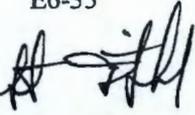


RECEIVED SEPTEMBER 3, 2008

Fluor Hanford
 WSCF Analytical Lab
 P.O. Box 1000
 Richland, WA 99352
 Telephone 373-7495
 Telefax 372-0456

FLUOR**Memorandum**

To: H. Hampt E6-35 Date: M4W41-SLF-08-939
 September 3, 2008

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

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20081312

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

2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20081312:

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

SLF/grf

Attachments 4

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M4W41-SLF-08-939

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081312
Data Deliverable Date: 15-aug-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I08-041	B1VKM5	W08P003231	WATER
	B1VKM8	W08P003232	WATER
	B1VKN0	W08P003233	WATER
S08-006	B1VM60	W08P003246	WATER
	B1VM61	W08P003248	WATER
	B1VM63	W08P003245	WATER
	B1VM64	W08P003247	WATER
	B1VM72	W08P003243	WATER
	B1VM73	W08P003244	WATER
	B1VM75 GP	W08P003235	WATER
	B1VM76 GP	W08P003236	WATER
	B1VM78 GP	W08P003237	WATER
	B1VM79 GP	W08P003240	WATER
	B1VM81 GP	W08P003238	WATER
	B1VM82 GP	W08P003241	WATER
	B1VM87 GP	W08P003239	WATER
	B1VM88 GP	W08P003242	WATER
W08-005	B1VHJ9	W08P003234	WATER
	B1VHK0	W08P003249	WATER

M4W41-SLF-08-939

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Nineteen (19) groundwater samples were received at the WSCF Laboratory on June 30, 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 4) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 5.

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 15 through 17, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 39 through 40 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.

All QC controls are within the established limits.

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 41 through 50 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples
 - B1VM88 of this SDG
 - Calcium sample concentration exceeded spiking levels by a factor of 4. Spike recoveries are no valid. Check standard was analyzed to ensure linearity, because

the sample result was greater than the calibration standard. Calcium result was X flagged.

- Sodium – Spike Relative Percent Differences (RPDs) exceeded established laboratory limits. No flags issued.
 - All other QC controls are within the established limits.
- B1VND9 (SDG# 20081297)
- Calcium, Magnesium and Sodium sample results exceeded spiking levels by a factor of 4. Spike recoveries are no valid. Check standard was analyzed to ensure linearity, because the sample results were greater than the calibration standard. Sample results were X flagged.
 - Silver contamination detected in the Blank was evaluated and there was no affect on sample result.
 - Silver – Matrix Spike and Matrix Spike Duplicate recoveries were less than established laboratory limits. Affected sample result was N flagged.
 - All other QC controls are within the established limits.
- B1VM76 of this SDG
- Calcium and Sodium sample results exceeded spiking levels by a factor of 4. Spike recoveries are no valid. Check standard was analyzed to ensure linearity, because the sample results were greater than the calibration standard. Calcium and Sodium results were X flagged.
 - Matrix Spike recovery for Magnesium exceeded established laboratory limits. Affected sample results were N flagged.
 - All other QC controls are within the established limits.

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

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

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 52 for QC details. Analytical Note(s):

- Duplicate QC was analyzed on sample# B1VLL6 (SDG# 20081297).

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 72 through 75 for QC details.

All QC controls are within the established limits.

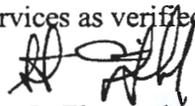
Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 86 through 90 for QC details. Analytical Note(s):

- Gross Alpha/Gross Beta – Duplicate QC was analyzed on sample# B1VM29 (SDG# 20081287).
- Strontium89/90 and 85 (tracer) – Duplicate QC was analyzed on sample# B1VM29 (SDG# 20081287).
- Technetium-99 – Duplicates and Matrix Spikes were analyzed on samples B1VKN0 of this SDG and B1VJK8 (SDG# 20081288). Matrix Spike recovery for B1VJK8 was less than established laboratory limits due to high sample activity. No flags issued.
- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1V6P3 (SDG# 20081297).

All other QC controls are within the established limits.

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


Scot L. Fitzgerald
WSCF Analytical Laboratory Manager


Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-939

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 84 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: *S.F. Fitzgerald 9/3/08*
Client Services: *P.D. Mix 9/3/2008*

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

This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. Information designation of this report is the responsibility of the customer.

Report#: WSCF20081312
Report Date: 3-sep-2008
Report WGPP/ver. 5.2
GPAP

Page 1

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081312

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36919	2	37341	41691	BLANK		Anions by Ion Chromatography
36919	14	37341	41691	BLANK		Anions by Ion Chromatography
36919	3	37341	41691	LCS		Anions by Ion Chromatography
36919	5	37341	41691	DUP	W08P003236	Anions by Ion Chromatography
36919	6	37341	41691	MS	W08P003236	Anions by Ion Chromatography
36919	7	37341	41691	MSD	W08P003236	Anions by Ion Chromatography
36919	4	37341	41691	SAMPLE	W08P003236	Anions by Ion Chromatography
36919	7	37341	41691	SPK-RPD	W08P003236	Anions by Ion Chromatography
36919	8	37341	41691	SAMPLE	W08P003240	Anions by Ion Chromatography
36919	9	37341	41691	SAMPLE	W08P003241	Anions by Ion Chromatography
36919	10	37341	41691	SAMPLE	W08P003242	Anions by Ion Chromatography
36919	11	37341	41691	SAMPLE	W08P003244	Anions by Ion Chromatography
36919	12	37341	41691	SAMPLE	W08P003247	Anions by Ion Chromatography
36919	13	37341	41691	SAMPLE	W08P003248	Anions by Ion Chromatography
36951	1	37374	41723	LCS		Total Alkalinity as mg/L CaCO3
36951	13	37374	41723	LCS		Total Alkalinity as mg/L CaCO3
36951	23	37374	41723	LCS		Total Alkalinity as mg/L CaCO3
36951	3	37374	41723	DUP	W08P003171	Total Alkalinity as mg/L CaCO3
36951	16	37374	41723	SAMPLE	W08P003236	Total Alkalinity as mg/L CaCO3
36951	17	37374	41723	SAMPLE	W08P003240	Total Alkalinity as mg/L CaCO3
36951	18	37374	41723	SAMPLE	W08P003241	Total Alkalinity as mg/L CaCO3
36951	19	37374	41723	SAMPLE	W08P003242	Total Alkalinity as mg/L CaCO3
36951	20	37374	41723	SAMPLE	W08P003244	Total Alkalinity as mg/L CaCO3
36951	21	37374	41723	SAMPLE	W08P003247	Total Alkalinity as mg/L CaCO3
36951	22	37374	41723	SAMPLE	W08P003248	Total Alkalinity as mg/L CaCO3
37088	1	37514	41869	BLANK		ICP-200.8 MS All possible meta
37088	2	37514	41869	LCS		ICP-200.8 MS All possible meta
37088	4	37514	41869	MS	W08P003118	ICP-200.8 MS All possible meta
37088	5	37514	41869	MSD	W08P003118	ICP-200.8 MS All possible meta
37088	5	37514	41869	SPK-RPD	W08P003118	ICP-200.8 MS All possible meta
37088	7	37514	41869	MS	W08P003120	ICP-200.8 MS All possible meta
37088	8	37514	41869	MSD	W08P003120	ICP-200.8 MS All possible meta
37088	8	37514	41869	SPK-RPD	W08P003120	ICP-200.8 MS All possible meta
37088	42	37514	41869	SAMPLE	W08P003236	ICP-200.8 MS All possible meta
37088	43	37514	41869	SAMPLE	W08P003240	ICP-200.8 MS All possible meta
37088	44	37514	41869	SAMPLE	W08P003241	ICP-200.8 MS All possible meta
37088	45	37514	41869	SAMPLE	W08P003242	ICP-200.8 MS All possible meta
37088	46	37514	41869	SAMPLE	W08P003244	ICP-200.8 MS All possible meta
37088	47	37514	41869	SAMPLE	W08P003247	ICP-200.8 MS All possible meta
37088	48	37514	41869	SAMPLE	W08P003248	ICP-200.8 MS All possible meta
37569	1	38008	42397	BLANK		ICP Metals Analysis, Grd H2O P
37569	2	38008	42397	LCS		ICP Metals Analysis, Grd H2O P
37569	4	38008	42397	MS	W08P003242	ICP Metals Analysis, Grd H2O P
37569	5	38008	42397	MSD	W08P003242	ICP Metals Analysis, Grd H2O P
37569	3	38008	42397	SAMPLE	W08P003242	ICP Metals Analysis, Grd H2O P
37569	5	38008	42397	SPK-RPD	W08P003242	ICP Metals Analysis, Grd H2O P
37351	1	37620	42408	BLANK		ICP Metals Analysis, Grd H2O P
37351	2	37620	42408	LCS		ICP Metals Analysis, Grd H2O P

