

Rev. 1

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FLUOR**Memorandum**

M4W41-SLF-07-888

To: H. Hampt E6-35 Date: November 20, 2007

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

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: RESUBMITTAL OF FINAL RESULTS WITH CORRECTED SAMPLE NUMBERS FOR
SAMPLE DELIVERY GROUP WSCF20071741

- Reference: 1) Memo, SL Fitzgerald to H Hampt, Final Results for SDG WSCF20071741, M4W41-SLF-07-852, dated November 15, 2007
- 2) Letter of Instruction for Analytical Services for the Groundwater Performance Assessment Project and Analytical Laboratory Transition Plan, FH-0602422, September 19, 2006
- 3) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20071741:

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

This resubmittal replaces Reference 1 in its entirety. Please accept our apology for any inconvenience this may have created. If you have any questions, don't hesitate to call on Pauline Mix, telephone 372-1488, for assistance.

SLF/grf

Attachments 5

Entire package
resubmitted.

REVISED
Diynes
 12/7/07



RECEIVED
 MAY 22 2008

EDMC

M4W41-SLF-07-888

ATTACHMENT 1

COVER SHEET

**Consisting of 2 pages
Including cover page**

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071741
Data Deliverable Date: 15-nov-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
G07-009	B1PDD1	W07P002157	WATER
	B1PDD2	W07P002158	WATER
I07-061	B1P5R2	W07P002156	WATER
	B1P5R5	W07P002162	WATER
I07-062	B1P5Y4	W07P002159	WATER
I07-066	B1PDY3	W07P002151	WATER
	B1PDY4	W07P002152	WATER
	B1PDY7	W07P002153	WATER
	B1PDY8	W07P002154	WATER
S07-006	B1NK73	W07P002169	WATER
S07-007	B1NX76	W07P002160	WATER
	B1NX77	W07P002161	WATER
	B1NXH0	W07P002149	WATER
	B1NXH1	W07P002150	WATER
	B1NXH4	W07P002147	WATER
	B1NXH5	W07P002148	WATER
S07-009	B1PFR2	W07P002168	WATER
	B1PVB5	W07P002163	WATER
W07-008	B1P9B9	W07P002155	WATER
W07-009	B1PHB3	W07P002164	WATER
	B1PHB4	W07P002165	WATER
	B1PHB5	W07P002166	WATER
	B1PHB6	W07P002167	WATER

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ATTACHMENT 2

NARRATIVE

**Consisting of 5 pages
Including cover page**

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1P5N2 (SDG# 20071721).

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 46 through 52 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1PFY1 (SDG# 20071731) and B1PDD1 of this SDG.
- Chromium, Magnesium, Manganese, Sodium, Nickel, Vanadium and Zinc contamination detected in the Blanks was evaluated and affected sample results were C flagged.
- Calcium, Magnesium and Sodium – Insufficient Spike concentrations. Sample results were beyond the effective spike range. Spike results were marked “N/A”. Check and high standards were analyzed to ensure linearity and sample result acceptability.
- Magnesium, Manganese, Sodium, Nickel, Vanadium and Zinc contamination detected in the Blanks was evaluated and affected sample results were C flagged.

All other 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 53 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1PW49 (SDG# 20071746, SAF# F07-045) and B1NXH8 (SDG# 20071740).

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 54 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on samples B1PL00 (SDG# 20071724) and B1PW59 (SDG# 20071761).

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 55 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1P5L1 (SDG# 20071694).
- Note: On October 1, 2007, TOX samples were delivered to the WSCF Laboratory without proper preservation. WSCF acidified the samples per client direction (COC requirement) and performed analysis. Sample results were X flagged. Refer to IRF# 07-107, copy attached (Attachment 5) for detail. Additionally, there was > 10% column breakthrough.

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, and Laboratory Control Sample were analyzed with this delivery group. See page 65 for QC details.

All QC controls are within the established limits.

VOA – 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 pages 66 through 68 for QC details. Analytical Note(s):

- Sample results that were less than the lowest calibration standard, however greater than the method detection limit, were J flagged.

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 78 through 80 for QC details. Analytical Note(s):

- Gross Alpha/Gross Beta – Duplicate was analyzed on sample# B1NLC6 (SDG# 20071740).
- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1PH13 (SDG# 20071731).
- Gross Alpha (discrete) – Due to a LABCORE issue, the Duplicate QC result of 1.64 pCi/L is missing from the Analytical Results.

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.

for Scot L. Fitzgerald
Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
Pauline D. Mix
WSCF Client Services

Abbreviations

Hg - mercury
IC - ion chromatography
ICP - inductively coupled plasma
ICP/AES - ICP/atomic emission spectroscopy
ICP/MS - ICP/mass spectrometry
Total U - total uranium
AT/TB - total alpha/total beta
AEA - Alpha Energy Analysis
WTPH-G - Total Hydrocarbons-Gasoline

Am - americium
Cm - curium
Pu - plutonium
Np - neptunium
GEA - gamma energy analysis
H3 - Tritium
Sr - Strontium 89, 90
WTPH-D - Total Hydrocarbons-Diesel
TSS - Total Suspended Solids

M4W41-SLF-07-888

ATTACHMENT 3

ANALYTICAL RESULTS

**Consisting of 72 pages
Including cover page**

**WSCF
ANALYTICAL RESULTS REPORT**

for

**GPAP
Richland, WA 99352**

Attention: Steve Trent E6-35

Analytical:

Julian G. Baird WW Baird 11/20/2007

Client Services:

P. D. Mix 11/20/2007

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#: WSCF20071741
Report Date: 20-nov-2007
Report WGPP/ver. 5.2
GPAP

Page 1

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071741

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33553	2	33951	38072	BLANK		Anions by Ion Chromatography
33553	8	33951	38072	BLANK		Anions by Ion Chromatography
33553	3	33951	38072	LCS		Anions by Ion Chromatography
33553	5	33951	38072	DUP	W07P002156	Anions by Ion Chromatography
33553	6	33951	38072	MS	W07P002156	Anions by Ion Chromatography
33553	7	33951	38072	MSD	W07P002156	Anions by Ion Chromatography
33553	4	33951	38072	SAMPLE	W07P002156	Anions by Ion Chromatography
33553	7	33951	38072	SPK-RPD	W07P002156	Anions by Ion Chromatography
33552	2	33953	38073	BLANK		Anions by Ion Chromatography
33552	12	33953	38073	BLANK		Anions by Ion Chromatography
33552	3	33953	38073	LCS		Anions by Ion Chromatography
33552	10	33953	38073	SAMPLE	W07P002152	Anions by Ion Chromatography
33552	11	33953	38073	SAMPLE	W07P002154	Anions by Ion Chromatography
33552	5	33953	38073	DUP	W07P002161	Anions by Ion Chromatography
33552	6	33953	38073	MS	W07P002161	Anions by Ion Chromatography
33552	7	33953	38073	MSD	W07P002161	Anions by Ion Chromatography
33552	4	33953	38073	SAMPLE	W07P002161	Anions by Ion Chromatography
33552	7	33953	38073	SPK-RPD	W07P002161	Anions by Ion Chromatography
33552	8	33953	38073	SAMPLE	W07P002162	Anions by Ion Chromatography
33552	9	33953	38073	SAMPLE	W07P002169	Anions by Ion Chromatography
33564	2	33962	38088	BLANK		Anions by Ion Chromatography
33564	12	33962	38088	BLANK		Anions by Ion Chromatography
33564	3	33962	38088	LCS		Anions by Ion Chromatography
33564	8	33962	38088	SAMPLE	W07P002148	Anions by Ion Chromatography
33564	9	33962	38088	SAMPLE	W07P002150	Anions by Ion Chromatography
33564	10	33962	38088	SAMPLE	W07P002155	Anions by Ion Chromatography
33564	5	33962	38088	DUP	W07P002158	Anions by Ion Chromatography
33564	6	33962	38088	MS	W07P002158	Anions by Ion Chromatography
33564	7	33962	38088	MSD	W07P002158	Anions by Ion Chromatography
33564	4	33962	38088	SAMPLE	W07P002158	Anions by Ion Chromatography
33564	7	33962	38088	SPK-RPD	W07P002158	Anions by Ion Chromatography
33564	11	33962	38088	SAMPLE	W07P002159	Anions by Ion Chromatography
33593	1	33991	38119	BLANK		Total Organic Carbon
33593	2	33991	38119	METHSPIKE		Total Organic Carbon
33593	3	33991	38119	SPK-RSD		Total Organic Carbon
33593	4	33991	38119	MS	W07P002119	Total Organic Carbon
33593	5	33991	38119	MSD	W07P002119	Total Organic Carbon
33593	5	33991	38119	SPK-RPD	W07P002119	Total Organic Carbon
33593	12	33991	38119	SAMPLE	W07P002164	Total Organic Carbon
33593	13	33991	38119	SAMPLE	W07P002165	Total Organic Carbon
33612	1	34010	38163	LCS		Total Alkalinity as mg/L CaCO3
33612	13	34010	38163	LCS		Total Alkalinity as mg/L CaCO3
33612	25	34010	38163	LCS		Total Alkalinity as mg/L CaCO3
33612	20	34010	38163	DUP	W07GR02534	Total Alkalinity as mg/L CaCO3
33612	3	34010	38163	DUP	W07P002131	Total Alkalinity as mg/L CaCO3
33612	8	34010	38163	SAMPLE	W07P002148	Total Alkalinity as mg/L CaCO3
33612	9	34010	38163	SAMPLE	W07P002150	Total Alkalinity as mg/L CaCO3
33612	10	34010	38163	SAMPLE	W07P002155	Total Alkalinity as mg/L CaCO3

