

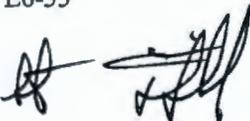
RECEIVED JULY 3, 2008

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FLUOR**Memorandum**

M4W41-SLF-08-654

To: H. Hampt E6-35 Date: July 3, 2008

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

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20080973 ✓

Reference: 1) Letter of Instruction for Analytical Services for the Groundwater Performance Assessment Project and Analytical Laboratory Transition Plan, FH-0602422, September 19, 2006

2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20080973:

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

SLF/grf

Attachments 4

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20080973
Data Deliverable Date: 26-jun-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I08-038	B1V6F1	W08P002305	WATER
	B1V6F2	W08P002306	WATER
	B1V6H6	W08P002303	WATER
	B1V6H7	W08P002304	WATER
W08-004	B1V376	W08P002307	WATER
W08-005	B1V809	W08P002314	WATER
	B1V810	W08P002315	WATER
	B1V813	W08P002316	WATER
	B1V814	W08P002317	WATER
	B1V820	W08P002312	WATER
	B1V821	W08P002313	WATER
	B1V825	W08P002309	WATER
	B1V947	W08P002310	WATER
	B1V948	W08P002311	WATER
	B1V973	W08P002308	WATER

M4W41-SLF-08-654

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Fifteen (15) groundwater samples were received at the WSCF Laboratory on May 13, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4.

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 14 through 16, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 37 through 39 for QC details. Analytical Note(s):

- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1V8M3 and B1V8V3 (SDG# 20080966).
- Sample results were D flagged if dilution(s) were required.

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 40 through 49 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1V8L8 (SDG# 20080959, B1RFN8 (SDG# 20081137) and B1V810 of this SDG.
- B1V8L8 Batch QC
 - Antimony, Silver, Vanadium and Zinc contamination detected in the Blank was evaluated and affected sample results were C flagged.

- Calcium, Magnesium and Sodium – sample results exceeded spiking levels by a factor of 4. Spike recoveries are not valid. Check and high standards were analyzed to ensure linearity, because sample results were greater than the calibration standard.
- B1RFN8 Batch QC
 - Chromium, Silver and Zinc contamination detected in the Blank was evaluated and affected sample results were C flagged.
 - Calcium, Magnesium and Sodium – sample results exceeded spiking levels by a factor of 4. Spike recoveries are not valid. Check and high standards were analyzed to ensure linearity, because sample results were greater than the calibration standard.
- B1V810 Batch QC
 - Calcium, Magnesium and Potassium contamination detected in the Blank was evaluated and affected sample results were C flagged.
 - Calcium, Magnesium and Sodium – sample results exceeded spiking levels by a factor of 4. Spike recoveries are not valid. Check and high standards were 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 page 50 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1V7R4 (SDG# 20080957) and B1V6F2 of this SDG.

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 51 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1V8K6 (SDG# 20080959) and B1V8F8 (SDG# 20080985).

All QC controls are within the established limits.

Organic Comments

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 61 through 63 for QC details. Analytical Note(s):

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

All QC controls are within the established limits.

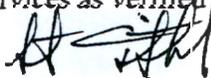
Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF’s radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 71 through 74 for QC details. Analytical Note(s):

- Gross Alpha/Gross Beta – Duplicate QC was analyzed on sample# B1V7V5 (SDG# 20080966).
- Technetium-99 – Duplicate and Matrix Spike were analyzed on sample# B1V923 (SDG# 20080966).
- Tritium – Duplicates and Matrix Spikes were analyzed on samples B1V8L5 (SDG# 20080959) and B1V973 of this SDG.

All QC controls are within the established limits.

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


Scot L. Fitzgerald
WSCF Analytical Laboratory Manager


Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-654

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 67 pages
Including cover page

**WSCF
ANALYTICAL RESULTS REPORT**

for

**GPAP
Richland, WA 99352**

Attention: Steve Trent E6-35

Analytical:

S. Fitzgerald 7/3/08

Client Services:

P.D. Miller 7/2/2008

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

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Report#: WSCF20080973
Report Date: 27-jun-2008
Report WGPP/ver. 5.2
GPAP

Page 1

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20080973

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36334	2	36749	41061	BLANK		Anions by Ion Chromatography
36334	12	36749	41061	BLANK		Anions by Ion Chromatography
36334	3	36749	41061	LCS		Anions by Ion Chromatography
36334	9	36749	41061	DUP	W08P002296	Anions by Ion Chromatography
36334	10	36749	41061	MS	W08P002296	Anions by Ion Chromatography
36334	11	36749	41061	MSD	W08P002296	Anions by Ion Chromatography
36334	11	36749	41061	SPK-RPD	W08P002296	Anions by Ion Chromatography
36334	6	36749	41061	SAMPLE	W08P002315	Anions by Ion Chromatography
36334	7	36749	41061	SAMPLE	W08P002317	Anions by Ion Chromatography
36333	2	36748	41062	BLANK		Anions by Ion Chromatography
36333	13	36748	41062	BLANK		Anions by Ion Chromatography
36333	3	36748	41062	LCS		Anions by Ion Chromatography
36333	10	36748	41062	DUP	W08P002290	Anions by Ion Chromatography
36333	11	36748	41062	MS	W08P002290	Anions by Ion Chromatography
36333	12	36748	41062	MSD	W08P002290	Anions by Ion Chromatography
36333	12	36748	41062	SPK-RPD	W08P002290	Anions by Ion Chromatography
36333	6	36748	41062	SAMPLE	W08P002304	Anions by Ion Chromatography
36333	7	36748	41062	SAMPLE	W08P002306	Anions by Ion Chromatography
36333	4	36748	41062	SAMPLE	W08P002311	Anions by Ion Chromatography
36333	5	36748	41062	SAMPLE	W08P002313	Anions by Ion Chromatography
36338	1	36753	41073	LCS		Total Alkalinity as mg/L CaCO3
36338	13	36753	41073	LCS		Total Alkalinity as mg/L CaCO3
36338	24	36753	41073	LCS		Total Alkalinity as mg/L CaCO3
36338	35	36753	41073	LCS		Total Alkalinity as mg/L CaCO3
36338	3	36753	41073	DUP	W08P002274	Total Alkalinity as mg/L CaCO3
36338	15	36753	41073	SAMPLE	W08P002308	Total Alkalinity as mg/L CaCO3
36338	16	36753	41073	SAMPLE	W08P002309	Total Alkalinity as mg/L CaCO3
36338	17	36753	41073	SAMPLE	W08P002311	Total Alkalinity as mg/L CaCO3
36338	18	36753	41073	SAMPLE	W08P002313	Total Alkalinity as mg/L CaCO3
36338	19	36753	41073	SAMPLE	W08P002315	Total Alkalinity as mg/L CaCO3
36338	20	36753	41073	SAMPLE	W08P002317	Total Alkalinity as mg/L CaCO3
36338	26	36753	41073	DUP	W08P002327	Total Alkalinity as mg/L CaCO3
36456	1	36871	41215	BLANK		ICP-200.8 MS All possible meta
36456	2	36871	41215	LCS		ICP-200.8 MS All possible meta
36456	7	36871	41215	MS	W08P002260	ICP-200.8 MS All possible meta
36456	8	36871	41215	MSD	W08P002260	ICP-200.8 MS All possible meta
36456	8	36871	41215	SPK-RPD	W08P002260	ICP-200.8 MS All possible meta
36456	25	36871	41215	SAMPLE	W08P002305	ICP-200.8 MS All possible meta
36456	4	36871	41215	MS	W08P002306	ICP-200.8 MS All possible meta
36456	5	36871	41215	MSD	W08P002306	ICP-200.8 MS All possible meta
36456	3	36871	41215	SAMPLE	W08P002306	ICP-200.8 MS All possible meta
36456	5	36871	41215	SPK-RPD	W08P002306	ICP-200.8 MS All possible meta
36643	1	37057	41413	BLANK		ICP Metals Analysis, Grd H2O P
36643	2	37057	41413	LCS		ICP Metals Analysis, Grd H2O P
36643	4	37057	41413	MS	W08P002277	ICP Metals Analysis, Grd H2O P
36643	5	37057	41413	MSD	W08P002277	ICP Metals Analysis, Grd H2O P
36643	5	37057	41413	SPK-RPD	W08P002277	ICP Metals Analysis, Grd H2O P
36643	23	37057	41413	SAMPLE	W08P002303	ICP Metals Analysis, Grd H2O P

36643	24	37057	41413	SAMPLE	W08P002304	ICP Metals Analysis, Grd H20 P
36644	1	37061	41418	BLANK		ICP Metals Analysis, Grd H20 P
36644	2	37061	41418	LCS		ICP Metals Analysis, Grd H20 P
36644	10	37061	41418	SAMPLE	W08P002305	ICP Metals Analysis, Grd H20 P
36644	11	37061	41418	SAMPLE	W08P002306	ICP Metals Analysis, Grd H20 P
36644	12	37061	41418	SAMPLE	W08P002310	ICP Metals Analysis, Grd H20 P
36644	13	37061	41418	SAMPLE	W08P002311	ICP Metals Analysis, Grd H20 P
36644	14	37061	41418	SAMPLE	W08P002312	ICP Metals Analysis, Grd H20 P
36644	15	37061	41418	SAMPLE	W08P002313	ICP Metals Analysis, Grd H20 P
36644	16	37061	41418	SAMPLE	W08P002314	ICP Metals Analysis, Grd H20 P
36644	4	37061	41418	MS	W08P002706	ICP Metals Analysis, Grd H20 P
36644	5	37061	41418	MSD	W08P002706	ICP Metals Analysis, Grd H20 P
36644	5	37061	41418	SPK-RPD	W08P002706	ICP Metals Analysis, Grd H20 P
36791	1	37210	41619	BLANK		ICP Metals Analysis, Grd H20 P
36791	2	37210	41619	LCS		ICP Metals Analysis, Grd H20 P
36791	4	37210	41619	MS	W08P002315	ICP Metals Analysis, Grd H20 P
36791	5	37210	41619	MSD	W08P002315	ICP Metals Analysis, Grd H20 P
36791	3	37210	41619	SAMPLE	W08P002315	ICP Metals Analysis, Grd H20 P
36791	5	37210	41619	SPK-RPD	W08P002315	ICP Metals Analysis, Grd H20 P
36791	6	37210	41619	SAMPLE	W08P002316	ICP Metals Analysis, Grd H20 P
36791	7	37210	41619	SAMPLE	W08P002317	ICP Metals Analysis, Grd H20 P