37351	4	37620	42408	MS	W08P003193	ICP Metals Analysis, Grd H20 P
37351	5	37620	42408	MSD	W08P003193	ICP Metals Analysis, Grd H20 P
37351	5	37620	42408	SPK-RPD	W08P003193	ICP Metals Analysis, Grd H20 P
37351	24	37620	42408	SAMPLE	W08P003235	ICP Metals Analysis, Grd H20 P
37352	1	37628	42493	BLANK		ICP Metals Analysis, Grd H20 P
37352	2	37628	42493	LCS		ICP Metals Analysis, Grd H20 P
37352	4	37628	42493	MS	W08P003236	ICP Metals Analysis, Grd H20 P
37352	5	37628	42493	MSD	W08P003236	ICP Metals Analysis, Grd H20 P
37352	3	37628	42493	SAMPLE	W08P003236	ICP Metals Analysis, Grd H20 P
37352	5	37628	42493	SPK-RPD	W08P003236	ICP Metals Analysis, Grd H20 P
37352	6	37628	42493	SAMPLE	W08P003237	ICP Metals Analysis, Grd H20 P
37352	7	37628	42493	SAMPLE	W08P003238	ICP Metals Analysis, Grd H20 P
37352	8	37628	42493	SAMPLE	W08P003239	ICP Metals Analysis, Grd H20 P
37352	9	37628	42493	SAMPLE	W08P003240	ICP Metals Analysis, Grd H20 P
37352	10	37628	42493	SAMPLE	W08P003241	ICP Metals Analysis, Grd H20 P
37352	11	37628	42493	SAMPLE	W08P003243	ICP Metals Analysis, Grd H20 P
37352	12	37628	42493	SAMPLE	W08P003244	ICP Metals Analysis, Grd H20 P
37352	13	37628	42493	SAMPLE	W08P003245	ICP Metals Analysis, Grd H20 P
37352	14	37628	42493	SAMPLE	W08P003246	ICP Metals Analysis, Grd H20 P
37352	15	37628	42493	SAMPLE	W08P003247	ICP Metals Analysis, Grd H20 P
37352	16	37628	42493	SAMPLE	W08P003248	ICP Metals Analysis, Grd H20 P

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20081312

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			42311	BLANK		VOA Ground Water Protection
			42311	LCS		VOA Ground Water Protection
			42311	MS	W08P003234	VOA Ground Water Protection
			42311	MSD	W08P003234	VOA Ground Water Protection
			42311	SAMPLE	W08P003234	VOA Ground Water Protection
			42311	SPK-RPD	W08P003234	VOA Ground Water Protection
			42311	SURR	W08P003234	VOA Ground Water Protection
			42311	SAMPLE	W08P003236	VOA Ground Water Protection
			42311	SURR	W08P003236	VOA Ground Water Protection
			42311	SAMPLE	W08P003240	VOA Ground Water Protection
			42311	SURR	W08P003240	VOA Ground Water Protection
			42311	SAMPLE	W08P003241	VOA Ground Water Protection
			42311	SURR	W08P003241	VOA Ground Water Protection
			42311	SAMPLE	W08P003242	VOA Ground Water Protection
			42311	SURR	W08P003242	VOA Ground Water Protection
			42311	SAMPLE	W08P003244	VOA Ground Water Protection
			42311	SURR	W08P003244	VOA Ground Water Protection
			42311	SAMPLE	W08P003247	VOA Ground Water Protection
			42311	SURR	W08P003247	VOA Ground Water Protection
			42311	SAMPLE	W08P003248	VOA Ground Water Protection
			42311	SURR	W08P003248	VOA Ground Water Protection
			42311	SAMPLE	W08P003249	VOA Ground Water Protection
			42311	SURR	W08P003249	VOA Ground Water Protection

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081312

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37136	1	37563	41965	BLANK		Gross Alpha/Gross Beta (AB32)
37136	2	37563	41965	LCS		Gross Alpha/Gross Beta (AB32)
37136	3	37563	41965	DUP	W08P003118	Gross Alpha/Gross Beta (AB32)
37136	14	37563	41965	SAMPLE	W08P003236	Gross Alpha/Gross Beta (AB32)
37136	15	37563	41965	SAMPLE	W08P003240	Gross Alpha/Gross Beta (AB32)
37136	16	37563	41965	SAMPLE	W08P003241	Gross Alpha/Gross Beta (AB32)
37136	17	37563	41965	SAMPLE	W08P003242	Gross Alpha/Gross Beta (AB32)
37136	18	37563	41965	SAMPLE	W08P003244	Gross Alpha/Gross Beta (AB32)
37136	19	37563	41965	SAMPLE	W08P003247	Gross Alpha/Gross Beta (AB32)
37136	20	37563	41965	SAMPLE	W08P003248	Gross Alpha/Gross Beta (AB32)
37157	1	37583	42001	BLANK		Gross Alpha on Alpha Plateau
37157	2	37583	42001	LCS		Gross Alpha on Alpha Plateau
37157	3	37583	42001	DUP	W08P003118	Gross Alpha on Alpha Plateau
37157	14	37583	42001	SAMPLE	W08P003236	Gross Alpha on Alpha Plateau
37157	15	37583	42001	SAMPLE	W08P003240	Gross Alpha on Alpha Plateau
37157	16	37583	42001	SAMPLE	W08P003241	Gross Alpha on Alpha Plateau
37157	17	37583	42001	SAMPLE	W08P003242	Gross Alpha on Alpha Plateau
37157	18	37583	42001	SAMPLE	W08P003244	Gross Alpha on Alpha Plateau
37157	19	37583	42001	SAMPLE	W08P003247	Gross Alpha on Alpha Plateau
37157	20	37583	42001	SAMPLE	W08P003248	Gross Alpha on Alpha Plateau
37038	1	37464	42012	BLANK		TC99 by Liquid Scin.
37038	2	37464	42012	LCS		TC99 by Liquid Scin.
37038	3	37464	42012	DUP	W08P003233	TC99 by Liquid Scin.
37038	4	37464	42012	MS	W08P003233	TC99 by Liquid Scin.
37038	5	37464	42012	SAMPLE	W08P003233	TC99 by Liquid Scin.
37098	1	37524	42024	BLANK		Strontium 89/90
37098	2	37524	42024	LCS		Strontium 89/90
37098	3	37524	42024	DUP	W08P003118	Strontium 89/90
37098	8	37524	42024	SAMPLE	W08P003231	Strontium 89/90
37098	9	37524	42024	SURR	W08P003231	Strontium 89/90
37098	10	37524	42024	SAMPLE	W08P003232	Strontium 89/90
37098	11	37524	42024	SURR	W08P003232	Strontium 89/90
37098	12	37524	42024	SAMPLE	W08P003233	Strontium 89/90
37098	13	37524	42024	SURR	W08P003233	Strontium 89/90
36974	1	37397	42071	BLANK		Tritium by Liq Sct column prep
36974	2	37397	42071	LCS		Tritium by Liq Sct column prep
36974	4	37397	42071	DUP	W08P003217	Tritium by Liq Sct column prep
36974	3	37397	42071	MS	W08P003217	Tritium by Liq Sct column prep
36974	11	37397	42071	SAMPLE	W08P003231	Tritium by Liq Sct column prep
36974	12	37397	42071	SAMPLE	W08P003232	Tritium by Liq Sct column prep
36974	13	37397	42071	SAMPLE	W08P003233	Tritium by Liq Sct column prep
37003	1	37426	42207	BLANK		TC99 by Liquid Scin.
37003	4	37426	42207	LCS		TC99 by Liquid Scin.
37003	3	37426	42207	DUP	W08P003130	TC99 by Liquid Scin.
37003	2	37426	42207	MS	W08P003130	TC99 by Liquid Scin.
37003	18	37426	42207	SAMPLE	W08P003231	TC99 by Liquid Scin.
37003	19	37426	42207	SAMPLE	W08P003232	TC99 by Liquid Scin.

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>.

Report Date: 3-sep-2008
Report#: WSCF20081312
Report WGPPM/5.2

Page 3

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>.

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	Francium 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>.

