0080017

RECEIVED AUGUST 12, 2008

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FLUOR

Memorandum

M4W41-SLF-08-812

To:	H. Hampt	E6-35	Date:	August 12, 2008
From:	S. L. Fitzgerald, Manager WSCF Analytical Lab			

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20081252

Reference:
1) Letter of Instruction for Analytical Services for the Groundwater Performance Assessment Project and Analytical Laboratory Transition Plan, FH-0602422, September 19, 2006
2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20081252:

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

SLF/grf

Attachments 5

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081252
Data Deliverable Date: 06-aug-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
G08-006	B1VJY9	W08P003003	WATER
	B1VK00	W08P003014	WATER
	B1VK03	W08P003020	WATER
	B1VK04	W08P003022	WATER
	B1VK06	W08P003016	WATER
	B1VK09	W08P003018	WATER
I08-043	B1VKV6	W08P003034	WATER
	B1VKV7	W08P003035	WATER
S08-001	B1RTP1	W08P003029	WATER
	B1RTP2	W08P003030	WATER
W08-004	B1V394	W08P003033	WATER
W08-005	B1V883	W08P003031	WATER
	B1V884	W08P003032	WATER
W08-006	B1VRJ5	W08P003028	WATER
	B1VRK7	W08P003023	WATER
	B1VRK8	W08P003024	WATER
	B1VRK9	W08P003026	WATER
	B1VRL0	W08P003027	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 5 pages
Including cover page

Introduction

Eighteen (18) groundwater samples were received at the WSCF Laboratory on June 23, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A copy of proposed Issue Resolution Form, documenting missed regulatory TOC hold time is included as Attachment 3. A Data Summary Report (Attachment 4) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 5. Additionally, a copy of a sample record sheet is included as Attachment 6.

It should be noted that the attached chain of custody was stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the sample container.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 18 through 21, for a complete listing of approved analytical methods.

Inorganic Comments

Ammonia – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 48 for QC details.

All QC controls are within the established limits.

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 49 through 55 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.
- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VRM7, B1VLY4 and B1VLX9 (SDG# 20081245); B1VJT5 (SDG# 20081248); and, B1VK00 of this SDG.

- Batch QC - B1VLX9 – Nitrite-N – Matrix Spike recovery was less than established laboratory limits. Affected sample result was N flagged.

All other QC controls are within the established limits.

Chemical Oxygen Demand – 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. See page 56 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1V884 of this SDG and a QC sample.

All QC controls are within the established limits.

Cyanide – 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 GRP Letter of Instruction. See page 57 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1V577 (SDG# 20081261, SAF# F08-103).

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 58 through 64 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VN10 (SDG# 20081245 and B1V884 of this SDG.

- Calcium, Magnesium and Sodium – Sample results exceeded spiking levels by a factor of 4. Spike recoveries are not valid. Check standard was analyzed to ensure linearity, because sample results were greater than the calibration standard.

All QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 65 through 66 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VM29 and B1VM35 (SDG# 20081287).

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 67 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1VRK0 (SDG# 20081240) and B1VK09 of this SDG.

All QC controls are within the established limits.

Total Organic Carbon – The hold time requirement for this analysis was not met. See comment below. A Matrix Spike, Matrix Spike Duplicate, Blank and Method Spike were analyzed with this delivery group per the GRP Letter of Instruction. See page 68 for QC details. Analytical Note(s):

- Miss Hold Time - A copy of proposed Issue Resolution Form, documenting missed regulatory TOC hold time is included as Attachment 3

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VJT5 (SDG# 20081248) and B1VPW1 (SDG# 20081260).

All QC controls are within the established limits.

Organic Comments

Alcohol/Glycols - The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 81 for QC details.

All QC controls are within the established limits.

Semi-VOA – 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 GPP Letter of Instruction. See pages 82 through 85 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VM35 (SDG# 20081287).

All QC controls are within the established limits.

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 86 for QC details.

All QC controls are within the established limits.

TPHG-WA – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 87 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 88 through 90 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VKW3 (SDG# 20081240).

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 99 through 104 for QC details. Analytical Note(s):

- Gross Alpha/Gross Beta – Duplicate was analyzed on sample# B1VLH7 (SDG# 20081245). Gross Alpha/Gross Beta Duplicate Relative Percent Differences (RPDs) exceeded established laboratory limits. No flags issued.

- Gross Beta – Duplicate was also analyzed B1VP80 (SDG# 20081184).

- Strontium-89/90 and 85 (tracer) – Duplicates were analyzed on samples B1VLH7 (SDG# 20081245) and B1VM29 (SDG# 20081287).

- Technetium-99 – Duplicate and Matrix Spike were analyzed on sample# B1VLJ6 (SDG# 20081245). Matrix Spike recovery was less than established laboratory limits due to high sample activity. No flags issued.

- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1VLH3 (SDG# 20081245).

All other QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager and Client Services as verified by the following signatures.

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-812

ATTACHMENT 3

ISSUE RESOLUTION FORM

Consisting of 2 pages
Including cover page

ISSUE RESOLUTION FORM

PNNL TRACKING NUMBER: 08-XXX

DRAFT

Date : **7-28-2008** SAF No. **W08-005, I08-043**

SDG: **WSCF20081252** LOGIN No.: TEST: TOC -30

Sample No.(s) **B1V884, B1VKV7**

(W08P003032, W08P003035)

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

ISSUE	PROPOSED RESOLUTION
Missed regulatory holding time for TOC on two GPAP samples. Samples were collected and delivered to the WSCF Laboratory on June 23, 2008. However, due to a WSCF Laboratory error, analysis of the TOC samples was slightly delayed beyond the 28-day regulatory hold time requirement. On July 22, 2008, TOC samples were successfully analyzed with all associated QC controls within established laboratory limits.	Accept TOC results (accept as-is) and document missed holding time in the case narrative.

GRP COMMENTS

Signature and Date

M4W41-SLF-08-812

ATTACHMENT 4

ANALYTICAL RESULTS

Consisting of 96 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 8/12/08
Client Services: P.D. Mix 8/11/2008

All results are reported on an "as received" basis unless otherwise noted in the comment section.

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Report#: WSCF20081252
Report Date: 11-aug-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 11-aug-2008 13:41:30

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081252

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36823	2	37244	41583	BLANK		Anions by Ion Chromatography
36823	15	37244	41583	BLANK		Anions by Ion Chromatography
36823	3	37244	41583	LCS		Anions by Ion Chromatography
36823	5	37244	41583	DUP	W08P003019	Anions by Ion Chromatography
36823	6	37244	41583	MS	W08P003019	Anions by Ion Chromatography
36823	7	37244	41583	MSD	W08P003019	Anions by Ion Chromatography
36823	7	37244	41583	SPK-RPD	W08P003019	Anions by Ion Chromatography
36823	13	37244	41583	SAMPLE	W08P003024	Anions by Ion Chromatography
36823	10	37244	41583	SAMPLE	W08P003027	Anions by Ion Chromatography
36823	11	37244	41583	SAMPLE	W08P003028	Anions by Ion Chromatography
36823	12	37244	41583	SAMPLE	W08P003032	Anions by Ion Chromatography
36822	2	37247	41584	BLANK		Anions by Ion Chromatography
36822	12	37247	41584	BLANK		Anions by Ion Chromatography
36822	24	37247	41584	BLANK		Anions by Ion Chromatography
36822	3	37247	41584	LCS		Anions by Ion Chromatography
36822	13	37247	41584	LCS		Anions by Ion Chromatography
36822	15	37247	41584	DUP	W08P002929	Anions by Ion Chromatography
36822	16	37247	41584	MS	W08P002929	Anions by Ion Chromatography
36822	17	37247	41584	MSD	W08P002929	Anions by Ion Chromatography
36822	17	37247	41584	SPK-RPD	W08P002929	Anions by Ion Chromatography
36822	5	37247	41584	DUP	W08P002958	Anions by Ion Chromatography
36822	6	37247	41584	MS	W08P002958	Anions by Ion Chromatography
36822	7	37247	41584	MSD	W08P002958	Anions by Ion Chromatography
36822	7	37247	41584	SPK-RPD	W08P002958	Anions by Ion Chromatography
36822	8	37247	41584	SAMPLE	W08P003018	Anions by Ion Chromatography
36822	9	37247	41584	SAMPLE	W08P003022	Anions by Ion Chromatography
36825	2	37245	41588	BLANK		Anions by Ion Chromatography
36825	11	37245	41588	BLANK		Anions by Ion Chromatography
36825	23	37245	41588	BLANK		Anions by Ion Chromatography
36825	3	37245	41588	LCS		Anions by Ion Chromatography
36825	12	37245	41588	LCS		Anions by Ion Chromatography
36825	14	37245	41588	DUP	W08P002939	Anions by Ion Chromatography
36825	15	37245	41588	MS	W08P002939	Anions by Ion Chromatography
36825	16	37245	41588	MSD	W08P002939	Anions by Ion Chromatography
36825	16	37245	41588	SPK-RPD	W08P002939	Anions by Ion Chromatography
36825	8	37245	41588	DUP	W08P003014	Anions by Ion Chromatography
36825	9	37245	41588	MS	W08P003014	Anions by Ion Chromatography
36825	10	37245	41588	MSD	W08P003014	Anions by Ion Chromatography
36825	7	37245	41588	SAMPLE	W08P003014	Anions by Ion Chromatography
36825	10	37245	41588	SPK-RPD	W08P003014	Anions by Ion Chromatography
36825	22	37245	41588	SAMPLE	W08P003030	Anions by Ion Chromatography
36924	1	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	13	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	24	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	36	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	46	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	3	37345	41702	DUP	W08P002897	Total Alkalinity as mg/L CaCO3
36924	23	37345	41702	SAMPLE	W08P003014	Total Alkalinity as mg/L CaCO3
36924	26	37345	41702	DUP	W08P003018	Total Alkalinity as mg/L CaCO3

36924	25	37345	41702	SAMPLE	W08P003018	Total Alkalinity as mg/L CaCO3
36924	27	37345	41702	SAMPLE	W08P003022	Total Alkalinity as mg/L CaCO3
36924	28	37345	41702	SAMPLE	W08P003024	Total Alkalinity as mg/L CaCO3
36924	29	37345	41702	SAMPLE	W08P003027	Total Alkalinity as mg/L CaCO3
36924	30	37345	41702	SAMPLE	W08P003028	Total Alkalinity as mg/L CaCO3
36954	3	37377	41725	BLANK		Ammonia (N) by IC
36954	17	37377	41725	BLANK		Ammonia (N) by IC
36954	1	37377	41725	LCS		Ammonia (N) by IC
36954	5	37377	41725	DUP	W08P003032	Ammonia (N) by IC
36954	6	37377	41725	MS	W08P003032	Ammonia (N) by IC
36954	7	37377	41725	MSD	W08P003032	Ammonia (N) by IC
36954	4	37377	41725	SAMPLE	W08P003032	Ammonia (N) by IC
36954	7	37377	41725	SPK-RPD	W08P003032	Ammonia (N) by IC
36954	8	37377	41725	SAMPLE	W08P003035	Ammonia (N) by IC
36933	1	37349	41733	BLANK		Cyanide by Midi/Spectrophotom
36933	2	37349	41733	LCS		Cyanide by Midi/Spectrophotom
36933	5	37349	41733	MS	W08GR01833	Cyanide by Midi/Spectrophotom
36933	6	37349	41733	MSD	W08GR01833	Cyanide by Midi/Spectrophotom
36933	6	37349	41733	SPK-RPD	W08GR01833	Cyanide by Midi/Spectrophotom
36933	11	37349	41733	SAMPLE	W08P003035	Cyanide by Midi/Spectrophotom
37088	1	37514	41869	BLANK		ICP-200.8 MS All possible meta
37088	2	37514	41869	LCS		ICP-200.8 MS All possible meta
37088	13	37514	41869	SAMPLE	W08P003031	ICP-200.8 MS All possible meta
37088	14	37514	41869	SAMPLE	W08P003032	ICP-200.8 MS All possible meta
37088	15	37514	41869	SAMPLE	W08P003034	ICP-200.8 MS All possible meta
37088	16	37514	41869	SAMPLE	W08P003035	ICP-200.8 MS All possible meta
37088	4	37514	41869	MS	W08P003118	ICP-200.8 MS All possible meta
37088	5	37514	41869	MSD	W08P003118	ICP-200.8 MS All possible meta
37088	5	37514	41869	SPK-RPD	W08P003118	ICP-200.8 MS All possible meta
37088	7	37514	41869	MS	W08P003120	ICP-200.8 MS All possible meta
37088	8	37514	41869	MSD	W08P003120	ICP-200.8 MS All possible meta
37088	8	37514	41869	SPK-RPD	W08P003120	ICP-200.8 MS All possible meta
37197	1	37627	41944	BLANK		Chemical Oxygen Demand
37197	2	37627	41944	LCS		Chemical Oxygen Demand
37197	4	37627	41944	MS	W08P003032	Chemical Oxygen Demand
37197	5	37627	41944	MSD	W08P003032	Chemical Oxygen Demand
37197	3	37627	41944	SAMPLE	W08P003032	Chemical Oxygen Demand
37197	5	37627	41944	SPK-RPD	W08P003032	Chemical Oxygen Demand
37197	8	37627	41944	DUP	W08Q000095	Chemical Oxygen Demand
37197	9	37627	41944	MS	W08Q000095	Chemical Oxygen Demand
37197	10	37627	41944	MSD	W08Q000095	Chemical Oxygen Demand
37197	10	37627	41944	SPK-RPD	W08Q000095	Chemical Oxygen Demand
37239	1	37671	41987	BLANK		Total Organic Carbon
37239	2	37671	41987	METHSPIKE		Total Organic Carbon
37239	19	37671	41987	METHSPIKE		Total Organic Carbon
37239	3	37671	41987	SPK-RSD		Total Organic Carbon
37239	20	37671	41987	SPK-RSD		Total Organic Carbon
37239	4	37671	41987	MS	W08P002958	Total Organic Carbon
37239	5	37671	41987	MSD	W08P002958	Total Organic Carbon
37239	5	37671	41987	SPK-RPD	W08P002958	Total Organic Carbon
37239	10	37671	41987	SAMPLE	W08P003032	Total Organic Carbon
37239	9	37671	41987	SAMPLE	W08P003035	Total Organic Carbon
37239	21	37671	41987	MS	W08P003047	Total Organic Carbon
37239	22	37671	41987	MSD	W08P003047	Total Organic Carbon
37239	22	37671	41987	SPK-RPD	W08P003047	Total Organic Carbon