33612	11	34010	38163	SAMPLE	W07P002158	Total Alkalinity as mg/L CaCO3
33612	12	34010	38163	SAMPLE	W07P002169	Total Alkalinity as mg/L CaCO3
33665	1	34062	38214	BLANK		Cyanide by Midi/Spectrophotom
33665	2	34062	38214	LCS		Cyanide by Midi/Spectrophotom
33665	6	34062	38214	MS	W07P002108	Cyanide by Midi/Spectrophotom
33665	7	34062	38214	MSD	W07P002108	Cyanide by Midi/Spectrophotom
33665	7	34062	38214	SPK-RPD	W07P002108	Cyanide by Midi/Spectrophotom
33665	10	34062	38214	SAMPLE	W07P002155	Cyanide by Midi/Spectrophotom
33682	1	34079	38233	BLANK		Total Organic Halides
33682	3	34079	38233	LCS		Total Organic Halides
33682	6	34079	38233	MS	W07P002062	Total Organic Halides
33682	7	34079	38233	MSD	W07P002062	Total Organic Halides
33682	7	34079	38233	SPK-RPD	W07P002062	Total Organic Halides
33682	12	34079	38233	SAMPLE	W07P002164	Total Organic Halides
33682	13	34079	38233	SAMPLE	W07P002165	Total Organic Halides
33682	14	34079	38233	SAMPLE	W07P002166	Total Organic Halides
33682	15	34079	38233	SAMPLE	W07P002167	Total Organic Halides
33689	1	34086	38236	BLANK		Total Organic Carbon
33689	2	34086	38236	METHSPIKE		Total Organic Carbon
33689	3	34086	38236	SPK-RSD		Total Organic Carbon
33689	8	34086	38236	SAMPLE	W07P002166	Total Organic Carbon
33689	9	34086	38236	SAMPLE	W07P002167	Total Organic Carbon
33689	4	34086	38236	MS	W07P002191	Total Organic Carbon
33689	5	34086	38236	MSD	W07P002191	Total Organic Carbon
33689	5	34086	38236	SPK-RPD	W07P002191	Total Organic Carbon
33730	1	34128	38402	BLANK		ICP Metals Analysis, Grd H20 P
33730	2	34128	38402	LCS		ICP Metals Analysis, Grd H20 P
33730	4	34128	38402	MS	W07P002121	ICP Metals Analysis, Grd H20 P
33730	5	34128	38402	MSD	W07P002121	ICP Metals Analysis, Grd H20 P
33730	5	34128	38402	SPK-RPD	W07P002121	ICP Metals Analysis, Grd H20 P
33730	15	34128	38402	SAMPLE	W07P002147	ICP Metals Analysis, Grd H20 P
33730	16	34128	38402	SAMPLE	W07P002149	ICP Metals Analysis, Grd H20 P
33730	17	34128	38402	SAMPLE	W07P002151	ICP Metals Analysis, Grd H20 P
33730	18	34128	38402	SAMPLE	W07P002153	ICP Metals Analysis, Grd H20 P
33729	1	34129	38406	BLANK		ICP Metals Analysis, Grd H20 P
33729	2	34129	38406	LCS		ICP Metals Analysis, Grd H20 P
33729	4	34129	38406	MS	W07P002157	ICP Metals Analysis, Grd H20 P
33729	5	34129	38406	MSD	W07P002157	ICP Metals Analysis, Grd H20 P
33729	3	34129	38406	SAMPLE	W07P002157	ICP Metals Analysis, Grd H20 P
33729	5	34129	38406	SPK-RPD	W07P002157	ICP Metals Analysis, Grd H20 P
33729	6	34129	38406	SAMPLE	W07P002158	ICP Metals Analysis, Grd H20 P
33729	7	34129	38406	SAMPLE	W07P002160	ICP Metals Analysis, Grd H20 P

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071741

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			38149	BLANK		NWTPH-D TPH Diesel Range (Wa)
			38149	LCS		NWTPH-D TPH Diesel Range (Wa)
			38149	MS	W07P002168	NWTPH-D TPH Diesel Range (Wa)
			38149	MSD	W07P002168	NWTPH-D TPH Diesel Range (Wa)
			38149	SAMPLE	W07P002168	NWTPH-D TPH Diesel Range (Wa)
			38149	SPK-RPD	W07P002168	NWTPH-D TPH Diesel Range (Wa)
			38149	SURR	W07P002168	NWTPH-D TPH Diesel Range (Wa)
			38673	BLANK		VOA Ground Water Protection
			38673	LCS		VOA Ground Water Protection
			38673	MS	W07P002156	VOA Ground Water Protection
			38673	MSD	W07P002156	VOA Ground Water Protection
			38673	SAMPLE	W07P002156	VOA Ground Water Protection
			38673	SPK-RPD	W07P002156	VOA Ground Water Protection
			38673	SURR	W07P002156	VOA Ground Water Protection
			38673	SAMPLE	W07P002162	VOA Ground Water Protection
			38673	SURR	W07P002162	VOA Ground Water Protection
			38673	SAMPLE	W07P002163	VOA Ground Water Protection
			38673	SURR	W07P002163	VOA Ground Water Protection

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20071741

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33643	1	34040	38186	BLANK		Gross Alpha on Alpha Plateau
33643	2	34040	38186	LCS		Gross Alpha on Alpha Plateau
33643	3	34040	38186	SAMPLE	W07P002155	Gross Alpha on Alpha Plateau
33590	1	33986	38187	BLANK		Gross Alpha/Gross Beta (AB32)
33590	2	33986	38187	LCS		Gross Alpha/Gross Beta (AB32)
33590	3	33986	38187	DUP	W07P002135	Gross Alpha/Gross Beta (AB32)
33590	5	33986	38187	SAMPLE	W07P002148	Gross Alpha/Gross Beta (AB32)
33590	6	33986	38187	SAMPLE	W07P002150	Gross Alpha/Gross Beta (AB32)
33590	7	33986	38187	SAMPLE	W07P002155	Gross Alpha/Gross Beta (AB32)
33590	8	33986	38187	SAMPLE	W07P002161	Gross Alpha/Gross Beta (AB32)
33685	1	34082	38311	BLANK		Tritium by Liq Sct column prep
33685	4	34082	38311	LCS		Tritium by Liq Sct column prep
33685	3	34082	38311	DUP	W07P002120	Tritium by Liq Sct column prep
33685	2	34082	38311	MS	W07P002120	Tritium by Liq Sct column prep
33685	10	34082	38311	SAMPLE	W07P002152	Tritium by Liq Sct column prep
33685	11	34082	38311	SAMPLE	W07P002154	Tritium by Liq Sct column prep
33685	12	34082	38311	SAMPLE	W07P002155	Tritium by Liq Sct column prep
33685	13	34082	38311	SAMPLE	W07P002156	Tritium by Liq Sct column prep
33685	14	34082	38311	SAMPLE	W07P002158	Tritium by Liq Sct column prep
33685	15	34082	38311	SAMPLE	W07P002161	Tritium by Liq Sct column prep
33685	16	34082	38311	SAMPLE	W07P002162	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 HEIS 9060_TOC	TOTAL ORGANIC CARBON 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 Emission Spectrometry
LA-523-444	LA-523-444: TOTAL ORGANIC HALIDES BASED ON SW-846 METHOD 9020B EPA SW-846 9020B HEIS 9020_TOX	TOTAL ORGANIC HALIDES (TOX) Total Organic Halides based on SW846 Method 9020B
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC) HEIS 2320B Standard Methods 2320B	Alkalinity Alkalinity
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY EPA-600/R-94-111 300.0 HEIS 300.0_ANIONS_IC	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY Determination of Inorganic Anions by Ion Chromatography
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC EPA-600/4-79-020 335.2 HEIS 335.2_CYANIDE	Cyanide, Total Cyanide, Total

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>.

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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-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846
	EPA SW-846 8000B DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8260B VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
	HEIS 8260_VOA_GCMS Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
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>.

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WSCF

METHOD REFERENCES REPORT

Department: Radiochemistry

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-508-415	LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS
HEIS ALPHA_GPC	GROSS ALPHA GPC
HEIS BETA_GPC	GROSS BETA GPC
HEIS SRTOT_SEP_PRECIP_GPC	Pontium 89/90
LA-508-421	LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER
HEIS ALPHA_LSC	A/B Liquid Scintillation
HEIS BETA_LSC	A/B Liquid Scintillation
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>.

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S07-007
Sample # W07P002147
Client ID: B1NXH4

**PNNL-GPP
WSCF**

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		37.4	ug/L			1.00	9.0		10/17/07
Magnesium	7439-95-4	LA-505-411	U	< 6.00	ug/L			1.00	6.0		10/17/07
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Nickel	7440-02-0	LA-505-411	C	7.00	ug/L			1.00	4.0		10/17/07
Potassium	7440-09-7	LA-505-411	U	< 45.0	ug/L			1.00	45		10/17/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		10/17/07
Sodium	7440-23-5	LA-505-411	C	34.6	ug/L			1.00	27		10/17/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		10/17/07
Barium	7440-39-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Chromium	7440-47-3	LA-505-411		8.50	ug/L			1.00	4.0		10/17/07
Cobalt	7440-48-4	LA-505-411		5.00	ug/L			1.00	4.0		10/17/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Vanadium	7440-62-2	LA-505-411	C	11.3	ug/L			1.00	7.0		10/17/07
Zinc	7440-66-8	LA-505-411	C	5.80	ug/L			1.00	4.0		10/17/07
Calcium	7440-70-2	LA-505-411	U	< 34.0	ug/L			1.00	34		10/17/07
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S07-007
Sample # W07P002148
Client ID: BINXH5

**PNNL-GPP
WSCF**

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

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		10/01/07
Chloride	16887-00-6	LA-533-410	NU	< 0.0300	mg/L			1.00	0.030		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	U	< 5.00e-03	mg/L			1.00	5.0e-03		10/01/07
Sulfate	14808-79-8	LA-533-410	U	< 0.0700	mg/L			1.00	0.070		10/01/07
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		10/08/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-007

Sample # W07P002149

Client ID: BINXH0 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Inorganic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-8	LA-505-411		25.9	ug/L			1.00	9.0		10/17/07
Magnesium	7439-95-4	LA-505-411		822	ug/L			1.00	6.0		10/17/07
Manganese	7439-98-5	LA-505-411	C	7.20	ug/L			1.00	4.0		10/17/07
Nickel	7440-02-0	LA-505-411	C	7.90	ug/L			1.00	4.0		10/17/07
Potassium	7440-09-7	LA-505-411		1.05e +04	ug/L			1.00	45		10/17/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		10/17/07
Sodium	7440-23-5	LA-505-411		7.81e +04	ug/L			1.00	27		10/17/07
Antimony	7440-38-0	LA-505-411	U	< 32.0	ug/L			1.00	32		10/17/07
Barium	7440-39-3	LA-505-411		24.7	ug/L			1.00	4.0		10/17/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Chromium	7440-47-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Cobalt	7440-48-4	LA-505-411		8.20	ug/L			1.00	4.0		10/17/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Vanadium	7440-62-2	LA-505-411	C	11.8	ug/L			1.00	7.0		10/17/07
Zinc	7440-68-8	LA-505-411	C	5.40	ug/L			1.00	4.0		10/17/07
Calcium	7440-70-2	LA-505-411		5.31e +03	ug/L			1.00	34		10/17/07
Strontium	7440-24-8	LA-505-411		29.5	ug/L			1.00	4.0		10/17/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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Report WGPP/ver. 5.2

GPAP

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S07-007
Sample # W07P002150
Client ID: B1NXH1

**PNNL-GPP
WSCF**

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

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		1.24	mg/L			1.00	6.0e-03		10/01/07
Chloride	16887-00-6	LA-533-410	DN	22.8	mg/L			10.00	0.30		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	U	< 5.00e-03	mg/L			1.00	5.0e-03		10/01/07
Sulfate	14808-79-8	LA-533-410		19.4	mg/L			1.00	0.070		10/01/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		180	mg/L			1.00	1.0		10/08/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits. (inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank. (inorg)