Report Date: 3-sep-2008
Report#: WSCF20081312
Report WGPPM/5.2

Page 2

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003235
Client ID: B1VM75

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

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

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	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411	X	3.44e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		1.88e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411	X	6.62e+03	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		19.5	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411	X	1.87e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		73.3	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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

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

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

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Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003236
Client ID: B1VM76

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL **TRENT** **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	0.245	mg/L			2.00	0.042		07/01/08
Chloride	16887-00-6	LA-533-410	D	1.31	mg/L			2.00	0.22		07/01/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		07/01/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	0.208	mg/L			2.00	0.072		07/01/08
Sulfate	14808-79-8	LA-533-410	D	7.98	mg/L			2.00	0.15		07/01/08
ICP Metals Analysis, Grd H20 P Prep											07/30/08
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		120	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	3.07e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		1.71e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	6.00e+03	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		17.7	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	1.64e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		84.0	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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

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

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

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Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003236

Client ID: B1VM76 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Inorganic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-81-1	LA-505-412		24.4	ug/L			1.00	0.0500		07/14/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		62.0	mg/L			1.00	1.0		07/03/08

MDL=Minimum Detection Limit

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TP Err=Total Propagated Error

DF=Dilution Factor

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003237
Client ID: B1VM78

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL
TRENT
WSCF

Matrix: WATER

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	< 25.0	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	4.64e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		2.09e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	7.60e+03	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		21.2	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	2.35e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		128	ug/L			1.00	4.0		08/19/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08

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Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003238
Client ID: B1VM81

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

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

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	< 25.0	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	8.62e + 03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		4.84e + 03	ug/L			1.00	1.7e + 02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	1.97e + 04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		40.5	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411		16.8	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411		13.9	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	4.21e + 04	ug/L			1.00	73		08/19/08
Strontium	7440-24-8	LA-505-411		232	ug/L			1.00	4.0		08/19/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

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Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003239

Client ID: B1VM87 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Inorganic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
WSCF											
ICP Metals Analysis, Grd H2O P Prep											07/30/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	5.07e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		2.44e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	9.05e+03	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		34.4	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	2.45e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-8	LA-505-411		144	ug/L			1.00	4.0		08/19/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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

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Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003240

Client ID: B1VM79 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Inorganic

Sampled: 06/30/08

Received: 06/30/08

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	0.951	mg/L			10.00	0.21		07/01/08
Chloride	16887-00-6	LA-533-410	D	12.3	mg/L			10.00	1.1		07/01/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0990	mg/L			10.00	0.099		07/01/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.34	mg/L			10.00	0.36		07/01/08
Sulfate	14808-79-8	LA-533-410	D	63.7	mg/L			10.00	0.77		07/01/08
ICP Metals Analysis, Grd H20 P Prep											07/30/08
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-8	LA-505-411		79.3	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	4.65e+03	ug/L			1.00	50		08/19/08
Manganese	7439-98-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		2.09e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	7.66e+03	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		21.0	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	2.37e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		130	ug/L			1.00	4.0		08/19/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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)

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003240
Client ID: B1VM79

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

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

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		29.3	ug/L			1.00	0.0500		07/14/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		72.0	mg/L			1.00	1.0		07/03/08

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

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

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

* - 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: S08-006
Sample # W08P003241
Client ID: B1VM82

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL **TRENT** **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	0.323	mg/L			2.00	0.042		07/01/08
Chloride	16887-00-6	LA-533-410	D	13.0	mg/L			2.00	0.22		07/01/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		07/01/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	4.15	mg/L			2.00	0.072		07/01/08
Sulfate	14808-79-8	LA-533-410	D	39.7	mg/L			2.00	0.15		07/01/08
ICP Metals Analysis, Grd H20 P Prep											07/30/08
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	8.74e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		4.94e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	2.02e+04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		41.4	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	4.25e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		235	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003241
Client ID: B1VM82

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

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

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		32.9	ug/L			1.00	0.0500		07/14/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		07/03/08

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

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

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

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

Report WGPP/ver. 5.2
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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003242
Client ID: B1VM88

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL **TRENT** **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	1.63	mg/L			10.00	0.21		07/01/08
Chloride	16887-00-6	LA-533-410	D	13.7	mg/L			10.00	1.1		07/01/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0990	mg/L			10.00	0.099		07/01/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	5.39	mg/L			10.00	0.36		07/01/08
Sulfate	14808-79-8	LA-533-410	D	68.1	mg/L			10.00	0.77		07/01/08
ICP Metals Analysis, Grd H20 P Prep											08/11/08
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		35.1	ug/L			1.00	25		08/13/08
Magnesium	7439-95-4	LA-505-411		4.85e+03	ug/L			1.00	50		08/13/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/13/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/13/08
Potassium	7440-09-7	LA-505-411		2.42e+03	ug/L			1.00	1.7e+02		08/13/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/13/08
Sodium	7440-23-5	LA-505-411		8.68e+03	ug/L			1.00	51		08/13/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/13/08
Barium	7440-39-3	LA-505-411		33.2	ug/L			1.00	4.0		08/13/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/13/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/13/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/13/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/13/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/13/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/13/08
Calcium	7440-70-2	LA-505-411	X	2.37e+04	ug/L			1.00	73		08/13/08
Strontium	7440-24-6	LA-505-411		139	ug/L			1.00	4.0		08/13/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003242
Client ID: B1VM88

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL
TRENT
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/13/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		34.1	ug/L			1.00	0.0500		07/14/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		76.0	mg/L			1.00	1.0		07/03/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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)

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003243

Client ID: B1VM72

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Inorganic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											07/30/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		164	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	7.26e +03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411		60.0	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		6.37e +03	ug/L			1.00	1.7e +02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	3.57e +04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		44.8	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	2.26e +04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		160	ug/L			1.00	4.0		08/19/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003244
Client ID: B1VM73

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

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	0.536	mg/L			2.00	0.042		07/01/08
Chloride	16887-00-6	LA-533-410	D	7.77	mg/L			2.00	0.22		07/01/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		07/01/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	0.188	mg/L			2.00	0.072		07/01/08
Sulfate	14808-79-8	LA-533-410	D	2.30	mg/L			2.00	0.15		07/01/08
ICP Metals Analysis, Grd H2O P Prep											07/30/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		217	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	7.48e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411		60.9	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		6.64e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	3.72e+04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		46.0	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	2.29e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		165	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003244
Client ID: B1VM73

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

PNNL-GPP
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08 07/10/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		2.16	ug/L			1.00	0.0500		07/14/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		160	mg/L			1.00	1.0		07/03/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003245
Client ID: B1VM63

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

PNNL-GPP
WSCF

Matrix: WATER

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	U	< 25.0	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	6.88e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411		4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		4.40e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	2.09e+04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		16.6	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411		4.30	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411		13.3	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	3.87e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		264	ug/L			1.00	4.0		08/19/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003246

Client ID: B1VM60

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Inorganic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											07/30/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		199	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	5.52e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411		54.3	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411		11.2	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		5.47e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	3.96e+04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		40.1	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	1.86e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		123	ug/L			1.00	4.0		08/19/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003247

Client ID: B1VM64

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Inorganic

Sampled: 06/30/08

Received: 06/30/08

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	8.41	mg/L			51.00	1.1		07/01/08
Chloride	16887-00-6	LA-533-410	D	212	mg/L			51.00	5.6		07/01/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.505	mg/L			51.00	0.50		07/01/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	66.3	mg/L			51.00	1.8		07/01/08
Sulfate	14808-79-8	LA-533-410	D	651	mg/L			51.00	3.9		07/01/08
ICP Metals Analysis, Grd H2O P Prep											07/30/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	6.80e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		4.39e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411		11.3	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	2.10e+04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		16.8	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411		12.4	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	3.80e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		260	ug/L			1.00	4.0		08/19/08

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: S08-006

Sample # W08P003247

Client ID: B1VM64

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Inorganic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
ICP-200.8 MS All possible meta Prep											
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		44.8	ug/L			1.00	0.0500		07/14/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		07/03/08