37315	1	37617	42193	BLANK		ICP Metals Analysis, Grd H20 P
37315	2	37617	42193	LCS		ICP Metals Analysis, Grd H20 P
37315	24	37617	42193	SAMPLE	W08P003003	ICP Metals Analysis, Grd H20 P
37315	4	37617	42193	MS	W08P003011	ICP Metals Analysis, Grd H20 P
37315	5	37617	42193	MSD	W08P003011	ICP Metals Analysis, Grd H20 P
37315	5	37617	42193	SPK-RPD	W08P003011	ICP Metals Analysis, Grd H20 P
37315	7	37617	42193	SAMPLE	W08P003014	ICP Metals Analysis, Grd H20 P
37315	9	37617	42193	SAMPLE	W08P003016	ICP Metals Analysis, Grd H20 P
37315	11	37617	42193	SAMPLE	W08P003018	ICP Metals Analysis, Grd H20 P
37315	13	37617	42193	SAMPLE	W08P003020	ICP Metals Analysis, Grd H20 P
37315	15	37617	42193	SAMPLE	W08P003022	ICP Metals Analysis, Grd H20 P
37315	16	37617	42193	SAMPLE	W08P003023	ICP Metals Analysis, Grd H20 P
37315	17	37617	42193	SAMPLE	W08P003024	ICP Metals Analysis, Grd H20 P
37315	19	37617	42193	SAMPLE	W08P003026	ICP Metals Analysis, Grd H20 P
37315	20	37617	42193	SAMPLE	W08P003027	ICP Metals Analysis, Grd H20 P
37315	21	37617	42193	SAMPLE	W08P003029	ICP Metals Analysis, Grd H20 P
37315	22	37617	42193	SAMPLE	W08P003030	ICP Metals Analysis, Grd H20 P
37315	23	37617	42193	SAMPLE	W08P003031	ICP Metals Analysis, Grd H20 P
37349	1	37618	42272	BLANK		ICP Metals Analysis, Grd H20 P
37349	2	37618	42272	LCS		ICP Metals Analysis, Grd H20 P
37349	4	37618	42272	MS	W08P003032	ICP Metals Analysis, Grd H20 P
37349	5	37618	42272	MSD	W08P003032	ICP Metals Analysis, Grd H20 P
37349	3	37618	42272	SAMPLE	W08P003032	ICP Metals Analysis, Grd H20 P
37349	5	37618	42272	SPK-RPD	W08P003032	ICP Metals Analysis, Grd H20 P
37349	6	37618	42272	SAMPLE	W08P003034	ICP Metals Analysis, Grd H20 P
37349	7	37618	42272	SAMPLE	W08P003035	ICP Metals Analysis, Grd H20 P

w13qlog v4.2 11-aug-2008 13:41:30

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20081252

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			41776	BLANK		NWTPH-D TPH Diesel Range (Wa)
			41776	LCS		NWTPH-D TPH Diesel Range (Wa)
			41776	MS	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41776	MSD	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41776	SAMPLE	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41776	SPK-RPD	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41776	SURR	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41834	BLANK		SW-846 8270C Semi-Vols
			41834	LCS		SW-846 8270C Semi-Vols
			41834	SAMPLE	W08P003035	SW-846 8270C Semi-Vols
			41834	SURR	W08P003035	SW-846 8270C Semi-Vols
			41834	MS	W08P003120	SW-846 8270C Semi-Vols
			41834	MSD	W08P003120	SW-846 8270C Semi-Vols
			41834	SPK-RPD	W08P003120	SW-846 8270C Semi-Vols
			42144	BLANK		VOA Ground Water Protection
			42144	LCS		VOA Ground Water Protection
			42144	MS	W08P002901	VOA Ground Water Protection
			42144	MSD	W08P002901	VOA Ground Water Protection
			42144	SPK-RPD	W08P002901	VOA Ground Water Protection
			42144	SAMPLE	W08P003030	VOA Ground Water Protection
			42144	SAMPLE	W08P003032	VOA Ground Water Protection
			42144	SAMPLE	W08P003033	VOA Ground Water Protection
			42144	SAMPLE	W08P003035	VOA Ground Water Protection
37446	1	37878	42194	BLANK		Alcohols, Glycols - 8015
37446	2	37878	42194	LCS		Alcohols, Glycols - 8015
37446	4	37878	42194	DUP	W08P003035	Alcohols, Glycols - 8015
37446	5	37878	42194	MS	W08P003035	Alcohols, Glycols - 8015
37446	6	37878	42194	MSD	W08P003035	Alcohols, Glycols - 8015
37446	3	37878	42194	SAMPLE	W08P003035	Alcohols, Glycols - 8015
37446	6	37878	42194	SPK-RPD	W08P003035	Alcohols, Glycols - 8015
37447	1	37879	42195	BLANK		NWTPH-GX TPH Gasoline Range
37447	2	37879	42195	LCS		NWTPH-GX TPH Gasoline Range
37447	4	37879	42195	DUP	W08P003035	NWTPH-GX TPH Gasoline Range
37447	5	37879	42195	MS	W08P003035	NWTPH-GX TPH Gasoline Range
37447	6	37879	42195	MSD	W08P003035	NWTPH-GX TPH Gasoline Range
37447	3	37879	42195	SAMPLE	W08P003035	NWTPH-GX TPH Gasoline Range
37447	6	37879	42195	SPK-RPD	W08P003035	NWTPH-GX TPH Gasoline Range

w13qlog v4.2 11-aug-2008 13:41:30

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081252

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36931	1	37353	41718	BLANK		Strontium 89/90
36931	2	37353	41718	LCS		Strontium 89/90
36931	3	37353	41718	DUP	W08P002925	Strontium 89/90
36931	8	37353	41718	SAMPLE	W08P003014	Strontium 89/90
36931	9	37353	41718	SURR	W08P003014	Strontium 89/90
36931	10	37353	41718	SAMPLE	W08P003022	Strontium 89/90
36931	11	37353	41718	SURR	W08P003022	Strontium 89/90
36931	12	37353	41718	SAMPLE	W08P003035	Strontium 89/90
36931	13	37353	41718	SURR	W08P003035	Strontium 89/90
37073	1	37499	41949	BLANK		Gross Alpha on Alpha Plateau
37073	2	37499	41949	LCS		Gross Alpha on Alpha Plateau
37073	3	37499	41949	DUP	W08P002925	Gross Alpha on Alpha Plateau
37073	7	37499	41949	SAMPLE	W08P003014	Gross Alpha on Alpha Plateau
37073	8	37499	41949	SAMPLE	W08P003022	Gross Alpha on Alpha Plateau
37002	1	37425	41957	BLANK		Gross Alpha/Gross Beta (AB32)
37002	2	37425	41957	LCS		Gross Alpha/Gross Beta (AB32)
37002	3	37425	41957	DUP	W08P002925	Gross Alpha/Gross Beta (AB32)
37002	7	37425	41957	SAMPLE	W08P003014	Gross Alpha/Gross Beta (AB32)
37002	8	37425	41957	SAMPLE	W08P003022	Gross Alpha/Gross Beta (AB32)
37098	1	37524	42024	BLANK		Strontium 89/90
37098	2	37524	42024	LCS		Strontium 89/90
37098	14	37524	42024	SAMPLE	W08P003018	Strontium 89/90
37098	15	37524	42024	SURR	W08P003018	Strontium 89/90
37098	3	37524	42024	DUP	W08P003118	Strontium 89/90
36914	1	37335	42102	BLANK		TC99 by Liquid Scin.
36914	2	37335	42102	LCS		TC99 by Liquid Scin.
36914	4	37335	42102	DUP	W08P002940	TC99 by Liquid Scin.
36914	3	37335	42102	MS	W08P002940	TC99 by Liquid Scin.
36914	10	37335	42102	SAMPLE	W08P003024	TC99 by Liquid Scin.
36914	11	37335	42102	SAMPLE	W08P003027	TC99 by Liquid Scin.
36914	12	37335	42102	SAMPLE	W08P003028	TC99 by Liquid Scin.
36915	1	37336	42104	BLANK		Tritium by Liq Sct column prep
36915	2	37336	42104	LCS		Tritium by Liq Sct column prep
36915	4	37336	42104	DUP	W08P002927	Tritium by Liq Sct column prep
36915	3	37336	42104	MS	W08P002927	Tritium by Liq Sct column prep
36915	6	37336	42104	SAMPLE	W08P003014	Tritium by Liq Sct column prep
36915	7	37336	42104	SAMPLE	W08P003018	Tritium by Liq Sct column prep
36915	8	37336	42104	SAMPLE	W08P003022	Tritium by Liq Sct column prep
36915	9	37336	42104	SAMPLE	W08P003030	Tritium by Liq Sct column prep
36915	10	37336	42104	SAMPLE	W08P003035	Tritium by Liq Sct column prep
37416	5	37792	42201	BLANK		Gross Alpha/Gross Beta (AB32)
37416	6	37792	42201	LCS		Gross Alpha/Gross Beta (AB32)
37416	7	37792	42201	DUP	W08P002839	Gross Alpha/Gross Beta (AB32)
37416	23	37792	42201	SAMPLE	W08P003018	Gross Alpha/Gross Beta (AB32)
37416	4	37841	42201	SAMPLE	W08P003018	Gross Alpha on Alpha Plateau

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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

LA-344-406	LA-344-406: TOTAL ORGANIC CARBON (TOC) BASED ON SW-846	
	EPA SW-846 9060	TOTAL ORGANIC CARBON
	HEIS 9060_TOC	Total Organic Carbon
LA-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY	
	EPA-600/4-86-024 300.7	Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical
	HEIS 300.7_CATIONS_IC	Determination of Ammonium by Ion Chromatography
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	HEIS 6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
	HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS
LA-523-470	LA-523-470: CHEMICAL OXYGEN DEMAND	
	EPA-600/4-79-020 410.4	CHEMICAL OXYGEN DEMAND
	HEIS 410.4_COD	Chemical Oxygen Demand
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC)	
	HEIS 2320B	Alkalinity
	Standard Methods 2320B	Alkalinity
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
METHOD REFERENCES REPORT

Department: 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.

	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
	HEIS 335.2_CYANIDE	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.

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

LA-523-443	LA-523-443: GAS CHROMATOGRAPH ANALYSIS OF GASOLINE RANGE TOTAL PETROLEUM HYDROCA	
	HEIS WTPH_GASOLINE	Total Petroleum Hydrocarbons, Gasoline
	WDOE TPH NWTPH-G	Volatile Petroleum Products Method for Soil and Water
LA-523-455	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-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
	HEIS 8270_SVOA_GCMS	Semivolatile Orgamoc 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
Organics	Organics - Alcohols, Glycols	
	EPA SW-846 8015B	Nonhalogenated Organics Using GC/FID

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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

LA-508-415 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_GB**	Strontium 89/90

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

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

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://www2.rl.gov/phmc/as-dol.