J - Analyte < lowest calibration but > = MDL. (org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-066
Sample # W07P002151
Client ID: B1PDY3

PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		32.6	ug/L			1.00	9.0		10/17/07
Magnesium	7439-95-4	LA-505-411		4.26e+04	ug/L			1.00	6.0		10/17/07
Manganese	7439-96-5	LA-505-411	C	6.20	ug/L			1.00	4.0		10/17/07
Nickel	7440-02-0	LA-505-411	C	8.90	ug/L			1.00	4.0		10/17/07
Potassium	7440-09-7	LA-505-411		5.19e+03	ug/L			1.00	45		10/17/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		10/17/07
Sodium	7440-23-5	LA-505-411		2.41e+04	ug/L			1.00	27		10/17/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		10/17/07
Barium	7440-39-3	LA-505-411		231	ug/L			1.00	4.0		10/17/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Chromium	7440-47-3	LA-505-411		8.50	ug/L			1.00	4.0		10/17/07
Cobalt	7440-48-4	LA-505-411		7.60	ug/L			1.00	4.0		10/17/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Vanadium	7440-62-2	LA-505-411	C	15.4	ug/L			1.00	7.0		10/17/07
Zinc	7440-66-6	LA-505-411	C	20.3	ug/L			1.00	4.0		10/17/07
Calcium	7440-70-2	LA-505-411	D	2.62e+05	ug/L			10.00	3.4e+02		10/18/07
Strontium	7440-24-6	LA-505-411		904	ug/L			1.00	4.0		10/17/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits. (inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I07-066

Sample # W07P002152

Client ID: B1PDY4 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Inorganic

Sampled: 09/30/07

Received: 10/01/07

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	BD	0.0484	mg/L			2.00	0.012		10/01/07
Chloride	16887-00-6	LA-533-410	D	41.1	mg/L			20.00	0.60		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0200	mg/L			2.00	0.020		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	19.1	mg/L			20.00	0.10		10/01/07
Sulfate	14808-79-8	LA-533-410	DN	160	mg/L			20.00	1.4		10/01/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-066
Sample # W07P002153
Client ID: B1PDY7

PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		14.8	ug/L			1.00	9.0		10/17/07
Magnesium	7439-95-4	LA-505-411		4.21e+04	ug/L			1.00	6.0		10/17/07
Manganese	7439-98-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Nickel	7440-02-0	LA-505-411	C	8.10	ug/L			1.00	4.0		10/17/07
Potassium	7440-09-7	LA-505-411		5.10e+03	ug/L			1.00	45		10/17/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		10/17/07
Sodium	7440-23-5	LA-505-411		2.37e+04	ug/L			1.00	27		10/17/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		10/17/07
Barium	7440-39-3	LA-505-411		229	ug/L			1.00	4.0		10/17/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Chromium	7440-47-3	LA-505-411		9.50	ug/L			1.00	4.0		10/17/07
Cobalt	7440-48-4	LA-505-411		4.50	ug/L			1.00	4.0		10/17/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Vanadium	7440-62-2	LA-505-411	C	8.40	ug/L			1.00	7.0		10/17/07
Zinc	7440-68-8	LA-505-411	C	20.1	ug/L			1.00	4.0		10/17/07
Calcium	7440-70-2	LA-505-411	D	2.60e+05	ug/L			10.00	3.4e+02		10/18/07
Strontium	7440-24-8	LA-505-411		897	ug/L			1.00	4.0		10/17/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I07-066

Sample # W07P002154

Client ID: B1PDY8 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Inorganic

Sampled: 09/30/07

Received: 10/01/07

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	BD	0.0531	mg/L			2.00	0.012		10/01/07
Chloride	16887-00-6	LA-533-410	D	41.1	mg/L			20.00	0.80		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0200	mg/L			2.00	0.020		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	19.3	mg/L			20.00	0.10		10/01/07
Sulfate	14808-79-8	LA-533-410	DN	161	mg/L			20.00	1.4		10/01/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

N - Spike sample recovery is outside control limits.(inorg)

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+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P002155
Client ID: B1P9B9

**PNNL-GPP
WSCF**

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

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	BD	0.258	mg/L			5.00	0.030		10/01/07
Chloride	16887-00-6	LA-533-410	DN	44.9	mg/L			5.00	0.15		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0500	mg/L			5.00	0.050		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	215	mg/L			1.01e+002	0.50		10/01/07
Sulfate	14808-78-8	LA-533-410	D	204	mg/L			1.01e+002	7.1		10/01/07
Cyanide											
Cyanide	57-12-5	LA-695-402		528	ug/L			1.00	4.0		10/10/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		100	mg/L			1.00	1.0		10/08/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
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 N - Spike sample recovery is outside control limits.(inorg)
 U - Analyzed for but not detected above limiting criteria.(org)

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

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*Report WGPP/ver. 5.2
GPAP*

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-061
Sample # W07P002156
Client ID: B1P5R2 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

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		0.345	mg/L			1.00	6.0e-03		10/01/07
Chloride	16987-00-8	LA-533-410	N	13.9	mg/L			1.00	0.030		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.35	mg/L			10.00	0.050		10/01/07
Sulfate	14808-79-8	LA-533-410		19.6	mg/L			1.00	0.070		10/01/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: G07-009

Sample # W07P002157

Client ID: B1PDD1 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Inorganic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-8	LA-505-411	U	< 9.00	ug/L			1.00	9.0		10/17/07
Magnesium	7439-95-4	LA-505-411		1.18e+04	ug/L			1.00	6.0		10/17/07
Manganese	7439-96-5	LA-505-411		11.3	ug/L			1.00	4.0		10/17/07
Nickel	7440-02-0	LA-505-411	C	8.60	ug/L			1.00	4.0		10/17/07
Potassium	7440-09-7	LA-505-411		2.97e+03	ug/L			1.00	45		10/17/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		10/17/07
Sodium	7440-23-5	LA-505-411		5.86e+03	ug/L			1.00	27		10/17/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		10/17/07
Barium	7440-39-3	LA-505-411		36.2	ug/L			1.00	4.0		10/17/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Chromium	7440-47-3	LA-505-411	C	9.30	ug/L			1.00	4.0		10/17/07
Cobalt	7440-48-4	LA-505-411		10.5	ug/L			1.00	4.0		10/17/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Vanadium	7440-62-2	LA-505-411	C	20.8	ug/L			1.00	7.0		10/17/07
Zinc	7440-66-8	LA-505-411	C	7.50	ug/L			1.00	4.0		10/17/07
Calcium	7440-70-2	LA-505-411		5.37e+04	ug/L			1.00	34		10/17/07
Strontium	7440-24-6	LA-505-411		273	ug/L			1.00	4.0		10/17/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits (inorg)

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C - The Analyte was found in the Associated Blank (inorg)

J - Analyte < lowest calibration but > = MDL (inorg)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G07-009
Sample # W07P002158
Client ID: B1PDD2

**PNNL-GPP
WSCF**

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

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	B	0.0786	mg/L			1.00	6.0e-03		10/01/07
Chloride	16887-00-6	LA-533-410	N	12.7	mg/L			1.00	0.030		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	9.37	mg/L			10.00	0.050		10/01/07
Phosphate (P) by IC	PO4-P	LA-533-410	U	< 0.0400	mg/L			1.00	0.040		10/01/07
Sulfate	14808-79-8	LA-533-410	D	65.8	mg/L			10.00	0.70		10/01/07
ICP Metals Analysis, Grd H2O P Prep											10/16/07
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		33.2	ug/L			1.00	9.0		10/17/07
Magnesium	7439-95-4	LA-505-411		1.17e+04	ug/L			1.00	6.0		10/17/07
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Nickel	7440-02-0	LA-505-411	C	7.70	ug/L			1.00	4.0		10/17/07
Potassium	7440-09-7	LA-505-411		2.91e+03	ug/L			1.00	45		10/17/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		10/17/07
Sodium	7440-23-5	LA-505-411		5.80e+03	ug/L			1.00	27		10/17/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		10/17/07
Barium	7440-39-3	LA-505-411		35.9	ug/L			1.00	4.0		10/17/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Chromium	7440-47-3	LA-505-411	C	10.6	ug/L			1.00	4.0		10/17/07
Cobalt	7440-48-4	LA-505-411		4.40	ug/L			1.00	4.0		10/17/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Vanadium	7440-62-2	LA-505-411	C	23.4	ug/L			1.00	7.0		10/17/07
Zinc	7440-66-6	LA-505-411	C	6.40	ug/L			1.00	4.0		10/17/07
Calcium	7440-70-2	LA-505-411		5.40e+04	ug/L			1.00	34		10/17/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits. (inorg)

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

C - The Analyte was found in the Associated Blank. (inorg)

J - Analyte < lowest calibration but > = MDL. (org)

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

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: G07-009

Sample # W07P002158

Client ID: B1PDD2 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Inorganic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium	7440-24-8	LA-505-411		274	ug/L			1.00	4.0		10/17/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		70.0	mg/L			1.00	1.0		10/08/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-062
Sample # W07P002159
Client ID: B1P5Y4

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

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		0.304	mg/L			1.00	6.0e-03		10/01/07
Chloride	16887-00-8	LA-533-410	N	12.2	mg/L			1.00	0.030		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	7.04	mg/L			10.00	0.050		10/01/07
Sulfate	14808-79-8	LA-533-410		26.0	mg/L			1.00	0.070		10/01/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor.(inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)
X - Other flags/notes described in the comments/narrative(inorg)

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Report WGPP/ver. 5.2
GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S07-007
Sample #: W07P002160
Client ID: BINX76 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		12.2	ug/L			1.00	9.0		10/17/07
Magnesium	7439-95-4	LA-505-411		6.09e+03	ug/L			1.00	8.0		10/17/07
Manganese	7439-98-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Nickel	7440-02-0	LA-505-411	C	7.70	ug/L			1.00	4.0		10/17/07
Potassium	7440-09-7	LA-505-411		3.11e+03	ug/L			1.00	45		10/17/07
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		10/17/07
Sodium	7440-23-5	LA-505-411		1.87e+04	ug/L			1.00	27		10/17/07
Antimony	7440-38-0	LA-505-411	U	< 32.0	ug/L			1.00	32		10/17/07
Berium	7440-39-3	LA-505-411		28.2	ug/L			1.00	4.0		10/17/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Chromium	7440-47-3	LA-505-411	C	77.1	ug/L			1.00	4.0		10/17/07
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07
Vanadium	7440-62-2	LA-505-411	C	24.4	ug/L			1.00	7.0		10/17/07
Zinc	7440-66-6	LA-505-411	C	11.8	ug/L			1.00	4.0		10/17/07
Calcium	7440-70-2	LA-505-411		5.67e+04	ug/L			1.00	34		10/17/07
Strontium	7440-24-6	LA-505-411		239	ug/L			1.00	4.0		10/17/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/17/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but >= the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found In the Associated Blank.(inorg)