MDL = Minimum Detection Limit

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DF = Dilution Factor

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003248
Client ID: B1VM61

**PNNL-GPP
WSCF**

Matrix: WATER

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

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	16.7	mg/L			51.00	1.1		07/01/08
Chloride	16887-00-6	LA-533-410	D	146	mg/L			51.00	5.6		07/01/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.505	mg/L			51.00	0.50		07/01/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	3.69	mg/L			51.00	1.8		07/01/08
Sulfate	14808-79-8	LA-533-410	DU	< 3.93	mg/L			51.00	3.9		07/01/08
ICP Metals Analysis, Grd H2O P Prep											07/30/08
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411		310	ug/L			1.00	25		08/19/08
Magnesium	7439-95-4	LA-505-411	N	5.61e+03	ug/L			1.00	50		08/19/08
Manganese	7439-96-5	LA-505-411		60.0	ug/L			1.00	4.0		08/19/08
Nickel	7440-02-0	LA-505-411		17.1	ug/L			1.00	4.0		08/19/08
Potassium	7440-09-7	LA-505-411		5.56e+03	ug/L			1.00	1.7e+02		08/19/08
Silver	7440-22-4	LA-505-411		10.8	ug/L			1.00	5.0		08/19/08
Sodium	7440-23-5	LA-505-411	X	4.00e+04	ug/L			1.00	51		08/19/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/19/08
Barium	7440-39-3	LA-505-411		41.5	ug/L			1.00	4.0		08/19/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/19/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/19/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/19/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/19/08
Calcium	7440-70-2	LA-505-411	X	1.91e+04	ug/L			1.00	73		08/19/08
Strontium	7440-24-6	LA-505-411		124	ug/L			1.00	4.0		08/19/08

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RQ=Result Qualifier

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003248
Client ID: BIVM61

PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20081312
Department: Inorganic
Sampled: 06/30/08
Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/19/08
ICP-200.8 MS All possible meta Prep ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		07/14/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		150	mg/L			1.00	1.0		07/03/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003236											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	1.3061		RPD			0.321	20.000		07/01/08
DUP	Fluoride	16984-48-8	0.2147		RPD			13.183	20.000		07/01/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	07/01/08
DUP	Nitrogen in Nitrate	NO3-N	0.2046		RPD			0.488	20.000		07/01/08
DUP	Sulfate	14808-79-8	7.9928		RPD			0.150	20.000		07/01/08
MS	Chloride	16887-00-6	0.97025	97.513	% Recov	80.000	120.000				07/01/08
MS	Fluoride	16984-48-8	0.52375	106.237	% Recov	80.000	120.000				07/01/08
MS	Nitrogen in Nitrite	NO2-N	0.48045	97.652	% Recov	80.000	120.000				07/01/08
MS	Nitrogen in Nitrate	NO3-N	0.44735	100.303	% Recov	80.000	120.000				07/01/08
MS	Sulfate	14808-79-8	1.89235	96.548	% Recov	80.000	120.000				07/01/08
MSD	Chloride	16887-00-6	0.94475	94.950	% Recov	80.000	120.000				07/01/08
MSD	Fluoride	16984-48-8	0.51675	104.817	% Recov	80.000	120.000				07/01/08
MSD	Nitrogen in Nitrite	NO2-N	0.46475	94.461	% Recov	80.000	120.000				07/01/08
MSD	Nitrogen in Nitrate	NO3-N	0.43895	98.419	% Recov	80.000	120.000				07/01/08
MSD	Sulfate	14808-79-8	1.93515	98.732	% Recov	80.000	120.000				07/01/08
SPK-RPD	Chloride	16887-00-6	94.950		RPD			2.663	20.000		07/01/08
SPK-RPD	Fluoride	16984-48-8	104.817		RPD			1.346	20.000		07/01/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	94.461		RPD			3.322	20.000		07/01/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	98.419		RPD			1.896	20.000		07/01/08
SPK-RPD	Sulfate	14808-79-8	98.732		RPD			2.237	20.000		07/01/08
BATCH QC											
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	07/01/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	07/01/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	07/01/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	07/01/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 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	07/01/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	07/01/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	07/01/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	07/01/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	07/01/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	07/01/08
LCS	Chloride	16887-00-8	197.7168	98.366	% Recov	80.000	120.000				07/01/08
LCS	Fluoride	16984-48-8	106.113	106.539	% Recov	80.000	120.000				07/01/08
LCS	Nitrogen in Nitrite	NO2-N	99.7231	100.325	% Recov	80.000	120.000				07/01/08
LCS	Nitrogen in Nitrate	NO3-N	93.106	103.336	% Recov	80.000	120.000				07/01/08
LCS	Sulfate	14808-79-8	387.6399	97.889	% Recov	80.000	120.000				07/01/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003242											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Silver	7440-22-4	1005	100.500	% Recov	75.000	125.000				08/13/08
MS	Barium	7440-39-3	486.3	97.260	% Recov	75.000	125.000				08/13/08
MS	Beryllium	7440-41-7	548.7	109.740	% Recov	75.000	125.000				08/13/08
MS	Calcium	7440-70-2	1050	105.000	% Recov	75.000	125.000				08/13/08
MS	Cadmium	7440-43-9	1063	106.300	% Recov	75.000	125.000				08/13/08
MS	Cobalt	7440-48-4	1079	107.900	% Recov	75.000	125.000				08/13/08
MS	Chromium	7440-47-3	1040	104.000	% Recov	75.000	125.000				08/13/08
MS	Copper	7440-50-8	982.8	98.280	% Recov	75.000	125.000				08/13/08
MS	Iron	7439-89-6	1029.9	102.990	% Recov	75.000	125.000				08/13/08
MS	Potassium	7440-09-7	10150	101.500	% Recov	75.000	125.000				08/13/08
MS	Magnesium	7439-95-4	928	92.800	% Recov	75.000	125.000				08/13/08
MS	Manganese	7439-96-5	1064	106.400	% Recov	75.000	125.000				08/13/08
MS	Sodium	7440-23-5	900	90.000	% Recov	75.000	125.000				08/13/08
MS	Nickel	7440-02-0	1072	107.200	% Recov	75.000	125.000				08/13/08
MS	Antimony	7440-36-0	1053	105.300	% Recov	75.000	125.000				08/13/08
MS	Strontium	7440-24-6	507.8	101.560	% Recov	75.000	125.000				08/13/08
MS	Vanadium	7440-62-2	1029	102.900	% Recov	75.000	125.000				08/13/08
MS	Zinc	7440-66-6	1052	105.200	% Recov	75.000	125.000				08/13/08
MSD	Silver	7440-22-4	998.9	99.890	% Recov	75.000	125.000				08/13/08
MSD	Barium	7440-39-3	484.6	96.920	% Recov	75.000	125.000				08/13/08
MSD	Beryllium	7440-41-7	543.5	108.700	% Recov	75.000	125.000				08/13/08
MSD	Calcium	7440-70-2	1490	149.000	% Recov	75.000	125.000				08/13/08
MSD	Cadmium	7440-43-9	1050	105.000	% Recov	75.000	125.000				08/13/08
MSD	Cobalt	7440-48-4	1060	106.000	% Recov	75.000	125.000				08/13/08
MSD	Chromium	7440-47-3	1030	103.000	% Recov	75.000	125.000				08/13/08
MSD	Copper	7440-50-8	983.5	98.350	% Recov	75.000	125.000				08/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	1016.9	101.690	% Recov	75.000	125.000				08/13/08
MSD	Potassium	7440-09-7	10290	102.900	% Recov	75.000	125.000				08/13/08
MSD	Magnesium	7439-95-4	1044	104.400	% Recov	75.000	125.000				08/13/08
MSD	Manganese	7439-96-5	1054	105.400	% Recov	75.000	125.000				08/13/08
MSD	Sodium	7440-23-5	1192	119.200	% Recov	75.000	125.000				08/13/08
MSD	Nickel	7440-02-0	1056	105.600	% Recov	75.000	125.000				08/13/08
MSD	Antimony	7440-36-0	1022	102.200	% Recov	75.000	125.000				08/13/08
MSD	Strontium	7440-24-6	510.7	102.140	% Recov	75.000	125.000				08/13/08
MSD	Vanadium	7440-62-2	1009	100.900	% Recov	75.000	125.000				08/13/08
MSD	Zinc	7440-66-6	1031	103.100	% Recov	75.000	125.000				08/13/08
SPK-RPD	Silver	7440-22-4	99.890		RPD			0.609	20.000		08/13/08
SPK-RPD	Barium	7440-39-3	96.920		RPD			0.350	20.000		08/13/08
SPK-RPD	Beryllium	7440-41-7	108.700		RPD			0.952	20.000		08/13/08
SPK-RPD	Calcium	7440-70-2	149.000		RPD			34.646	20.000		08/13/08
SPK-RPD	Cadmium	7440-43-9	105.000		RPD			1.230	20.000		08/13/08
SPK-RPD	Cobalt	7440-48-4	106.000		RPD			1.777	20.000		08/13/08
SPK-RPD	Chromium	7440-47-3	103.000		RPD			0.966	20.000		08/13/08
SPK-RPD	Copper	7440-50-8	98.350		RPD			0.071	20.000		08/13/08
SPK-RPD	Iron	7439-89-6	101.690		RPD			1.270	20.000		08/13/08
SPK-RPD	Potassium	7440-09-7	102.900		RPD			1.370	20.000		08/13/08
SPK-RPD	Magnesium	7439-95-4	104.400		RPD			11.765	20.000		08/13/08
SPK-RPD	Manganese	7439-96-5	105.400		RPD			0.944	20.000		08/13/08
SPK-RPD	Sodium	7440-23-5	119.200		RPD			27.916	20.000		08/13/08
SPK-RPD	Nickel	7440-02-0	105.600		RPD			1.504	20.000		08/13/08
SPK-RPD	Antimony	7440-36-0	102.200		RPD			2.988	20.000		08/13/08
SPK-RPD	Strontium	7440-24-6	102.140		RPD			0.569	20.000		08/13/08
SPK-RPD	Vanadium	7440-62-2	100.900		RPD			1.963	20.000		08/13/08
SPK-RPD	Zinc	7440-66-6	103.100		RPD			2.016	20.000		08/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	08/13/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	08/13/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	08/13/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	08/13/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	08/13/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	08/13/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	08/13/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	08/13/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	08/13/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	08/13/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	08/13/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	08/13/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	08/13/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	08/13/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	08/13/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	08/13/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	08/13/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	08/13/08
LCS	Silver	7440-22-4	988.1	98.810	% Recov	80.000	120.000				08/13/08
LCS	Barium	7440-39-3	470.9	94.180	% Recov	80.000	120.000				08/13/08
LCS	Beryllium	7440-41-7	541	108.200	% Recov	80.000	120.000				08/13/08
LCS	Calcium	7440-70-2	1084	108.400	% Recov	80.000	120.000				08/13/08
LCS	Cadmium	7440-43-9	1044	104.400	% Recov	80.000	120.000				08/13/08
LCS	Cobalt	7440-48-4	1056	105.600	% Recov	80.000	120.000				08/13/08
LCS	Chromium	7440-47-3	1008	100.800	% Recov	80.000	120.000				08/13/08
LCS	Copper	7440-50-8	976.4	97.640	% Recov	80.000	120.000				08/13/08
LCS	Iron	7439-89-6	1029	102.900	% Recov	80.000	120.000				08/13/08
LCS	Potassium	7440-09-7	10200	102.000	% Recov	80.000	120.000				08/13/08

