEIS 120.1_CONDUCT	Conductivity
LA-523-444	LA-523-444: TOTAL ORGANIC HALIDES BASED ON SW-846 METHOD 9020B	
	EPA SW-846 9020B	TOTAL ORGANIC HALIDES (TOX)
	HEIS 9020_TOX	Total Organic Halides based on SW846 Method 9020B
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC)	
	HEIS 2320B	Alkalinity
	Standard Methods 2320B	Alkalinity

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
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
METHOD REFERENCES REPORT

Department: Organic

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-523-443 LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCA

HEIS WTPH_GASOLINE	Total Petroleum Hydrocarbons, Gasoline
WDOE TPH NWTPH-G	Volatile Petroleum Products Method for Soil and Water

LA-523-493 NWTPH-Diesel and/or Gasoline

HEIS WTPH_DIESEL (HEIS)	Total Petroleum Hydrocarbons in Diesel
WDOE TPHD	Total Petroleum Hydrocarbons in Diesel

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
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-508-421 LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER

HEIS	**ALPHA_LSC**	A/B Liquid Scintilillation
HEIS	**BETA_LSC**	A/B Liquid Scintilallation
HEIS	**TC99_3MDSK_LSC**	TC99 by Liquid Scintillation
HEIS	**TRITIUM_EIE_LSC**	Tritium Liquid Scintillation

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: W08-010
Sample # W07P002586
Client ID: B1PX22 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	114	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.667	mg/L			1.00	0.30		10/23/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002587
Client ID: B1PX23 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	13.2	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.678	mg/L			1.00	0.30		10/23/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002588
Client ID: B1PX24 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	11.3	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.673	mg/L			1.00	0.30		10/23/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002589
Client ID: B1PX25 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	7.09	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.662	mg/L			1.00	0.30		10/23/07

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

C - The Analyte was found in the Associated Blank.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002590
Client ID: B1PXF5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	U	< 5.00	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		10/23/07

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002591
Client ID: B1PXH0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	U	< 5.00	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		10/23/07

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

C - The Analyte was found in the Associated Blank.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002592
Client ID: B1PXX6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	U	< 5.00	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		10/23/07

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002593
Client ID: B1PXX7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**11/14/07**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	U	< 5.00	ug/L			1.00	5.0		11/15/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		10/23/07

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002594
Client ID: B1PX28 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	19.7	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		3.33e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	12.4	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	76.8	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		1.17e+04	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	24.4	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		2.36e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411		43.4	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411		104	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	33.3	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	17.2	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	11.2	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	27.9	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	24.8	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411	D	1.30e+05	ug/L			2.00	68		11/27/07
Strontium	7440-24-6	LA-505-411		628	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
ICP-200.8 MS All possible meta Prep											**10/25/07**
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		10/29/07

MDL=Minimum Detection Limit
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TP Err=Total Propagated Error
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002595
Client ID: B1PX29 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

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	< 0.0300	mg/L			5.00	0.030		10/23/07
Chloride	16887-00-6	LA-533-410	D	79.5	mg/L			20.00	0.60		10/23/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0500	mg/L			5.00	0.050		10/23/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	12.9	mg/L			5.00	0.025		10/23/07
Sulfate	14808-79-8	LA-533-410	D	259	mg/L			20.00	1.4		10/23/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		505	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		3.33e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	11.8	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	81.4	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		1.18e+04	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	25.2	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		2.34e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411		39.3	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411		103	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	55.6	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	17.7	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	12.8	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	28.9	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	24.4	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411	D	1.30e+05	ug/L			2.00	68		11/27/07
Strontium	7440-24-6	LA-505-411		628	ug/L			1.00	4.0		11/27/07

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002595
Client ID: B1PX29 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
ICP-200.8 MS All possible meta Prep											**10/25/07**
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412		0.130	ug/L			1.00	0.100		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		75.0	mg/L			1.00	1.0		10/29/07

MDL = Minimum Detection Limit
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002596
Client ID: B1PXX8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	16.8	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411	C	59.3	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	10.8	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	18.7	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	380	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	19.7	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411	U	< 27.0	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	5.00	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	23.4	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	18.4	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	10.4	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	14.6	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	23.2	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		117	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411	C	7.10	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
ICP-200.8 MS All possible meta Prep											**10/25/07**
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		10/29/07

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002597
Client ID: B1PXX9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

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	U	< 6.00e-03	mg/L			1.00	6.0e-03		10/23/07
Chloride	16887-00-6	LA-533-410	U	< 0.0300	mg/L			1.00	0.030		10/23/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/23/07
Nitrogen in Nitrate	NO3-N	LA-533-410	U	< 5.00e-03	mg/L			1.00	5.0e-03		10/23/07
Sulfate	14808-79-8	LA-533-410	U	< 0.0700	mg/L			1.00	0.070		10/23/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	11.4	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411	C	40.0	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	11.2	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	20.3	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	367	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	22.5	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411	U	< 27.0	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	4.80	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	16.6	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	20.4	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	12.2	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	21.0	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	23.2	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411	U	< 34.0	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411	C	6.80	ug/L			1.00	4.0		11/27/07