J - Analyte < lowest calibration but >= MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-007

Sample # W07P002161

Client ID: B1NX77 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Inorganic

Sampled: 09/30/07

Received: 10/01/07

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		0.106	mg/L			1.00	6.0e-03		10/01/07
Chloride	16887-00-8	LA-533-410		13.1	mg/L			1.00	0.030		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.01	mg/L			5.00	0.025		10/01/07
Sulfate	14808-79-8	LA-533-410	N	35.2	mg/L			1.00	0.070		10/01/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-061
Sample # W07P002162
Client ID: B1P5R5

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

PNNL-GPP
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410		0.341	mg/L			1.00	6.0e-03		10/01/07
Chloride	16887-00-6	LA-533-410	D	20.7	mg/L			10.00	0.30		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410		0.152	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	5.10	mg/L			10.00	0.050		10/01/07
Sulfate	14808-79-8	LA-533-410	N	36.9	mg/L			1.00	0.070		10/01/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-009
Sample # W07P002164
Client ID: B1PHB3 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											10/10/07
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	18.5	ug/L			1.00	5.0		10/12/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406		3.01	mg/L			1.00	0.30		10/03/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
 D - Analyte was identified at a secondary dilution factor(inorg)
 N - Spike sample recovery is outside control limits.(inorg)
 U - Analyzed for but not detected above limiting criteria.(org)

C - The Analyte was found in the Associated Blank.(inorg)
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria(inorg)
 X - Other flags/notes described in the comments/narrative(inorg)

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

Report WGPP/ver. 5.2
 GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-009
Sample # W07P002165
Client ID: B1PHB4 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	88.5	ug/L			1.00	5.0		10/12/07
Total organic carbon											
Total organic carbon	TOC	LA-344-408		2.97	mg/L			1.00	0.30		10/03/07

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
 D - Analyte was identified at a secondary dilution factor(inorg)
 N - Spike sample recovery is outside control limits.(inorg)
 U - Analyzed for but not detected above limiting criteria.(org)

C - The Analyte was found in the Associated Blank.(inorg)
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria(inorg)
 X - Other flags/notes described in the comments/narrative(inorg)

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

Report WGPP/ver. 5.2
 GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-009
Sample # W07P002166
Client ID: B1PHB5 PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											10/10/07
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	290	ug/L			1.00	5.0		10/12/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406		2.69	mg/L			1.00	0.30		10/10/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (Inorg)

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

N - Spike sample recovery is outside control limits. (Inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(Inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W07-009

Sample # W07P002167

Client ID: B1PHB6 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Inorganic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											10/10/07
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	X	15.1	ug/L			1.00	5.0		10/12/07
Total organic carbon											
Total organic carbon	TOC	LA-344-406		2.75	mg/L			1.00	0.30		10/10/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S07-006
Sample # W07P002169
Client ID: B1NK73 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Inorganic
Sampled: 09/30/07
Received: 10/01/07

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		0.216	mg/L			1.00	6.0e-03		10/01/07
Chloride	16887-00-8	LA-533-410	D	20.6	mg/L			10.00	0.30		10/01/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/01/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	16.7	mg/L			10.00	0.050		10/01/07
Sulfate	14808-79-8	LA-533-410	DN	53.2	mg/L			10.00	0.70		10/01/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		210	mg/L			1.00	1.0		10/08/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002156											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	13.9534		RPD			0.523	20.000		10/01/07
DUP	Fluoride	16984-48-8	0.3452		RPD			0.145	20.000		10/01/07
DUP	Nitrogen in Nitrite	N02-N	<1e-2		RPD			n/a	20.000	U	10/01/07
DUP	Nitrogen in Nitrate	N03-N	3.3666		RPD			0.429	20.000		10/01/07
DUP	Sulfate	14808-79-8	19.6848		RPD			0.369	20.000		10/01/07
MS	Chloride	16887-00-6	0.7565	76.414	% Recov	75.000	125.000				10/01/07
MS	Fluoride	16984-48-8	0.5115	101.892	% Recov	75.000	125.000				10/01/07
MS	Nitrogen in Nitrite	N02-N	0.5097	102.349	% Recov	75.000	125.000				10/01/07
MS	Nitrogen in Nitrate	N03-N	0.45464	100.807	% Recov	75.000	125.000				10/01/07
MS	Sulfate	14808-79-8	1.8858	95.242	% Recov	75.000	125.000				10/01/07
MSD	Chloride	16887-00-6	0.8087	81.687	% Recov	75.000	125.000				10/01/07
MSD	Fluoride	16984-48-8	0.5253	104.641	% Recov	75.000	125.000				10/01/07
MSD	Nitrogen in Nitrite	N02-N	0.5098	102.369	% Recov	75.000	125.000				10/01/07
MSD	Nitrogen in Nitrate	N03-N	0.45691	101.310	% Recov	75.000	125.000				10/01/07
MSD	Sulfate	14808-79-8	1.9273	97.338	% Recov	75.000	125.000				10/01/07
SPK-RPD	Chloride	16887-00-6	81.687		RPD			6.670	20.000		10/01/07
SPK-RPD	Fluoride	16984-48-8	104.641		RPD			2.662	20.000		10/01/07
SPK-RPD	Nitrogen in Nitrite	N02-N	102.369		RPD			0.020	20.000		10/01/07
SPK-RPD	Nitrogen in Nitrate	N03-N	101.310		RPD			0.498	20.000		10/01/07
SPK-RPD	Sulfate	14808-79-8	97.338		RPD			2.177	20.000		10/01/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 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	N02-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/01/07
BLANK	Nitrogen in Nitrite	N02-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/01/07
BLANK	Nitrogen in Nitrate	N03-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/01/07
BLANK	Nitrogen In Nitrate	N03-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/01/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/01/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/01/07
LCS	Chloride	16887-00-6	199.5322	99.766	% Recov	80.000	120.000				10/01/07
LCS	Fluoride	16984-48-8	107.3095	106.247	% Recov	80.000	120.000				10/01/07
LCS	Nitrogen in Nitrite	N02-N	100.3332	100.333	% Recov	80.000	120.000				10/01/07
LCS	Nitrogen in Nitrate	N03-N	92.3961	101.312	% Recov	80.000	120.000				10/01/07
LCS	Sulfate	14808-79-8	394.3949	98.599	% Recov	80.000	120.000				10/01/07

Lab ID: W07P002161
 BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	13.1573		RPD			0.266	20.000		10/01/07
DUP	Fluoride	16984-48-8	0.1078		RPD			1.873	20.000		10/01/07
DUP	Nitrogen in Nitrite	N02-N	<1e-2		RPD			n/a	20.000	U	10/01/07
DUP	Nitrogen in Nitrate	N03-N	5.9905		RPD			0.360	20.000		10/01/07
DUP	Sulfate	14808-79-8	35.2701		RPD			0.307	20.000		10/01/07
MS	Chloride	16887-00-6	0.8343	84.273	% Recov	75.000	125.000				10/01/07
MS	Fluoride	16984-48-8	0.5151	102.610	% Recov	75.000	125.000				10/01/07
MS	Nitrogen in Nitrite	N02-N	0.5025	100.904	% Recov	75.000	125.000				10/01/07
MS	Nitrogen in Nitrate	N03-N	0.43648	96.780	% Recov	75.000	125.000				10/01/07
MS	Sulfate	14808-79-8	1.5715	79.369	% Recov	75.000	125.000				10/01/07
MSD	Chloride	16887-00-6	0.8067	81.485	% Recov	75.000	125.000				10/01/07
MSD	Fluoride	16984-48-8	0.5066	100.916	% Recov	75.000	125.000				10/01/07
MSD	Nitrogen in Nitrite	N02-N	0.5335	107.129	% Recov	75.000	125.000				10/01/07
MSD	Nitrogen in Nitrate	N03-N	0.44144	97.880	% Recov	75.000	125.000				10/01/07
MSD	Sulfate	14808-79-8	1.5173	76.631	% Recov	75.000	125.000				10/01/07
SPK-RPD	Chloride	16887-00-6	81.485		RPD			3.364	20.000		10/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Fluoride	16984-48-8	100.916		RPD			1.665	20.000		10/01/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	107.129		RPD			5.985	20.000		10/01/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	97.880		RPD			1.130	20.000		10/01/07
SPK-RPD	Sulfate	14808-79-8	76.631		RPD			3.510	20.000		10/01/07

BATCH QC

BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/02/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/02/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/02/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/01/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/01/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/02/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/02/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/01/07
LCS	Chloride	16887-00-6	199.2993	99.650	% Recov	80.000	120.000				10/01/07
LCS	Fluoride	16984-48-8	106.2396	105.188	% Recov	80.000	120.000				10/01/07
LCS	Nitrogen in Nitrite	NO2-N	100.0519	100.052	% Recov	80.000	120.000				10/01/07
LCS	Nitrogen in Nitrate	NO3-N	91.9445	100.816	% Recov	80.000	120.000				10/01/07
LCS	Sulfate	14808-79-8	392.9903	98.248	% Recov	80.000	120.000				10/01/07