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 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	968.4	96.840	% Recov	80.000	120.000				08/13/08
LCS	Manganese	7439-96-5	1041	104.100	% Recov	80.000	120.000				08/13/08
LCS	Sodium	7440-23-5	1005	100.500	% Recov	80.000	120.000				08/13/08
LCS	Nickel	7440-02-0	1054	105.400	% Recov	80.000	120.000				08/13/08
LCS	Antimony	7440-36-0	1036	103.600	% Recov	80.000	120.000				08/13/08
LCS	Strontium	7440-24-6	491.6	98.320	% Recov	80.000	120.000				08/13/08
LCS	Vanadium	7440-62-2	996.2	99.620	% Recov	80.000	120.000				08/13/08
LCS	Zinc	7440-66-6	1021	102.100	% Recov	80.000	120.000				08/13/08

Lab ID: W08P003193
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	44.4	4.440	% Recov	75.000	125.000				08/06/08
MS	Barium	7440-39-3	487.4	97.480	% Recov	75.000	125.000				08/06/08
MS	Beryllium	7440-41-7	514.7	102.940	% Recov	75.000	125.000				08/06/08
MS	Calcium	7440-70-2	350	35.000	% Recov	75.000	125.000				08/06/08
MS	Cadmium	7440-43-9	1031	103.100	% Recov	75.000	125.000				08/06/08
MS	Cobalt	7440-48-4	997.6	99.760	% Recov	75.000	125.000				08/06/08
MS	Chromium	7440-47-3	933.7	93.370	% Recov	75.000	125.000				08/06/08
MS	Copper	7440-50-8	964.2	96.420	% Recov	75.000	125.000				08/06/08
MS	Iron	7439-89-6	911.3	91.130	% Recov	75.000	125.000				08/06/08
MS	Potassium	7440-09-7	10643	106.430	% Recov	75.000	125.000				08/06/08
MS	Magnesium	7439-95-4	780	78.000	% Recov	75.000	125.000				08/06/08
MS	Manganese	7439-96-5	1008.5	100.850	% Recov	75.000	125.000				08/06/08
MS	Sodium	7440-23-5	1070	107.000	% Recov	75.000	125.000				08/06/08
MS	Nickel	7440-02-0	998.7	99.870	% Recov	75.000	125.000				08/06/08
MS	Antimony	7440-36-0	1008	100.800	% Recov	75.000	125.000				08/06/08
MS	Strontium	7440-24-6	420.4	84.080	% Recov	75.000	125.000				08/06/08
MS	Vanadium	7440-62-2	979.6	97.960	% Recov	75.000	125.000				08/06/08
MS	Zinc	7440-66-6	1042	104.200	% Recov	75.000	125.000				08/06/08
MSD	Silver	7440-22-4	43.3	4.330	% Recov	75.000	125.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/27/08
 Receive Date: 06/27/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Barium	7440-39-3	484.1	96.820	% Recov	75.000	125.000				08/06/08
MSD	Beryllium	7440-41-7	514.8	102.960	% Recov	75.000	125.000				08/06/08
MSD	Calcium	7440-70-2	-680	-68.000	% Recov	75.000	125.000				08/06/08
MSD	Cadmium	7440-43-9	1031	103.100	% Recov	75.000	125.000				08/06/08
MSD	Cobalt	7440-48-4	1000	100.000	% Recov	75.000	125.000				08/06/08
MSD	Chromium	7440-47-3	932.7	93.270	% Recov	75.000	125.000				08/06/08
MSD	Copper	7440-50-8	958.5	95.850	% Recov	75.000	125.000				08/06/08
MSD	Iron	7439-89-6	908.3	90.830	% Recov	75.000	125.000				08/06/08
MSD	Potassium	7440-09-7	10273	102.730	% Recov	75.000	125.000				08/06/08
MSD	Magnesium	7439-95-4	300	30.000	% Recov	75.000	125.000				08/06/08
MSD	Manganese	7439-96-5	1006.5	100.650	% Recov	75.000	125.000				08/06/08
MSD	Sodium	7440-23-5	330	33.000	% Recov	75.000	125.000				08/06/08
MSD	Nickel	7440-02-0	999.7	99.970	% Recov	75.000	125.000				08/06/08
MSD	Antimony	7440-36-0	1024	102.400	% Recov	75.000	125.000				08/06/08
MSD	Strontium	7440-24-6	412.4	82.480	% Recov	75.000	125.000				08/06/08
MSD	Vanadium	7440-62-2	974.8	97.480	% Recov	75.000	125.000				08/06/08
MSD	Zinc	7440-66-6	1039	103.900	% Recov	75.000	125.000				08/06/08
SPK-RPD	Silver	7440-22-4	4.330		RPD			2.509	20.000		08/06/08
SPK-RPD	Barium	7440-39-3	96.820		RPD			0.679	20.000		08/06/08
SPK-RPD	Beryllium	7440-41-7	102.960		RPD			0.019	20.000		08/06/08
SPK-RPD	Calcium	7440-70-2	-68.000		RPD			-624.242	20.000		08/06/08
SPK-RPD	Cadmium	7440-43-9	103.100		RPD			0.000	20.000		08/06/08
SPK-RPD	Cobalt	7440-48-4	100.000		RPD			0.240	20.000		08/06/08
SPK-RPD	Chromium	7440-47-3	93.270		RPD			0.107	20.000		08/06/08
SPK-RPD	Copper	7440-50-8	95.850		RPD			0.593	20.000		08/06/08
SPK-RPD	Iron	7439-89-6	90.830		RPD			0.330	20.000		08/06/08
SPK-RPD	Potassium	7440-09-7	102.730		RPD			3.538	20.000		08/06/08
SPK-RPD	Magnesium	7439-95-4	30.000		RPD			88.889	20.000		08/06/08
SPK-RPD	Manganese	7439-96-5	100.650		RPD			0.199	20.000		08/06/08
SPK-RPD	Sodium	7440-23-5	33.000		RPD			105.714	20.000		08/06/08

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/27/08
 Receive Date: 06/27/08