MDL=Minimum Detection Limit
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DF=Dilution Factor

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X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002597
Client ID: B1PXX9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
ICP-200.8 MS All possible meta Prep											**10/25/07**
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411	U	< 1.00	mg/L			1.00	1.0		10/29/07

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: A08-010
Sample # W07P002598
Client ID: B1PPJ2 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		3.50	ug/L			1.00	0.0500		10/29/07

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

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X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: A08-010
Sample # W07P002599
Client ID: B1PPJ3 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		10/29/07

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

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X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002600
Client ID: B1PVV4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Conductivity											
Conductivity	CONDUCT	LA-519-401		382	uS/cm			1.00	0.49		11/08/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002601
Client ID: B1PVT3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

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		0.296	mg/L			1.00	6.0e-03		10/23/07
Chloride	16887-00-6	LA-533-410	D	22.7	mg/L			5.00	0.15		10/23/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/23/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	5.80	mg/L			5.00	0.025		10/23/07
Sulfate	14808-79-8	LA-533-410	D	56.0	mg/L			5.00	0.35		10/23/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		56.3	ug/L			1.00	0.0500		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		10/29/07

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

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U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002602
Client ID: B1PVV1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Conductivity											
Conductivity	CONDUCT	LA-519-401		399	uS/cm			1.00	0.49		11/08/07

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

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U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002603
Client ID: B1PVV0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Conductivity											
Conductivity	CONDUCT	LA-519-401		398	uS/cm			1.00	0.49		11/08/07

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

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U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002604
Client ID: B1PVV6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Conductivity											
Conductivity	CONDUCT	LA-519-401		376	uS/cm			1.00	0.49		11/08/07

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

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U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002605
Client ID: B1PVT1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

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		0.289	mg/L			1.00	6.0e-03		10/23/07
Chloride	16887-00-6	LA-533-410	D	17.1	mg/L			5.00	0.15		10/23/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/23/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.04	mg/L			5.00	0.025		10/23/07
Sulfate	14808-79-8	LA-533-410	D	56.8	mg/L			5.00	0.35		10/23/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		80.5	ug/L			1.00	0.0500		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		10/31/07

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

C - The Analyte was found in the Associated Blank.(inorg)
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X - Other flags/notes described in the comments/narrative(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002606
Client ID: B1PVR9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Inorganic
Sampled: 10/22/07
Received: 10/22/07

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		0.303	mg/L			1.00	6.0e-03		10/23/07
Chloride	16887-00-6	LA-533-410	D	16.9	mg/L			5.00	0.15		10/23/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/23/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.06	mg/L			5.00	0.025		10/23/07
Sulfate	14808-79-8	LA-533-410	D	56.7	mg/L			5.00	0.35		10/23/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		45.6	ug/L			1.00	0.0500		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		10/31/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 10/22/07
Receive Date:10/22/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002606											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	16.8263		RPD			0.550	20.000		10/23/07
DUP	Fluoride	16984-48-8	0.3104		RPD			2.479	20.000		10/23/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	10/23/07
DUP	Nitrogen in Nitrate	NO3-N	6.0291		RPD			0.590	20.000		10/23/07
DUP	Sulfate	14808-79-8	56.2596		RPD			0.810	20.000		10/23/07
MS	Chloride	16887-00-6	1.0707	108.152	% Recov	75.000	125.000				10/23/07
MS	Fluoride	16984-48-8	0.5283	105.239	% Recov	75.000	125.000				10/23/07
MS	Nitrogen in Nitrite	NO2-N	0.519	104.217	% Recov	75.000	125.000				10/23/07
MS	Nitrogen in Nitrate	NO3-N	0.4475	99.224	% Recov	75.000	125.000				10/23/07
MS	Sulfate	14808-79-8	1.99536	100.776	% Recov	75.000	125.000				10/23/07
MSD	Chloride	16887-00-6	1.03422	104.467	% Recov	75.000	125.000				10/23/07
MSD	Fluoride	16984-48-8	0.5426	108.088	% Recov	75.000	125.000				10/23/07
MSD	Nitrogen in Nitrite	NO2-N	0.5315	106.727	% Recov	75.000	125.000				10/23/07
MSD	Nitrogen in Nitrate	NO3-N	0.4586	101.685	% Recov	75.000	125.000				10/23/07
MSD	Sulfate	14808-79-8	2.07966	105.033	% Recov	75.000	125.000				10/23/07
SPK-RPD	Chloride	16887-00-6	104.467		RPD			3.466	20.000		10/23/07
SPK-RPD	Fluoride	16984-48-8	108.088		RPD			2.671	20.000		10/23/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	106.727		RPD			2.380	20.000		10/23/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	101.685		RPD			2.450	20.000		10/23/07
SPK-RPD	Sulfate	14808-79-8	105.033		RPD			4.137	20.000		10/23/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/23/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/23/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/23/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/23/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
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	<1e-2	n/a	mg/L	0.000	0.020			U	10/23/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/23/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/23/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/23/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/23/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/23/07
LCS	Chloride	16887-00-6	193.4695	96.735	% Recov	80.000	120.000				10/23/07
LCS	Fluoride	16984-48-8	107.5644	106.499	% Recov	80.000	120.000				10/23/07
LCS	Nitrogen in Nitrite	NO2-N	98.5322	98.532	% Recov	80.000	120.000				10/23/07
LCS	Nitrogen in Nitrate	NO3-N	92.0795	100.964	% Recov	80.000	120.000				10/23/07
LCS	Sulfate	14808-79-8	393.6328	98.408	% Recov	80.000	120.000				10/23/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20071894
Matrix: WATER
Test: Conductivity