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20080973

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			41576	BLANK		VOA Ground Water Protection
			41576	LCS		VOA Ground Water Protection
			41576	MS	W08P002304	VOA Ground Water Protection
			41576	MSD	W08P002304	VOA Ground Water Protection
			41576	SAMPLE	W08P002304	VOA Ground Water Protection
			41576	SPK-RPD	W08P002304	VOA Ground Water Protection
			41576	SURR	W08P002304	VOA Ground Water Protection
			41576	SAMPLE	W08P002306	VOA Ground Water Protection
			41576	SURR	W08P002306	VOA Ground Water Protection
			41576	SAMPLE	W08P002307	VOA Ground Water Protection
			41576	SURR	W08P002307	VOA Ground Water Protection

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20080973

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36376	1	36792	41150	BLANK		Gross Alpha/Gross Beta (AB32)
36376	2	36792	41150	LCS		Gross Alpha/Gross Beta (AB32)
36376	3	36792	41150	DUP	W08P002286	Gross Alpha/Gross Beta (AB32)
36376	7	36792	41150	SAMPLE	W08P002315	Gross Alpha/Gross Beta (AB32)
36376	8	36792	41150	SAMPLE	W08P002317	Gross Alpha/Gross Beta (AB32)
36344	1	36759	41273	BLANK		Tritium by Liq Sct column prep
36344	2	36759	41273	LCS		Tritium by Liq Sct column prep
36344	4	36759	41273	DUP	W08P002276	Tritium by Liq Sct column prep
36344	3	36759	41273	MS	W08P002276	Tritium by Liq Sct column prep
36344	15	36759	41273	SAMPLE	W08P002304	Tritium by Liq Sct column prep
36344	16	36759	41273	SAMPLE	W08P002306	Tritium by Liq Sct column prep
36343	1	36758	41275	BLANK		TC99 by Liquid Scin.
36343	2	36758	41275	LCS		TC99 by Liquid Scin.
36343	4	36758	41275	DUP	W08P002280	TC99 by Liquid Scin.
36343	3	36758	41275	MS	W08P002280	TC99 by Liquid Scin.
36343	9	36758	41275	SAMPLE	W08P002304	TC99 by Liquid Scin.
36343	10	36758	41275	SAMPLE	W08P002306	TC99 by Liquid Scin.
36343	11	36758	41275	SAMPLE	W08P002311	TC99 by Liquid Scin.
36343	12	36758	41275	SAMPLE	W08P002313	TC99 by Liquid Scin.
36343	13	36758	41275	SAMPLE	W08P002315	TC99 by Liquid Scin.
36343	14	36758	41275	SAMPLE	W08P002317	TC99 by Liquid Scin.
36499	1	36913	41277	BLANK		Tritium by Liq Sct column prep
36499	2	36913	41277	LCS		Tritium by Liq Sct column prep
36499	4	36913	41277	DUP	W08P002308	Tritium by Liq Sct column prep
36499	3	36913	41277	MS	W08P002308	Tritium by Liq Sct column prep
36499	5	36913	41277	SAMPLE	W08P002308	Tritium by Liq Sct column prep
36499	6	36913	41277	SAMPLE	W08P002311	Tritium by Liq Sct column prep
36499	7	36913	41277	SAMPLE	W08P002313	Tritium by Liq Sct column prep
36499	8	36913	41277	SAMPLE	W08P002315	Tritium by Liq Sct column prep
36499	9	36913	41277	SAMPLE	W08P002317	Tritium by Liq Sct column prep
36413	1	36827	41288	BLANK		Gross Alpha on Alpha Plateau
36413	2	36827	41288	LCS		Gross Alpha on Alpha Plateau
36413	3	36827	41288	DUP	W08P002286	Gross Alpha on Alpha Plateau
36413	7	36827	41288	SAMPLE	W08P002315	Gross Alpha on Alpha Plateau
36413	8	36827	41288	SAMPLE	W08P002317	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-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-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 EPA-600/R-94-111 300.0 DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY HEIS 300.0_ANIONS_IC Determination of Inorganic Anions by Ion Chromatography

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

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WSCF METHOD REFERENCES REPORT

Department: Organic

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

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

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

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WSCF METHOD REFERENCES REPORT

Department: Radiochemistry

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

LA-508-415	LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS
HEIS ALPHA_GPC	GROSS ALPHA GPC
HEIS BETA_GPC	GROSS BETA GPC
HEIS SRTOT_SEP_PRECIP_GPC	Protium 89/90
LA-508-421	LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER
HEIS ALPHA_LSC	A/B Liquid Scintillation
HEIS BETA_LSC	A/B Liquid Scintillation
HEIS TC99_3MDSK_LSC	TC99 by Liquid Scintillation
HEIS TRITIUM_EIE_LSC	Tritium Liquid Scintillation

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I08-038

Sample # W08P002303

Client ID: B1V6H6

GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		1.86e+04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411		4.30	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		5.18e+03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		2.34e+04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411	C	36.6	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		56.8	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411		7.20	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Vanadium	7440-82-2	LA-505-411	C	21.9	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		5.82e+04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		228	ug/L			1.00	4.0		06/11/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-038
Sample # W08P002304
Client ID: B1V6H7

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

GPP-PNNL TRENT
 WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	D	0.385	mg/L			2.00	0.042		05/14/08
Chloride	16887-00-6	LA-533-410	D	53.5	mg/L			10.00	1.1		05/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		05/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	14.5	mg/L			10.00	0.36		05/14/08
Sulfate	14808-79-8	LA-533-410	D	34.3	mg/L			2.00	0.15		05/14/08
ICP Metals Analysis, Grd H20 P Prep											06/11/08
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		1.83e+04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411		9.00	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		5.16e+03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	C	5.40	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		2.29e+04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		55.8	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411	C	17.6	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		5.68e+04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		225	ug/L			1.00	4.0		06/11/08

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

C - The Analyte was found in the Associated Blank.(inorg)
 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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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I08-038

Sample # W08P002304

Client ID: B1V6H7 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

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		06/11/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

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

D - Analyte was identified at a secondary dilution factor

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Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-038
Sample # W08P002305
Client ID: B1V6F1

GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		18.0	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		2.96e+04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		5.80e+03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		2.20e+04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		65.1	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411	C	20.1	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411		19.1	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		9.04e+04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		435	ug/L			1.00	4.0		06/11/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		1.43	ug/L			1.00	0.400		05/27/08

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: I08-038
Sample # W08P002306
Client ID: B1V6F2

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

GPP-PNNL TREN **Matrix:** WATER
WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	D	0.962	mg/L			2.00	0.042		05/14/08
Chloride	16887-00-6	LA-533-410	D	79.8	mg/L			10.00	1.1		05/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		05/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	34.7	mg/L			10.00	0.36		05/14/08
Sulfate	14808-79-8	LA-533-410	D	61.0	mg/L			2.00	0.15		05/14/08
ICP Metals Analysis, Grd H2O P Prep											06/11/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		268	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		3.00e +04	ug/L			1.00	6.0		06/11/08
Manganese	7439-98-5	LA-505-411		6.40	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411		4.90	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		5.87e +03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		2.24e +04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411		35.7	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		66.4	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411	C	20.5	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411		20.3	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		9.15e +04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		438	ug/L			1.00	4.0		06/11/08

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

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Report WGPP/ver. 5.2
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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I08-038

Sample # W08P002306

Client ID: B1V6F2 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

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		06/11/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		2.21	ug/L			1.00	0.0500		05/28/08
Arsenic	7440-38-2	LA-505-412		1.27	ug/L			1.00	0.400		05/28/08

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)

D - Analyte was identified at a secondary dilution factor

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002308

Client ID: B1V973 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Alkalinity as mg/L CaCO₃											
Total Alkalinity as mg/L CaCO ₃	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		05/15/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002309

Client ID: B1V825 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Alkalinity as mg/L CaCO₃											
Total Alkalinity as mg/L CaCO ₃	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		05/15/08

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)

D - Analyte was identified at a secondary dilution factor

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Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002310

Client ID: B1V947 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		1.36e +03	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		1.52e +04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411		124	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411		104	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		4.94e +03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	C	7.10	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		7.07e +04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		26.2	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411	C	90.6	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411		11.8	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411		4.50	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411		10.2	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-6	LA-505-411	C	8.70	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		5.07e +04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		218	ug/L			1.00	4.0		06/11/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08

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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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002311