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	99.970		RPD			0.100	20.000		08/06/08
SPK-RPD	Antimony	7440-36-0	102.400		RPD			1.575	20.000		08/06/08
SPK-RPD	Strontium	7440-24-6	82.480		RPD			1.921	20.000		08/06/08
SPK-RPD	Vanadium	7440-62-2	97.480		RPD			0.491	20.000		08/06/08
SPK-RPD	Zinc	7440-66-6	103.900		RPD			0.288	20.000		08/06/08
BATCH QC											
BLANK	Silver	7440-22-4	9.1	9.100	ug/L						08/06/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	08/06/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	08/06/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	08/06/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	08/06/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	08/06/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	08/06/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	08/06/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	08/06/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	08/06/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	08/06/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	08/06/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	08/06/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	08/06/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	08/06/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	08/06/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	08/06/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	08/06/08
LCS	Silver	7440-22-4	999.4	99.940	% Recov	80.000	120.000				08/06/08
LCS	Barium	7440-39-3	489.5	97.900	% Recov	80.000	120.000				08/06/08
LCS	Beryllium	7440-41-7	531.1	106.220	% Recov	80.000	120.000				08/06/08
LCS	Calcium	7440-70-2	1140	114.000	% Recov	80.000	120.000				08/06/08
LCS	Cadmium	7440-43-9	1035	103.500	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 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	1049	104.900	% Recov	80.000	120.000				08/06/08
LCS	Chromium	7440-47-3	1011	101.100	% Recov	80.000	120.000				08/06/08
LCS	Copper	7440-50-8	990	99.000	% Recov	80.000	120.000				08/06/08
LCS	Iron	7439-89-6	1025	102.500	% Recov	80.000	120.000				08/06/08
LCS	Potassium	7440-09-7	9914	99.140	% Recov	80.000	120.000				08/06/08
LCS	Magnesium	7439-95-4	956.7	95.670	% Recov	80.000	120.000				08/06/08
LCS	Manganese	7439-96-5	1037	103.700	% Recov	80.000	120.000				08/06/08
LCS	Sodium	7440-23-5	946.6	94.660	% Recov	80.000	120.000				08/06/08
LCS	Nickel	7440-02-0	1057	105.700	% Recov	80.000	120.000				08/06/08
LCS	Antimony	7440-36-0	1011	101.100	% Recov	80.000	120.000				08/06/08
LCS	Strontium	7440-24-6	503.5	100.700	% Recov	80.000	120.000				08/06/08
LCS	Vanadium	7440-62-2	1007	100.700	% Recov	80.000	120.000				08/06/08
LCS	Zinc	7440-68-6	1039	103.900	% Recov	80.000	120.000				08/06/08

Lab ID: W08P003236
 BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	954.2	95.420	% Recov	75.000	125.000				08/19/08
MS	Barium	7440-39-3	472.5	94.500	% Recov	75.000	125.000				08/19/08
MS	Beryllium	7440-41-7	504.5	100.900	% Recov	75.000	125.000				08/19/08
MS	Calcium	7440-70-2	2680	268.000	% Recov	75.000	125.000				08/19/08
MS	Cadmium	7440-43-9	997.5	99.750	% Recov	75.000	125.000				08/19/08
MS	Cobalt	7440-48-4	980	98.000	% Recov	75.000	125.000				08/19/08
MS	Chromium	7440-47-3	950	95.000	% Recov	75.000	125.000				08/19/08
MS	Copper	7440-50-8	950.9	95.090	% Recov	75.000	125.000				08/19/08
MS	Iron	7439-89-6	991.1	99.110	% Recov	75.000	125.000				08/19/08
MS	Potassium	7440-09-7	9818	98.180	% Recov	75.000	125.000				08/19/08
MS	Magnesium	7439-95-4	1295	129.500	% Recov	75.000	125.000				08/19/08
MS	Manganese	7439-96-5	976	97.600	% Recov	75.000	125.000				08/19/08
MS	Sodium	7440-23-5	1395	139.500	% Recov	75.000	125.000				08/19/08
MS	Nickel	7440-02-0	1000	100.000	% Recov	75.000	125.000				08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Antimony	7440-36-0	994.7	99.470	% Recov	75.000	125.000				08/19/08
MS	Strontium	7440-24-6	464.1	92.820	% Recov	75.000	125.000				08/19/08
MS	Vanadium	7440-62-2	972.4	97.240	% Recov	75.000	125.000				08/19/08
MS	Zinc	7440-66-6	1011	101.100	% Recov	75.000	125.000				08/19/08
MSD	Silver	7440-22-4	942.1	94.210	% Recov	75.000	125.000				08/19/08
MSD	Barium	7440-39-3	471.4	94.280	% Recov	75.000	125.000				08/19/08
MSD	Beryllium	7440-41-7	497.4	99.480	% Recov	75.000	125.000				08/19/08
MSD	Calcium	7440-70-2	2450	245.000	% Recov	75.000	125.000				08/19/08
MSD	Cadmium	7440-43-9	980.8	98.080	% Recov	75.000	125.000				08/19/08
MSD	Cobalt	7440-48-4	961.4	96.140	% Recov	75.000	125.000				08/19/08
MSD	Chromium	7440-47-3	934.8	93.480	% Recov	75.000	125.000				08/19/08
MSD	Copper	7440-50-8	940.5	94.050	% Recov	75.000	125.000				08/19/08
MSD	Iron	7439-89-6	990.1	99.010	% Recov	75.000	125.000				08/19/08
MSD	Potassium	7440-09-7	9648	96.480	% Recov	75.000	125.000				08/19/08
MSD	Magnesium	7439-95-4	1248	124.800	% Recov	75.000	125.000				08/19/08
MSD	Manganese	7439-96-5	962.2	96.220	% Recov	75.000	125.000				08/19/08
MSD	Sodium	7440-23-5	1316	131.600	% Recov	75.000	125.000				08/19/08
MSD	Nickel	7440-02-0	982.5	98.250	% Recov	75.000	125.000				08/19/08
MSD	Antimony	7440-36-0	964.4	96.440	% Recov	75.000	125.000				08/19/08
MSD	Strontium	7440-24-6	462.1	92.420	% Recov	75.000	125.000				08/19/08
MSD	Vanadium	7440-62-2	961.8	96.180	% Recov	75.000	125.000				08/19/08
MSD	Zinc	7440-66-6	989.2	98.920	% Recov	75.000	125.000				08/19/08
SPK-RPD	Silver	7440-22-4	94.210		RPD			1.276	20.000		08/19/08
SPK-RPD	Barium	7440-39-3	94.280		RPD			0.233	20.000		08/19/08
SPK-RPD	Beryllium	7440-41-7	99.480		RPD			1.417	20.000		08/19/08
SPK-RPD	Calcium	7440-70-2	245.000		RPD			8.967	20.000		08/19/08
SPK-RPD	Cadmium	7440-43-9	98.080		RPD			1.688	20.000		08/19/08
SPK-RPD	Cobalt	7440-48-4	96.140		RPD			1.916	20.000		08/19/08
SPK-RPD	Chromium	7440-47-3	93.480		RPD			1.613	20.000		08/19/08
SPK-RPD	Copper	7440-50-8	94.050		RPD			1.100	20.000		08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 06/30/08
 Receive Date: 06/30/08

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	99.010		RPD			0.101	20.000		08/19/08
SPK-RPD	Potassium	7440-09-7	96.480		RPD			1.747	20.000		08/19/08
SPK-RPD	Magnesium	7439-95-4	124.800		RPD			3.696	20.000		08/19/08
SPK-RPD	Manganese	7439-96-5	96.220		RPD			1.424	20.000		08/19/08
SPK-RPD	Sodium	7440-23-5	131.800		RPD			5.828	20.000		08/19/08
SPK-RPD	Nickel	7440-02-0	98.250		RPD			1.765	20.000		08/19/08
SPK-RPD	Antimony	7440-36-0	96.440		RPD			3.093	20.000		08/19/08
SPK-RPD	Strontium	7440-24-6	92.420		RPD			0.432	20.000		08/19/08
SPK-RPD	Vanadium	7440-62-2	96.180		RPD			1.096	20.000		08/19/08
SPK-RPD	Zinc	7440-66-6	98.920		RPD			2.180	20.000		08/19/08