Sample Date: 10/16/07
Receive Date:10/23/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W070000983											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Conductivity	CONDUCT	8.10		RPD			1.242	20.000		11/08/07
BATCH QC											
LCS	Conductivity	CONDUCT	133.9	101.439	%rec	90.000	110.000				11/08/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 10/19/07
Receive Date:10/19/07

Lab ID: W07P002570
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Silver	7440-22-4	998.5	99.850	% Recov	75.000	125.000				11/27/07
MS	Barium	7440-39-3	490.8	98.160	% Recov	75.000	125.000				11/27/07
MS	Beryllium	7440-41-7	517	103.400	% Recov	75.000	125.000				11/27/07
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				11/27/07
MS	Cadmium	7440-43-9	1013	101.300	% Recov	75.000	125.000				11/27/07
MS	Cobalt	7440-48-4	991.6	99.160	% Recov	75.000	125.000				11/27/07
MS	Chromium	7440-47-3	980.8	98.080	% Recov	75.000	125.000				11/27/07
MS	Copper	7440-50-8	968.2	96.820	% Recov	75.000	125.000				11/27/07
MS	Iron	7439-89-6	1001.7	100.170	% Recov	75.000	125.000				11/27/07
MS	Potassium	7440-09-7	10105	101.050	% Recov	75.000	125.000				11/27/07
MS	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				11/27/07
MS	Manganese	7439-96-5	1010.5	101.050	% Recov	75.000	125.000				11/27/07
MS	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				11/27/07
MS	Nickel	7440-02-0	998.3	99.830	% Recov	75.000	125.000				11/27/07
MS	Antimony	7440-36-0	1028	102.800	% Recov	75.000	125.000				11/27/07
MS	Strontium	7440-24-6	498.9	99.780	% Recov	75.000	125.000				11/27/07
MS	Vanadium	7440-62-2	974.6	97.460	% Recov	75.000	125.000				11/27/07
MS	Zinc	7440-66-6	995.9	99.590	% Recov	75.000	125.000				11/27/07
MSD	Silver	7440-22-4	999.5	99.950	% Recov	75.000	125.000				11/27/07
MSD	Barium	7440-39-3	490.7	98.140	% Recov	75.000	125.000				11/27/07
MSD	Beryllium	7440-41-7	511.5	102.300	% Recov	75.000	125.000				11/27/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				11/27/07
MSD	Cadmium	7440-43-9	1010	101.000	% Recov	75.000	125.000				11/27/07
MSD	Cobalt	7440-48-4	988.6	98.860	% Recov	75.000	125.000				11/27/07
MSD	Chromium	7440-47-3	986.8	98.680	% Recov	75.000	125.000				11/27/07
MSD	Copper	7440-50-8	965.1	96.510	% Recov	75.000	125.000				11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 10/19/07
Receive Date:10/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	985.7	98.570	% Recov	75.000	125.000				11/27/07
MSD	Potassium	7440-09-7	10185	101.850	% Recov	75.000	125.000				11/27/07
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				11/27/07
MSD	Manganese	7439-96-5	1005.5	100.550	% Recov	75.000	125.000				11/27/07
MSD	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				11/27/07
MSD	Nickel	7440-02-0	993.3	99.330	% Recov	75.000	125.000				11/27/07
MSD	Antimony	7440-36-0	1009	100.900	% Recov	75.000	125.000				11/27/07
MSD	Strontium	7440-24-6	500.2	100.040	% Recov	75.000	125.000				11/27/07
MSD	Vanadium	7440-62-2	966.4	96.640	% Recov	75.000	125.000				11/27/07
MSD	Zinc	7440-66-6	987.9	98.790	% Recov	75.000	125.000				11/27/07
SPK-RPD	Silver	7440-22-4	99.950		RPD			0.100	20.000		11/27/07
SPK-RPD	Barium	7440-39-3	98.140		RPD			0.020	20.000		11/27/07
SPK-RPD	Beryllium	7440-41-7	102.300		RPD			1.070	20.000		11/27/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		11/27/07
SPK-RPD	Cadmium	7440-43-9	101.000		RPD			0.297	20.000		11/27/07
SPK-RPD	Cobalt	7440-48-4	98.860		RPD			0.303	20.000		11/27/07
SPK-RPD	Chromium	7440-47-3	98.680		RPD			0.610	20.000		11/27/07
SPK-RPD	Copper	7440-50-8	96.510		RPD			0.321	20.000		11/27/07
SPK-RPD	Iron	7439-89-6	98.570		RPD			1.610	20.000		11/27/07
SPK-RPD	Potassium	7440-09-7	101.850		RPD			0.789	20.000		11/27/07
SPK-RPD	Magnesium	7439-95-4			RPD			n/a	20.000		11/27/07
SPK-RPD	Manganese	7439-96-5	100.550		RPD			0.496	20.000		11/27/07
SPK-RPD	Sodium	7440-23-5			RPD			n/a	20.000		11/27/07
SPK-RPD	Nickel	7440-02-0	99.330		RPD			0.502	20.000		11/27/07
SPK-RPD	Antimony	7440-36-0	100.900		RPD			1.865	20.000		11/27/07
SPK-RPD	Strontium	7440-24-6	100.040		RPD			0.260	20.000		11/27/07
SPK-RPD	Vanadium	7440-62-2	96.640		RPD			0.845	20.000		11/27/07
SPK-RPD	Zinc	7440-66-6	98.790		RPD			0.807	20.000		11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