Client ID: B1V948 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	18984-48-8	LA-533-410	D	0.307	mg/L			2.00	0.042		05/14/08
Chloride	18887-00-6	LA-533-410	D	74.0	mg/L			10.00	1.1		05/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		05/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	7.54	mg/L			2.00	0.072		05/14/08
Sulfate	14808-79-8	LA-533-410	D	109	mg/L			2.00	0.15		05/14/08
ICP Metals Analysis, Grd H20 P Prep											06/11/08
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		4.84e+03	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		1.57e+04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411		144	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411		154	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		5.11e+03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		7.31e+04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		27.1	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411		234	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411		9.30	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411		10.2	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-8	LA-505-411	C	7.80	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		5.13e+04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		223	ug/L			1.00	4.0		06/11/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002311

Client ID: B1V948 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

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		06/11/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		05/15/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

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+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P002312
Client ID: B1V820 GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		32.0	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		1.97e +04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411		6.40	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411		4.00	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		5.78e +03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		3.92e +04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		60.9	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411	C	84.9	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411		4.40	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411		27.4	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-6	LA-505-411	C	4.20	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		6.25e +04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		250	ug/L			1.00	4.0		06/11/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08

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

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

D - Analyte was identified at a secondary dilution factor
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

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

Report WGPP/ver. 5.2
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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002313

Client ID: B1V821 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

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	1.07	mg/L			2.00	0.042		05/14/08
Chloride	16887-00-6	LA-533-410	D	37.5	mg/L			10.00	1.1		05/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		05/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	27.4	mg/L			10.00	0.38		05/14/08
Sulfate	14808-79-8	LA-533-410	D	57.7	mg/L			2.00	0.15		05/14/08
ICP Metals Analysis, Grd H2O P Prep											06/11/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-8	LA-505-411		50.1	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		1.91e+04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		5.66e+03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	C	7.00	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		3.74e+04	ug/L			1.00	27		06/11/08
Antimony	7440-38-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		60.3	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411	C	85.6	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411		28.8	ug/L			1.00	7.0		06/11/08
Zinc	7440-68-6	LA-505-411	C	6.80	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		6.11e+04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		243	ug/L			1.00	4.0		06/11/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002313

Client ID: B1V821 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

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		06/11/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		05/15/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P002314
Client ID: B1V809 GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		23.7	ug/L			1.00	9.0		06/11/08
Magnesium	7439-95-4	LA-505-411		2.80e+04	ug/L			1.00	6.0		06/11/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Potassium	7440-09-7	LA-505-411		6.65e+03	ug/L			1.00	45		06/11/08
Silver	7440-22-4	LA-505-411	C	5.40	ug/L			1.00	5.0		06/11/08
Sodium	7440-23-5	LA-505-411		5.58e+04	ug/L			1.00	27		06/11/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/11/08
Barium	7440-39-3	LA-505-411		85.8	ug/L			1.00	4.0		06/11/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Chromium	7440-47-3	LA-505-411		199	ug/L			1.00	4.0		06/11/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Vanadium	7440-62-2	LA-505-411		23.5	ug/L			1.00	7.0		06/11/08
Zinc	7440-66-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08
Calcium	7440-70-2	LA-505-411		8.79e+04	ug/L			1.00	34		06/11/08
Strontium	7440-24-6	LA-505-411		364	ug/L			1.00	4.0		06/11/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/11/08

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

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

D - Analyte was identified at a secondary dilution factor
 J - Analyte < lowest calibration but >= MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P002315
Client ID: BIV810

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

GPP-PNNL TRENT
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	D	1.25	mg/L			2.00	0.042		05/14/08
Chloride	16887-00-6	LA-533-410	D	53.1	mg/L			20.00	2.2		05/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		05/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	54.9	mg/L			20.00	0.72		05/14/08
Sulfate	14808-79-8	LA-533-410	D	78.7	mg/L			2.00	0.15		05/14/08
ICP Metals Analysis, Grd H20 P Prep											06/20/08
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-8	LA-505-411		37.1	ug/L			1.00	9.0		06/23/08
Magnesium	7439-95-4	LA-505-411		2.78e+04	ug/L			1.00	6.0		06/23/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Potassium	7440-09-7	LA-505-411		6.47e+03	ug/L			1.00	45		06/23/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/23/08
Sodium	7440-23-5	LA-505-411		5.38e+04	ug/L			1.00	27		06/23/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/23/08
Barium	7440-39-3	LA-505-411		82.5	ug/L			1.00	4.0		06/23/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Chromium	7440-47-3	LA-505-411		180	ug/L			1.00	4.0		06/23/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Vanadium	7440-62-2	LA-505-411		25.4	ug/L			1.00	7.0		06/23/08
Zinc	7440-66-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Calcium	7440-70-2	LA-505-411		8.14e+04	ug/L			1.00	34		06/23/08
Strontium	7440-24-6	LA-505-411		349	ug/L			1.00	4.0		06/23/08

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

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

D - Analyte was identified at a secondary dilution factor
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2
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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002315

Client ID: B1V810 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

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		06/23/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		05/15/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P002316
Client ID: B1V813

GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		20.9	ug/L			1.00	9.0		06/23/08
Magnesium	7439-95-4	LA-505-411		4.52e+04	ug/L			1.00	6.0		06/23/08
Manganese	7439-96-5	LA-505-411		13.8	ug/L			1.00	4.0		06/23/08
Nickel	7440-02-0	LA-505-411		9.80	ug/L			1.00	4.0		06/23/08
Potassium	7440-09-7	LA-505-411		8.05e+03	ug/L			1.00	45		06/23/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/23/08
Sodium	7440-23-5	LA-505-411		5.82e+04	ug/L			1.00	27		06/23/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/23/08
Barium	7440-39-3	LA-505-411		128	ug/L			1.00	4.0		06/23/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Chromium	7440-47-3	LA-505-411		640	ug/L			1.00	4.0		06/23/08
Cobalt	7440-48-4	LA-505-411		6.60	ug/L			1.00	4.0		06/23/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Vanadium	7440-62-2	LA-505-411		21.4	ug/L			1.00	7.0		06/23/08
Zinc	7440-66-6	LA-505-411		11.0	ug/L			1.00	4.0		06/23/08
Calcium	7440-70-2	LA-505-411		1.32e+05	ug/L			1.00	34		06/23/08
Strontium	7440-24-6	LA-505-411		574	ug/L			1.00	4.0		06/23/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08

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

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

D - Analyte was identified at a secondary dilution factor
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

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

Report WGPP/ver. 5.2
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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P002317
Client ID: B1V814

GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973
Department: Inorganic
Sampled: 05/13/08
Received: 05/13/08

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	0.873	mg/L			3.00	0.063		05/14/08
Chloride	16887-00-6	LA-533-410	D	76.5	mg/L			20.00	2.2		05/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0297	mg/L			3.00	0.030		05/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	95.1	mg/L			20.00	0.72		05/14/08
Sulfate	14808-79-8	LA-533-410	D	149	mg/L			3.00	0.23		05/14/08
ICP Metals Analysis, Grd H2O P Prep											06/20/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		45.9	ug/L			1.00	9.0		06/23/08
Magnesium	7439-95-4	LA-505-411		4.64e+04	ug/L			1.00	6.0		06/23/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Nickel	7440-02-0	LA-505-411		6.50	ug/L			1.00	4.0		06/23/08
Potassium	7440-09-7	LA-505-411		8.12e+03	ug/L			1.00	45		06/23/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		06/23/08
Sodium	7440-23-5	LA-505-411		5.88e+04	ug/L			1.00	27		06/23/08
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		06/23/08
Barium	7440-39-3	LA-505-411		130	ug/L			1.00	4.0		06/23/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Chromium	7440-47-3	LA-505-411		670	ug/L			1.00	4.0		06/23/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Copper	7440-50-8	LA-505-411	U	< 4.00	ug/L			1.00	4.0		06/23/08
Vanadium	7440-62-2	LA-505-411		27.0	ug/L			1.00	7.0		06/23/08
Zinc	7440-66-6	LA-505-411		7.10	ug/L			1.00	4.0		06/23/08
Calcium	7440-70-2	LA-505-411		1.36e+05	ug/L			1.00	34		06/23/08
Strontium	7440-24-6	LA-505-411		587	ug/L			1.00	4.0		06/23/08

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

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

D - Analyte was identified at a secondary dilution factor
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2
GPAP

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002317

Client ID: B1V814 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Inorganic

Sampled: 05/13/08

Received: 05/13/08

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		06/23/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		92.0	mg/L			1.00	1.0		05/15/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