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003003
Client ID: B1VJY9 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		28.4	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		4.95e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		1.48e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		3.94e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		36.2	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		2.54e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		125	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003014
Client ID: B1VK00 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0420	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	9.02	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.108	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	0.879	mg/L			2.00	0.072		06/24/08
Phosphate (P) by IC	PO4-P	LA-533-410	D	7.65	mg/L			2.00	0.064		06/24/08
Sulfate	14808-79-8	LA-533-410	D	9.79	mg/L			2.00	0.15		06/24/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		4.91e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		1.50e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		4.04e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		36.3	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		2.52e+04	ug/L			1.00	73		08/05/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003014
Client ID: B1VK00 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium	7440-24-6	LA-505-411		125	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		07/02/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003016
Client ID: B1VK06 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		26.8	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		1.35e+04	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		2.57e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		4.58e+03	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		76.6	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		9.52e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		350	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003018
Client ID: B1VK09 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0420	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	11.3	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	32.1	mg/L			10.00	0.36		06/24/08
Phosphate (P) by IC	PO4-P	LA-533-410	DU	< 0.0640	mg/L			2.00	0.064		06/24/08
Sulfate	14808-79-8	LA-533-410	D	52.1	mg/L			2.00	0.15		06/24/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		178	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		1.43e+04	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		2.69e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		4.85e+03	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		80.1	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411		8.60	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411		11.1	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		9.58e+04	ug/L			1.00	73		08/05/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003018
Client ID: B1VK09 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Stromtium	7440-24-6	LA-505-411		361	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		96.0	mg/L			1.00	1.0		07/02/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003020
Client ID: B1VK03 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411	U	< 50.0	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411	U	< 170	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		59.8	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411	U	< 73.0	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003022
Client ID: B1VK04 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0420	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	DU	< 0.220	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0720	mg/L			2.00	0.072		06/24/08
Phosphate (P) by IC	PO4-P	LA-533-410	DU	< 0.0640	mg/L			2.00	0.064		06/24/08
Sulfate	14808-79-8	LA-533-410	DU	< 0.154	mg/L			2.00	0.15		06/24/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411	U	< 50.0	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411	U	< 170	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411		8.50	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411	U	< 51.0	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411	U	< 73.0	ug/L			1.00	73		08/05/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003022
Client ID: B1VK04 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
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		07/02/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003023
Client ID: B1VRK7 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		8.90e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411		7.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		3.60e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		2.45e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		31.8	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411		7.10	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411		22.8	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		2.87e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		111	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08

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

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

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003024
Client ID: B1VRK8 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

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	D	0.322	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	9.38	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.99	mg/L			2.00	0.072		06/24/08
Sulfate	14808-79-8	LA-533-410	D	23.5	mg/L			2.00	0.15		06/24/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		126	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		8.85e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411		4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		3.61e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		2.44e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		31.7	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411		23.5	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411		40.7	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		2.85e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		110	ug/L			1.00	4.0		08/05/08

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

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N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003024
Client ID: B1VRK8 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		94.0	mg/L			1.00	1.0		07/02/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003026
Client ID: B1VRK9 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		8.91e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		3.60e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		2.44e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		31.6	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411		23.8	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		2.86e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		111	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
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U - Analyzed for but not detected above limiting criteria(inorg)
U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003027
Client ID: B1VRL0 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

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	D	0.324	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	9.18	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.70	mg/L			2.00	0.072		06/24/08
Sulfate	14808-79-8	LA-533-410	D	23.1	mg/L			2.00	0.15		06/24/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		92.5	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		8.69e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		3.59e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		2.40e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		31.0	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411		27.4	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411		19.6	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		2.80e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		108	ug/L			1.00	4.0		08/05/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003027
Client ID: B1VRL0 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		93.0	mg/L			1.00	1.0		07/02/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003028
Client ID: B1VRJ5 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

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	D	0.422	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	3.90	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.19	mg/L			2.00	0.072		06/24/08
Sulfate	14808-79-8	LA-533-410	D	14.2	mg/L			2.00	0.15		06/24/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		97.0	mg/L			1.00	1.0		07/02/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-001
Sample # W08P003029
Client ID: B1RTP1 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		7.60e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		5.58e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		2.25e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		25.4	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411		18.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		3.30e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		173	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-001
Sample # W08P003030
Client ID: B1RTP2 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

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	D	0.349	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	5.64	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BDN	0.0612	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	4.44	mg/L			2.00	0.072		06/24/08
Sulfate	14808-79-8	LA-533-410	D	27.6	mg/L			2.00	0.15		06/24/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		149	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		7.78e+03	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		5.67e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		2.30e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		26.5	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411		15.8	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		3.38e+04	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		177	ug/L			1.00	4.0		08/05/08

MDL = Minimum Detection Limit
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U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-001
Sample # W08P003030
Client ID: B1RTP2 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003031
Client ID: B1V883 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/05/08
Magnesium	7439-95-4	LA-505-411		2.17e+04	ug/L			1.00	50		08/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Potassium	7440-09-7	LA-505-411		9.10e+03	ug/L			1.00	1.7e+02		08/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/05/08
Sodium	7440-23-5	LA-505-411		2.18e+04	ug/L			1.00	51		08/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/05/08
Barium	7440-39-3	LA-505-411		113	ug/L			1.00	4.0		08/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/05/08
Calcium	7440-70-2	LA-505-411		1.15e+05	ug/L			1.00	73		08/05/08
Strontium	7440-24-6	LA-505-411		480	ug/L			1.00	4.0		08/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/05/08
ICP-200.8 MS All possible meta Prep											**07/10/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.13	ug/L			1.00	0.400		07/14/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003032
Client ID: B1V884 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

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	0.214	mg/L			2.00	0.042		06/24/08
Chloride	16887-00-6	LA-533-410	D	6.62	mg/L			2.00	0.22		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.0269	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	4.32	mg/L			2.00	0.072		06/24/08
Sulfate	14808-79-8	LA-533-410	D	47.6	mg/L			2.00	0.15		06/24/08
Chemical Oxygen Demand											
Chemical Oxygen Demand	COD	LA-523-470	U	< 10	mg/L			1.00	10		07/21/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		82.7	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		2.19e+04	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		9.15e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		2.20e+04	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		114	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08

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RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003032
Client ID: B1V884 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		1.14e+05	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		469	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
ICP-200.8 MS All possible meta Prep											**07/10/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.24	ug/L			1.00	0.400		07/14/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	U	< 9.32e-03	mg/L			1.00	9.3e-03		07/06/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.730	mg/L			1.00	0.30		07/22/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003034
Client ID: B1VKV6 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Aluminum	7429-90-5	LA-505-411	U	< 52.0	ug/L			1.00	52		08/06/08
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		7.35e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411		5.30	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411		4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		3.58e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.71e+04	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		25.5	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411		4.90	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411		33.3	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		2.49e+04	ug/L			1.00	73		08/06/08
Lithium	7439-93-2	LA-505-411		5.30	ug/L			1.00	4.0		08/06/08
Strontium	7440-24-6	LA-505-411		107	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
ICP-200.8 MS All possible meta Prep											**07/10/08**
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		07/14/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003034
Client ID: B1VKV6 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Mercury	7439-97-6	LA-505-412		0.0600	ug/L			1.00	0.0500		07/14/08
Arsenic	7440-38-2	LA-505-412		4.06	ug/L			1.00	0.400		07/14/08

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

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N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003035
Client ID: B1VKV7 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		06/30/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Aluminum	7429-90-5	LA-505-411	U	< 52.0	ug/L			1.00	52		08/06/08
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		7.57e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		3.66e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.79e+04	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		25.1	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411		33.7	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		2.53e+04	ug/L			1.00	73		08/06/08
Lithium	7439-93-2	LA-505-411		4.10	ug/L			1.00	4.0		08/06/08
Strontium	7440-24-6	LA-505-411		108	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
ICP-200.8 MS All possible meta Prep											**07/10/08**

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003035
Client ID: B1VKV7 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Inorganic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta											
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		07/14/08
Mercury	7439-97-6	LA-505-412		0.0600	ug/L			1.00	0.0500		07/14/08
Uranium	7440-61-1	LA-505-412		1.06	ug/L			1.00	0.0500		07/14/08
Arsenic	7440-38-2	LA-505-412		4.06	ug/L			1.00	0.400		07/14/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	U	< 9.32e-03	mg/L			1.00	9.3e-03		07/06/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		2.61	mg/L			1.00	0.30		07/22/08

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

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

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: Ammonia (N) by IC

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003032											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Ammonia (N) by IC	7664-41-7	<9.32e-3		RPD			n/a	20.000	U	07/06/08
MS	Ammonia (N) by IC	7664-41-7	0.5163	103.675	% Recov	80.000	120.000				07/06/08
MSD	Ammonia (N) by IC	7664-41-7	0.5546	111.365	% Recov	80.000	120.000				07/06/08
SPK-RPD	Ammonia (N) by IC	7664-41-7	111.365		RPD			7.152	20.000		07/06/08
BATCH QC											
BLANK	Ammonia (N) by IC	7664-41-7	<9.32e-3	n/a	mg/L	0.000	0.002			U	07/06/08
BLANK	Ammonia (N) by IC	7664-41-7	<9.32e-3	n/a	mg/L	0.000	0.002			U	07/06/08
LCS	Ammonia (N) by IC	7664-41-7	96.0287	96.029	% Recov	80.000	120.000				07/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: Anions by Ion Chromatography

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

Lab ID: W08P003019

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Chloride	16887-00-6	4.7536		RPD			0.238	20.000		06/24/08
DUP	Fluoride	16984-48-8	0.3221		RPD			7.005	20.000		06/24/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/24/08
DUP	Nitrogen in Nitrate	NO3-N	2.1017		RPD			0.372	20.000		06/24/08
DUP	Sulfate	14808-79-8	14.1037		RPD			0.395	20.000		06/24/08
MS	Chloride	16887-00-6	1.01055	101.563	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.498	101.014	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.44755	90.965	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.4392	98.475	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.8878	96.316	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	1.01805	102.317	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.4954	100.487	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.4486	91.179	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.437	97.982	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.9178	97.847	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	102.317		RPD			0.740	20.000		06/25/08
SPK-RPD	Fluoride	16984-48-8	100.487		RPD			0.523	20.000		06/25/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	91.179		RPD			0.235	20.000		06/25/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	97.982		RPD			0.502	20.000		06/25/08
SPK-RPD	Sulfate	14808-79-8	97.847		RPD			1.577	20.000		06/25/08

BATCH QC

BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/25/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/25/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/25/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/25/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/25/08
LCS	Chloride	16887-00-6	196.273	97.648	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	101.9111	102.320	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.4347	100.035	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	90.8676	100.852	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	376.8956	95.176	% Recov	80.000	120.000				06/24/08

Lab ID: W08P002929
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	10.3561		RPD			0.269	20.000		06/24/08
DUP	Fluoride	16984-48-8	1.069		RPD			0.732	20.000		06/24/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/24/08
DUP	Nitrogen in Nitrate	NO3-N	<7.2e-2		RPD			n/a	20.000	U	06/24/08
DUP	Sulfate	14808-79-8	<0.154		RPD			n/a	20.000	U	06/24/08
MS	Chloride	16887-00-6	0.9885	99.347	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.52325	106.136	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.49475	100.559	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.43175	96.805	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.7593	89.760	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	0.9617	96.653	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.51735	104.939	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.48785	99.157	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.4318	96.816	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.7538	89.480	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	96.653		RPD			2.749	20.000		06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Fluoride	16984-48-8	104.939		RPD			1.134	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	99.157		RPD			1.404	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	96.816		RPD			0.011	20.000		06/24/08
SPK-RPD	Sulfate	14808-79-8	89.480		RPD			0.312	20.000		06/24/08

Lab ID: W08P002958
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	1.0096		RPD			1.065	20.000		06/24/08
DUP	Fluoride	16984-48-8	5.03e-2		RPD			2.552	20.000		06/24/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/24/08
DUP	Nitrogen in Nitrate	NO3-N	<7.2e-2		RPD			n/a	20.000	U	06/24/08
DUP	Phosphate (P) by IC	PO4-P	<6.4e-2		RPD			n/a	20.000	U	06/24/08
DUP	Sulfate	14808-79-8	7.5537		RPD			0.458	20.000		06/24/08
MS	Chloride	16887-00-6	0.90445	90.899	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.49195	99.787	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.4679	95.102	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.44385	99.518	% Recov	80.000	120.000				06/24/08
MS	Phosphate (P) by IC	PO4-P	0.781	81.609	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.8497	94.372	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	0.9103	91.487	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.4958	100.568	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.4725	96.037	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.4519	101.323	% Recov	80.000	120.000				06/24/08
MSD	Phosphate (P) by IC	PO4-P	0.79495	83.067	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.8876	96.306	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	91.487		RPD			0.645	20.000		06/24/08
SPK-RPD	Fluoride	16984-48-8	100.568		RPD			0.780	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	96.037		RPD			0.978	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	101.323		RPD			1.797	20.000		06/24/08
SPK-RPD	Phosphate (P) by IC	PO4-P	83.067		RPD			1.771	20.000		06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Sulfate	14808-79-8	96.306		RPD			2.029	20.000		06/24/08