BATCH QC

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Silver	7440-22-4	24.4	24.400	ug/L						11/27/07
BLANK	Barium	7440-39-3	4.8	4.800	ug/L						11/27/07
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	11/27/07
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	11/27/07
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	11/27/07
BLANK	Cobalt	7440-48-4	15.3	15.300	ug/L						11/27/07
BLANK	Chromium	7440-47-3	18.3	18.300	ug/L						11/27/07
BLANK	Copper	7440-50-8	11.1	11.100	ug/L						11/27/07
BLANK	Iron	7439-89-6	14.4	14.400	ug/L						11/27/07
BLANK	Potassium	7440-09-7	297.4	297.400	ug/L						11/27/07
BLANK	Magnesium	7439-95-4	46.7	46.700	ug/L						11/27/07
BLANK	Manganese	7439-96-5	10.2	10.200	ug/L						11/27/07
BLANK	Sodium	7440-23-5	<27	n/a	ug/L					U	11/27/07
BLANK	Nickel	7440-02-0	16.5	16.500	ug/L						11/27/07
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	11/27/07
BLANK	Strontium	7440-24-6	6.7	6.700	ug/L						11/27/07
BLANK	Vanadium	7440-62-2	16.2	16.200	ug/L						11/27/07
BLANK	Zinc	7440-66-6	23.3	23.300	ug/L						11/27/07
LCS	Silver	7440-22-4	1008	100.800	% Recov	80.000	120.000				11/27/07
LCS	Barium	7440-39-3	482.7	96.540	% Recov	80.000	120.000				11/27/07
LCS	Beryllium	7440-41-7	518.2	103.640	% Recov	80.000	120.000				11/27/07
LCS	Calcium	7440-70-2	1156	115.600	% Recov	80.000	120.000				11/27/07
LCS	Cadmium	7440-43-9	1018	101.800	% Recov	80.000	120.000				11/27/07
LCS	Cobalt	7440-48-4	1022	102.200	% Recov	80.000	120.000				11/27/07
LCS	Chromium	7440-47-3	1003	100.300	% Recov	80.000	120.000				11/27/07
LCS	Copper	7440-50-8	976.9	97.690	% Recov	80.000	120.000				11/27/07
LCS	Iron	7439-89-6	1007	100.700	% Recov	80.000	120.000				11/27/07
LCS	Potassium	7440-09-7	10270	102.700	% Recov	80.000	120.000				11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Magnesium	7439-95-4	997.2	99.720	% Recov	80.000	120.000				11/27/07
LCS	Manganese	7439-96-5	1010	101.000	% Recov	80.000	120.000				11/27/07
LCS	Sodium	7440-23-5	953.1	95.310	% Recov	80.000	120.000				11/27/07
LCS	Nickel	7440-02-0	1027	102.700	% Recov	80.000	120.000				11/27/07
LCS	Antimony	7440-36-0	1022	102.200	% Recov	80.000	120.000				11/27/07
LCS	Strontium	7440-24-6	484.1	96.820	% Recov	80.000	120.000				11/27/07
LCS	Vanadium	7440-62-2	984.7	98.470	% Recov	80.000	120.000				11/27/07
LCS	Zinc	7440-66-6	1024	102.400	% Recov	80.000	120.000				11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 10/09/07
Receive Date:10/09/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002313											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	46.57	116.425	% Recov	70.000	130.000				10/29/07
MSD	Uranium	7440-61-1	47.11	117.775	% Recov	70.000	130.000				10/29/07
SPK-RPD	Uranium	7440-61-1	117.775		RPD			1.153	20.000		10/29/07
Lab ID: W07P002320											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	48.95	122.375	% Recov	70.000	130.000				10/29/07
MSD	Uranium	7440-61-1	47.42	118.550	% Recov	70.000	130.000				10/29/07
SPK-RPD	Uranium	7440-61-1	118.550		RPD			3.175	20.000		10/29/07
BATCH QC											
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	10/29/07
LCS	Uranium	7440-61-1	43.73	109.325	% Recov	85.000	115.000				10/29/07
Lab ID: W07P002336											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Lead	7439-92-1	44.56	111.400	% Recov	70.000	130.000				10/29/07
MSD	Lead	7439-92-1	46.1	115.250	% Recov	70.000	130.000				10/29/07
SPK-RPD	Lead	7439-92-1	115.250		RPD			3.397	20.000		10/29/07
BATCH QC											
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	10/29/07
LCS	Lead	7439-92-1	45.6	114.000	% Recov	85.000	115.000				10/29/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