GPAP

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002296											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	18.8141		RPD			0.054	20.000		05/14/08
DUP	Fluoride	16984-48-8	0.2417		RPD			9.627	20.000		05/14/08
DUP	Nitrogen in Nitrite	NO2-N	< 1.98e-2		RPD			n/a	20.000	U	05/14/08
DUP	Nitrogen in Nitrate	NO3-N	10.5753		RPD			0.270	20.000		05/14/08
DUP	Sulfate	14808-79-8	90.0623		RPD			0.052	20.000		05/14/08
MS	Chloride	16887-00-6	0.8813	88.573	% Recov	80.000	120.000				05/14/08
MS	Fluoride	16984-48-8	0.50015	101.450	% Recov	80.000	120.000				05/14/08
MS	Nitrogen in Nitrite	NO2-N	0.51055	103.770	% Recov	80.000	120.000				05/14/08
MS	Nitrogen in Nitrate	NO3-N	0.46168	103.516	% Recov	80.000	120.000				05/14/08
MS	Sulfate	14808-79-8	2.07312	105.771	% Recov	80.000	120.000				05/14/08
MSD	Chloride	16887-00-6	0.9296	93.427	% Recov	80.000	120.000				05/14/08
MSD	Fluoride	16984-48-8	0.5079	103.022	% Recov	80.000	120.000				05/14/08
MSD	Nitrogen in Nitrite	NO2-N	0.507	103.049	% Recov	80.000	120.000				05/14/08
MSD	Nitrogen in Nitrate	NO3-N	0.46172	103.525	% Recov	80.000	120.000				05/14/08
MSD	Sulfate	14808-79-8	2.024	103.265	% Recov	80.000	120.000				05/14/08
SPK-RPD	Chloride	16887-00-6	93.427		RPD			5.334	20.000		05/14/08
SPK-RPD	Fluoride	16984-48-8	103.022		RPD			1.538	20.000		05/14/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	103.049		RPD			0.697	20.000		05/14/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	103.525		RPD			0.009	20.000		05/14/08
SPK-RPD	Sulfate	14808-79-8	103.265		RPD			2.398	20.000		05/14/08
BATCH QC											
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	05/14/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	05/14/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	05/14/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	05/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 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	05/14/08
BLANK	Nitrogen in Nitrite	NO2-N	< 9.9e-3	n/a	mg/L	0.000	0.020			U	05/14/08
BLANK	Nitrogen in Nitrate	NO3-N	< 3.6e-2	n/a	mg/L	0.000	0.040			U	05/14/08
BLANK	Nitrogen in Nitrate	NO3-N	< 3.6e-2	n/a	mg/L	0.000	0.040			U	05/14/08
BLANK	Sulfate	14808-79-8	< 7.7e-2	n/a	mg/L	0.000	0.200			U	05/14/08
BLANK	Sulfate	14808-79-8	< 7.7e-2	n/a	mg/L	0.000	0.200			U	05/14/08
LCS	Chloride	16887-00-6	197.8696	98.443	% Recov	80.000	120.000				05/14/08
LCS	Fluoride	16984-48-8	107.6167	108.049	% Recov	80.000	120.000				05/14/08
LCS	Nitrogen in Nitrite	NO2-N	102.338	102.956	% Recov	80.000	120.000				05/14/08
LCS	Nitrogen in Nitrate	NO3-N	95.6296	106.137	% Recov	80.000	120.000				05/14/08
LCS	Sulfate	14808-79-8	394.3127	99.574	% Recov	80.000	120.000				05/14/08

Lab ID: W08P002290
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	< 0.22		RPD			n/a	20.000	U	05/14/08
DUP	Fluoride	16984-48-8	< 4.2e-2		RPD			n/a	20.000	U	05/14/08
DUP	Nitrogen in Nitrite	NO2-N	< 1.98e-2		RPD			n/a	20.000	U	05/14/08
DUP	Nitrogen in Nitrate	NO3-N	< 7.2e-2		RPD			n/a	20.000	U	05/14/08
DUP	Sulfate	14808-79-8	< 0.154		RPD			n/a	20.000	U	05/14/08
MS	Chloride	16887-00-6	0.98755	99.251	% Recov	80.000	120.000				05/14/08
MS	Fluoride	16984-48-8	0.44175	89.804	% Recov	80.000	120.000				05/14/08
MS	Nitrogen in Nitrite	NO2-N	0.4793	97.419	% Recov	80.000	120.000				05/14/08
MS	Nitrogen in Nitrate	NO3-N	0.44525	99.832	% Recov	80.000	120.000				05/14/08
MS	Sulfate	14808-79-8	1.92985	98.462	% Recov	80.000	120.000				05/14/08
MSD	Chloride	16887-00-6	0.98565	99.060	% Recov	80.000	120.000				05/14/08
MSD	Fluoride	16984-48-8	0.4433	89.919	% Recov	80.000	120.000				05/14/08
MSD	Nitrogen in Nitrite	NO2-N	0.4967	100.955	% Recov	80.000	120.000				05/14/08
MSD	Nitrogen in Nitrate	NO3-N	0.4582	102.735	% Recov	80.000	120.000				05/14/08
MSD	Sulfate	14808-79-8	1.9385	98.903	% Recov	80.000	120.000				05/14/08
SPK-RPD	Chloride	16887-00-6	99.060		RPD			0.193	20.000		05/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 05/13/08
 Receive Date: 05/13/08

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	89.919		RPD			0.351	20.000		05/14/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	100.955		RPD			3.565	20.000		05/14/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	102.735		RPD			2.868	20.000		05/14/08
SPK-RPD	Sulfate	14808-79-8	98.903		RPD			0.447	20.000		05/14/08

BATCH QC

BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	05/14/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	05/14/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	05/14/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	05/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	05/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	05/14/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	05/14/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	05/14/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	05/14/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	05/14/08
LCS	Chloride	16887-00-6	198.1863	98.800	% Recov	80.000	120.000				05/14/08
LCS	Fluoride	16984-48-8	99.5363	99.936	% Recov	80.000	120.000				05/14/08
LCS	Nitrogen in Nitrite	NO2-N	96.2145	96.795	% Recov	80.000	120.000				05/14/08
LCS	Nitrogen in Nitrate	NO3-N	92.1573	102.283	% Recov	80.000	120.000				05/14/08
LCS	Sulfate	14808-79-8	396.6827	100.172	% Recov	80.000	120.000				05/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 05/12/08
 Receive Date: 05/12/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002277											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Silver	7440-22-4	955.5	95.550	% Recov	75.000	125.000				06/11/08
MS	Barium	7440-39-3	468.6	93.720	% Recov	75.000	125.000				06/11/08
MS	Beryllium	7440-41-7	511.1	102.220	% Recov	75.000	125.000				06/11/08
MS	Calcium	7440-70-2	400	40.000	% Recov	75.000	125.000				06/11/08
MS	Cadmium	7440-43-9	975.3	97.530	% Recov	75.000	125.000				06/11/08
MS	Cobalt	7440-48-4	997	99.700	% Recov	75.000	125.000				06/11/08
MS	Chromium	7440-47-3	992	99.200	% Recov	75.000	125.000				06/11/08
MS	Copper	7440-50-8	945.5	94.550	% Recov	75.000	125.000				06/11/08
MS	Iron	7439-89-6	944.7	94.470	% Recov	75.000	125.000				06/11/08
MS	Potassium	7440-09-7	9833	98.330	% Recov	75.000	125.000				06/11/08
MS	Magnesium	7439-95-4	510	51.000	% Recov	75.000	125.000				06/11/08
MS	Manganese	7439-96-5	971.2	97.120	% Recov	75.000	125.000				06/11/08
MS	Sodium	7440-23-5	290	29.000	% Recov	75.000	125.000				06/11/08
MS	Nickel	7440-02-0	965.6	96.580	% Recov	75.000	125.000				06/11/08
MS	Antimony	7440-36-0	1040	104.000	% Recov	75.000	125.000				06/11/08
MS	Strontium	7440-24-6	480.7	96.140	% Recov	75.000	125.000				06/11/08
MS	Vanadium	7440-62-2	944.5	94.450	% Recov	75.000	125.000				06/11/08
MS	Zinc	7440-68-6	1021	102.100	% Recov	75.000	125.000				06/11/08
MSD	Silver	7440-22-4	947.9	94.790	% Recov	75.000	125.000				06/11/08
MSD	Barium	7440-39-3	464.9	92.980	% Recov	75.000	125.000				06/11/08
MSD	Beryllium	7440-41-7	504	100.800	% Recov	75.000	125.000				06/11/08
MSD	Calcium	7440-70-2	-50	-5.000	% Recov	75.000	125.000				06/11/08
MSD	Cadmium	7440-43-9	961.9	96.190	% Recov	75.000	125.000				06/11/08
MSD	Cobalt	7440-48-4	978.6	97.860	% Recov	75.000	125.000				06/11/08
MSD	Chromium	7440-47-3	971.3	97.130	% Recov	75.000	125.000				06/11/08
MSD	Copper	7440-50-8	941.9	94.190	% Recov	75.000	125.000				06/11/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 05/12/08
 Receive Date: 05/12/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	945.6	94.560	% Recov	75.000	125.000				06/11/08
MSD	Potassium	7440-09-7	9753	97.530	% Recov	75.000	125.000				06/11/08
MSD	Magnesium	7439-95-4	640	64.000	% Recov	75.000	125.000			*	06/11/08
MSD	Manganese	7439-96-5	954	95.400	% Recov	75.000	125.000				06/11/08
MSD	Sodium	7440-23-5	700	70.000	% Recov	75.000	125.000			*	06/11/08
MSD	Nickel	7440-02-0	942.8	94.280	% Recov	75.000	125.000				06/11/08
MSD	Antimony	7440-36-0	992.7	99.270	% Recov	75.000	125.000				06/11/08
MSD	Strontium	7440-24-6	478.4	95.680	% Recov	75.000	125.000				06/11/08
MSD	Vanadium	7440-62-2	932.4	93.240	% Recov	75.000	125.000				06/11/08
MSD	Zinc	7440-66-6	1024	102.400	% Recov	75.000	125.000				06/11/08
SPK-RPD	Silver	7440-22-4	94.790		RPD			0.799	20.000		06/11/08
SPK-RPD	Barium	7440-39-3	92.980		RPD			0.793	20.000		06/11/08
SPK-RPD	Beryllium	7440-41-7	100.800		RPD			1.399	20.000		06/11/08
SPK-RPD	Calcium	7440-70-2	-5.000		RPD			257.143	20.000	*	06/11/08
SPK-RPD	Cadmium	7440-43-9	96.190		RPD			1.383	20.000		06/11/08
SPK-RPD	Cobalt	7440-48-4	97.880		RPD			1.863	20.000		06/11/08
SPK-RPD	Chromium	7440-47-3	97.130		RPD			2.109	20.000		06/11/08
SPK-RPD	Copper	7440-50-8	94.190		RPD			0.381	20.000		06/11/08
SPK-RPD	Iron	7439-89-6	94.560		RPD			0.095	20.000		06/11/08
SPK-RPD	Potassium	7440-09-7	97.530		RPD			0.817	20.000		06/11/08
SPK-RPD	Magnesium	7439-95-4	64.000		RPD			22.609	20.000	*	06/11/08
SPK-RPD	Manganese	7439-96-5	95.400		RPD			1.787	20.000		06/11/08
SPK-RPD	Sodium	7440-23-5	70.000		RPD			82.828	20.000	*	06/11/08
SPK-RPD	Nickel	7440-02-0	94.280		RPD			2.389	20.000		06/11/08
SPK-RPD	Antimony	7440-36-0	99.270		RPD			4.654	20.000		06/11/08
SPK-RPD	Strontium	7440-24-6	95.680		RPD			0.480	20.000		06/11/08
SPK-RPD	Vanadium	7440-62-2	93.240		RPD			1.289	20.000		06/11/08
SPK-RPD	Zinc	7440-66-6	102.400		RPD			0.293	20.000		06/11/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	5.5	5.500	ug/L						06/11/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	06/11/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	06/11/08
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	06/11/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	06/11/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	06/11/08
BLANK	Chromium	7440-47-3	<4	n/a	ug/L					U	06/11/08
BLANK	Copper	7440-50-8	<4	n/a	ug/L					U	06/11/08
BLANK	Iron	7439-89-6	<9	n/a	ug/L					U	06/11/08
BLANK	Potassium	7440-09-7	<45	n/a	ug/L					U	06/11/08
BLANK	Magnesium	7439-95-4	<6	n/a	ug/L					U	06/11/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	06/11/08
BLANK	Sodium	7440-23-5	<27	n/a	ug/L					U	06/11/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	06/11/08
BLANK	Antimony	7440-36-0	45.9	45.900	ug/L						06/11/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	06/11/08
BLANK	Vanadium	7440-62-2	10	10.000	ug/L						06/11/08
BLANK	Zinc	7440-66-6	5.6	5.600	ug/L						06/11/08
LCS	Silver	7440-22-4	988.8	98.880	% Recov	80.000	120.000				06/11/08
LCS	Barium	7440-39-3	477.7	95.540	% Recov	80.000	120.000				06/11/08
LCS	Beryllium	7440-41-7	524.4	104.880	% Recov	80.000	120.000				06/11/08
LCS	Calcium	7440-70-2	991.3	99.130	% Recov	80.000	120.000				06/11/08
LCS	Cadmium	7440-43-9	988.1	98.810	% Recov	80.000	120.000				06/11/08
LCS	Cobalt	7440-48-4	1009	100.900	% Recov	80.000	120.000				06/11/08
LCS	Chromium	7440-47-3	1018	101.800	% Recov	80.000	120.000				06/11/08
LCS	Copper	7440-50-8	988.8	98.880	% Recov	80.000	120.000				06/11/08
LCS	Iron	7439-89-6	963.9	96.390	% Recov	80.000	120.000				06/11/08
LCS	Potassium	7440-09-7	10350	103.500	% Recov	80.000	120.000				06/11/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Magnesium	7439-95-4	937.5	93.750	% Recov	80.000	120.000				06/11/08
LCS	Manganese	7439-96-5	994.5	99.450	% Recov	80.000	120.000				06/11/08
LCS	Sodium	7440-23-5	1019	101.900	% Recov	80.000	120.000				06/11/08
LCS	Nickel	7440-02-0	992.7	99.270	% Recov	80.000	120.000				06/11/08
LCS	Antimony	7440-38-0	1033	103.300	% Recov	80.000	120.000				06/11/08
LCS	Strontium	7440-24-8	492.4	98.480	% Recov	80.000	120.000				06/11/08
LCS	Vanadium	7440-82-2	978.8	97.880	% Recov	80.000	120.000				06/11/08
LCS	Zinc	7440-68-8	1017	101.700	% Recov	80.000	120.000				06/11/08