BATCH QC

BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
LCS	Chloride	16887-00-6	194.6407	96.836	% Recov	80.000	120.000				06/24/08
LCS	Chloride	16887-00-6	195.0062	97.018	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	102	102.410	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	103.5136	103.929	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.1071	99.705	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.2788	99.878	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	91.1324	101.146	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	91.3258	101.360	% Recov	80.000	120.000				06/24/08
LCS	Phosphate (P) by IC	PO4-P	183.6336	94.950	% Recov	80.000	120.000				06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
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
LCS	Phosphate (P) by IC	PO4-P	185.1907	95.755	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	374.2748	94.514	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	374.9861	94.693	% Recov	80.000	120.000				06/24/08
Lab ID: W08P002939											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	11.6461		RPD			2.152	20.000		06/24/08
DUP	Fluoride	16984-48-8	0.896		RPD			0.560	20.000		06/24/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/24/08
DUP	Nitrogen in Nitrate	NO3-N	0.303		RPD			2.743	20.000		06/24/08
DUP	Sulfate	14808-79-8	24.1694		RPD			0.009	20.000		06/24/08
MS	Chloride	16887-00-6	0.8663	87.065	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.5476	111.075	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.3632	73.821	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.4198	94.126	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.84955	94.365	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	0.87835	88.276	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.55365	112.302	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.39455	80.193	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.46535	104.339	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.874	95.612	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	88.276		RPD			1.381	20.000		06/24/08
SPK-RPD	Fluoride	16984-48-8	112.302		RPD			1.099	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	80.193		RPD			8.275	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	104.339		RPD			10.292	20.000		06/24/08
SPK-RPD	Sulfate	14808-79-8	95.612		RPD			1.313	20.000		06/24/08
Lab ID: W08P003014											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	9.0409		RPD			0.211	20.000		06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Fluoride	16984-48-8	<4.2e-2		RPD			n/a	20.000	U	06/24/08
DUP	Nitrogen in Nitrite	NO2-N	0.1073		RPD			0.372	20.000		06/24/08
DUP	Nitrogen in Nitrate	NO3-N	0.8553		RPD			2.733	20.000		06/24/08
DUP	Phosphate (P) by IC	PO4-P	7.692		RPD			0.511	20.000		06/24/08
DUP	Sulfate	14808-79-8	9.8373		RPD			0.434	20.000		06/24/08
MS	Chloride	16887-00-6	0.87185	87.623	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.5087	103.185	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.4071	82.744	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.4293	96.256	% Recov	80.000	120.000				06/24/08
MS	Phosphate (P) by IC	PO4-P	0.93535	97.738	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.9196	97.939	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	0.8701	87.447	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.5023	101.886	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.4076	82.846	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.4458	99.955	% Recov	80.000	120.000				06/24/08
MSD	Phosphate (P) by IC	PO4-P	0.93195	97.382	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.93555	98.753	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	87.447		RPD			0.201	20.000		06/24/08
SPK-RPD	Fluoride	16984-48-8	101.886		RPD			1.267	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	80.193		RPD			3.131	20.000		06/24/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	99.955		RPD			3.770	20.000		06/24/08
SPK-RPD	Phosphate (P) by IC	PO4-P	97.382		RPD			0.365	20.000		06/24/08
SPK-RPD	Sulfate	14808-79-8	98.753		RPD			0.828	20.000		06/24/08

BATCH QC

BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
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	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Phosphate (P) by IC	PO4-P	<3.2e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
LCS	Chloride	16887-00-6	197.5556	98.286	% Recov	80.000	120.000				06/24/08
LCS	Chloride	16887-00-6	199.0488	99.029	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	106.2308	106.657	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	107.5642	107.996	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	100.4491	101.055	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.9764	100.580	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	92.3204	102.464	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	91.2048	101.226	% Recov	80.000	120.000				06/24/08
LCS	Phosphate (P) by IC	PO4-P	190.4392	98.469	% Recov	80.000	120.000				06/24/08
LCS	Phosphate (P) by IC	PO4-P	196.2541	101.476	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	397.5511	100.392	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	399.6611	100.925	% Recov	80.000	120.000				06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: Chemical Oxygen Demand

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003032											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Chemical Oxygen Demand	COD	249	99.600	% Recov	75.000	125.000				07/21/08
MSD	Chemical Oxygen Demand	COD	249	99.600	% Recov	75.000	125.000				07/21/08
SPK-RPD	Chemical Oxygen Demand	COD	99.600		RPD			0.000	20.000		07/21/08
Lab ID: W08Q000095											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chemical Oxygen Demand	COD	139		RPD			2.182	20.000		07/21/08
MS	Chemical Oxygen Demand	COD	250	100.000	% Recov	75.000	125.000				07/21/08
MSD	Chemical Dxygen Demand	COD	266	106.400	% Recov	75.000	125.000				07/21/08
SPK-RPD	Chemical Oxygen Demand	COD	99.600		RPD			0.000	20.000		07/21/08
BATCH QC											
BLANK	Chemical Oxygen Demand	COD	< 10	n/a	mg/L	-20.000	20.000			U	07/21/08
LCS	Chemical Oxygen Demand	COD	102	102.000	% Recov	80.000	120.000				07/21/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: Cyanide by Midi/Spectrophotom

Sample Date: 06/24/08
Receive Date:06/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01833											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	40.1	100.250	% Recov	75.000	125.000				06/30/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	41.2	103.000	% Recov	75.000	125.000				06/30/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	103.000		RPD			2.706	20.000		06/30/08
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	06/30/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	50	100.000	% Recov	85.000	115.000				06/30/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

Lab ID: W08P003011
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Silver	7440-22-4	1000	100.000	% Recov	75.000	125.000				08/05/08
MS	Barium	7440-39-3	494.4	98.880	% Recov	75.000	125.000				08/05/08
MS	Beryllium	7440-41-7	520.6	104.120	% Recov	75.000	125.000				08/05/08
MS	Calcium	7440-70-2	2210	221.000	% Recov	75.000	125.000			*	08/05/08
MS	Cadmium	7440-43-9	1017	101.700	% Recov	75.000	125.000				08/05/08
MS	Cobalt	7440-48-4	1032	103.200	% Recov	75.000	125.000				08/05/08
MS	Chromium	7440-47-3	1028	102.800	% Recov	75.000	125.000				08/05/08
MS	Copper	7440-50-8	1007	100.700	% Recov	75.000	125.000				08/05/08
MS	Iron	7439-89-6	998.2	99.820	% Recov	75.000	125.000				08/05/08
MS	Potassium	7440-09-7	10273	102.730	% Recov	75.000	125.000				08/05/08
MS	Magnesium	7439-95-4	860	86.000	% Recov	75.000	125.000				08/05/08
MS	Manganese	7439-96-5	1026	102.600	% Recov	75.000	125.000				08/05/08
MS	Sodium	7440-23-5	1040	104.000	% Recov	75.000	125.000				08/05/08
MS	Nickel	7440-02-0	993.9	99.390	% Recov	75.000	125.000				08/05/08
MS	Antimony	7440-36-0	1025	102.500	% Recov	75.000	125.000				08/05/08
MS	Strontium	7440-24-6	526.2	105.240	% Recov	75.000	125.000				08/05/08
MS	Vanadium	7440-62-2	997.4	99.740	% Recov	75.000	125.000				08/05/08
MS	Zinc	7440-66-6	1025	102.500	% Recov	75.000	125.000				08/05/08
MSD	Silver	7440-22-4	979.4	97.940	% Recov	75.000	125.000				08/05/08
MSD	Barium	7440-39-3	483	96.600	% Recov	75.000	125.000				08/05/08
MSD	Beryllium	7440-41-7	510.4	102.080	% Recov	75.000	125.000				08/05/08
MSD	Calcium	7440-70-2	1310	131.000	% Recov	75.000	125.000			*	08/05/08
MSD	Cadmium	7440-43-9	994.4	99.440	% Recov	75.000	125.000				08/05/08
MSD	Cobalt	7440-48-4	1011	101.100	% Recov	75.000	125.000				08/05/08
MSD	Chromium	7440-47-3	1002	100.200	% Recov	75.000	125.000				08/05/08
MSD	Copper	7440-50-8	984.9	98.490	% Recov	75.000	125.000				08/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	978.2	97.820	% Recov	75.000	125.000				08/05/08
MSD	Potassium	7440-09-7	10143	101.430	% Recov	75.000	125.000				08/05/08
MSD	Magnesium	7439-95-4	720	72.000	% Recov	75.000	125.000			•	08/05/08
MSD	Manganese	7439-96-5	1008	100.800	% Recov	75.000	125.000				08/05/08
MSD	Sodium	7440-23-5	780	78.000	% Recov	75.000	125.000				08/05/08
MSD	Nickel	7440-02-0	972.7	97.270	% Recov	75.000	125.000				08/05/08
MSD	Antimony	7440-36-0	1007	100.700	% Recov	75.000	125.000				08/05/08
MSD	Strontium	7440-24-6	514	102.800	% Recov	75.000	125.000				08/05/08
MSD	Vanadium	7440-62-2	972.4	97.240	% Recov	75.000	125.000				08/05/08
MSD	Zinc	7440-66-6	983.6	98.360	% Recov	75.000	125.000				08/05/08
SPK-RPD	Silver	7440-22-4	97.940		RPD			2.081	20.000		08/05/08
SPK-RPD	Barium	7440-39-3	96.600		RPD			2.333	20.000		08/05/08
SPK-RPD	Beryllium	7440-41-7	102.080		RPD			1.979	20.000		08/05/08
SPK-RPD	Calcium	7440-70-2	131.000		RPD			51.136	20.000	•	08/05/08
SPK-RPD	Cadmium	7440-43-9	99.440		RPD			2.247	20.000		08/05/08
SPK-RPD	Cobalt	7440-48-4	101.100		RPD			2.056	20.000		08/05/08
SPK-RPD	Chromium	7440-47-3	100.200		RPD			2.562	20.000		08/05/08
SPK-RPD	Copper	7440-50-8	98.490		RPD			2.219	20.000		08/05/08
SPK-RPD	Iron	7439-89-6	97.820		RPD			2.024	20.000		08/05/08
SPK-RPD	Potassium	7440-09-7	101.430		RPD			1.274	20.000		08/05/08
SPK-RPD	Magnesium	7439-95-4	72.000		RPD			17.722	20.000		08/05/08
SPK-RPD	Manganese	7439-96-5	100.800		RPD			1.770	20.000		08/05/08
SPK-RPD	Sodium	7440-23-5	78.000		RPD			28.571	20.000	•	08/05/08
SPK-RPD	Nickel	7440-02-0	97.270		RPD			2.156	20.000		08/05/08
SPK-RPD	Antimony	7440-36-0	100.700		RPD			1.772	20.000		08/05/08
SPK-RPD	Strontium	7440-24-6	102.800		RPD			2.346	20.000		08/05/08
SPK-RPD	Vanadium	7440-62-2	97.240		RPD			2.538	20.000		08/05/08
SPK-RPD	Zinc	7440-66-6	98.360		RPD			4.122	20.000		08/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	08/05/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	08/05/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	08/05/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	08/05/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	08/05/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	08/05/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	08/05/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	08/05/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	08/05/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	08/05/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	08/05/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	08/05/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	08/05/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	08/05/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	08/05/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	08/05/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	08/05/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	08/05/08
LCS	Silver	7440-22-4	1007	100.700	% Recov	80.000	120.000				08/05/08
LCS	Barium	7440-39-3	483.2	96.640	% Recov	80.000	120.000				08/05/08
LCS	Beryllium	7440-41-7	538.2	107.640	% Recov	80.000	120.000				08/05/08
LCS	Calcium	7440-70-2	1156	115.600	% Recov	80.000	120.000				08/05/08
LCS	Cadmium	7440-43-9	1044	104.400	% Recov	80.000	120.000				08/05/08
LCS	Cobalt	7440-48-4	1084	108.400	% Recov	80.000	120.000				08/05/08
LCS	Chromium	7440-47-3	1037	103.700	% Recov	80.000	120.000				08/05/08
LCS	Copper	7440-50-8	1012	101.200	% Recov	80.000	120.000				08/05/08
LCS	Iron	7439-89-6	997.8	99.780	% Recov	80.000	120.000				08/05/08
LCS	Potassium	7440-09-7	10570	105.700	% Recov	80.000	120.000				08/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Magnesium	7439-95-4	981.5	98.150	% Recov	80.000	120.000				08/05/08
LCS	Manganese	7439-96-5	1041	104.100	% Recov	80.000	120.000				08/05/08
LCS	Sodium	7440-23-5	1064	106.400	% Recov	80.000	120.000				08/05/08
LCS	Nickel	7440-02-0	1046	104.600	% Recov	80.000	120.000				08/05/08
LCS	Antimony	7440-36-0	1069	106.900	% Recov	80.000	120.000				08/05/08
LCS	Strontium	7440-24-6	514.9	102.980	% Recov	80.000	120.000				08/05/08
LCS	Vanadium	7440-62-2	995.1	99.510	% Recov	80.000	120.000				08/05/08
LCS	Zinc	7440-66-6	1014	101.400	% Recov	80.000	120.000				08/05/08