Sample Date: 10/17/07
Receive Date:10/17/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02652											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	155.6		RPD			2.161	20.000		10/29/07
Lab ID: W07P002568											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	126.4		RPD			1.023	20.000		10/29/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	53.11	100.208	%Recove	80.000	120.000				10/29/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	53.06	100.113	%Recove	80.000	120.000				10/29/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	53.17	100.321	%Recove	80.000	120.000				10/29/07
Lab ID: W07GR02735											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	182.8		RPD			1.034	20.000		10/31/07
Lab ID: W07P002605											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	134.4		RPD			0.672	20.000		10/31/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	122.2	106.261	%Recove	80.000	120.000				10/31/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	125.3	108.957	%Recove	80.000	120.000				10/31/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: Total Organic Carbon

Sample Date: 10/16/07
Receive Date:10/16/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002501											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	0.9141	91.410	% Recov	75.000	125.000				10/23/07
MSD	Total Organic Carbon	TOC	0.9171	91.710	% Recov	75.000	125.000				10/23/07
SPK-RPD	Total Organic Carbon	TOC	91.710		RPD			0.328	20.000		10/23/07
Lab ID: W07P002586											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	0.9162	91.620	% Recov	75.000	125.000				10/23/07
MSD	Total Organic Carbon	TOC	0.9152	91.520	% Recov	75.000	125.000				10/23/07
SPK-RPD	Total Organic Carbon	TOC	91.520		RPD			0.109	20.000		10/23/07
BATCH QC											
BLANK	Total Organic Carbon	TOC	0.02938	0.029	mg/L	0.000	300.000				10/23/07
METHSPIKE	Total Organic Carbon	TOC	0.9327	93.270	% Recov	80.000	120.000				10/23/07
SPK-RSD	Total Organic Carbon	TOC	0.6281	0.628	% RSD	0.000	20.000				10/23/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071894
Matrix: WATER
Test: Total Organic Halides

Sample Date: 10/22/07
Receive Date:10/22/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002593											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Halides	TOX	40.7	101.750	% Recov	50.000	150.000				11/15/07
MSD	Total Organic Halides	TOX	40.0	100.000	% Recov	50.000	150.000				11/15/07
SPK-RPD	Total Organic Halides	TOX	100.000		RPD			1.735	20.000		11/15/07
BATCH QC											
BLANK	Total Organic Halides	TOX	<5	n/a	ug/L	0.000	300.000			U	11/15/07
LCS	Total Organic Halides	TOX	389	97.250	%rec	80.000	120.000				11/15/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20071894
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		TOX: X-flag indicates >10% carbon columne breakthrough during elution and is confirmed by triplicate analysis. Suspected cause is matrix effect. JGD 11/19/07 ICP-AES: High barium, chromium, manganese, nickel, silver, vanadium, zinc, iron, magnesium, potassium, cobalt, copper, and strontium preparation blank results; "C" flag if applicable. Calcium, sodium, and magnesium sample results beyond effective spike range (spike recoveries marked "NA"). Check and high standards used to ensure calcium, sodium, and magnesium linearity because sample results are greater than the calibration standard.