Lab ID: W08P002706
BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	940	94.000	% Recov	75.000	125.000				06/11/08
MS	Barium	7440-39-3	466.9	93.380	% Recov	75.000	125.000				06/11/08
MS	Beryllium	7440-41-7	489.2	97.840	% Recov	75.000	125.000				06/11/08
MS	Calcium	7440-70-2	2920	292.000	% Recov	75.000	125.000				06/11/08
MS	Cadmium	7440-43-9	945	94.500	% Recov	75.000	125.000				06/11/08
MS	Cobalt	7440-48-4	939.7	93.970	% Recov	75.000	125.000				06/11/08
MS	Chromium	7440-47-3	933.9	93.390	% Recov	75.000	125.000				06/11/08
MS	Copper	7440-50-8	930.6	93.060	% Recov	75.000	125.000				06/11/08
MS	Iron	7439-89-6	902.8	90.280	% Recov	75.000	125.000				06/11/08
MS	Potassium	7440-09-7	9743	97.430	% Recov	75.000	125.000				06/11/08
MS	Magnesium	7439-95-4	1130	113.000	% Recov	75.000	125.000				06/11/08
MS	Manganese	7439-96-5	937.1	93.710	% Recov	75.000	125.000				06/11/08
MS	Sodium	7440-23-5	1590	159.000	% Recov	75.000	125.000				06/11/08
MS	Nickel	7440-02-0	921.6	92.160	% Recov	75.000	125.000				06/11/08
MS	Antimony	7440-38-0	910.5	91.050	% Recov	75.000	125.000				06/11/08
MS	Strontium	7440-24-8	484.6	96.920	% Recov	75.000	125.000				06/11/08
MS	Vanadium	7440-82-2	924.7	92.470	% Recov	75.000	125.000				06/11/08
MS	Zinc	7440-68-8	976.1	97.610	% Recov	75.000	125.000				06/11/08
MSD	Silver	7440-22-4	953.9	95.390	% Recov	75.000	125.000				06/11/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 01/03/08
 Receive Date: 01/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Barium	7440-39-3	476.9	95.380	% Recov	75.000	125.000				06/11/08
MSD	Beryllium	7440-41-7	501	100.200	% Recov	75.000	125.000				06/11/08
MSD	Calcium	7440-70-2	3760	376.000	% Recov	75.000	125.000			*	06/11/08
MSD	Cadmium	7440-43-9	967.4	96.740	% Recov	75.000	125.000				06/11/08
MSD	Cobalt	7440-48-4	967.8	96.780	% Recov	75.000	125.000				06/11/08
MSD	Chromium	7440-47-3	962.5	96.250	% Recov	75.000	125.000				06/11/08
MSD	Copper	7440-50-8	950.3	95.030	% Recov	75.000	125.000				06/11/08
MSD	Iron	7439-89-6	929.8	92.980	% Recov	75.000	125.000				06/11/08
MSD	Potassium	7440-09-7	10113	101.130	% Recov	75.000	125.000				06/11/08
MSD	Magnesium	7439-95-4	1430	143.000	% Recov	75.000	125.000			*	06/11/08
MSD	Manganese	7439-96-5	954	95.400	% Recov	75.000	125.000				06/11/08
MSD	Sodium	7440-23-5	2180	218.000	% Recov	75.000	125.000			*	06/11/08
MSD	Nickel	7440-02-0	947.6	94.760	% Recov	75.000	125.000				06/11/08
MSD	Antimony	7440-36-0	941.8	94.180	% Recov	75.000	125.000				06/11/08
MSD	Strontium	7440-24-6	499.3	99.860	% Recov	75.000	125.000				06/11/08
MSD	Vanadium	7440-62-2	951.3	95.130	% Recov	75.000	125.000				06/11/08
MSD	Zinc	7440-66-6	1005	100.500	% Recov	75.000	125.000				06/11/08
SPK-RPD	Silver	7440-22-4	95.390		RPD			1.468	20.000		06/11/08
SPK-RPD	Barium	7440-39-3	95.380		RPD			2.119	20.000		06/11/08
SPK-RPD	Beryllium	7440-41-7	100.200		RPD			2.383	20.000		06/11/08
SPK-RPD	Calcium	7440-70-2	376.000		RPD			25.150	20.000	*	06/11/08
SPK-RPD	Cadmium	7440-43-9	96.740		RPD			2.343	20.000		06/11/08
SPK-RPD	Cobalt	7440-48-4	96.780		RPD			2.946	20.000		06/11/08
SPK-RPD	Chromium	7440-47-3	96.250		RPD			3.016	20.000		06/11/08
SPK-RPD	Copper	7440-50-8	95.030		RPD			2.095	20.000		06/11/08
SPK-RPD	Iron	7439-89-6	92.980		RPD			2.947	20.000		06/11/08
SPK-RPD	Potassium	7440-09-7	101.130		RPD			3.727	20.000		06/11/08
SPK-RPD	Magnesium	7439-95-4	143.000		RPD			23.438	20.000	*	06/11/08
SPK-RPD	Manganese	7439-96-5	95.400		RPD			1.787	20.000		06/11/08
SPK-RPD	Sodium	7440-23-5	218.000		RPD			31.300	20.000	*	06/11/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 01/03/08
 Receive Date: 01/03/08