Lab ID: W08P003032
BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	1008	100.800	% Recov	75.000	125.000				08/06/08
MS	Barium	7440-39-3	511.1	102.220	% Recov	75.000	125.000				08/06/08
MS	Beryllium	7440-41-7	526	105.200	% Recov	75.000	125.000				08/06/08
MS	Calcium	7440-70-2	8100	810.000	% Recov	75.000	125.000			*	08/06/08
MS	Cadmium	7440-43-9	1012	101.200	% Recov	75.000	125.000				08/06/08
MS	Cobalt	7440-48-4	990.5	99.050	% Recov	75.000	125.000				08/06/08
MS	Chromium	7440-47-3	976.5	97.650	% Recov	75.000	125.000				08/06/08
MS	Copper	7440-50-8	995.7	99.570	% Recov	75.000	125.000				08/06/08
MS	Iron	7439-89-6	1007.3	100.730	% Recov	75.000	125.000				08/06/08
MS	Potassium	7440-09-7	10789	107.890	% Recov	75.000	125.000				08/06/08
MS	Magnesium	7439-95-4	2040	204.000	% Recov	75.000	125.000			*	08/06/08
MS	Manganese	7439-96-5	1007	100.700	% Recov	75.000	125.000				08/06/08
MS	Sodium	7440-23-5	2000	200.000	% Recov	75.000	125.000			*	08/06/08
MS	Nickel	7440-02-0	982.4	98.240	% Recov	75.000	125.000				08/06/08
MS	Antimony	7440-36-0	1014	101.400	% Recov	75.000	125.000				08/06/08
MS	Strontium	7440-24-6	539.3	107.860	% Recov	75.000	125.000				08/06/08
MS	Vanadium	7440-62-2	991.4	99.140	% Recov	75.000	125.000				08/06/08
MS	Zinc	7440-66-6	1009	100.900	% Recov	75.000	125.000				08/06/08
MSD	Silver	7440-22-4	1012	101.200	% Recov	75.000	125.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Barium	7440-39-3	510.4	102.080	% Recov	75.000	125.000				08/06/08
MSD	Beryllium	7440-41-7	526.1	105.220	% Recov	75.000	125.000				08/06/08
MSD	Calcium	7440-70-2	4500	450.000	% Recov	75.000	125.000			•	08/06/08
MSD	Cadmium	7440-43-9	1014	101.400	% Recov	75.000	125.000				08/06/08
MSD	Cobalt	7440-48-4	992.9	99.290	% Recov	75.000	125.000				08/06/08
MSD	Chromium	7440-47-3	986.9	98.690	% Recov	75.000	125.000				08/06/08
MSD	Copper	7440-50-8	1004	100.400	% Recov	75.000	125.000				08/06/08
MSD	Iron	7439-89-6	1006.3	100.630	% Recov	75.000	125.000				08/06/08
MSD	Potassium	7440-09-7	10619	106.190	% Recov	75.000	125.000				08/06/08
MSD	Magnesium	7439-95-4	1450	145.000	% Recov	75.000	125.000			•	08/06/08
MSD	Manganese	7439-96-5	1010	101.000	% Recov	75.000	125.000				08/06/08
MSD	Sodium	7440-23-5	1430	143.000	% Recov	75.000	125.000			•	08/06/08
MSD	Nickel	7440-02-0	983.8	98.380	% Recov	75.000	125.000				08/06/08
MSD	Antimony	7440-36-0	1027	102.700	% Recov	75.000	125.000				08/06/08
MSD	Strontium	7440-24-6	530.9	106.180	% Recov	75.000	125.000				08/06/08
MSD	Vanadium	7440-62-2	999	99.900	% Recov	75.000	125.000				08/06/08
MSD	Zinc	7440-66-6	1010	101.000	% Recov	75.000	125.000				08/06/08
SPK-RPD	Silver	7440-22-4	101.200		RPD			0.396	20.000		08/06/08
SPK-RPD	Barium	7440-39-3	102.080		RPD			0.137	20.000		08/06/08
SPK-RPD	Beryllium	7440-41-7	105.220		RPD			0.019	20.000		08/06/08
SPK-RPD	Calcium	7440-70-2	450.000		RPD			57.143	20.000	•	08/06/08
SPK-RPD	Cadmium	7440-43-9	101.400		RPD			0.197	20.000		08/06/08
SPK-RPD	Cobalt	7440-48-4	99.290		RPD			0.242	20.000		08/06/08
SPK-RPD	Chromium	7440-47-3	98.690		RPD			1.059	20.000		08/06/08
SPK-RPD	Copper	7440-50-8	100.400		RPD			0.830	20.000		08/06/08
SPK-RPD	Iron	7439-89-6	100.630		RPD			0.099	20.000		08/06/08
SPK-RPD	Potassium	7440-09-7	106.190		RPD			1.588	20.000		08/06/08
SPK-RPD	Magnesium	7439-95-4	145.000		RPD			33.811	20.000	•	08/06/08
SPK-RPD	Manganese	7439-96-5	101.000		RPD			0.297	20.000		08/06/08
SPK-RPD	Sodium	7440-23-5	143.000		RPD			33.236	20.000	•	08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Nickel	7440-02-0	98.380		RPD			0.142	20.000		08/06/08
SPK-RPD	Antimony	7440-36-0	102.700		RPD			1.274	20.000		08/06/08
SPK-RPD	Strontium	7440-24-6	106.180		RPD			1.570	20.000		08/06/08
SPK-RPD	Vanadium	7440-62-2	99.900		RPD			0.764	20.000		08/06/08
SPK-RPD	Zinc	7440-66-6	101.000		RPD			0.099	20.000		08/06/08
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	08/06/08
BLANK	Aluminum	7429-90-5	<52	n/a	ug/L					U	08/06/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	08/06/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	08/06/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	08/06/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	08/06/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	08/06/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	08/06/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	08/06/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	08/06/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	08/06/08
BLANK	Lithium	7439-93-2	<4	n/a	ug/L					U	08/06/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	08/06/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	08/06/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	08/06/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	08/06/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	08/06/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	08/06/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	08/06/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	08/06/08
LCS	Silver	7440-22-4	996.4	99.640	% Recov	80.000	120.000				08/06/08
LCS	Aluminum	7429-90-5	974.7	97.470	% Recov	80.000	120.000				08/06/08
LCS	Barium	7440-39-3	487.2	97.440	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Beryllium	7440-41-7	528	105.600	% Recov	80.000	120.000				08/06/08
LCS	Calcium	7440-70-2	1074	107.400	% Recov	80.000	120.000				08/06/08
LCS	Cadmium	7440-43-9	1023	102.300	% Recov	80.000	120.000				08/06/08
LCS	Cobalt	7440-48-4	1028	102.800	% Recov	80.000	120.000				08/06/08
LCS	Chromium	7440-47-3	990.5	99.050	% Recov	80.000	120.000				08/06/08
LCS	Copper	7440-50-8	1009	100.900	% Recov	80.000	120.000				08/06/08
LCS	Iron	7439-89-6	987.8	98.780	% Recov	80.000	120.000				08/06/08
LCS	Potassium	7440-09-7	10370	103.700	% Recov	80.000	120.000				08/06/08
LCS	Lithium	7439-93-2	483.4	96.680	% Recov	80.000	120.000				08/06/08
LCS	Magnesium	7439-95-4	982.5	98.250	% Recov	80.000	120.000				08/06/08
LCS	Manganese	7439-96-5	1007	100.700	% Recov	80.000	120.000				08/06/08
LCS	Sodium	7440-23-5	1013	101.300	% Recov	80.000	120.000				08/06/08
LCS	Nickel	7440-02-0	1025	102.500	% Recov	80.000	120.000				08/06/08
LCS	Antimony	7440-36-0	1046	104.600	% Recov	80.000	120.000				08/06/08
LCS	Strontium	7440-24-6	501.3	100.260	% Recov	80.000	120.000				08/06/08
LCS	Vanadium	7440-62-2	984	98.400	% Recov	80.000	120.000				08/06/08
LCS	Zinc	7440-66-6	1016	101.600	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 06/26/08
Receive Date:06/26/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	41.14	102.850	% Recov	70.000	130.000				07/14/08
MS	Mercury	7439-97-6	2.31	115.500	% Recov	70.000	130.000				07/14/08
MS	Lead	7439-92-1	42.65	106.625	% Recov	70.000	130.000				07/14/08
MS	Uranium	7440-61-1	45.532	113.830	% Recov	70.000	130.000				07/14/08
MSD	Arsenic	7440-38-2	41.32	103.300	% Recov	70.000	130.000				07/14/08
MSD	Mercury	7439-97-6	2.32	116.000	% Recov	70.000	130.000				07/14/08
MSD	Lead	7439-92-1	43.12	107.800	% Recov	70.000	130.000				07/14/08
MSD	Uranium	7440-61-1	46.022	115.055	% Recov	70.000	130.000				07/14/08
SPK-RPD	Arsenic	7440-38-2	103.300		RPD			0.437	20.000		07/14/08
SPK-RPD	Mercury	7439-97-6	116.000		RPD			0.432	20.000		07/14/08
SPK-RPD	Lead	7439-92-1	107.800		RPD			1.096	20.000		07/14/08
SPK-RPD	Uranium	7440-61-1	115.055		RPD			1.070	20.000		07/14/08
Lab ID: W08P003120											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	40.38	100.950	% Recov	70.000	130.000				07/14/08
MS	Mercury	7439-97-6	2.26	113.000	% Recov	70.000	130.000				07/14/08
MS	Lead	7439-92-1	42.12	105.300	% Recov	70.000	130.000				07/14/08
MS	Uranium	7440-61-1	43.02	107.550	% Recov	70.000	130.000				07/14/08
MSD	Arsenic	7440-38-2	40.46	101.150	% Recov	70.000	130.000				07/14/08
MSD	Mercury	7439-97-6	2.33	116.500	% Recov	70.000	130.000				07/14/08
MSD	Lead	7439-92-1	42.41	106.025	% Recov	70.000	130.000				07/14/08
MSD	Uranium	7440-61-1	43.34	108.350	% Recov	70.000	130.000				07/14/08
SPK-RPD	Arsenic	7440-38-2	101.150		RPD			0.198	20.000		07/14/08
SPK-RPD	Mercury	7439-97-6	116.500		RPD			3.050	20.000		07/14/08
SPK-RPD	Lead	7439-92-1	106.025		RPD			0.686	20.000		07/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081252
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 06/26/08
Receive Date:06/26/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Uranium	7440-61-1	108.350		RPD			0.741	20.000		07/14/08
BATCH QC											
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	07/14/08
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	07/14/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	07/14/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	07/14/08
LCS	Arsenic	7440-38-2	40.73	101.825	% Recov	85.000	115.000				07/14/08
LCS	Mercury	7439-97-6	2.28	114.000	% Recov	85.000	115.000				07/14/08
LCS	Lead	7439-92-1	41.93	104.825	% Recov	85.000	115.000				07/14/08
LCS	Uranium	7440-61-1	42.53	106.325	% Recov	85.000	115.000				07/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

Sample Date: 06/20/08
Receive Date:06/20/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002897											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	96.11		RPD			0.605	20.000		07/02/08
Lab ID: W08P003018											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	96.46		RPD			0.073	20.000		07/02/08
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	117.5	102.174	%Recove	80.000	120.000				07/02/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	114.6	99.652	%Recove	80.000	120.000				07/02/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	115.0	100.000	%Recove	80.000	120.000				07/02/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	120.9	105.130	%Recove	80.000	120.000				07/02/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	115.3	100.261	%Recove	80.000	120.000				07/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081252
Matrix: WATER
Test: Total Organic Carbon

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002958											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.070	101.750	% Recov	75.000	125.000				07/22/08
MSD	Total Organic Carbon	TOC	4.081	102.025	% Recov	75.000	125.000				07/22/08
SPK-RPD	Total Organic Carbon	TOC	102.025		RPD			0.270	20.000		07/22/08
Lab ID: W08P003047											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.251	106.275	% Recov	75.000	125.000				07/22/08
MSD	Total Organic Carbon	TOC	4.262	106.550	% Recov	75.000	125.000				07/22/08
SPK-RPD	Total Organic Carbon	TOC	106.550		RPD			0.258	20.000		07/22/08
BATCH QC											
BLANK	Total Organic Carbon	TOC	< 0.045	n/a	mg/L	0.000	300.000			U	07/22/08
METHSPIKE	Total Organic Carbon	TOC	2.179	108.950	% Recov	80.000	120.000				07/22/08
METHSPIKE	Total Organic Carbon	TOC	2.154	107.700	% Recov	80.000	120.000				07/22/08
SPK-RSD	Total Organic Carbon	TOC	0.4162	0.416	% RSD	0.000	20.000				07/22/08
SPK-RSD	Total Organic Carbon	TOC	0.4127	0.413	% RSD	0.000	20.000				07/22/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081252
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Organics: All (solid sample results) are moisture corrected and reported on a dry weight basis. cgc W08P003014, W08P003022 Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh Tc-99 matrix spike recovery is low due to the high Tc99 activity in the sample. lmh ICP-AES: [Samples W08P3003; 3014; 3016; 3018; 3020; 3022-3024; and 3026-3031] No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check standard is used to ensure sodium, magnesium, and calcium linearity because sample results are greater than the calibration standard. ICP-AES: [Samples W08P3032; 3034-3035] No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards are used to ensure sodium, calcium,

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 #: WSCF20081252
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
				and magnesium linearity because sample results are greater than the calibration standard.