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample
VALTEST - Test Validation
LOGTEST - Login for Tests
TESTDATA - Test Data Entry

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002595
Client ID: B1PX29 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Organic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											**10/29/07**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 72.0	ug/L			1.00	72		10/31/07
Kerosene	TPHKEROSENE	LA-523-493	U	< 72.0	ug/L			1.00	72		10/31/07
NWTPH-GX TPH Gasoline Range Prep											**10/30/07**
NWTPH-GX TPH Gasoline Range											
Total Pet. Hydrocarbons Gas	TPHGASOLINE	LA-523-443	U	< 250	ug/L			1.00	2.5e+02		10/30/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-010
Sample # W07P002597
Client ID: B1PXX9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Organic
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											**10/29/07**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 72.0	ug/L			1.00	72		11/07/07
Kerosene	TPHKEROSENE	LA-523-493	U	< 72.0	ug/L			1.00	72		11/07/07
NWTPH-GX TPH Gasoline Range Prep											**10/30/07**
NWTPH-GX TPH Gasoline Range											
Total Pet. Hydrocarbons Gas	TPHGASOLINE	LA-523-443	U	< 250	ug/L			1.00	2.5e+02		10/30/07

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

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071894
Matrix: WATER
Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 10/22/07
Receive Date:10/22/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002595											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl Surr	84-15-1	487.72	101.000	% Recov	70.000	130.000				11/07/07
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2314.9	96.300	% Recov	75.000	125.000				11/07/07
MSD	ortho-Terphenyl Surr	84-15-1	467.36	97.200	% Recov	70.000	130.000				10/31/07
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2474.4	103.000	% Recov	75.000	125.000				10/31/07
SPK-RPD	ortho-Terphenyl Surr	84-15-1	97.200		RPD			3.835	20.000		10/31/07
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	103.000		RPD			6.724	20.000		10/31/07
SURR	ortho-Terphenyl Surr	84-15-1	473.76	98.500	% Recov	70.000	130.000				10/31/07
Lab ID: W07P002597											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl Surr	84-15-1	434.78	90.400	% Recov	70.000	130.000				11/07/07
BATCH QC											
BLANK	Kerosene	TPHKEROSENE	< 75	n/a	ug/L					U	10/31/07
BLANK	ortho-Terphenyl Surr	84-15-1	515.70	103.000	% Recov	70.000	130.000				10/31/07
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 75	n/a	ug/L					U	10/31/07
LCS	ortho-Terphenyl Surr	84-15-1	486.22	97.200	% Recov	70.000	130.000				10/31/07
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2545.0	102.000	% Recov	80.000	120.000				10/31/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071894
Matrix: WATER
Test: NWTPH-GX TPH Gasoline Range

Sample Date: 10/22/07
Receive Date:10/22/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002595											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250		RPD			n/a	20.000	U	10/30/07
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2200	88.000	% Recov	75.000	125.000				10/30/07
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2100	84.000	% Recov	75.000	125.000				10/30/07
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	84.000		RPD			4.651	20.000		10/30/07
BATCH QC											
BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<250	n/a	mg/L	0.000	300.000			U	10/30/07
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2300	92.000	%rec	80.000	120.000				10/30/07

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: A08-010
Sample # W07P002598
Client ID: B1PPJ2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Radiochemistry
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421		100	pCi/L	+-20.0	pCi/L	1.00	4.3		11/01/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	66.0	pCi/L	+-139	pCi/L	1.00	2.1e+02		11/09/07

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

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X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: A08-010
Sample # W07P002599
Client ID: B1PPJ3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Radiochemistry
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	-3.20	pCi/L	+-3.20	pCi/L	1.00	4.3		11/01/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	99.0	pCi/L	+-152	pCi/L	1.00	2.1e+02		11/09/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002600
Client ID: B1PVV4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Radiochemistry
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.30e+03	pCi/L	+-506	pCi/L	1.00	2.1e+02		11/09/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002602
Client ID: B1PVV1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Radiochemistry
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		9.50e+03	pCi/L	+-1.90e+03	pCi/L	1.00	2.1e+02		11/09/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002603
Client ID: B1PVV0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Radiochemistry
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		9.70e+03	pCi/L	+-1.94e+03	pCi/L	1.00	2.1e+02		11/09/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002604
Client ID: B1PVV6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20071894
Department: Radiochemistry
Sampled: 10/22/07
Received: 10/22/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.50e+03	pCi/L	+-550	pCi/L	1.00	2.1e+02		11/09/07

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

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071894
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 10/17/07
Receive Date:10/17/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002535											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Technetium-99	14133-76-7	9.1E+01		RPD			9.195	20.000		11/01/07
MS	Technetium-99	14133-76-7	88.43	104.837	% Recov	75.000	125.000				11/01/07
BATCH QC											
BLANK	Technetium-99	14133-76-7	U-1.6	n/a	pCi/L	-10.000	10.000				11/01/07
LCS	Technetium-99	14133-76-7	216.1	106.611	% Recov	80.000	120.000				11/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071894
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 10/22/07
Receive Date:10/22/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002598											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	U1.8E+02		RPD			n/a	20.000		11/09/07
MS	Tritium	10028-17-8	19834.2	94.601	% Recov	75.000	125.000				11/09/07
BATCH QC											
BLANK	Tritium	10028-17-8	U2.5E+01	n/a	pCi/L	-10.000	1000.000				11/09/07
LCS	Tritium	10028-17-8	2420.0	95.294	% Recov	80.000	120.000				11/09/07