BATCH QC

BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	08/19/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	08/19/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	08/19/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	08/19/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	08/19/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	08/19/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	08/19/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	08/19/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	08/19/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	08/19/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	08/19/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	08/19/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	08/19/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	08/19/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	08/19/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	08/19/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	08/19/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 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	962.6	96.260	% Recov	80.000	120.000				08/19/08
LCS	Barium	7440-39-3	476.4	95.280	% Recov	80.000	120.000				08/19/08
LCS	Beryllium	7440-41-7	510.3	102.060	% Recov	80.000	120.000				08/19/08
LCS	Calcium	7440-70-2	1067	106.700	% Recov	80.000	120.000				08/19/08
LCS	Cadmium	7440-43-9	1011	101.100	% Recov	80.000	120.000				08/19/08
LCS	Cobalt	7440-48-4	991	99.100	% Recov	80.000	120.000				08/19/08
LCS	Chromium	7440-47-3	955.9	95.590	% Recov	80.000	120.000				08/19/08
LCS	Copper	7440-50-8	993.5	99.350	% Recov	80.000	120.000				08/19/08
LCS	Iron	7439-89-6	980.7	98.070	% Recov	80.000	120.000				08/19/08
LCS	Potassium	7440-09-7	10120	101.200	% Recov	80.000	120.000				08/19/08
LCS	Magnesium	7439-95-4	976	97.600	% Recov	80.000	120.000				08/19/08
LCS	Manganese	7439-96-5	974.5	97.450	% Recov	80.000	120.000				08/19/08
LCS	Sodium	7440-23-5	976.5	97.850	% Recov	80.000	120.000				08/19/08
LCS	Nickel	7440-02-0	1010	101.000	% Recov	80.000	120.000				08/19/08
LCS	Antimony	7440-38-0	1007	100.700	% Recov	80.000	120.000				08/19/08
LCS	Strontium	7440-24-8	459.2	91.840	% Recov	80.000	120.000				08/19/08
LCS	Vanadium	7440-62-2	967.1	96.710	% Recov	80.000	120.000				08/19/08
LCS	Zinc	7440-66-8	1017	101.700	% Recov	80.000	120.000				08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: ICP-200.8 MS All possible meta

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	45.532	113.830	% Recov	70.000	130.000				07/14/08
MSD	Uranium	7440-61-1	46.022	115.055	% Recov	70.000	130.000				07/14/08
SPK-RPD	Uranium	7440-61-1	115.055		RPD			1.070	20.000		07/14/08
Lab ID: W08P003120											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	43.02	107.550	% Recov	70.000	130.000				07/14/08
MSD	Uranium	7440-61-1	43.34	108.350	% Recov	70.000	130.000				07/14/08
SPK-RPD	Uranium	7440-61-1	108.350		RPD			0.741	20.000		07/14/08
BATCH QC											
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	07/14/08
LCS	Uranium	7440-61-1	42.53	106.325	% Recov	85.000	115.000				07/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: Total Alkalinity as mg/L CaCO₃

Sample Date: 06/27/08
 Receive Date: 06/27/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003171											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	115.9		RPD			1.201	20.000		07/03/08
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	115.0	100.000	%Recover	80.000	120.000				07/03/08
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	114.8	99.826	%Recover	80.000	120.000				07/03/08
LCS	Total Alkalinity as mg/L CaCO ₃	ALKALINITY	114.7	99.739	%Recover	80.000	120.000				07/03/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081312
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>Tc99 matrix spike recovery is slightly low due to the high Tc-99 in the sample. 1mh</p> <p>ICP-AES: Sodium MS/MSD acceptable; however, RPD exceeds established laboratory limits. Calcium results >4X spiking level and spike results are not valid (X flag)</p> <p>ICP-AES: [Samples W08P3236-3248] No zirconium present in the LCS standard. Sodium and calcium sample result exceeds spiking level by a factor of 4 so spike recoveries are not valid. X flag Check standard used to ensure sodium and calcium linearity because sample results are greater than the calibration standard. High magnesium MS recovery; "N" flag.</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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Report Date: 3-sep-2008

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P003234

Client ID: B1VHJ9

GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/09/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/09/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P003234

Client ID: B1VHJ9 GPP-PNNL TRENT

WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/09/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample #: W08P003236
Client ID: B1VM76

Group #: WSCF20081312
Department: Organic
Sampled: 06/30/08
Received: 06/30/08

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

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/09/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/09/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08

MDL=Minimum Detection Limit

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

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

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

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003236

Client ID: B1VM76 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/09/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/09/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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: S08-006
Sample # W08P003240
Client ID: B1VM79

GPP-PNNL
 TREN
 WSCF

Matrix: WATER

Group #: WSCF20081312
Department: Organic
Sampled: 06/30/08
Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003240

Client ID: B1VM79 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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: S08-006

Sample # W08P003241

Client ID: B1VM82 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1-Butanol	71-36-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0e+02		07/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
trans-1,2-Dichloroethylene	156-80-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003241

Client ID: B1VM82 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample #: W08P003242

Client ID: B1VM88 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003242

Client ID: B1VM88 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

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: S08-006
Sample # W08P003244
Client ID: B1VM73

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312
Department: Organic
Sampled: 06/30/08
Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003244

Client ID: B1VM73

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

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

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003247

Client ID: B1VM64

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Methylenechloride	75-09-2	LA-523-455		8.30	ug/L			1.00	1.0		07/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003247

Client ID: B1VM64

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

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: S08-006
Sample # W08P003248
Client ID: B1VM61

**PNNL-GPP
WSCF**

Matrix: WATER

Group #: WSCF20081312
Department: Organic
Sampled: 06/30/08
Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e +02		07/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

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: S08-006

Sample # W08P003248

Client ID: B1VM61

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003249
Client ID: B1VHK0

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312
Department: Organic
Sampled: 06/30/08
Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Acetone	67-84-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e + 02		07/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: W08-005

Sample # W08P003249

Client ID: B1VHK0

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Organic

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/10/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

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Report WGPP/ver. 5.2

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20081312
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003234											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	22.980	91.900	% Recov	63.000	117.000				07/09/08
MS	Benzene	71-43-2	23.840	95.400	% Recov	75.000	129.000				07/09/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	44.900	89.800	% Recov	75.000	125.000				07/09/08
MS	Chlorobenzene	108-90-7	25.880	104.000	% Recov	79.000	119.000				07/09/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.560	87.100	% Recov	75.000	125.000				07/09/08
MS	Toluene-d8(Surr)	2037-26-5	47.090	94.200	% Recov	75.000	125.000				07/09/08
MS	Toluene	108-88-3	25.320	101.000	% Recov	76.000	120.000				07/09/08
MS	Trichloroethene	79-01-6	20.010	80.000	% Recov	73.000	123.000				07/09/08
MSD	1,1-Dichloroethene	75-35-4	23.280	93.100	% Recov	63.000	117.000				07/09/08
MSD	Benzene	71-43-2	23.710	94.800	% Recov	75.000	129.000				07/09/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	44.020	88.000	% Recov	75.000	125.000				07/09/08
MSD	Chlorobenzene	108-90-7	25.970	104.000	% Recov	79.000	119.000				07/09/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.140	88.300	% Recov	75.000	125.000				07/09/08
MSD	Toluene-d8(Surr)	2037-26-5	47.050	94.100	% Recov	75.000	125.000				07/09/08
MSD	Toluene	108-88-3	25.490	102.000	% Recov	76.000	120.000				07/09/08
MSD	Trichloroethene	79-01-6	20.020	80.100	% Recov	73.000	123.000				07/09/08
SPK-RPD	1,1-Dichloroethene	75-35-4	93.100		RPD			1.297	20.000		07/09/08
SPK-RPD	Benzene	71-43-2	94.800		RPD			0.631	20.000		07/09/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	88.000		RPD			2.025	20.000		07/09/08
SPK-RPD	Chlorobenzene	108-90-7	104.000		RPD			0.000	20.000		07/09/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	88.300		RPD			1.368	20.000		07/09/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	94.100		RPD			0.106	20.000		07/09/08
SPK-RPD	Toluene	108-88-3	102.000		RPD			0.985	20.000		07/09/08
SPK-RPD	Trichloroethene	79-01-6	80.100		RPD			0.125	20.000		07/09/08
SURR	4-Bromofluorobenzene(Surr)	460-00-4	45.170	90.300	% Recov	75.000	125.000				07/09/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.400	84.800	% Recov	75.000	125.000				07/09/08