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-001
Sample # W08P003030
Client ID: B1RTP2 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

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		07/01/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/01/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/01/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-001
Sample # W08P003030
Client ID: B1RTP2 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

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		07/01/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

MDL=Minimum Detection Limit
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TP Err=Total Propagated Error
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U - Analyzed for but not detected above limiting criteria.(org)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003032
Client ID: B1V884 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

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		07/01/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/01/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/01/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003032
Client ID: B1V884 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

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		07/01/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

MDL=Minimum Detection Limit
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TP Err=Total Propagated Error
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Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-004
Sample # W08P003033
Client ID: B1V394 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

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		07/01/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/01/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/01/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-004
Sample # W08P003033
Client ID: B1V394 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

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		07/01/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
N - Spike sample recovery is outside control limits.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003035
Client ID: B1VKV7 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Alcohols, Glycols - 8015 Prep											**07/07/08**
Alcohols, Glycols - 8015											
Ethyl acetate	141-78-6	Organics	U	< 5.00e+03	ug/L			1.00	5.0e+03		07/07/08
NWTPH-D TPH Diesel Range (Wa) Prep											**06/26/08**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 72.0	ug/L			1.00	72		07/08/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 72.0	ug/L			1.00	72		07/08/08
NWTPH-GX TPH Gasoline Range Prep											**07/07/08**
NWTPH-GX TPH Gasoline Range											
Total Pet. Hydrocarbons Gas	TPHGASOLINE	LA-523-443	U	< 50.0	ug/L			1.00	50		07/07/08
SW-846 8270C Semi-Vols Prep											**06/30/08**
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 1.10	ug/L			1.00	1.1		07/11/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 1.50	ug/L			1.00	1.5		07/11/08
Phenol	108-95-2	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 2.30	ug/L			1.00	2.3		07/11/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
Pyrene	129-00-0	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 0.630	ug/L			1.00	0.63		07/11/08
Acenaphthene	83-32-9	LA-523-456	U	< 2.70	ug/L			1.00	2.7		07/11/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 1.60	ug/L			1.00	1.6		07/11/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
Bis(2-ethylhexyl) phthalate	117-81-7	LA-523-456	U	< 0.840	ug/L			1.00	0.84		07/11/08
2,4-Dichlorophenol	120-83-2	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08

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

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003035
Client ID: B1VKV7 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
2-Nitrophenol	88-75-5	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
Naphthalene	91-20-3	LA-523-456	U	< 2.20	ug/L			1.00	2.2		07/11/08
2-Methylphenol (cresol, o-)	95-48-7	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
3 & 4 Methylphenol Total	65794-96-9	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 0.530	ug/L			1.00	0.53		07/11/08
Benzothiazole	95-16-9	LA-523-456	U	< 0.630	ug/L			1.00	0.63		07/11/08
2-Picoline	109-06-8	LA-523-456	U	< 5.30	ug/L			1.00	5.3		07/11/08
Total cresols	1319-77-3	LA-523-456	U	< 1.10	ug/L			1.00	1.1		07/11/08
Tris-2-chloroethyl phosphate	115-96-8	LA-523-456	U	< 0.680	ug/L			1.00	0.68		07/11/08
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon tetrachloride	56-23-5	LA-523-455		8.40	ug/L			1.00	1.0		07/01/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003035
Client ID: B1VKV7 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Organic
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/01/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/01/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/01/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/01/08

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

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

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

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

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081252
Department: Organic

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08P003035	B1VKV7	PNNL	SW-846 8270C Semi-Vols	SMP 10.472 1H-Benzotriazole	27556-51-0	10.4723	J	73	ug/L
W08P003035	B1VKV7	PNNL	SW-846 8270C Semi-Vols	SMP 5.272 Propylene Glycol	57-55-6	5.272216	J	60	ug/L

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
Matrix: WATER
Test: Alcohols, Glycols - 8015

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003035											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	2-Bromoethanol	540-51-2	16600		RPD			5.848	25.000		07/07/08
DUP	Ethyl acetate	141-78-6	<5000		RPD			n/a	25.000	U	07/07/08
MS	2-Bromoethanol	540-51-2	16600	94.318	% Recov	70.000	125.000				07/07/08
MS	Ethyl acetate	141-78-6	9000	100.000	% Recov	75.000	125.000				07/07/08
MSD	2-Bromoethanol	540-51-2	16300	92.614	% Recov	70.000	125.000				07/07/08
MSD	Ethyl acetate	141-78-6	8800	97.778	% Recov	75.000	125.000				07/07/08
SPK-RPD	2-Bromoethanol	540-51-2	92.614		RPD			1.823	20.000		07/07/08
SPK-RPD	Ethyl acetate	141-78-6	97.778		RPD			2.247	20.000		07/07/08
BATCH QC											
BLANK	2-Bromoethanol	540-51-2	16800	95.455	% Recov	75.000	125.000				07/07/08
BLANK	Ethyl acetate	141-78-6	<5000	n/a	ug/L	0.000	5.000			U	07/07/08
LCS	2-Bromoethanol	540-51-2	15900	90.341	% Recov	70.000	130.000				07/07/08
LCS	Ethyl acetate	141-78-6	7600	84.444	% Recov	70.000	130.000				07/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
Matrix: WATER
Test: SW-846 8270C Semi-Vols

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003035											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	2-Fluorophenol(Surr)	367-12-4	17.365	82.500	% Recov	50.000	110.000				07/11/08
SURR	2-Fluorobiphenyl(Surr)	321-60-8	21.444	102.000	% Recov	58.000	109.000				07/11/08
SURR	Nitrobenzene-d5(Surr)	4165-60-0	21.655	103.000	% Recov	60.000	118.000				07/11/08
SURR	Phenol-d5(Surr)	4165-62-2	20.511	97.400	% Recov	59.000	116.000				07/11/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	20.631	98.000	% Recov	60.000	120.000				07/11/08
SURR	Terphenyl-d14(Surr)	98904-43-9	22.297	106.000	% Recov	60.000	120.000				07/11/08
Lab ID: W08P003120											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,2,4-Trichlorobenzene	120-82-1	19.642	99.200	% Recov	50.000	120.000				07/14/08
MS	1,4-Dichlorobenzene	106-46-7	19.013	96.000	% Recov	41.000	113.000				07/14/08
MS	2,4-Dinitrotoluene	121-14-2	18.667	94.300	% Recov	65.000	109.000				07/14/08
MS	2-Fluorophenol(Surr)	367-12-4	13.380	67.600	% Recov	50.000	110.000				07/14/08
MS	Acenaphthene	83-32-9	19.113	96.500	% Recov	62.000	112.000				07/14/08
MS	4-Chloro-3-methylphenol	59-50-7	28.850	97.100	% Recov	59.000	115.000				07/14/08
MS	2-Chlorophenol	95-57-8	25.800	86.900	% Recov	69.000	111.000				07/14/08
MS	N-Nitrosodi-n-dipropylamine	621-64-7	19.902	101.000	% Recov	69.000	115.000				07/14/08
MS	2-Fluorobiphenyl(Surr)	321-60-8	21.182	107.000	% Recov	58.000	109.000				07/14/08
MS	Phenol	108-95-2	23.382	78.700	% Recov	59.000	115.000				07/14/08
MS	Nitrobenzene-d5(Surr)	4165-60-0	21.348	108.000	% Recov	60.000	118.000				07/14/08
MS	4-Nitrophenol	100-02-7	29.239	98.400	% Recov	32.000	130.000				07/14/08
MS	Pentachlorophenol	87-86-5	27.066	91.100	% Recov	51.000	121.000				07/14/08
MS	Phenol-d5(Surr)	4165-62-2	18.614	94.000	% Recov	59.000	116.000				07/14/08
MS	Pyrene	129-00-0	20.455	103.000	% Recov	58.000	116.000				07/14/08
MS	2,4,6-Tribromophenol(Surr)	118-79-6	20.542	104.000	% Recov	60.000	120.000				07/14/08
MS	Terphenyl-d14(Surr)	98904-43-9	22.383	113.000	% Recov	60.000	120.000				07/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 06/26/08
Receive Date:06/26/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	1,2,4-Trichlorobenzene	120-82-1	18.806	98.700	% Recov	50.000	120.000				07/14/08
MSD	1,4-Dichlorobenzene	106-46-7	18.149	95.300	% Recov	41.000	113.000				07/14/08
MSD	2,4-Dinitrotoluene	121-14-2	17.133	89.900	% Recov	65.000	109.000				07/14/08
MSD	2-Fluorophenol(Surr)	367-12-4	12.747	66.900	% Recov	50.000	110.000				07/14/08
MSD	Acenaphthene	83-32-9	18.501	97.100	% Recov	62.000	112.000				07/14/08
MSD	4-Chloro-3-methylphenol	59-50-7	27.183	95.100	% Recov	59.000	115.000				07/14/08
MSD	2-Chlorophenol	95-57-8	24.791	86.800	% Recov	69.000	111.000				07/14/08
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	18.445	96.800	% Recov	69.000	115.000				07/14/08
MSD	2-Fluorobiphenyl(Surr)	321-60-8	20.594	108.000	% Recov	58.000	109.000				07/14/08
MSD	Phenol	108-95-2	22.488	78.700	% Recov	59.000	115.000				07/14/08
MSD	Nitrobenzene-d5(Surr)	4165-60-0	21.048	111.000	% Recov	60.000	118.000				07/14/08
MSD	4-Nitrophenol	100-02-7	25.933	90.800	% Recov	32.000	130.000				07/14/08
MSD	Pentachlorophenol	87-86-5	27.182	95.100	% Recov	51.000	121.000				07/14/08
MSD	Phenol-d5(Surr)	4165-62-2	18.316	96.200	% Recov	59.000	116.000				07/14/08
MSD	Pyrene	129-00-0	20.266	106.000	% Recov	58.000	116.000				07/14/08
MSD	2,4,6-Tribromophenol(Surr)	118-79-6	20.093	105.000	% Recov	60.000	120.000				07/14/08
MSD	Terphenyl-d14(Surr)	98904-43-9	21.730	114.000	% Recov	60.000	120.000				07/14/08
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	98.700		RPD			0.505	25.000		07/10/08
SPK-RPD	1,4-Dichlorobenzene	106-46-7	95.300		RPD			0.732	25.000		07/10/08
SPK-RPD	2,4-Dinitrotoluene	121-14-2	89.900		RPD			4.777	25.000		07/10/08
SPK-RPD	2-Fluorophenol(Surr)	367-12-4	66.900		RPD			1.041	25.000		07/10/08
SPK-RPD	Acenaphthene	83-32-9	97.100		RPD			0.620	25.000		07/10/08
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	95.100		RPD			2.081	25.000		07/10/08
SPK-RPD	2-Chlorophenol	95-57-8	86.800		RPD			0.115	25.000		07/10/08
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	96.800		RPD			4.247	25.000		07/10/08
SPK-RPD	2-Fluorobiphenyl(Surr)	321-60-8	108.000		RPD			0.930	25.000		07/10/08
SPK-RPD	Phenol	108-95-2	78.700		RPD			0.000	16.000		07/10/08
SPK-RPD	Nitrobenzene-d5(Surr)	4165-60-0	111.000		RPD			2.740	25.000		07/10/08
SPK-RPD	4-Nitrophenol	100-02-7	90.800		RPD			8.034	25.000		07/10/08
SPK-RPD	Pentachlorophenol	87-86-5	95.100		RPD			4.296	25.000		07/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 06/26/08
Receive Date:06/26/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Phenol-d5(Surr)	4165-62-2	96.200		RPD			2.313	25.000		07/10/08
SPK-RPD	Pyrene	129-00-0	106.000		RPD			2.871	25.000		07/10/08
SPK-RPD	2,4,6-Tribromophenol(Surr)	118-79-6	105.000		RPD			0.957	25.000		07/10/08
SPK-RPD	Terphenyl-d14(Surr)	98904-43-9	114.000		RPD			0.881	25.000		07/10/08