Lab ID: W07P002158

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	12.6424		RPD			0.200	20.000		10/01/07
DUP	Fluoride	16984-48-8	7.17e-2		RPD			6.608	20.000		10/01/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	10/01/07
DUP	Nitrogen in Nitrate	NO3-N	9.211		RPD			1.759	20.000		10/01/07
DUP	Phosphate (P) by IC	PO4-P	<4e-2		RPD			n/a	20.000	U	10/01/07
DUP	Sulfate	14808-79-8	66.5416		RPD			1.100	20.000		10/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Chloride	16887-00-6	0.751	75.859	% Recov	75.000	125.000				10/01/07
MS	Fluoride	16984-48-8	0.4986	99.323	% Recov	75.000	125.000				10/01/07
MS	Nitrogen in Nitrite	N02-N	0.5013	100.663	% Recov	75.000	125.000				10/01/07
MS	Nitrogen in Nitrate	N03-N	0.47037	104.295	% Recov	75.000	125.000				10/01/07
MS	Phosphate (P) by IC	P04-P	0.8392	87.966	% Recov	75.000	125.000				10/01/07
MS	Sulfate	14808-79-8	2.02685	102.366	% Recov	75.000	125.000				10/01/07
MSD	Chloride	16887-00-6	0.7871	79.505	% Recov	75.000	125.000				10/01/07
MSD	Fluoride	16984-48-8	0.5311	105.797	% Recov	75.000	125.000				10/01/07
MSD	Nitrogen in Nitrite	N02-N	0.5081	102.028	% Recov	75.000	125.000				10/01/07
MSD	Nitrogen in Nitrate	N03-N	0.45289	100.419	% Recov	75.000	125.000				10/01/07
MSD	Phosphate (P) by IC	P04-P	0.8719	91.394	% Recov	75.000	125.000				10/01/07
MSD	Sulfate	14808-79-8	2.01263	101.648	% Recov	75.000	125.000				10/01/07
SPK-RPD	Chloride	16887-00-6	79.505		RPD			4.693	20.000		10/01/07
SPK-RPD	Fluoride	16984-48-8	105.797		RPD			6.312	20.000		10/01/07
SPK-RPD	Nitrogen in Nitrite	N02-N	102.028		RPD			1.347	20.000		10/01/07
SPK-RPD	Nitrogen in Nitrate	N03-N	100.419		RPD			3.787	20.000		10/01/07
SPK-RPD	Phosphate (P) by IC	P04-P	91.394		RPD			3.822	20.000		10/01/07
SPK-RPD	Sulfate	14808-79-8	101.648		RPD			0.704	20.000		10/01/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/01/07
BLANK	Nitrogen in Nitrite	N02-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/01/07
BLANK	Nitrogen in Nitrite	N02-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/01/07
BLANK	Nitrogen in Nitrate	N03-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/01/07
BLANK	Nitrogen in Nitrate	N03-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/01/07
BLANK	Phosphate (P) by IC	P04-P	<4e-2	n/a	mg/L	0.000	0.200			U	10/01/07
BLANK	Phosphate (P) by IC	P04-P	<4e-2	n/a	mg/L	0.000	0.200			U	10/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 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	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/01/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/01/07
LCS	Chloride	16887-00-6	193.6829	96.841	% Recov	80.000	120.000				10/01/07
LCS	Fluoride	16984-48-8	102.4435	101.429	% Recov	80.000	120.000				10/01/07
LCS	Nitrogen in Nitrite	NO2-N	98.3271	98.327	% Recov	80.000	120.000				10/01/07
LCS	Nitrogen in Nitrate	NO3-N	89.9029	98.578	% Recov	80.000	120.000				10/01/07
LCS	Phosphate (P) by IC	PO4-P	177.9597	92.303	% Recov	80.000	120.000				10/01/07
LCS	Sulfate	14808-79-8	386.8638	96.666	% Recov	80.000	120.000				10/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Cyanide by Midi/Spectrophotom

Sample Date: 09/26/07
 Receive Date: 09/26/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002108											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	34.8	88.491	% Recov	75.000	125.000				10/10/07
MSD	Cyanide by Midi/Spectrophotom	57-12-5	34.8	88.491	% Recov	75.000	125.000				10/10/07
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	88.491		RPD			0.000	20.000		10/10/07
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	10/10/07
LCS	Cyanide by Midi/Spectrophotom	57-12-5	48	94.070	% Recov	85.000	115.000				10/10/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 09/27/07
 Receive Date: 09/27/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002121											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Silver	7440-22-4	970.1	97.010	% Recov	75.000	125.000				10/17/07
MS	Barium	7440-39-3	489	97.800	% Recov	75.000	125.000				10/17/07
MS	Beryllium	7440-41-7	505.6	101.120	% Recov	75.000	125.000				10/17/07
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				10/17/07
MS	Cadmium	7440-43-9	1008	100.800	% Recov	75.000	125.000				10/17/07
MS	Cobalt	7440-48-4	995.9	99.590	% Recov	75.000	125.000				10/17/07
MS	Chromium	7440-47-3	983.7	98.370	% Recov	75.000	125.000				10/17/07
MS	Copper	7440-50-8	982.7	98.270	% Recov	75.000	125.000				10/17/07
MS	Iron	7439-89-8	978.8	97.880	% Recov	75.000	125.000				10/17/07
MS	Potassium	7440-09-7	10479	104.790	% Recov	75.000	125.000				10/17/07
MS	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				10/17/07
MS	Manganese	7439-96-5	992	99.200	% Recov	75.000	125.000				10/17/07
MS	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				10/17/07
MS	Nickel	7440-02-0	967.4	96.740	% Recov	75.000	125.000				10/17/07
MS	Antimony	7440-38-0	1008	100.800	% Recov	75.000	125.000				10/17/07
MS	Strontium	7440-24-6	494.5	98.900	% Recov	75.000	125.000				10/17/07
MS	Vanadium	7440-62-2	953.8	95.380	% Recov	75.000	125.000				10/17/07
MS	Zinc	7440-66-6	1002.8	100.280	% Recov	75.000	125.000				10/17/07
MSD	Silver	7440-22-4	965.4	96.540	% Recov	75.000	125.000				10/17/07
MSD	Barium	7440-39-3	481.8	96.380	% Recov	75.000	125.000				10/17/07
MSD	Beryllium	7440-41-7	502.2	100.440	% Recov	75.000	125.000				10/17/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				10/17/07
MSD	Cadmium	7440-43-9	1001	100.100	% Recov	75.000	125.000				10/17/07
MSD	Cobalt	7440-48-4	993.3	99.330	% Recov	75.000	125.000				10/17/07
MSD	Chromium	7440-47-3	976.7	97.670	% Recov	75.000	125.000				10/17/07
MSD	Copper	7440-50-8	967.8	96.780	% Recov	75.000	125.000				10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H20 P

Sample Date: 09/27/07
 Receive Date: 09/27/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	971.2	97.120	% Recov	75.000	125.000				10/17/07
MSD	Potassium	7440-09-7	10089	100.890	% Recov	75.000	125.000				10/17/07
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				10/17/07
MSD	Manganese	7439-96-5	986	98.600	% Recov	75.000	125.000				10/17/07
MSD	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				10/17/07
MSD	Nickel	7440-02-0	964.5	96.450	% Recov	75.000	125.000				10/17/07
MSD	Antimony	7440-36-0	999.4	99.940	% Recov	75.000	125.000				10/17/07
MSD	Strontium	7440-24-6	486.7	97.340	% Recov	75.000	125.000				10/17/07
MSD	Vanadium	7440-62-2	953.9	95.390	% Recov	75.000	125.000				10/17/07
MSD	Zinc	7440-66-6	995.6	99.560	% Recov	75.000	125.000				10/17/07
SPK-RPD	Silver	7440-22-4	96.540		RPD			0.486	20.000		10/17/07
SPK-RPD	Barium	7440-39-3	96.360		RPD			1.483	20.000		10/17/07
SPK-RPD	Beryllium	7440-41-7	100.440		RPD			0.675	20.000		10/17/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		10/17/07
SPK-RPD	Cadmium	7440-43-9	100.100		RPD			0.697	20.000		10/17/07
SPK-RPD	Cobalt	7440-48-4	99.330		RPD			0.261	20.000		10/17/07
SPK-RPD	Chromium	7440-47-3	97.870		RPD			0.714	20.000		10/17/07
SPK-RPD	Copper	7440-50-8	96.760		RPD			1.548	20.000		10/17/07
SPK-RPD	Iron	7439-89-6	97.120		RPD			0.779	20.000		10/17/07
SPK-RPD	Potassium	7440-09-7	100.890		RPD			3.792	20.000		10/17/07
SPK-RPD	Magnesium	7439-95-4			RPD			n/a	20.000		10/17/07
SPK-RPD	Manganese	7439-96-5	98.600		RPD			0.607	20.000		10/17/07
SPK-RPD	Sodium	7440-23-5			RPD			n/a	20.000		10/17/07
SPK-RPD	Nickel	7440-02-0	96.450		RPD			0.300	20.000		10/17/07
SPK-RPD	Antimony	7440-36-0	99.940		RPD			0.857	20.000		10/17/07
SPK-RPD	Strontium	7440-24-6	97.340		RPD			1.590	20.000		10/17/07
SPK-RPD	Vanadium	7440-62-2	95.390		RPD			0.031	20.000		10/17/07
SPK-RPD	Zinc	7440-66-6	99.560		RPD			0.701	20.000		10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	10/17/07
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	10/17/07
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	10/17/07
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	10/17/07
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	10/17/07
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	10/17/07
BLANK	Chromium	7440-47-3	<4	n/a	ug/L					U	10/17/07
BLANK	Copper	7440-50-8	<4	n/a	ug/L					U	10/17/07
BLANK	Iron	7439-89-6	<9	n/a	ug/L					U	10/17/07
BLANK	Potassium	7440-09-7	<45	n/a	ug/L					U	10/17/07
BLANK	Magnesium	7439-95-4	10.3	10.300	ug/L						10/17/07
BLANK	Manganese	7439-96-5	4	4.000	ug/L						10/17/07
BLANK	Sodium	7440-23-5	36.8	36.800	ug/L						10/17/07
BLANK	Nickel	7440-02-0	6.3	6.300	ug/L						10/17/07
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	10/17/07
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	10/17/07
BLANK	Vanadium	7440-62-2	7.7	7.700	ug/L						10/17/07
BLANK	Zinc	7440-66-8	6.4	6.400	ug/L						10/17/07
LCS	Silver	7440-22-4	1005	100.500	% Recov	80.000	120.000				10/17/07
LCS	Barium	7440-39-3	497.5	99.500	% Recov	80.000	120.000				10/17/07
LCS	Beryllium	7440-41-7	527.9	105.580	% Recov	80.000	120.000				10/17/07
LCS	Calcium	7440-70-2	1083	108.300	% Recov	80.000	120.000				10/17/07
LCS	Cadmium	7440-43-9	1041	104.100	% Recov	80.000	120.000				10/17/07
LCS	Cobalt	7440-48-4	1050	105.000	% Recov	80.000	120.000				10/17/07
LCS	Chromium	7440-47-3	1025	102.500	% Recov	80.000	120.000				10/17/07
LCS	Copper	7440-50-8	1016	101.600	% Recov	80.000	120.000				10/17/07
LCS	Iron	7439-89-6	1016	101.600	% Recov	80.000	120.000				10/17/07
LCS	Potassium	7440-09-7	10180	101.800	% Recov	80.000	120.000				10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O 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	1015	101.500	% Recov	80.000	120.000				10/17/07
LCS	Manganese	7439-96-5	1025	102.500	% Recov	80.000	120.000				10/17/07
LCS	Sodium	7440-23-5	1040	104.000	% Recov	80.000	120.000				10/17/07
LCS	Nickel	7440-02-0	1019	101.900	% Recov	80.000	120.000				10/17/07
LCS	Antimony	7440-38-0	1045	104.500	% Recov	80.000	120.000				10/17/07
LCS	Strontium	7440-24-6	493.7	98.740	% Recov	80.000	120.000				10/17/07
LCS	Vanadium	7440-62-2	1001	100.100	% Recov	80.000	120.000				10/17/07
LCS	Zinc	7440-66-6	1023	102.300	% Recov	80.000	120.000				10/17/07