M4W41-SLF-07-933

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 14 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
12/06/07
td

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071894

The following samples were received from you on 10/22/07. 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
W07P002586	B1PX22	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002587	B1PX23	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002588	B1PX24	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002589	B1PX25	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002590	B1PXF5	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002591	B1PXH0	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002592	B1PXX6	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002593	B1PXX7	PNNL-GPP TOC-30 TOX	Water	10/22/0'
W07P002594	B1PX28	PNNL-GPP @2008 @GPP6010	Water	10/22/0'
W07P002595	B1PX29	PNNL-GPP @2008 @GPP6010 @IC-30 @TPHD-WA @TPHG-WA ALKALI	Water	10/22/0'
W07P002596	B1PXX8	PNNL-GPP @2008 @GPP6010	Water	10/22/0'
W07P002597	B1PXX9	PNNL-GPP @2008 @GPP6010 @IC-30 @TPHD-WA @TPHG-WA ALKALI	Water	10/22/0'
W07P002598	B1PPJ2	PNNL-GPP @2008 @H3-33 @TC99-30	Water	10/22/0'
W07P002599	B1PPJ3	PNNL-GPP @2008 @H3-33 @TC99-30	Water	10/22/0'

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071894

Sample#	Sample Id	Tests Scheduled		Matrix	Sample Date
W07P002600	B1PVV4	PNNL-GPP		Water	10/22/0
		@H3-33	COND		
W07P002601	B1PVT3	PNNL-GPP		Water	10/22/0
		@2008	@IC-30	ALKALI	
W07P002602	B1PVV1	PNNL-GPP		Water	10/22/0
		@H3-33	COND		
W07P002603	B1PVV0	PNNL-GPP		Water	10/22/0
		@H3-33	COND		
W07P002604	B1PVV6	PNNL-GPP		Water	10/22/0
		@H3-33	COND		
W07P002605	B1PVT1	PNNL-GPP		Water	10/22/0
		@2008	@IC-30	ALKALI	
W07P002606	B1PVR9	PNNL-GPP		Water	10/22/0
		@2008	@IC-30	ALKALI	

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@TC99-30	TC99 by Liquid Scin.
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
ALKALI	Total Alkalinity as mg/L CaCO3
COND	Conductivity
TOC-30	Total Organic Carbon
TOX	Total Organic Halides

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

12/6/07 20071894

C.O.C. # W08-010-104

Collector: Josh Herrick	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: Fluor Hanford W08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: RCRA OCTOBER 2007	HNF-N-506-5	Ice Chest No.: SMC05-10 ~~SMS-10~~ Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: RCRA	Priority: 45 Days	Offsite Property No.

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)

SPECIAL INSTRUCTIONS Hold Time 15 Initial Date Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PX22	W07P00258L	W	10-22-07	1250	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PX22	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PX23	2587	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PX23	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PX24	2588	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PX24	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PX25	2589	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PX25	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PX28 (F)	2594	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PX28 (F)	↓	W			1x500-mL G/P	200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1PX29	2595	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PX29		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PX29		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PX29		W			1x500-mL G/P	200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1PX29		W			3x1000-mL aG	TPH-Diesel Range - WTPH-D	HCl to pH <2 Cool~4C
B1PX29	↓	W	↓	↓	3x1000-mL aGs*	TPH-Gasoline Range - WTPH-G	HCl to pH <2 Cool~4C

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Josh Herrick Fluor Hanford	OCT 22 2007 1352	Victor Bins	OCT 22 2007 13:52
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # W08-010-228

Collector: Josh Herrick, Fluor Hanford	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: W08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: RCRA, OCTOBER 2007	HWF-N-506-5	Ice Chest No.: 34WS70 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: RCRA	Priority: 45 Days	Offsite Property No.

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)

SPECIAL INSTRUCTIONS Hold Time: ICED

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PXF5	2590	W	10-22-07	0900	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PXF5	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PXH0	2591	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PXH0	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PXX6	2592	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PXX6	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PXX7	2593	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1PXX7	↓	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1PXX8 (F)	2596	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PXX8 (F)	↓	W			1x500-mL G/P	200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1PXX9	2597	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PXX9		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PXX9		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PXX9		W			1x500-mL G/P	200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1PXX9		W			3x1000-mL aG	TPH-Diesel Range - WTPH-D	HCl to pH <2 Cool~4C
B1PXX9	↓	W	↓	↓	3x1000-mL aGs*	TPH-Gasoline Range - WTPH-G	HCl to pH <2 Cool~4C

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Josh Herrick, Fluor Hanford	1352 OCT 22 2007	Victor Bins	1352 OCT 22 2007

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
A08-010-3

Page 1 of 1

Collector Josh Herrick Fluor Hanford	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. A08-010	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title LLWMA(2)-PA, OCTOBER 2007	HNF-N-506-5	Ice Chest No. SAWS-1D Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol Other	Priority: 45 Days	Offsite Property No.