BATCH QC

BLANK	1,2,4-Trichlorobenzene	120-82-1	< 2.2	n/a	ug/L					U	07/10/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.4	n/a	ug/L					U	07/10/08
BLANK	2,4-Dichlorophenol	120-83-2	< 0.50	n/a	ug/L					U	07/10/08
BLANK	2,4-Dinitrotoluene	121-14-2	< 0.50	n/a	ug/L					U	07/10/08
BLANK	2-Fluorophenol(Surr)	367-12-4	16.346	81.700	% Recov	50.000	110.000				07/10/08
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 0.50	n/a	ug/L					U	07/10/08
BLANK	2-Nitrophenol	88-75-5	< 0.50	n/a	ug/L					U	07/10/08
BLANK	2-Picoline	109-06-8	< 5.0	n/a	ug/L					U	07/10/08
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 0.50	n/a	ug/L	0.000	5.000			U	07/10/08
BLANK	Acenaphthene	83-32-9	< 2.6	n/a	ug/L					U	07/10/08
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 0.80	n/a	ug/L					U	07/10/08
BLANK	Benzothiazole	95-16-9	< 0.60	n/a	ug/L	0.000	300.000			U	07/10/08
BLANK	4-Chloro-3-methylphenol	59-50-7	< 0.50	n/a	ug/L					U	07/10/08
BLANK	2-Chlorophenol	95-57-8	< 0.50	n/a	ug/L					U	07/10/08
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 0.60	n/a	ug/L					U	07/10/08
BLANK	2-Fluorobiphenyl(Surr)	321-60-8	18.915	94.600	% Recov	58.000	109.000				07/10/08
BLANK	Phenol	108-95-2	< 0.50	n/a	ug/L					U	07/10/08
BLANK	Naphthalene	91-20-3	< 2.1	n/a	ug/L					U	07/10/08
BLANK	Nitrobenzene-d5(Surr)	4165-60-0	19.220	96.100	% Recov	60.000	118.000				07/10/08
BLANK	4-Nitrophenol	100-02-7	< 1.0	n/a	ug/L					U	07/10/08
BLANK	Pentachlorophenol	87-86-5	< 1.5	n/a	ug/L					U	07/10/08
BLANK	Phenol-d5(Surr)	4165-62-2	18.773	93.900	% Recov	59.000	116.000				07/10/08
BLANK	Pyrene	129-00-0	< 0.50	n/a	ug/L					U	07/10/08
BLANK	Tris-2-chloroethyl phosphate	115-96-8	< 0.65	n/a	ug/L	0.000	300.000			U	07/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Tributyl phosphate	126-73-8	< 0.50	n/a	ug/L					U	07/10/08
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	17.789	88.900	% Recov	60.000	120.000				07/10/08
BLANK	Terphenyl-d14(Surr)	98904-43-9	21.094	105.000	% Recov	60.000	120.000				07/10/08
LCS	1,2,4-Trichlorobenzene	120-82-1	17.003	85.000	% Recov	46.000	107.000				07/10/08
LCS	1,4-Dichlorobenzene	106-46-7	16.512	82.600	% Recov	42.000	111.000				07/10/08
LCS	2,4-Dinitrotoluene	121-14-2	16.151	80.800	% Recov	59.000	106.000				07/10/08
LCS	2-Fluorophenol(Surr)	367-12-4	15.158	75.800	% Recov	50.000	110.000				07/10/08
LCS	Acenaphthene	83-32-9	16.856	84.300	% Recov	61.000	116.000				07/10/08
LCS	4-Chloro-3-methylphenol	59-50-7	24.335	81.100	% Recov	61.000	106.000				07/10/08
LCS	2-Chlorophenol	95-57-8	24.775	82.600	% Recov	66.000	106.000				07/10/08
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	15.765	78.800	% Recov	71.000	114.000				07/10/08
LCS	2-Fluorobiphenyl(Surr)	321-60-8	18.114	90.600	% Recov	58.000	109.000				07/10/08
LCS	Phenol	108-95-2	23.953	79.800	% Recov	67.000	105.000				07/10/08
LCS	Nitrobenzene-d5(Surr)	4165-60-0	17.877	89.400	% Recov	60.000	118.000				07/10/08
LCS	4-Nitrophenol	100-02-7	24.597	82.000	% Recov	32.000	118.000				07/10/08
LCS	Pentachlorophenol	87-86-5	23.327	77.800	% Recov	62.000	114.000				07/10/08
LCS	Phenol-d5(Surr)	4165-62-2	17.031	85.200	% Recov	59.000	116.000				07/10/08
LCS	Pyrene	129-00-0	20.288	101.000	% Recov	66.000	118.000				07/10/08
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	16.695	83.500	% Recov	60.000	120.000				07/10/08
LCS	Terphenyl-d14(Surr)	98904-43-9	21.615	108.000	% Recov	60.000	120.000				07/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
Matrix: WATER
Test: NWTPH-D TPH Diesel Range (Wa)

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003035											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl Surr	84-15-1	427.81	89.000	% Recov	70.000	130.000				07/08/08
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2174.4	90.500	% Recov	75.000	125.000				07/08/08
MSD	ortho-Terphenyl Surr	84-15-1	436.63	105.000	% Recov	70.000	130.000				07/08/08
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2166.3	104.000	% Recov	75.000	125.000				07/08/08
SPK-RPD	ortho-Terphenyl Surr	84-15-1	105.000		RPD			16.495	20.000		07/08/08
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	104.000		RPD			13.882	20.000		07/08/08
SURR	ortho-Terphenyl Surr	84-15-1	416.47	86.600	% Recov	70.000	130.000				07/08/08
BATCH QC											
BLANK	Kerosene	TPHKEROSENE	< 75	n/a	ug/L					U	07/08/08
BLANK	ortho-Terphenyl Surr	84-15-1	473.35	94.700	% Recov	70.000	130.000				07/08/08
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 75	n/a	ug/L					U	07/08/08
LCS	ortho-Terphenyl Surr	84-15-1	480.40	96.100	% Recov	70.000	130.000				07/08/08
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2300.0	92.000	% Recov	80.000	120.000				07/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
Matrix: WATER
Test: NWTPH-GX TPH Gasoline Range

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003035											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<50		RPD			n/a	20.000	U	07/07/08
MS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2700	108.000	% Recov	75.000	125.000				07/07/08
MSD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2800	112.000	% Recov	75.000	125.000				07/07/08
SPK-RPD	Total Pet. Hydrocarbons Gas	TPHGASOLINE	112.000		RPD			3.636	20.000		07/07/08
BATCH QC											
BLANK	Total Pet. Hydrocarbons Gas	TPHGASOLINE	<50	n/a	mg/L	0.000	300.000			U	07/07/08
LCS	Total Pet. Hydrocarbons Gas	TPHGASOLINE	2600	104.000	%rec	80.000	120.000				07/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20081252
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 06/20/08
Receive Date:06/20/08

Lab ID: W08P002901
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,1-Dichloroethene	75-35-4	23.380	93.500	% Recov	63.000	117.000				07/01/08
MS	Benzene	71-43-2	24.270	97.100	% Recov	75.000	129.000				07/01/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	47.880	95.800	% Recov	75.000	125.000				07/01/08
MS	Chlorobenzene	108-90-7	24.490	98.000	% Recov	79.000	119.000				07/01/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.810	85.600	% Recov	75.000	125.000				07/01/08
MS	Toluene-d8(Surr)	2037-26-5	47.410	94.800	% Recov	75.000	125.000				07/01/08
MS	Toluene	108-88-3	25.130	101.000	% Recov	76.000	120.000				07/01/08
MS	Trichloroethene	79-01-6	23.840	95.400	% Recov	73.000	123.000				07/01/08
MSD	1,1-Dichloroethene	75-35-4	25.030	100.000	% Recov	63.000	117.000				07/01/08
MSD	Benzene	71-43-2	24.660	98.600	% Recov	75.000	129.000				07/01/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	47.380	94.800	% Recov	75.000	125.000				07/01/08
MSD	Chlorobenzene	108-90-7	25.030	100.000	% Recov	79.000	119.000				07/01/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.020	88.000	% Recov	75.000	125.000				07/01/08
MSD	Toluene-d8(Surr)	2037-26-5	47.660	95.300	% Recov	75.000	125.000				07/01/08
MSD	Toluene	108-88-3	25.820	103.000	% Recov	76.000	120.000				07/01/08
MSD	Trichloroethene	79-01-6	24.630	98.500	% Recov	73.000	123.000				07/01/08
SPK-RPD	1,1-Dichloroethene	75-35-4	100.000		RPD			6.718	20.000		07/01/08
SPK-RPD	Benzene	71-43-2	98.600		RPD			1.533	20.000		07/01/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	94.800		RPD			1.049	20.000		07/01/08
SPK-RPD	Chlorobenzene	108-90-7	100.000		RPD			2.020	20.000		07/01/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	88.000		RPD			2.765	20.000		07/01/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	95.300		RPD			0.526	20.000		07/01/08
SPK-RPD	Toluene	108-88-3	103.000		RPD			1.961	20.000		07/01/08
SPK-RPD	Trichloroethene	79-01-6	98.500		RPD			3.198	20.000		07/01/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081252
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
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	07/01/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	07/01/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	07/01/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	07/01/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	07/01/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	07/01/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	07/01/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	07/01/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	47.110	94.200	% Recov	75.000	125.000				07/01/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	07/01/08
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	07/01/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	41.220	82.400	% Recov	75.000	125.000				07/01/08
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	07/01/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	07/01/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	07/01/08
BLANK	Toluene-d8(Surr)	2037-26-5	47.480	95.000	% Recov	75.000	125.000				07/01/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	07/01/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	07/01/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20081252
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	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	07/01/08
LCS	1,1-Dichloroethene	75-35-4	25.970	104.000	% Recov	75.000	125.000				07/02/08
LCS	Benzene	71-43-2	25.970	104.000	% Recov	75.000	125.000				07/02/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	50.510	101.000	% Recov	75.000	125.000				07/02/08
LCS	Chlorobenzene	108-90-7	26.270	105.000	% Recov	75.000	125.000				07/02/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.080	106.000	% Recov	75.000	125.000				07/02/08
LCS	Toluene-d8(Surr)	2037-26-5	48.070	96.100	% Recov	75.000	125.000				07/02/08
LCS	Toluene	108-88-3	26.580	106.000	% Recov	75.000	125.000				07/02/08
LCS	Trichloroethene	79-01-6	23.250	93.000	% Recov	75.000	125.000				07/02/08

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003014
Client ID: B1VK00 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415	U	-0.0990	pCi/L	+-0.816	pCi/L	1.00	1.6		07/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		4.40e+03	pCi/L	+-440	pCi/L	1.00	2.6		07/09/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		2.10e+03	pCi/L	+-252	pCi/L	1.00	0.95		07/03/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		89.4	Percent			1.00	0.0		07/03/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	76.0	pCi/L	+-214	pCi/L	1.00	2.2e+02		07/03/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003018
Client ID: B1VK09 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415	U	0.0900	pCi/L	+-9.00e-03	pCi/L	1.00	0.22		08/01/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		3.30e+04	pCi/L	+-3.30e+03	pCi/L	1.00	57		08/01/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		1.40e+03	pCi/L	+-154	pCi/L	1.00	0.88		07/16/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		97.0	Percent			1.00	0.0		07/16/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.10e+04	pCi/L	+-2.20e+03	pCi/L	1.00	2.3e+02		07/03/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003022
Client ID: B1VK04 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415	U	-0.0900	pCi/L	+-0.360	pCi/L	1.00	0.75		07/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415	U	-0.280	pCi/L	+-0.820	pCi/L	1.00	1.4		07/09/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		3.80	pCi/L	+-2.74	pCi/L	1.00	1.1		07/03/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		79.1	Percent			1.00	0.0		07/03/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	-46.0	pCi/L	+-82.8	pCi/L	1.00	2.2e+02		07/03/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003024
Client ID: B1VRK8 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		140	pCi/L	+-28.0	pCi/L	1.00	5.9		07/05/08

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

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

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

* - 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: W08-006
Sample # W08P003027
Client ID: B1VRL0 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		140	pCi/L	+-28.0	pCi/L	1.00	5.9		07/05/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003028
Client ID: B1VRJ5 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		160	pCi/L	+-32.0	pCi/L	1.00	5.9		07/05/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-001
Sample # W08P003030
Client ID: B1RTP2 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		4.00e+04	pCi/L	+-8.00e+03	pCi/L	1.00	2.2e+02		07/03/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003035
Client ID: B1VKV7 PNNL WSCF

Matrix: WATER

Group #: WSCF20081252
Department: Radiochemistry
Sampled: 06/23/08
Received: 06/23/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-0.970	pCi/L	+-2.37	pCi/L	1.00	1.0		07/03/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		81.6	Percent			1.00	0.0		07/03/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		6.50e+04	pCi/L	+-1.30e+04	pCi/L	1.00	2.2e+02		07/03/08

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

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

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081252
Matrix: WATER
Test: Gross Alpha on Alpha Plateau

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002925											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	1.4E+01		RPD			24.000	20.000 *		07/15/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U-9.0E-02	n/a	pCi/L	-100.000	100.000				07/15/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	36.8	94.992	% Recov	80.000	120.000				07/15/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081252
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002925											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	9.5E+01		RPD			46.753	20.000 •		07/09/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U6.6E-01	n/a	pCi/L	-10.000	10.000				07/09/08
LCS	Gross beta	12587-47-2	126	112.299	% Recov	80.000	120.000				07/09/08
Lab ID: W08P002839											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	1.5E+03		RPD			18.978	20.000		08/01/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U-1.8E-01	n/a	pCi/L	-10.000	10.000				08/01/08
LCS	Gross beta	12587-47-2	126	112.299	% Recov	80.000	120.000				08/01/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081252
Matrix: WATER
Test: Strontium 89/90

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002925											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	101.5	101.500	% Recov	30.000	105.000				07/03/08
DUP	Strontium-89/90	SR-RAD	U-3.8		RPD			n/a	20.000		07/03/08
Lab ID: W08P003014											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	89.4	89.400	% Recov	30.000	105.000				07/03/08
Lab ID: W08P003022											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	79.1	79.100	% Recov	30.000	105.000				07/03/08
Lab ID: W08P003035											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	81.6	81.600	% Recov	30.000	105.000				07/03/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	92.1	92.100	% Recov	30.000	105.000				07/03/08
BLANK	Strontium-89/90	10098-97-2	U-1.4	n/a	pCi/L	-10.000	100.000				07/03/08
LCS	Sr-85 Tracer by Beta Counting	SR85	87.8	87.800	% Recov	30.000	105.000				07/03/08
LCS	Strontium-89/90	10098-97-2	155	109.386	% Recov	80.000	120.000				07/03/08
Lab ID: W08P003018											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	97.0	97.000	% Recov	30.000	105.000				07/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081252
Matrix: WATER
Test: Strontium 89/90

Sample Date: 06/26/08
Receive Date:06/26/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	101.7	101.700	% Recov	30.000	105.000				07/16/08
DUP	Strontium-89/90	SR-RAD	U-2.2		RPD			n/a	20.000		07/16/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	95.6	95.600	% Recov	30.000	105.000				07/16/08
BLANK	Strontium-89/90	10098-97-2	U-2.7	n/a	pCi/L	-10.000	100.000				07/16/08
LCS	Sr-85 Tracer by Beta Counting	SR85	90.3	90.300	% Recov	30.000	105.000				07/16/08
LCS	Strontium-89/90	10098-97-2	136	97.983	% Recov	80.000	120.000				07/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081252
Matrix: WATER
Test: TC99 by Liquid Scin.