Lab ID: W07P002157
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	974	97.400	% Recov	75.000	125.000				10/17/07
MS	Barium	7440-39-3	476.6	95.320	% Recov	75.000	125.000				10/17/07
MS	Beryllium	7440-41-7	495.7	99.140	% Recov	75.000	125.000				10/17/07
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				10/17/07
MS	Cadmium	7440-43-9	977.5	97.750	% Recov	75.000	125.000				10/17/07
MS	Cobalt	7440-48-4	990.5	99.050	% Recov	75.000	125.000				10/17/07
MS	Chromium	7440-47-3	976.4	97.640	% Recov	75.000	125.000				10/17/07
MS	Copper	7440-50-8	947.5	94.750	% Recov	75.000	125.000				10/17/07
MS	Iron	7439-89-6	973.1	97.310	% Recov	75.000	125.000				10/17/07
MS	Potassium	7440-09-7	9713	97.130	% Recov	75.000	125.000				10/17/07
MS	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				10/17/07
MS	Manganese	7439-96-5	988	98.800	% Recov	75.000	125.000				10/17/07
MS	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				10/17/07
MS	Nickel	7440-02-0	947.9	94.790	% Recov	75.000	125.000				10/17/07
MS	Antimony	7440-38-0	1013	101.300	% Recov	75.000	125.000				10/17/07
MS	Strontium	7440-24-6	480.4	96.080	% Recov	75.000	125.000				10/17/07
MS	Vanadium	7440-62-2	929.3	92.930	% Recov	75.000	125.000				10/17/07
MS	Zinc	7440-66-6	968.7	96.870	% Recov	75.000	125.000				10/17/07
MSD	Silver	7440-22-4	971.6	97.160	% Recov	75.000	125.000				10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Barium	7440-39-3	480.8	96.160	% Recov	75.000	125.000				10/17/07
MSD	Beryllium	7440-41-7	498.6	99.720	% Recov	75.000	125.000				10/17/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				10/17/07
MSD	Cadmium	7440-43-9	987.2	98.720	% Recov	75.000	125.000				10/17/07
MSD	Cobalt	7440-48-4	991.5	99.150	% Recov	75.000	125.000				10/17/07
MSD	Chromium	7440-47-3	978.1	97.810	% Recov	75.000	125.000				10/17/07
MSD	Copper	7440-50-8	961	96.100	% Recov	75.000	125.000				10/17/07
MSD	Iron	7439-89-6	979	97.900	% Recov	75.000	125.000				10/17/07
MSD	Potassium	7440-09-7	9963	99.630	% Recov	75.000	125.000				10/17/07
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				10/17/07
MSD	Manganese	7439-96-5	987	98.700	% Recov	75.000	125.000				10/17/07
MSD	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				10/17/07
MSD	Nickel	7440-02-0	944.8	94.490	% Recov	75.000	125.000				10/17/07
MSD	Antimony	7440-36-0	987.9	98.790	% Recov	75.000	125.000				10/17/07
MSD	Strontium	7440-24-6	482.8	96.560	% Recov	75.000	125.000				10/17/07
MSD	Vanadium	7440-62-2	939.7	93.970	% Recov	75.000	125.000				10/17/07
MSD	Zinc	7440-66-6	981.9	98.190	% Recov	75.000	125.000				10/17/07
SPK-RPD	Silver	7440-22-4	97.160		RPD			0.247	20.000		10/17/07
SPK-RPD	Barium	7440-39-3	96.160		RPD			0.877	20.000		10/17/07
SPK-RPD	Beryllium	7440-41-7	99.720		RPD			0.583	20.000		10/17/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		10/17/07
SPK-RPD	Cadmium	7440-43-9	98.720		RPD			0.987	20.000		10/17/07
SPK-RPD	Cobalt	7440-48-4	99.150		RPD			0.101	20.000		10/17/07
SPK-RPD	Chromium	7440-47-3	97.810		RPD			0.174	20.000		10/17/07
SPK-RPD	Copper	7440-50-8	96.100		RPD			1.415	20.000		10/17/07
SPK-RPD	Iron	7439-89-6	97.900		RPD			0.604	20.000		10/17/07
SPK-RPD	Potassium	7440-09-7	99.630		RPD			2.541	20.000		10/17/07
SPK-RPD	Magnesium	7439-95-4			RPD			n/a	20.000		10/17/07
SPK-RPD	Manganese	7439-96-5	98.700		RPD			0.101	20.000		10/17/07
SPK-RPD	Sodium	7440-23-5			RPD			n/a	20.000		10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Nickel	7440-02-0	94.490		RPD			0.317	20.000		10/17/07
SPK-RPD	Antimony	7440-36-0	98.790		RPD			2.509	20.000		10/17/07
SPK-RPD	Strontium	7440-24-6	96.580		RPD			0.498	20.000		10/17/07
SPK-RPD	Vanadium	7440-62-2	93.970		RPD			1.113	20.000		10/17/07
SPK-RPD	Zinc	7440-66-6	98.190		RPD			1.353	20.000		10/17/07
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	10/17/07
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	10/17/07
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	10/17/07
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	10/17/07
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	10/17/07
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	10/17/07
BLANK	Chromium	7440-47-3	4.5	4.500	ug/L						10/17/07
BLANK	Copper	7440-50-8	<4	n/a	ug/L					U	10/17/07
BLANK	Iron	7439-89-6	<9	n/a	ug/L					U	10/17/07
BLANK	Potassium	7440-09-7	<45	n/a	ug/L					U	10/17/07
BLANK	Magnesium	7439-95-4	7.8	7.800	ug/L						10/17/07
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	10/17/07
BLANK	Sodium	7440-23-5	29.7	29.700	ug/L						10/17/07
BLANK	Nickel	7440-02-0	5.1	5.100	ug/L						10/17/07
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	10/17/07
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	10/17/07
BLANK	Vanadium	7440-62-2	13.3	13.300	ug/L						10/17/07
BLANK	Zinc	7440-66-6	8.4	8.400	ug/L						10/17/07
LCS	Silver	7440-22-4	1006	100.800	% Recov	80.000	120.000				10/17/07
LCS	Barium	7440-39-3	493.8	98.760	% Recov	80.000	120.000				10/17/07
LCS	Beryllium	7440-41-7	521	104.200	% Recov	80.000	120.000				10/17/07
LCS	Calcium	7440-70-2	1092	109.200	% Recov	80.000	120.000				10/17/07
LCS	Cadmium	7440-43-9	1023	102.300	% Recov	80.000	120.000				10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O 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	Cobalt	7440-48-4	1042	104.200	% Recov	80.000	120.000				10/17/07
LCS	Chromium	7440-47-3	1027	102.700	% Recov	80.000	120.000				10/17/07
LCS	Copper	7440-50-8	1004	100.400	% Recov	80.000	120.000				10/17/07
LCS	Iron	7439-89-6	1011	101.100	% Recov	80.000	120.000				10/17/07
LCS	Potassium	7440-09-7	9936	99.360	% Recov	80.000	120.000				10/17/07
LCS	Magnesium	7439-95-4	995.3	99.530	% Recov	80.000	120.000				10/17/07
LCS	Manganese	7439-96-5	1024	102.400	% Recov	80.000	120.000				10/17/07
LCS	Sodium	7440-23-5	1011	101.100	% Recov	80.000	120.000				10/17/07
LCS	Nickel	7440-02-0	1011	101.100	% Recov	80.000	120.000				10/17/07
LCS	Antimony	7440-36-0	1017	101.700	% Recov	80.000	120.000				10/17/07
LCS	Strontium	7440-24-6	488.3	97.660	% Recov	80.000	120.000				10/17/07
LCS	Vanadium	7440-62-2	997.3	99.730	% Recov	80.000	120.000				10/17/07
LCS	Zinc	7440-66-6	1010	101.000	% Recov	80.000	120.000				10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Total Alkalinity as mg/L CaCO3

Sample Date: 10/01/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02534											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	110.9		RPD			6.626	20.000		10/08/07
Lab ID: W07P002131											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	125.7		RPD			3.363	20.000		10/08/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	122.2	106.261	%Recover	80.000	120.000				10/08/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	122.3	106.348	%Recover	80.000	120.000				10/08/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	123.0	106.957	%Recover	80.000	120.000				10/08/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Total Organic Carbon

Sample Date: 09/26/07
 Receive Date: 09/26/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002119											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	0.9127	91.270	% Recov	75.000	125.000				10/03/07
MSD	Total Organic Carbon	TOC	0.9337	93.370	% Recov	75.000	125.000				10/03/07
SPK-RPD	Total Organic Carbon	TOC	93.370		RPD			2.275	20.000		10/03/07
BATCH QC											
BLANK	Total Organic Carbon	TOC	0.0000	0.000	mg/L	0.000	300.000				10/03/07
METHSPIKE	Total Organic Carbon	TOC	1.079	107.900	% Recov	80.000	120.000				10/03/07
SPK-RSD	Total Organic Carbon	TOC	0.3591	0.359	% RSD	0.000	20.000				10/03/07
Lab ID: W07P002191											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	0.9047	90.470	% Recov	75.000	125.000				10/10/07
MSD	Total Organic Carbon	TOC	1.008	100.800	% Recov	75.000	125.000				10/10/07
SPK-RPD	Total Organic Carbon	TOC	100.800		RPD			10.801	20.000		10/10/07
BATCH QC											
BLANK	Total Organic Carbon	TOC	0.000	0.000	mg/L	0.000	300.000				10/10/07
METHSPIKE	Total Organic Carbon	TOC	1.056	105.600	% Recov	80.000	120.000				10/10/07
SPK-RSD	Total Organic Carbon	TOC	0.2048	0.205	% RSD	0.000	20.000				10/10/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Total Organic Halides

Sample Date: 09/24/07
 Receive Date: 09/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002062											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Halides	TOX	41.8	104.500	% Recov	50.000	150.000				10/12/07
MSD	Total Organic Halides	TOX	41.0	102.500	% Recov	50.000	150.000				10/12/07
SPK-RPD	Total Organic Halides	TOX	102.500		RPD			1.932	20.000		10/12/07
BATCH QC											
BLANK	Total Organic Halides	TOX	<5	n/a	ug/L	0.000	300.000			U	10/12/07
LCS	Total Organic Halides	TOX	408	102.000	%rec	80.000	120.000				10/12/07