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	94.760		RPD			2.782	20.000		06/11/08
SPK-RPD	Antimony	7440-36-0	94.180		RPD			3.380	20.000		06/11/08
SPK-RPD	Strontium	7440-24-6	99.860		RPD			2.988	20.000		06/11/08
SPK-RPD	Vanadium	7440-62-2	95.130		RPD			2.836	20.000		06/11/08
SPK-RPD	Zinc	7440-66-6	100.500		RPD			2.918	20.000		06/11/08
BATCH QC											
BLANK	Silver	7440-22-4	7.3	7.300	ug/L						06/11/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	06/11/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	06/11/08
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	06/11/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	06/11/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	06/11/08
BLANK	Chromium	7440-47-3	4.6	4.600	ug/L						06/11/08
BLANK	Copper	7440-50-8	<4	n/a	ug/L					U	06/11/08
BLANK	Iron	7439-89-6	<9	n/a	ug/L					U	06/11/08
BLANK	Potassium	7440-09-7	<45	n/a	ug/L					U	06/11/08
BLANK	Magnesium	7439-95-4	<6	n/a	ug/L					U	06/11/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	06/11/08
BLANK	Sodium	7440-23-5	<27	n/a	ug/L					U	06/11/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	06/11/08
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	06/11/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	06/11/08
BLANK	Vanadium	7440-62-2	<7	n/a	ug/L					U	06/11/08
BLANK	Zinc	7440-66-6	4.1	4.100	ug/L						06/11/08
LCS	Silver	7440-22-4	954.4	95.440	% Recov	80.000	120.000				06/11/08
LCS	Barium	7440-39-3	465.1	93.020	% Recov	80.000	120.000				06/11/08
LCS	Beryllium	7440-41-7	499.5	99.900	% Recov	80.000	120.000				06/11/08
LCS	Calcium	7440-70-2	992.6	99.260	% Recov	80.000	120.000				06/11/08
LCS	Cadmium	7440-43-9	949	94.900	% Recov	80.000	120.000				06/11/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Cobalt	7440-48-4	944.9	94.490	% Recov	80.000	120.000				06/11/08
LCS	Chromium	7440-47-3	945.7	94.570	% Recov	80.000	120.000				06/11/08
LCS	Copper	7440-50-8	948.8	94.880	% Recov	80.000	120.000				06/11/08
LCS	Iron	7439-89-6	953.6	95.360	% Recov	80.000	120.000				06/11/08
LCS	Potassium	7440-09-7	9969	99.690	% Recov	80.000	120.000				06/11/08
LCS	Magnesium	7439-95-4	927.6	92.760	% Recov	80.000	120.000				06/11/08
LCS	Manganese	7439-96-5	948.5	94.850	% Recov	80.000	120.000				06/11/08
LCS	Sodium	7440-23-5	962.1	96.210	% Recov	80.000	120.000				06/11/08
LCS	Nickel	7440-02-0	956.5	95.650	% Recov	80.000	120.000				06/11/08
LCS	Antimony	7440-36-0	983.4	98.340	% Recov	80.000	120.000				06/11/08
LCS	Strontium	7440-24-6	475.1	95.020	% Recov	80.000	120.000				06/11/08
LCS	Vanadium	7440-62-2	940.5	94.050	% Recov	80.000	120.000				06/11/08
LCS	Zinc	7440-66-6	958.4	95.840	% Recov	80.000	120.000				06/11/08

Lab ID: W08P002315
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	914.9	91.490	% Recov	75.000	125.000				06/23/08
MS	Barium	7440-39-3	464.9	92.980	% Recov	75.000	125.000				06/23/08
MS	Beryllium	7440-41-7	472.3	94.460	% Recov	75.000	125.000				06/23/08
MS	Calcium	7440-70-2	2760	276.000	% Recov	75.000	125.000				06/23/08
MS	Cadmium	7440-43-9	924.7	92.470	% Recov	75.000	125.000				06/23/08
MS	Cobalt	7440-48-4	884.1	88.410	% Recov	75.000	125.000				06/23/08
MS	Chromium	7440-47-3	892.8	89.280	% Recov	75.000	125.000				06/23/08
MS	Copper	7440-50-8	925.7	92.570	% Recov	75.000	125.000				06/23/08
MS	Iron	7439-89-6	950.5	95.050	% Recov	75.000	125.000				06/23/08
MS	Potassium	7440-09-7	9720	97.200	% Recov	75.000	125.000				06/23/08
MS	Magnesium	7439-95-4	1150	115.000	% Recov	75.000	125.000				06/23/08
MS	Manganese	7439-96-5	908.8	90.880	% Recov	75.000	125.000				06/23/08
MS	Sodium	7440-23-5	1310	131.000	% Recov	75.000	125.000				06/23/08
MS	Nickel	7440-02-0	902.1	90.210	% Recov	75.000	125.000				06/23/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Antimony	7440-36-0	968.7	96.870	% Recov	75.000	125.000				06/23/08
MS	Strontium	7440-24-6	481.4	96.280	% Recov	75.000	125.000				06/23/08
MS	Vanadium	7440-62-2	897.9	89.790	% Recov	75.000	125.000				06/23/08
MS	Zinc	7440-66-6	950.7	95.070	% Recov	75.000	125.000				06/23/08
MSD	Silver	7440-22-4	928.2	92.820	% Recov	75.000	125.000				06/23/08
MSD	Barium	7440-39-3	473.2	94.640	% Recov	75.000	125.000				06/23/08
MSD	Beryllium	7440-41-7	476.3	95.260	% Recov	75.000	125.000				06/23/08
MSD	Calcium	7440-70-2	2670	267.000	% Recov	75.000	125.000				06/23/08
MSD	Cadmium	7440-43-9	927.8	92.780	% Recov	75.000	125.000				06/23/08
MSD	Cobalt	7440-48-4	885	88.500	% Recov	75.000	125.000				06/23/08
MSD	Chromium	7440-47-3	895.8	89.580	% Recov	75.000	125.000				06/23/08
MSD	Copper	7440-50-8	938.5	93.850	% Recov	75.000	125.000				06/23/08
MSD	Iron	7439-89-6	925.7	92.570	% Recov	75.000	125.000				06/23/08
MSD	Potassium	7440-09-7	9920	99.200	% Recov	75.000	125.000				06/23/08
MSD	Magnesium	7439-95-4	1520	152.000	% Recov	75.000	125.000				06/23/08
MSD	Manganese	7439-96-5	914.1	91.410	% Recov	75.000	125.000				06/23/08
MSD	Sodium	7440-23-5	1480	148.000	% Recov	75.000	125.000				06/23/08
MSD	Nickel	7440-02-0	908.4	90.840	% Recov	75.000	125.000				06/23/08
MSD	Antimony	7440-36-0	954	95.400	% Recov	75.000	125.000				06/23/08
MSD	Strontium	7440-24-6	491.4	98.280	% Recov	75.000	125.000				06/23/08
MSD	Vanadium	7440-62-2	916.6	91.660	% Recov	75.000	125.000				06/23/08
MSD	Zinc	7440-66-6	952.6	95.260	% Recov	75.000	125.000				06/23/08
SPK-RPD	Silver	7440-22-4	92.820		RPD			1.443	20.000		06/23/08
SPK-RPD	Barium	7440-39-3	94.640		RPD			1.770	20.000		06/23/08
SPK-RPD	Beryllium	7440-41-7	95.260		RPD			0.843	20.000		06/23/08
SPK-RPD	Calcium	7440-70-2	267.000		RPD			3.315	20.000		06/23/08
SPK-RPD	Cadmium	7440-43-9	92.780		RPD			0.335	20.000		06/23/08
SPK-RPD	Cobalt	7440-48-4	88.500		RPD			0.102	20.000		06/23/08
SPK-RPD	Chromium	7440-47-3	89.580		RPD			0.335	20.000		06/23/08
SPK-RPD	Copper	7440-50-8	93.850		RPD			1.373	20.000		06/23/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Iron	7439-89-6	92.570		RPD			2.644	20.000		06/23/08
SPK-RPD	Potassium	7440-09-7	99.200		RPD			2.037	20.000		06/23/08
SPK-RPD	Magnesium	7439-95-4	152.000		RPD			27.715	20.000		06/23/08
SPK-RPD	Manganese	7439-96-5	91.410		RPD			0.581	20.000		06/23/08
SPK-RPD	Sodium	7440-23-5	148.000		RPD			12.186	20.000		06/23/08
SPK-RPD	Nickel	7440-02-0	90.840		RPD			0.696	20.000		06/23/08
SPK-RPD	Antimony	7440-36-0	95.400		RPD			1.529	20.000		06/23/08
SPK-RPD	Strontium	7440-24-6	98.280		RPD			2.056	20.000		06/23/08
SPK-RPD	Vanadium	7440-62-2	91.660		RPD			2.061	20.000		06/23/08
SPK-RPD	Zinc	7440-66-6	95.260		RPD			0.200	20.000		06/23/08