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002940											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	4.2E+03		RPD			6.897	20.000		07/05/08
MS	Tc-99 by Liquid Scin.	14133-76-7	423.4	56.284	% Recov	75.000	125.000			*	07/05/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-2.2	n/a	pCi/L	-10.000	10.000				07/05/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	202.2	107.496	% Recov	80.000	120.000				07/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081252
Matrix: WATER
Test: Tritium by Liq Sct column prep

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002927											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	1.2E+04		RPD			0.000	20.000		07/03/08
MS	Tritium	10028-17-8	22200	85.953	% Recov	75.000	125.000				07/03/08
BATCH QC											
BLANK	Tritium	10028-17-8	U-3.8E+01	n/a	pCi/L	-10.000	1000.000				07/03/08
LCS	Tritium	10028-17-8	3090.	90.256	% Recov	80.000	120.000				07/03/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081252
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Organics: All (solid sample results) are moisture corrected and reported on a dry weight basis. cgc W08P003014, W08P003022/Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh Tc-99 matrix spike recovery is low due to the high Tc99 activity in the sample. lmh ICP-AES: [Samples W08P3003; 3014; 3016; 3018; 3020; 3022-3024; and 3026-3031] No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check standard is used to ensure sodium, magnesium, and calcium linearity because sample results are greater than the calibration standard. ICP-AES: [Samples W08P3032; 3034-3035] No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards are used to ensure sodium, calcium,

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

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WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081252
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
				and magnesium linearity because sample results are greater than the calibration standard.

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

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M4W41-SLF-08-812

ATTACHMENT 5

SAMPLE RECEIPT INFORMATION

Consisting of 14 pages
Including cover page

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

8/6/08
File KB

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081252

The following samples were received from you on 06/23/08. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P003003	B1VJY9	PNNL @GPP6010	Water	06/23/08
W08P003014	B1VK00	PNNL @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 @SR89_90 ALKALI	Water	06/23/08
W08P003016	B1VK06	PNNL @GPP6010	Water	06/23/08
W08P003018	B1VK09	PNNL @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 @SR89_90 ALKALI	Water	06/23/08
W08P003020	B1VK03	PNNL @GPP6010	Water	06/23/08
W08P003022	B1VK04	PNNL @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 @SR89_90 ALKALI	Water	06/23/08
W08P003023	B1VRK7	PNNL @GPP6010	Water	06/23/08
W08P003024	B1VRK8	PNNL @GPP6010 @IC-30 @TC99-30 ALKALI	Water	06/23/08
W08P003026	B1VRK9	PNNL @GPP6010	Water	06/23/08
W08P003027	B1VRL0	PNNL @GPP6010 @IC-30 @TC99-30 ALKALI	Water	06/23/08
W08P003028	B1VRJ5	PNNL @IC-30 @TC99-30 ALKALI	Water	06/23/08
W08P003029	B1RTP1	PNNL @GPP6010	Water	06/23/08
W08P003030	B1RTP2	PNNL @GPP6010 @H3-33 @IC-30 @VOA-GPP	Water	06/23/08
W08P003031	B1V883	PNNL @2008 @GPP6010	Water	06/23/08

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081252

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P003032	B1V884	PNNL @2008 @GPP6010 @IC-30 @VOA-GPP COD NH4-IC -TOC-30	Water	06/23/08
W08P003033	B1V394	PNNL @VOA-GPP	Water	06/23/08
W08P003034	B1VKV6	PNNL @2008 @GPP6010	Water	06/23/08
W08P003035	B1VKV7	PNNL @2008 @8015GPP @GPP6010 @H3-33 @SR89_90 @SVOCGPP @TPHD-WA @TPHG-WA @VOA-GPP CN-02 NH4-I TOC-30	Water	06/23/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@8015GPP	Alcohols, Glycols - 8015
@AB-32	Gross Alpha/Gross Beta (AB32)
@ALPHA	Gross Alpha on Alpha Plateau
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
@SVOCGPP	SW-846 8270C Semi-Vols
@TC99-30	TC99 by Liquid Scin.
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3
CN-02	Cyanide by Midi/Spectrophotom
COD	Chemical Oxygen Demand
NH4-IC	Ammonia (N) by IC
TOC-30	Total Organic Carbon

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

G08-006-7

Collector: Roy Sickle	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: G08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 1NR2-RB, JUNE 2008	HNF-N-506-15	Ice Chest No.: GW-1 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV 70089752	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 ☐
100 Area Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VJY9 (F)	W08P00303	W	6/23/08	1308	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VK00	3041	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VK00		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VK00		W			1x500-mL P	300.0_ANIONS_IC:List-1+Phosphate (6)	Cool~4C
B1VK00		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VK00		W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VK00		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Roy Sickle	JUN 23 2008 1432	H.S. Hagney M.L. Hagney	6/23/08 1432

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

G08-006-13

Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: G08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: INR2-RB, JUNE 2008	HNF-N-506-15	Ice Chest No.: GW-1 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
100 Area Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VK06 (F)	3006	W	6/23/08	1141	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VK09	3008	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VK09		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VK09		W			1x500-mL P	300.0_ANIONS_IC:List-1+Phosphate (6)	Cool~4C
B1VK09		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VK09		W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VK09		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By	Received By
Print: Roy Sickle Sign: Date/Time: JUN 23 2008 1430	Print: M.S. Hughes Sign: Date/Time: 6/23/08 1430
Relinquished By: Date/Time	Received By: Date/Time
Relinquished By: Date/Time	Received By: Date/Time
Relinquished By: Date/Time	Received By: Date/Time

Matrix *

S	= Soil	DS	= Drum Solid
SE	= Sediment	DL	= Drum Liquid
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wine
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

G08-006-8

Collector: KE Hamilton	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: G08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 1NR2-RB JUNE 2008	HNF-N-506-15	Ice Chest No.: GW-1 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time
100 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VK03 (F)	3020	W	6-23-08	0900	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VK04	3022	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VK04		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VK04		W			1x500-mL P	300.0_ANIONS_IC:List-1+Phosphate (6)	Cool~4C
B1VK04		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VK04		W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VK04		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KE Hamilton			JUN 23 2008 1430	M.S. Hagney			JUN 23 2008 1430
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-006-326

Collector Scott E. Hamaker	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. W08-006	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title RCRA JUNE 2008	HNF-N-506-17	Ice Chest No. 3mL-443 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** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VRK7 (F)	3023	W	6-23-08	1254	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VRK8	24	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VRK8		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VRK8		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VRK8		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

ICED

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Scott E. Hamaker	Scott Hamaker	JUN 23 2008	M.S. Hagney	M.S. Hagney	JUN 23 2008 1400
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-006-327

Collector: Scott E. Hamaker	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: W08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: RCRA JUNE 2008	HNE-N-506-17	Ice Chest No.: SMZ-442 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
Site-Wide Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VRK9 (F)	3026	W	6-23-08	1254	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VRL0	3027	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VRL0		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VRL0		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VRL0		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Scott E. Hamaker	Scott Hamaker	JUN 23 2008		M.S. Hagney	M.S. Hagney	JUN 23 2008 1400
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SF = Sediment		DL = Drum Liqui	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-006-306

Collector Scott E. Hamaker	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA JUNE 2008	HNF-N-506-17	**Ice Chest No.** Smt-442 **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** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VRJ5	3028	W	6/23/08	1110	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VRJ5		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VRJ5		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

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Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Scott E. Hamaker	Scott Hamaker	JUN 23 2008 1400	OA Hudson		JUN 23 2008 1400
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

S	= Soil	DS	= Drum Solid
SE	= Sediment	DL	= Drum Liquid
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wine
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-001-170

Collector: R. Ellingsworth	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-001	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV JANUARY 2008	HNF-N-506-12	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS Hold Time
Site-Wide Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1RTP1 (F)	3029	W	6-23-08	1220	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1RTP2	3030	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1RTP2		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1RTP2		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1RTP2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R. Ellingsworth			JUN 23 2008 1445	CA Hudson			JUN 23 2008 1445
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION
Disposal Method (e.g., Return to customer, per lab procedure, used in process)
Disposed By
Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-005-390

Collector R. Ellingsworth	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-005	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA MAY 2008	HNF-N-506-12	**Ice Chest No.** **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** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1V883 (F)	3031	W	6-23-08	1319	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1V883 (F)		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1V884	3032	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1V884		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1V884		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1V884		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1V884		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1V884		W			1x150-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1V884		W			1x500-mL G/P	410.4_COD: COD (1)	H2SO4 to pH <2 Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R. Ellingsworth			JUN 23 2008 1440	CM Hudson			JUN 23 2008 1440
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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SE	= Sediment	DL	= Drum Liquid
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-004-203

Collector: Scott E. Hamaker	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: W08-004	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: RCRA, APRIL 2008	HNF-N-506-17	Ice Chest No.: 3M2-442 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**
Site-Wide Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1V394	3533	W	6-23-08	1110	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1V394		W			1x20-mL P	Activity Scan	None

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Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Scott E. Hamaker	Scott Hamaker	JUN 23 2008	M.S. Hagsey	M.S. Hagsey	JUN 23 2008 1400
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

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SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I08-043-25

Collector Scott E. Hamaker	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-043	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 2UP1, JUNE 2008	HNF-N-506-17	**Ice Chest No.** SML-443 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol SURV	**Priority:** 45 Days	**Offsite Property No.**

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
200 Area Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKV6 (F)	3034	W	6-23-08	1110	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1VKV6 (F)		W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	HNO3 to pH <2
B1VKV6 (F)		W			1x500-mL G/P	6010_METALS_ICP: List-1 + Lithium (20)	HNO3 to pH <2
B1VKV7	3035	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1VKV7		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VKV7		W			1x1-L G/P	Strontium-89,90 -- Total Sr	HNO3 to pH <2
B1VKV7		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1VKV7		W			3x40-mL aGs*	Alcohols, Glycols, & Ketones - 8015	Cool~4C
B1VKV7		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 + Cresol (14)	Cool~4C
B1VKV7		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1); 200.8_METALS_ICPMS: Lead (1)	HNO3 to pH <2
B1VKV7		W			1x500-mL G/P	200.8_METALS_ICPMS: Mercury (1)	HNO3 to pH <2
B1VKV7		W			1x500-mL G/P	6010_METALS_ICP: List-1 + Lithium (20)	HNO3 to pH <2
B1VKV7		W			1x250-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1VKV7		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C
B1VKV7		W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VKV7		W			3x1000-mL aG	TPH-DieselKerosene Range - WTPH-D	HCl to pH <2 Cool~4C

Relinquished By: Scott E. Hamaker Print / Sign	Date/Time JUN 23 2008	Received By: W.S. Hagey Print / Sign	Date/Time JUN 23 2008 1400
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

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W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
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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

108-043-25

SAF No.	Contact/Requestor	Telephone No.	MSIN	FAX
108-043	Steve Trent	509-373-5869		

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKV7		W	6-23-08	1110	4x40-mL aGs*	TPH-Gasoline Range - WTPH-G	HCl to pH <2 Cool~4C

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Relinquished By	Date/Time	Received By	Date/Time
Print: Scott E. Hamaker Sign: Scott Hamaker	JUN 23 2008	Print: M.J. Heagney Sign: M.J. Heagney	JUN 23 2008 1400
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

S = Soil		DS = Drum Solid	
SE = Sediment		DL = Drum Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time