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)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 08 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all GW samples submitted into one SDG, daily closure.
FY07 and FY08 samples cannot be in the same SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PPJ2	2598	W	10-22-07	1250	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1PPJ2	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1PPJ2	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

IGED
Initial
Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Josh Herrick Fluor Hanford	J. Herrick		OCT 22 2007 1352	Victor Biss			OCT 22 2007 1352
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	= Soil	DS	= Drum Solid
SE	= Sediment	DL	= Drum Liqui
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wine
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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

A08-010-4

Collector: ~~Josh Herrick~~ ~~Fluor Hanford~~	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: A08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: LLWMA(2)-PA, OCTOBER 2007	HAW-N-506-B	Ice Chest No.: SAWS-10 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: Other	Priority: 45 Days	Offsite Property No.

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)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 08 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all GW samples submitted into one SDG, daily closure.
FY07 and FY08 samples cannot be in the same SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PPJ3	2599	W	10-22-07	0900	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1PPJ3	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1PPJ3	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED
Initial
Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Josh Herrick Fluor Hanford	J. Herrick		1352 OCT 22 2007		Victor Binns		1352 OCT 22 2007
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-010-212

Collector Roy Shepard ~~Fluor Hanford~~	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. S08-010	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SURV. OCTOBER 2007	HWF-W-S06-12 pg 12	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
** ** 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)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVV4	W07P00260	W	10/22/07	1021	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1PVV4	↓	W	↓	↓	1x500-mL G/P	120.1_CONDUCT: Conductivity (1)	Cool~4C

10/22/07 DRW

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard Fluor Hanford			OCT 22 2007 14:40	Victor Bins			OCT 22 2007 14:40
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
S08-010-192

Collector Roy Shepard ~~Fluor Hanford~~	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-010	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV. OCTOBER 2007	HWF-N-506-12 B312	**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
** ** 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)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVT3	2601	W	10/22/07	1332	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVT3	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PVT3	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2

DRW 10/24/07

ICED Initial Date

Relinquished By Print Roy Shepard ~~Fluor Hanford~~ Sign OCT 27 2007 Date/Time 14:40	Received By Print Victor Bins Sign OCT 27 2007 Date/Time 14:40	Matrix *
Relinquished By Date/Time	Received By Date/Time	S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solid, DL = Drum Liqui, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other
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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# S08-010-209

Collector: Roy Shepard, Fluor Hanford	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV, OCTOBER 2007	HNF-N-526-12 pg. 12	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
** ** 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)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVV1	2602	W	10/22/07	1050	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1PVV1	↓	W	↓	↓	1x500-mL G/P	120.1_CONDUCT: Conductivity (1)	Cool~4C

10/22/07 RPW

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard, Fluor Hanford			OCT 22 2007 14:40				OCT 22 2007 14:40
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S08-010-208

Page 1 of 1

Collector: Roy Shepard, Fluor Hanford	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. OCTOBER 2007	HNF-N-506-12 Pg. 12	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
** ** 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)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVV0	2603	W	10/22/07	1050	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1PVV0	↓	W	↓	↓	1x500-mL G/P	120.1_CONDUCT: Conductivity (1)	Cool~4C

10/22/07 DRW

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard, Fluor Hanford			OCT 22 2007 14:40	Victor Bins			OCT 22 2007 14:40
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

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

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-010-216

Collector: Roy Shepard	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010 Fluor Hanford	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV OCTOBER 2007	HNF-N-506-12 pg 12	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

** ** 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)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVV6	2604	W	10/22/07	0951	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1PVV6	↓	W	↓		1x500-mL G/P	120.1_CONDUCT: Conductivity (1)	Cool~4C

ICED Initial Date

DRW 10/22/07

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Roy Shepard Fluor Hanford			OCT 22 2007 14:40	Victor Bins			OCT 22 2007 14:40
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
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

FLUOR HANFORD

Roy Shepard

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S08-010-188

Collector: Fluor Hanford	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. OCTOBER 2007	HNF-N-506-42 Pg. 12	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
** ** 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)

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVT1	2605	W	10/22/07	1349	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVT1	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PVT1	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Roy Shepard		OCT 22 2007 14:40		Victor Bins		OCT 22 2007 14:40
Relinquished By	Fluor Hanford		Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-010-184

Collector Roy Shepard Fluor Hanford	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-010	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV. OCTOBER 2007	HNF-N-506-12 pg. 12	**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
** ** 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)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVR9	2606	W	10/22/07	1200	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVR9	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PVR9	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2

ICEO Initial Date

Relinquished By Print: Roy Shepard Fluor Hanford Sign: [signature]	Date/Time OCT 22 2007 14:40	Received By Print: Victor Bins Sign: [signature]	Date/Time OCT 22 2007 14:40
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

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