BATCH QC

BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	06/23/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	06/23/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	06/23/08
BLANK	Calcium	7440-70-2	38.9	38.900	ug/L						06/23/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	06/23/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	06/23/08
BLANK	Chromium	7440-47-3	<4	n/a	ug/L					U	06/23/08
BLANK	Copper	7440-50-8	<4	n/a	ug/L					U	06/23/08
BLANK	Iron	7439-89-6	<9	n/a	ug/L					U	06/23/08
BLANK	Potassium	7440-09-7	90.7	90.700	ug/L						06/23/08
BLANK	Magnesium	7439-95-4	11.3	11.300	ug/L						06/23/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	06/23/08
BLANK	Sodium	7440-23-5	<27	n/a	ug/L					U	06/23/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	06/23/08
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	06/23/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	06/23/08
BLANK	Vanadium	7440-62-2	<7	n/a	ug/L					U	06/23/08
BLANK	Zinc	7440-66-6	<4	n/a	ug/L					U	06/23/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Silver	7440-22-4	937.2	93.720	% Recov	80.000	120.000				06/23/08
LCS	Barium	7440-39-3	459.7	91.940	% Recov	80.000	120.000				06/23/08
LCS	Beryllium	7440-41-7	484.1	96.820	% Recov	80.000	120.000				06/23/08
LCS	Calcium	7440-70-2	1043	104.300	% Recov	80.000	120.000				06/23/08
LCS	Cadmium	7440-43-9	945.4	94.540	% Recov	80.000	120.000				06/23/08
LCS	Cobalt	7440-48-4	927.1	92.710	% Recov	80.000	120.000				06/23/08
LCS	Chromium	7440-47-3	908.4	90.840	% Recov	80.000	120.000				06/23/08
LCS	Copper	7440-50-8	946.5	94.650	% Recov	80.000	120.000				06/23/08
LCS	Iron	7439-89-6	955.6	95.560	% Recov	80.000	120.000				06/23/08
LCS	Potassium	7440-09-7	10000	100.000	% Recov	80.000	120.000				06/23/08
LCS	Magnesium	7439-95-4	957.2	95.720	% Recov	80.000	120.000				06/23/08
LCS	Manganese	7439-96-5	923	92.300	% Recov	80.000	120.000				06/23/08
LCS	Sodium	7440-23-5	948.6	94.860	% Recov	80.000	120.000				06/23/08
LCS	Nickel	7440-02-0	958.8	95.880	% Recov	80.000	120.000				06/23/08
LCS	Antimony	7440-36-0	976.6	97.660	% Recov	80.000	120.000				06/23/08
LCS	Strontium	7440-24-6	471.1	94.220	% Recov	80.000	120.000				06/23/08
LCS	Vanadium	7440-62-2	924.8	92.480	% Recov	80.000	120.000				06/23/08
LCS	Zinc	7440-66-6	968	96.800	% Recov	80.000	120.000				06/23/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: ICP-200.8 MS All possible meta

Sample Date: 05/12/08
 Receive Date: 05/12/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002260											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	37.35	93.375	% Recov	70.000	130.000				05/28/08
MS	Uranium	7440-61-1	38.5	96.250	% Recov	70.000	130.000				05/28/08
MSD	Arsenic	7440-38-2	37.8	94.500	% Recov	70.000	130.000				05/28/08
MSD	Uranium	7440-61-1	34	85.000	% Recov	70.000	130.000				05/28/08
SPK-RPD	Arsenic	7440-38-2	94.500		RPD			1.198	20.000		05/28/08
SPK-RPD	Uranium	7440-61-1	85.000		RPD			12.414	20.000		05/28/08
Lab ID: W08P002306											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	37.66	94.150	% Recov	70.000	130.000				05/28/08
MS	Uranium	7440-61-1	39.346	98.365	% Recov	70.000	130.000				05/28/08
MSD	Arsenic	7440-38-2	37.1	92.750	% Recov	70.000	130.000				05/28/08
MSD	Uranium	7440-61-1	39.926	99.815	% Recov	70.000	130.000				05/28/08
SPK-RPD	Arsenic	7440-38-2	92.750		RPD			1.498	20.000		05/28/08
SPK-RPD	Uranium	7440-61-1	99.815		RPD			1.463	20.000		05/28/08
BATCH QC											
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	05/28/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	05/28/08
LCS	Arsenic	7440-38-2	38.12	95.300	% Recov	85.000	115.000				05/28/08
LCS	Uranium	7440-61-1	38.3	95.750	% Recov	85.000	115.000				05/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080973
 Matrix: WATER
 Test: Total Alkalinity as mg/L CaCO₃

Sample Date: 05/12/08
 Receive Date: 05/12/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002274											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	118.8		RPD			0.838	20.000		05/15/08
Lab ID: W08P002327											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	117.2		RPD			0.342	20.000		05/15/08
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	115.1	100.087	%Recove	80.000	120.000				05/15/08
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	115.7	100.609	%Recove	80.000	120.000				05/15/08
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	115.7	100.609	%Recove	80.000	120.000				05/15/08
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	116.3	101.130	%Recove	80.000	120.000				05/15/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20080973
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-AES: [Samples W08P2303-2304] High antimony, silver, vanadium, and zinc preparation blank results; "C" flag if applicable. No zirconium present in the LCS. Sodium, magnesium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards are used to ensure calcium, sodium, and magnesium linearity because sample results are greater than the calibration standard.</p> <p>ICP-AES: [Samples W08P2305-2306; 2310-2314] High chromium, silver, and zinc preparation blank results; "C" flag if applicable. No zirconium present in the LCS. Sodium, magnesium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check standard is used to ensure sodium, calcium, and magnesium linearity because sample results are greater than the calibration standard.</p> <p>ICP-AES: [Samples W08P2315-2317] High magnesium, potassium, and calcium preparation blank results; "C" flag if applicable. No zirconium present in the LCS.</p>

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20080973
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
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Sodium, magnesium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. High and check standards are used to ensure sodium, calcium, 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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wgppc/5.2 Report#: WSCF20080973

Report Date: 27-jun-2008

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-038
Sample #: W08P002304
Client ID: B1V6H7

GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973
Department: Organic
Sampled: 05/13/08
Received: 05/13/08

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		05/22/08
Trichloroethene	79-01-6	LA-523-455	J	1.60	ug/L			1.00	1.0		05/22/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Carbon tetrachloride	56-23-5	LA-523-455		640	ug/L			1.00	10		05/23/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Chloroform	67-66-3	LA-523-455	J	4.00	ug/L			1.00	1.0		05/22/08
1,1,1-Trichloroethane	71-55-8	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e + 02		05/22/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		05/22/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08

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

C - The Analyte was found in the Associated Blank.(inorg)
 D - Analyte was identified at a secondary dilution factor(inorg)
 U - Analyzed for but not detected above limiting criteria(inorg)
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Report WGPP/ver. 5.2
 GPAP

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: 108-038

Sample # W08P002304

Client ID: B1V6H7

GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Organic

Sampled: 05/13/08

Received: 05/13/08

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		05/22/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08

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Report WGPP/ver. 5.2

GPAP

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I08-038

Sample # W08P002306

Client ID: B1V6F2 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Organic

Sampled: 05/13/08

Received: 05/13/08

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		05/22/08
Trichloroethene	79-01-6	LA-523-455		7.60	ug/L			1.00	1.0		05/22/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Carbon tetrachloride	58-23-5	LA-523-455		1.30e+03	ug/L			1.00	20		05/23/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Chloroform	67-66-3	LA-523-455		11.0	ug/L			1.00	1.0		05/22/08
1,1,1-Trichloroethane	71-55-8	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		05/22/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		05/22/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: I08-038

Sample # W08P002306

Client ID: B1V6F2 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Organic

Sampled: 05/13/08

Received: 05/13/08

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		05/22/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-004

Sample #: W08P002307

Client ID: B1V376 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Organic

Sampled: 05/13/08

Received: 05/13/08

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		05/22/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Carbon tetrachloride	58-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
Methylenechloride	75-09-2	LA-523-455		15.0	ug/L			1.00	1.0		05/22/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		05/22/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		05/22/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-004
Sample # W08P002307
Client ID: B1V376 GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20080973
Department: Organic
Sampled: 05/13/08
Received: 05/13/08

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		05/22/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		05/22/08

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 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

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

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent E6-35

Group #: WSCF20080973
Department: Organic

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units	
W08P002304	B1V6H7	GPP-PNNL TRENT	VOA Ground Water Protection	SMP 13.458 Trichloromethane	67-66-3	13.4583	J	7.5	ug/L
W08P002304	B1V6H7	GPP-PNNL TRENT	VOA Ground Water Protection	SMP 14.574 Propane, 1,1,2,2-tetra	40723-63-5	14.57401		47	ug/L