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20071741
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>IC Anion - MS/MSD recoveries low for chloride in sample W07P002158; Data N-flagged. DTS</p> <p>IC Anion - MS/MSD recoveries low for sulfate in sample W07P002161; Data N-flagged. DTS</p> <p>IC Anion - MS recovery low for chloride in sample W07P002158 Data N-flagged. DTS</p> <p>TOX: X-flag indicates > 10% carbon column breakthrough. gar Samples were not preserved with H2SO4 prior to sample receipt, but were acidified prior to sample preparation. gar</p> <p>ICP-AES: [Samples W07P2147-2153] High manganese, nickel, vanadium, zinc, magnesium, and sodium preparation blank results; "C" flag if applicable. Magnesium, sodium, and calcium sample results beyond effective spike range (spike results marked "NA"). Check and high standards used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard.</p> <p>ICP-AES: [Samples W07P2157-2160] High chromium, nickel, vanadium, zinc, magnesium, and sodium preparation blank results; "C" flag if applicable. Magnesium, sodium, and calcium sample results beyond</p>

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 COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20071741
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
				effective spike range (spike results marked "NA"). Check and high standards used to ensure magnesium, sodium, and calcium 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: I07-061
Sample # W07P002156
Client ID: B1P5R2 PNNL-GPP
WSCF

Group #: WSCF20071741
Department: Organic
Sampled: 09/30/07
Received: 10/01/07

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		10/11/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/11/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
 D - Analyte was identified at a secondary dilution factor(inorg)
 N - Spike sample recovery is outside control limits.(inorg)
 U - Analyzed for but not detected above limiting criteria.(org)

C - The Analyte was found in the Associated Blank.(inorg)
 J - Analyte < lowest calibration but >= MDL.(org)
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 X - Other flags/notes described in the comments/narrative(inorg)

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

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I07-061

Sample # W07P002156

Client ID: B1P5R2 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Organic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/11/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I07-061
Sample # W07P002162
Client ID: B1P5R5

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Organic
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethane	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Carbon tetrachloride	56-23-5	LA-523-455	J	1.80	ug/L			1.00	1.0		10/11/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		10/11/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/11/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07

MDL = Minimum Detection Limit
RQ = Result Qualifier
TP Err = Total Propagated Error
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C - The Analyte was found in the Associated Blank. (inorg)
J - Analyte < lowest calibration but > = MDL. (org)
U - Analyzed for but not detected above limiting criteria (inorg)
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* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I07-061

Sample # W07P002162

Client ID: B1P5R5 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Organic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/11/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07

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)

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-009

Sample # W07P002163

Client ID: B1PVB5 PNNL-GPP

WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Organic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Trichloroethene	79-01-8	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		10/11/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/11/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-009

Sample # W07P002163

Client ID: B1PVB5 PNNL-GPP
WSCF

Group #: WSCF20071741

Department: Organic

Sampled: 09/30/07

Received: 10/01/07

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/11/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/11/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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Report WGPP/ver. 5.2

GPAP

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-009

Sample # W07P002168

Client ID: B1PFR2 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Organic

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 71.0	ug/L			1.00	71		10/04/07
Kerosene	TPHKEROSENE	LA-523-493	U	< 71.0	ug/L			1.00	71		10/04/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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Report WGPP/ver. 5.2

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20071741
 Matrix: WATER
 Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002168											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl	Surr	84-15-1	470.50	98.800	% Recov	70.000	130.000			10/04/07
MS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	2388.6	100.000	% Recov	75.000	125.000			10/04/07
MSD	ortho-Terphenyl	Surr	84-15-1	548.74	115.000	% Recov	70.000	130.000			10/04/07
MSD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	2642.1	111.000	% Recov	75.000	125.000			10/04/07
SPK-RPD	ortho-Terphenyl	Surr	84-15-1	115.000		RPD			15.154	20.000	10/04/07
SPK-RPD	Total Pet. Hydrocarbons Diesel		TPHDIESEL	111.000		RPD			10.427	20.000	10/04/07
SURR	ortho-Terphenyl	Surr	84-15-1	507.75	107.000	% Recov	70.000	130.000			10/04/07
BATCH QC											
BLANK	Kerosene		TPHKEROSENE	< 75	n/a	ug/L				U	10/04/07
BLANK	ortho-Terphenyl	Surr	84-15-1	435.22	87.000	% Recov	70.000	130.000			10/04/07
BLANK	Total Pet. Hydrocarbons Diesel		TPHDIESEL	< 75	n/a	ug/L				U	10/04/07
LCS	ortho-Terphenyl	Surr	84-15-1	495.55	99.100	% Recov	70.000	130.000			10/04/07
LCS	Total Pet. Hydrocarbons Diesel		TPHDIESEL	2543.7	102.000	% Recov	80.000	120.000			10/04/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20071741
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002156											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	23.240	93.000	% Recov	63.000	117.000				10/11/07
MS	Benzene	71-43-2	25.400	102.000	% Recov	75.000	129.000				10/11/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	46.240	92.500	% Recov	75.000	125.000				10/11/07
MS	Chlorobenzene	108-90-7	24.260	97.000	% Recov	79.000	119.000				10/11/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.900	110.000	% Recov	75.000	125.000				10/11/07
MS	Toluene-d8(Surr)	2037-26-5	49.160	98.300	% Recov	75.000	125.000				10/11/07
MS	Toluene	108-88-3	25.240	101.000	% Recov	76.000	120.000				10/11/07
MS	Trichloroethene	79-01-6	19.120	76.500	% Recov	73.000	123.000				10/11/07
MSD	1,1-Dichloroethene	75-35-4	23.820	95.300	% Recov	63.000	117.000				10/11/07
MSD	Benzene	71-43-2	25.950	104.000	% Recov	75.000	129.000				10/11/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	45.870	91.700	% Recov	75.000	125.000				10/11/07
MSD	Chlorobenzene	108-90-7	25.500	102.000	% Recov	79.000	119.000				10/11/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.200	108.000	% Recov	75.000	125.000				10/11/07
MSD	Toluene-d8(Surr)	2037-26-5	47.660	95.300	% Recov	75.000	125.000				10/11/07
MSD	Toluene	108-88-3	25.570	102.000	% Recov	76.000	120.000				10/11/07
MSD	Trichloroethene	79-01-6	19.620	78.500	% Recov	73.000	123.000				10/11/07
SPK-RPD	1,1-Dichloroethene	75-35-4	95.300		RPD			2.443	20.000		10/11/07
SPK-RPD	Benzene	71-43-2	104.000		RPD			1.942	20.000		10/11/07
SPK-RPD	Chlorobenzene	108-90-7	102.000		RPD			5.025	20.000		10/11/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	108.000		RPD			1.835	20.000		10/11/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	95.300		RPD			3.099	20.000		10/11/07
SPK-RPD	Toluene	108-88-3	102.000		RPD			0.985	20.000		10/11/07
SPK-RPD	Trichloroethene	79-01-6	78.500		RPD			2.581	20.000		10/11/07
SURR	4-Bromofluorobenzene(Surr)	460-00-4	46.050	92.100	% Recov	75.000	125.000				10/11/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.620	109.000	% Recov	75.000	125.000				10/11/07
SURR	Toluene-d8(Surr)	2037-26-5	48.970	97.900	% Recov	75.000	125.000				10/11/07

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20071741
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 09/30/07
 Receive Date: 10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002162											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	46.400	92.800	% Recov	75.000	125.000				10/11/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.660	107.000	% Recov	75.000	125.000				10/11/07
SURR	Toluene-d8(Surr)	2037-26-5	48.650	97.300	% Recov	75.000	125.000				10/11/07
Lab ID: W07P002163											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	45.810	91.600	% Recov	75.000	125.000				10/11/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.990	110.000	% Recov	75.000	125.000				10/11/07
SURR	Toluene-d8(Surr)	2037-26-5	49.250	98.500	% Recov	75.000	125.000				10/11/07
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	10/11/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	10/11/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	10/11/07
BLANK	1,1-Dichloroethane	75-35-4	< 1.0	n/a	ug/L					U	10/11/07
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	10/11/07
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	10/11/07
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	10/11/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	10/11/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	47.090	94.200	% Recov	75.000	125.000				10/11/07
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	10/11/07
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	10/11/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071741
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.690	111.000	% Recov	75.000	125.000				10/11/07
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	10/11/07
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	10/11/07
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	10/11/07
BLANK	Toluene-d8(Surr)	2037-26-5	48.590	97.200	% Recov	75.000	125.000				10/11/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	10/11/07
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	10/11/07
LCS	1,1-Dichloroethene	75-35-4	24.610	98.400	% Recov	75.000	125.000				10/11/07
LCS	Benzene	71-43-2	26.940	108.000	% Recov	75.000	125.000				10/11/07
LCS	4-Bromofluorobenzene(Surr)	480-00-4	45.180	90.400	% Recov	75.000	125.000				10/11/07
LCS	Chlorobenzene	108-90-7	25.490	102.000	% Recov	75.000	125.000				10/11/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.430	109.000	% Recov	75.000	125.000				10/11/07
LCS	Toluene-d8(Surr)	2037-26-5	48.070	96.100	% Recov	75.000	125.000				10/11/07
LCS	Toluene	108-88-3	26.020	104.000	% Recov	75.000	125.000				10/11/07
LCS	Trichloroethene	79-01-6	19.520	78.100	% Recov	75.000	125.000				10/11/07

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-007

Sample # W07P002148

Client ID: B1NXH5 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-48-1	LA-508-415	U	0.530	pCi/L	+ -0.456	pCi/L	1.00	0.67		10/03/07
Gross beta	12587-47-2	LA-508-415	U	0.560	pCi/L	+ -1.04	pCi/L	1.00	1.7		10/03/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the (DL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-007

Sample # W07P002150

Client ID: B1NXH1 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-48-1	LA-508-415	U	0.140	pCi/L	+ -0.385	pCi/L	1.00	0.70		10/03/07
Gross beta	12587-47-2	LA-508-415	U	1.20	pCi/L	+ -1.08	pCi/L	1.00	1.8		10/03/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I07-066

Sample # W07P002152

Client ID: B1PDY4 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

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	+ -508	pCi/L	1.00	2.0e +02		10/13/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I07-066

Sample # W07P002154

Client ID: B1PDY8 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

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	2.0e +02		10/13/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits. (inorg)

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

C - The Analyte was found in the Associated Blank. (inorg)

J - Analyte < lowest calibration but > = MDL. (org)

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

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W07-008
Sample # W07P002155
Client ID: B1P9B9 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741
Department: Radiochemistry
Sampled: 09/30/07
Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		110.0	pCi/L	+ -19.80	pCi/L	1.00	12.60		10/09/07
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-46-1	LA-508-415		180	pCi/L	+ -27.0	pCi/L	1.00	7.8		10/03/07
Gross beta	12587-47-2	LA-508-415		1.00e+04	pCi/L	+ -1.00e+03	pCi/L	1.00	16		10/03/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		6.60e+03	pCi/L	+ -1.32e+03	pCi/L	1.00	2.0e+02		10/13/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits. (inorg)

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

C - The Analyte was found in the Associated Blank. (inorg)

J - Analyte < lowest calibration but > = MDL. (org)