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

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Report Date: 27-jun-2008

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080973
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002304											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	26.770	107.000	% Recov	63.000	117.000				05/22/08
MS	Benzene	71-43-2	24.350	97.400	% Recov	75.000	129.000				05/22/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	52.640	105.000	% Recov	75.000	125.000				05/22/08
MS	Chlorobenzene	108-90-7	25.590	102.000	% Recov	79.000	119.000				05/22/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.790	114.000	% Recov	75.000	125.000				05/22/08
MS	Toluene-d8(Surr)	2037-26-5	51.670	103.000	% Recov	75.000	125.000				05/22/08
MS	Toluene	108-88-3	24.840	99.400	% Recov	76.000	120.000				05/22/08
MS	Trichloroethene	79-01-6	22.680	90.700	% Recov	73.000	123.000				05/22/08
MSD	1,1-Dichloroethene	75-35-4	27.900	112.000	% Recov	63.000	117.000				05/22/08
MSD	Benzene	71-43-2	24.640	98.600	% Recov	75.000	129.000				05/22/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	53.350	107.000	% Recov	75.000	125.000				05/22/08
MSD	Chlorobenzene	108-90-7	26.180	105.000	% Recov	79.000	119.000				05/22/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	57.220	114.000	% Recov	75.000	125.000				05/22/08
MSD	Toluene-d8(Surr)	2037-26-5	51.350	103.000	% Recov	75.000	125.000				05/22/08
MSD	Toluene	108-88-3	25.260	101.000	% Recov	76.000	120.000				05/22/08
MSD	Trichloroethene	79-01-6	22.770	91.100	% Recov	73.000	123.000				05/22/08
SPK-RPD	1,1-Dichloroethene	75-35-4	112.000		RPD			4.566	20.000		05/22/08
SPK-RPD	Benzene	71-43-2	98.600		RPD			1.224	20.000		05/22/08
SPK-RPD	Chlorobenzene	108-90-7	105.000		RPD			2.899	20.000		05/22/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	114.000		RPD			0.000	20.000		05/22/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	103.000		RPD			0.000	20.000		05/22/08
SPK-RPD	Toluene	108-88-3	101.000		RPD			1.597	20.000		05/22/08
SPK-RPD	Trichloroethene	79-01-6	91.100		RPD			0.440	20.000		05/22/08
SURR	4-Bromofluorobenzene(Surr)	460-00-4	53.640	107.000	% Recov	75.000	125.000				05/22/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	58.480	117.000	% Recov	75.000	125.000				05/22/08
SURR	Toluene-d8(Surr)	2037-26-5	51.600	103.000	% Recov	75.000	125.000				05/22/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080973
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002306											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	53.120	106.000	% Recov	75.000	125.000				05/22/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.480	113.000	% Recov	75.000	125.000				05/22/08
SURR	Toluene-d8(Surr)	2037-26-5	51.890	104.000	% Recov	75.000	125.000				05/22/08
Lab ID: W08P002307											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	53.330	107.000	% Recov	75.000	125.000				05/22/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.820	112.000	% Recov	75.000	125.000				05/22/08
SURR	Toluene-d8(Surr)	2037-26-5	52.060	104.000	% Recov	75.000	125.000				05/22/08
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	05/22/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	05/22/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	05/22/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	05/22/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	05/22/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	05/22/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	05/22/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	05/22/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	53.740	107.000	% Recov	75.000	125.000				05/22/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	05/22/08
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	05/22/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080973
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	57.730	115.000	% Recov	75.000	125.000				05/22/08
BLANK	trans-1,2-Dichloroethylene	156-80-5	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	05/22/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	05/22/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	05/22/08
BLANK	Toluene-d8(Surr)	2037-26-5	51.140	102.000	% Recov	75.000	125.000				05/22/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	05/22/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	05/22/08
LCS	1,1-Dichloroethene	75-35-4	24.880	99.500	% Recov	75.000	125.000				05/22/08
LCS	Benzene	71-43-2	24.860	99.400	% Recov	75.000	125.000				05/22/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	52.750	106.000	% Recov	75.000	125.000				05/22/08
LCS	Chlorobenzene	108-90-7	26.090	104.000	% Recov	75.000	125.000				05/22/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.180	112.000	% Recov	75.000	125.000				05/22/08
LCS	Toluene-d8(Surr)	2037-26-5	51.620	103.000	% Recov	75.000	125.000				05/22/08
LCS	Toluene	108-88-3	25.190	101.000	% Recov	75.000	125.000				05/22/08
LCS	Trichloroethene	79-01-6	21.140	84.600	% Recov	75.000	125.000				05/22/08

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-038
Sample # W08P002304
Client ID: B1V6H7

Group #: WSCF20080973
Department: Radiochemistry
Sampled: 05/13/08
Received: 05/13/08

GPP-PNNL TRENT **Matrix: WATER**
WSCF

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		180	pCi/L	+ -36.0	pCi/L	1.00	5.9		05/31/08
Tritium by Liq Set column prep											
Tritium	10028-17-8	LA-508-421		4.70e+03	pCi/L	+ -987	pCi/L	1.00	2.0e+02		05/30/08

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

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

D - Analyte was identified at a secondary dilution factor
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: 108-038

Sample # W08P002306

Client ID: B1V6F2 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Radiochemistry

Sampled: 05/13/08

Received: 05/13/08

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		360	pCi/L	+ -72.0	pCi/L	1.00	5.9		05/31/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.20e+04	pCi/L	+ -4.40e+03	pCi/L	1.00	2.0e+02		05/30/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002308

Client ID: BIV973 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Radiochemistry

Sampled: 05/13/08

Received: 05/13/08

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		2.20e+04	pCi/L	+4.40e+03	pCi/L	1.00	2.1e+02		05/24/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P002311
Client ID: B1V948

Group #: WSCF20080973
Department: Radiochemistry
Sampled: 05/13/08
Received: 05/13/08

GPP-PNNL TRENT **Matrix: WATER**
WSCF

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		100	pCi/L	+ -21.0	pCi/L	1.00	5.9		05/31/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		3.20e+04	pCi/L	+ -6.40e+03	pCi/L	1.00	2.1e+02		05/24/08

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

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

D - Analyte was identified at a secondary dilution factor
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria.

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

Report WGPP/ver. 5.2
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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002313

Client ID: B1V821 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Radiochemistry

Sampled: 05/13/08

Received: 05/13/08

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		1.20e+03	pCi/L	+ -240	pCi/L	1.00	5.9		05/31/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		9.30e+04	pCi/L	+ -1.86e+04	pCi/L	1.00	2.1e+02		05/24/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

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

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002315

Client ID: B1V810 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Radiochemistry

Sampled: 05/13/08

Received: 05/13/08

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	-3.90	pCi/L	+ -5.07	pCi/L	1.00	10		05/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		1.00e+03	pCi/L	+ -100	pCi/L	1.00	12		05/19/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		4.00e+03	pCi/L	+ -800	pCi/L	1.00	5.9		05/31/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		4.10e+05	pCi/L	+ -8.20e+04	pCi/L	1.00	2.1e+02		05/24/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P002317

Client ID: B1V814 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20080973

Department: Radiochemistry

Sampled: 05/13/08

Received: 05/13/08

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	-12.0	pCi/L	+ -12.0	pCi/L	1.00	18		05/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		3.70e+03	pCi/L	+ -370	pCi/L	1.00	20		05/19/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		7.20e+03	pCi/L	+ -1.44e+03	pCi/L	1.00	5.9		05/31/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.00e+06	pCi/L	+ -2.00e+05	pCi/L	1.00	2.1e+02		05/24/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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)

D - Analyte was identified at a secondary dilution factor

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

U - Analyzed for but not detected above limiting criteria.

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080973
 Matrix: WATER
 Test: Gross Alpha on Alpha Plateau

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002286											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	U-2.2		RPD			n/a	20.000		05/21/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U-2.4E-01	n/a	pCi/L	-100.000	100.000				05/21/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	100.0	96.805	% Recov	80.000	120.000				05/21/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080973
 Matrix: WATER
 Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002286											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	2.0E+04		RPD			4.878	20.000		05/19/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U-2.0E-01	n/a	pCi/L	-10.000	10.000				05/19/08
LCS	Gross beta	12587-47-2	344	115.012	% Recov	80.000	120.000				05/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080973
 Matrix: WATER
 Test: TC99 by Liquid Scin.

Sample Date: 05/13/08
 Receive Date: 05/13/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002280											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	66.8		RPD			6.971	20.000		05/31/08
MS	Tc-99 by Liquid Scin.	14133-76-7	822.4	109.325	% Recov	75.000	125.000				05/31/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U1.4	n/a	pCi/L	-10.000	10.000				05/31/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	198.3	105.423	% Recov	80.000	120.000				05/31/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080973
 Matrix: WATER
 Test: Tritium by Liq Sct column prep

Sample Date: 05/12/08
 Receive Date: 05/12/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002276											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	1.2E+03		RPD			0.000	20.000		05/30/08
MS	Tritium	10028-17-8	24020.0	92.348	% Recov	75.000	125.000				05/30/08
BATCH QC											
BLANK	Tritium	10028-17-8	U-1.3E+01	n/a	pCi/L	-10.000	1000.000				05/30/08
LCS	Tritium	10028-17-8	3350.0	97.166	% Recov	80.000	120.000				05/30/08
Lab ID: W08P002308											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	2.2E+04		RPD			0.000	20.000		05/24/08
MS	Tritium	10028-17-8	24700.0	95.021	% Recov	75.000	125.000				05/24/08
BATCH QC											
BLANK	Tritium	10028-17-8	U-3.9E+01	n/a	pCi/L	-10.000	1000.000				05/24/08
LCS	Tritium	10028-17-8	3210.0	93.162	% Recov	80.000	120.000				05/24/08

M4W41-SLF-08-654

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 12 pages
Including cover page

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

*File
13
6/26/08*

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20080973

The following samples were received from you on 05/13/08. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P002303	B1V6H6	GPP-PNNL @GPP6010	TRENT Water	05/13/08
W08P002304	B1V6H7	GPP-PNNL @GPP6010	TRENT Water	05/13/08
W08P002305	B1V6F1	GPP-PNNL @2008	TRENT Water	05/13/08
W08P002306	B1V6F2	GPP-PNNL @2008 @VOA-GPP	TRENT Water	05/13/08
W08P002307	B1V376	GPP-PNNL @VOA-GPP	TRENT Water	05/13/08
W08P002308	B1V973	GPP-PNNL @H3-33	TRENT Water	05/13/08
W08P002309	B1V825	GPP-PNNL ALKALI	TRENT Water	05/13/08
W08P002310	B1V947	GPP-PNNL @GPP6010	TRENT Water	05/13/08
W08P002311	B1V948	GPP-PNNL @GPP6010	TRENT Water	05/13/08
W08P002312	B1V820	GPP-PNNL @GPP6010	TRENT Water	05/13/08
W08P002313	B1V821	GPP-PNNL @GPP6010	TRENT Water	05/13/08
W08P002314	B1V809	GPP-PNNL @GPP6010	TRENT Water	05/13/08
W08P002315	B1V810	GPP-PNNL @AB-32 @TC99-30	TRENT Water	05/13/08
W08P002316	B1V813	GPP-PNNL @GPP6010	TRENT Water	05/13/08

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20080973

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P002317	B1V814	GPP-PNNL @AB-32 @TC99-30	TRENT Water @ALPHA ALKALI	05/13/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AB-32	Gross Alpha/Gross Beta. (AB32)
@ALPHA	Gross Alpha on Alpha Plateau
@GPP6010	ICP Metals Analysis, Grd H2O P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@TC99-30	TC99 by Liquid Scin.
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3