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

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: i07-061

Sample # W07P002156

Client ID: B1P5R2 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

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		5.90e+04	pCi/L	+ -1.18e+04	pCi/L	1.00	2.0e+02		10/13/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: G07-009

Sample # W07P002158

Client ID: B1PDD2 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

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		1.80e+04	pCi/L	+ -3.20e+03	pCi/L	1.00	2.0e+02		10/13/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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

Report WGPP/ver. 5.2

GPAP

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S07-007

Sample # W07P002161

Client ID: BINX77 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-46-1	LA-508-415	U	1.20	pCi/L	+0.828	pCi/L	1.00	1.2		10/03/07
Gross beta	12587-47-2	LA-508-415		18.0	pCi/L	+2.70	pCi/L	1.00	2.0		10/03/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		4.60e+03	pCi/L	+966	pCi/L	1.00	2.0e+02		10/13/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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: I07-061

Sample # W07P002162

Client ID: B1P5R5 PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20071741

Department: Radiochemistry

Sampled: 09/30/07

Received: 10/01/07

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		2.40e+05	pCi/L	+ -4.80e+04	pCi/L	1.00	2.0e+02		10/13/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

GPAP

B - The analyte < the RDL but > = the IDL/MDL (inorg)

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

N - Spike sample recovery is outside control limits.(inorg)

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

+ - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank.(inorg)

J - Analyte < lowest calibration but > = MDL.(org)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071741
Matrix: WATER
Test: Gross Alpha on Alpha Plateau

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U-2.4E-01	n/a	pCi/L	-100.000	100.000				10/09/07
LCS	Gross alpha on alpha plateau	12587-46-1-ap	50.3	97.481	% Recov	80.000	120.000				10/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 09/28/07
 Receive Date: 09/28/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002135											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha	12587-46-1	1.7		RPD			5.714	20.000		10/03/07
DUP	Gross beta	12587-47-2	4.7		RPD			8.163	20.000		10/03/07
BATCH QC											
BLANK	Gross alpha	12587-46-1	U1.8E-01	n/a	pCi/L	-10.000	10.000				10/03/07
BLANK	Gross beta	12587-47-2	U-1.9	n/a	pCi/L	-10.000	10.000				10/03/07
LCS	Gross alpha	12587-46-1	52.2	101.065	% Recov	80.000	120.000				10/03/07
LCS	Gross beta	12587-47-2	165	110.331	% Recov	80.000	120.000				10/03/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071741
 Matrix: WATER
 Test: Tritium by Liq Sct column prep

Sample Date: 09/27/07
 Receive Date: 09/27/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002120											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	2.4E+05		RPD			0.000	20.000		10/13/07
MS	Tritium	10028-17-8	20000.	95.057	% Recov	75.000	125.000				10/13/07
BATCH QC											
BLANK	Tritium	10028-17-8	U2.5E+01	n/s	pCi/L	-10.000	1000.000				10/13/07
LCS	Tritium	10028-17-8	2240.0	87.898	% Recov	80.000	120.000				10/13/07

M4W41-SLF-07-888

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 17 pages
Including cover page

Waste Sampling and Characterization Facility
P.O. BOX 1970 S3-30, Richland, WA 99352
PHONE: (509) 373-7004/FAX: (509) 373-7134

File

ACKNOWLEDGMENT OF SAMPLES RECEIVED

11/15/07

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071741

td

The following samples were received from you on 10/01/07. 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	Sampl Date
W07P002147	B1NXH4	PNNL-GPP @GPP6010	Water	09/30
W07P002148	B1NXH5	PNNL-GPP @AB-32	Water @IC-30 ALKALI	09/30
W07P002149	B1NXH0	PNNL-GPP @GPP6010	Water	09/30
W07P002150	B1NXH1	PNNL-GPP @AB-32	Water @IC-30 ALKALI	09/30
W07P002151	B1PDY3	PNNL-GPP @GPP6010	Water	09/30
W07P002152	B1PDY4	PNNL-GPP @H3-33	Water @IC-30	09/30
W07P002153	B1PDY7	PNNL-GPP @GPP6010	Water	09/30
W07P002154	B1PDY8	PNNL-GPP @H3-33	Water @IC-30	09/30
W07P002155	B1P9B9	PNNL-GPP @AB-32	Water @H3-33 @IC-30 ALKALI	09/30
W07P002156	B1P5R2	PNNL-GPP @H3-33	Water @IC-30 @VOA-GPP	09/30
W07P002157	B1PDD1	PNNL-GPP @GPP6010	Water	09/30
W07P002158	B1PDD2	PNNL-GPP @GPP6010	Water @H3-33 @IC-30 ALKALI	09/30
W07P002159	B1P5Y4	PNNL-GPP @IC-30	Water	09/30
W07P002160	B1PX76 B1NX46	PNNL-GPP @GPP6010	Water	09/30
W07P002161	B1PX77 B1NX77	PNNL-GPP @AB-32	Water @H3-33 @IC-30	09/30

pk-y
P.D. Mix
11/20/07

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071741

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W07P002162	B1P5R5	PNNL-GPP @H3-33 @IC-30	Water @VOA-GPP	09/30/
W07P002163	B1PVB5	PNNL-GPP @VOA-GPP	Water	09/30/
W07P002164	B1PHB3	PNNL-GPP TOC-30 TOX	Water	09/30/
W07P002165	B1PHB4	PNNL-GPP TOC-30 TOX	Water	09/30/
W07P002166	B1PHB5	PNNL-GPP TOC-30 TOX	Water	09/30/
W07P002167	B1PHB6	PNNL-GPP TOC-30 TOX	Water	09/30/
W07P002168	B1PFR2	PNNL-GPP @TPHD-WA	Water	09/30/
W07P002169	B1NK73	PNNL-GPP @IC-30 ALKALI	Water	09/30/

Test Acronym Description

Test Acronym	Description
@AB-32	Gross Alpha/Gross Beta (AB32)
@GPP6010	ICP Metals Analysis, Grd H2O P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3
CN-02	Cyanide by Midi/Spectrophotom
TOC-30	Total Organic Carbon
TOX	Total Organic Halides

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W07-009-22

Page 1 of 1

Collector F. H. Hall Fluor Hanford Inc.	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-009	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title RCRA, SEPTEMBER 2007	HNF-N-50611	Ice Chest No. GR-0306	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
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all GW samples submitted into one SDG, daily closure.
 All SDG's are to be sent to Steve Trent, FH

Total Activity Exemption: Yes No

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PHB3	2164	W	9/30/07	1009	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool-4C
B1PHB3	↓	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool-4C
B1PHB4	2165	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool-4C
B1PHB4	↓	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool-4C
B1PHB5	2166	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool-4C
B1PHB5	↓	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool-4C
B1PHB6	2167	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool-4C
B1PHB6	↓	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool-4C

ICED
 Initial
 Date

Relinquished By Fluor Hanford Inc.	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007 0935	Received By Dave Williamson	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007 0815	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wire W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By Dave Williamson	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007 0935	Received By TA FRAZIER	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007 0935	
Relinquished By Fluor Hanford	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time	Received By	Print	Sign	Date/Time	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	
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

107-066-49

Page 1 of 1

Collector F. H. Hall	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN FAX
SAF No. Fluor Hanford Tr 107-066	Sampling Origin Hanford Site	Purchase Order/Charge Code	
Project Title 100NR21AM-LOI, SEPTEMBER 2007	HNF-N-506 11	Ice Chest No. GRP-03-006	Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.	
Protocol CERCLA	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 <input checked="" type="checkbox"/> No <input type="checkbox"/> All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days. WSCF: Batch all GW samples submitted into one SDG, daily closure. All SDG's are to be sent to Steve Trent, FH	

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PDY3 (F)	2151	W	9/30/07	1008	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PDY4	2152	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1PDY4	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool-4C
							<div style="border: 1px solid black; padding: 5px; display: inline-block;"> ICED Initial: [Signature] Date: </div>

Relinquished By Fluor Hanford Tr	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007	Received By Dave Williamson Fluor Hanford	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007	Matrix * S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge W = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By Dave Williamson Fluor Hanford	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007	Received By <i>[Signature]</i>	Print <i>[Signature]</i>	Sign <i>[Signature]</i>	Date/Time OCT 01 2007	
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	

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W07-008-53

Page 1 of 1

Contact/Requester Steve Trent		Telephone No. 509-373-5869	MSIN FAX
SAF No. W07-008		Purchase Order/Charge Code	
Project Title RCRA AUGUST 2007		Ice Chest No. GRP-03-006	Temp.
Shipped To (Lab) Waste Sampling & Characterization		Method of Shipment Govt. Vehicle	
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 Total Activity Exemption: Yes No
 All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed SDG closure of 14 days.
 WSCF: Batch all GW samples submitted into one SDG, daily closure.
 All SDG's are to be sent to Steve Trent, FH

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1P9B9	2155	W	9-30-07	1313	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool-4C
B1P9B9	↓	W	↓	↓	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool-4C
B1P9B9	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1P9B9	↓	W	↓	↓	1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool-4C
B1P9B9	↓	W	↓	↓	1x500-mL G/P	ALPHABETA_GPC: Alpha + Beta (2); ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2

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 Initial
 Date

Relinquished By Josh Henrick Fluor Hanford	Print <i>J Henrick</i> Sign	Date/Time OCT 01 2007	Received By Dave Williamson Fluor Hanford	Print <i>D Williamson</i> Sign	Date/Time OCT 01 2007	Matrix * S = Soil DS = Dross Solid SF = Sediment DF = Dross Fluid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By Dave Williamson Fluor Hanford	Print <i>D Williamson</i> Sign	Date/Time OCT 01 2007	Received By <i>[Signature]</i> Fluor Hanford	Print <i>[Signature]</i> Sign	Date/Time OCT 01 2007	
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

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M4W41-SLF-07-888

ATTACHMENT 5

ISSUE RESOLUTION FORM

**Consisting of 2 pages
Including cover page**

ISSUE RESOLUTION FORM

PNNL TRACKING NUMBER: 07-107

Date : 10-22-2007 SAF No.

SDG: WSCF20071741 LOGIN No.: TEST: TOX

Sample No.(s)	B1PHB3	(W07P002164)
	B1PHB4	(W07P002165)
	B1PHB5	(W07P002166)
	B1PHB6	(W07P002167)

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

ISSUE

On October 1, 2007, four TOX samples were delivered to the WSCF Laboratory with improper preservation. Samples were not acidified as per COC requirements.

Failure to acidify TOX samples could result in reduced adsorption efficiency; and, could intensify inorganic halide interferences.

PROPOSED RESOLUTION

WSCF shall acidify samples per COC requirements and perform analysis.

Accept TOX sample results (with X flags) and document in the case narrative that the samples were not correctly preserved in the field.

GRP COMMENTS

Accept proposed resolution.

Heidi Hampt 10/23/07
Signature and Date