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20081312
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Toluene-d8(Surr)	2037-26-5	47.900	95.800	% Recov	75.000	125.000				07/09/08
Lab ID: W08P003236											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	45.380	90.800	% Recov	75.000	125.000				07/09/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.800	85.600	% Recov	75.000	125.000				07/09/08
SURR	Toluene-d8(Surr)	2037-26-5	47.830	95.700	% Recov	75.000	125.000				07/09/08
Lab ID: W08P003240											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	45.010	90.000	% Recov	75.000	125.000				07/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.950	87.900	% Recov	75.000	125.000				07/10/08
SURR	Toluene-d8(Surr)	2037-26-5	47.440	94.900	% Recov	75.000	125.000				07/10/08
Lab ID: W08P003241											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	45.140	90.300	% Recov	75.000	125.000				07/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.050	86.100	% Recov	75.000	125.000				07/10/08
SURR	Toluene-d8(Surr)	2037-26-5	47.440	94.900	% Recov	75.000	125.000				07/10/08
Lab ID: W08P003242											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	44.440	88.900	% Recov	75.000	125.000				07/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.240	84.500	% Recov	75.000	125.000				07/10/08
SURR	Toluene-d8(Surr)	2037-26-5	47.420	94.800	% Recov	75.000	125.000				07/10/08
Lab ID: W08P003244											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	480-00-4	45.230	90.500	% Recov	75.000	125.000				07/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.580	85.100	% Recov	75.000	125.000				07/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081312
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Toluene-d8(Surr)	2037-26-5	47.630	95.300	% Recov	75.000	125.000				07/10/08
Lab ID: W08P003247											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	45.150	90.300	% Recov	75.000	125.000				07/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.470	88.900	% Recov	75.000	125.000				07/10/08
SURR	Toluene-d8(Surr)	2037-26-5	47.610	95.200	% Recov	75.000	125.000				07/10/08
Lab ID: W08P003248											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	44.470	88.900	% Recov	75.000	125.000				07/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.670	85.300	% Recov	75.000	125.000				07/10/08
SURR	Toluene-d8(Surr)	2037-26-5	48.370	96.700	% Recov	75.000	125.000				07/10/08
Lab ID: W08P003249											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	44.700	89.400	% Recov	75.000	125.000				07/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.810	85.600	% Recov	75.000	125.000				07/10/08
SURR	Toluene-d8(Surr)	2037-26-5	48.100	96.200	% Recov	75.000	125.000				07/10/08
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	07/09/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	07/09/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/e	ug/L					U	07/09/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	07/09/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	07/09/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	07/09/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	07/09/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	07/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20081312
 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	Benzene	71-43-2	< 1.0	n/a	ug/L					U	07/09/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	46.980	94.000	% Recov	75.000	125.000				07/09/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	07/09/08
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	07/09/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.440	86.900	% Recov	75.000	125.000				07/09/08
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	07/09/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	07/09/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	07/09/08
BLANK	Toluene-d8(Surr)	2037-26-5	48.270	96.500	% Recov	75.000	125.000				07/09/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Trichloroethane	79-01-6	< 1.0	n/a	ug/L					U	07/09/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	07/09/08
LCS	1,1-Dichloroethene	75-35-4	26.760	107.000	% Recov	75.000	125.000				07/09/08
LCS	Benzene	71-43-2	28.350	113.000	% Recov	75.000	125.000				07/09/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	45.490	91.000	% Recov	75.000	125.000				07/09/08
LCS	Chlorobenzene	108-90-7	28.890	116.000	% Recov	75.000	125.000				07/09/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.320	86.600	% Recov	75.000	125.000				07/09/08
LCS	Toluene-d8(Surr)	2037-26-5	45.980	92.000	% Recov	75.000	125.000				07/09/08
LCS	Toluene	108-88-3	29.100	116.000	% Recov	75.000	125.000				07/09/08
LCS	Trichloroethene	79-01-6	23.980	95.900	% Recov	75.000	125.000				07/09/08

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-041
Sample # W08P003231
Client ID: B1VKM5

Group #: WSCF20081312
Department: Radiochemistry
Sampled: 06/30/08
Received: 06/30/08

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

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-2.80	pCi/L	+ -2.80	pCi/L	1.00	0.99		07/16/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		86.4	Percent			1.00	0.0		07/16/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	0.500	pCi/L	+ -3.35	pCi/L	1.00	5.8		07/07/08
Tritium by Liq Set column prep											
Tritium	10028-17-8	LA-508-421		490	pCi/L	+ -162	pCi/L	1.00	2.0e+02		07/11/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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)

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-041
Sample # W08P003232
Client ID: B1VKM8

Group #: WSCF20081312
Department: Radiochemistry
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL TREN
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-1.40	pCi/L	+ -1.40	pCi/L	1.00	1.0		07/16/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		84.9	Percent			1.00	0.0		07/16/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	-2.70	pCi/L	+ -3.51	pCi/L	1.00	5.8		07/07/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	44.0	pCi/L	+ -94.6	pCi/L	1.00	2.0e+02		07/11/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-041
Sample # W08P003233
Client ID: B1VKNO

Group #: WSCF20081312
Department: Radiochemistry
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL TREN
WSCF

Matrix: WATER

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-0.440	pCi/L	+ -1.44	pCi/L	1.00	1.1		07/16/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		76.5	Percent			1.00	0.0		07/16/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	-0.900	pCi/L	+ -3.73	pCi/L	1.00	6.0		07/13/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		220	pCi/L	+ -125	pCi/L	1.00	57		07/11/08

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

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

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

* - 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: S08-006
Sample # W08P003236
Client ID: B1VM76

GPP-PNNL TRENT
WSCF

Matrix: WATER

Group #: WSCF20081312
Department: Radiochemistry
Sampled: 06/30/08
Received: 06/30/08

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		10.0	pCi/L	+ -1.80	pCi/L	1.00	0.83		07/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		11.0	pCi/L	+ -1.76	pCi/L	1.00	1.5		07/18/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003240

Client ID: B1VM79 GPP-PNNL TRENT

Matrix: WATER

Group #: WSCF20081312

Department: Radiochemistry

Sampled: 06/30/08

Received: 06/30/08

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		7.80	pCi/L	+ -1.64	pCi/L	1.00	0.90		07/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		9.10	pCi/L	+ -1.64	pCi/L	1.00	1.6		07/18/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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: S08-006
Sample # W08P003241
Client ID: B1VM82

Group #: WSCF20081312
Department: Radiochemistry
Sampled: 06/30/08
Received: 06/30/08

GPP-PNNL
TRENT
WSCF

Matrix: WATER

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		17.0	pCi/L	+3.06	pCi/L	1.00	1.3		07/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		17.0	pCi/L	+2.38	pCi/L	1.00	1.7		07/18/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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

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

Report WGPP/ver. 5.2

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003242
Client ID: B1VM88

Group #: WSCF20081312
Department: Radiochemistry
Sampled: 06/30/08
Received: 06/30/08

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

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		16.0	pCi/L	+ -2.56	pCi/L	1.00	93		07/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		14.0	pCi/L	+ -2.10	pCi/L	1.00	1.6		07/18/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P003244
Client ID: B1VM73

PNNL-GPP
 WSCF

Matrix: WATER

Group #: WSCF20081312
Department: Radiochemistry
Sampled: 06/30/08
Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415	U	0.730	pCi/L	+ -0.803	pCi/L	1.00	1.2		07/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		6.60	pCi/L	+ -1.52	pCi/L	1.00	1.7		07/18/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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: S08-006

Sample # W08P003247

Client ID: B1VM64

PNNL-GPP
WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Radiochemistry

Sampled: 06/30/08

Received: 06/30/08

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		16.0	pCi/L	+ -2.72	pCi/L	1.00	1.1		07/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		16.0	pCi/L	+ -2.24	pCi/L	1.00	1.7		07/18/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

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

U - Analyzed for but not detected above limiting criteria.

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

+ - Indicates more than six qualifier symbols

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)

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35

SAF Number: S08-006

Sample # W08P003248

Client ID: B1VM61

PNNL-GPP

WSCF

Matrix: WATER

Group #: WSCF20081312

Department: Radiochemistry

Sampled: 06/30/08

Received: 06/30/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415	U	0.240	pCi/L	+0.672	pCi/L	1.00	1.2		07/21/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		4.70	pCi/L	+1.32	pCi/L	1.00	1.7		07/18/08

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

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

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

U - Analyzed for but not detected above limiting criteria.

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

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

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

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

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+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081312
 Matrix: WATER
 Test: Gross Alpha on Alpha Plateau

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	U1.6		RPD			n/a	20.000		07/21/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U4.5E-02	n/a	pCi/L	-100.000	100.000				07/21/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	34.1	88.023	% Recov	80.000	120.000				07/21/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081312
 Matrix: WATER
 Test: Gross Alpha/Gross Beta (AB32)

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	5.2e+03		RPD			0.000	20.000		07/18/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U2.6E-01	n/a	pCi/L	-10.000	10.000				07/18/08
LCS	Gross beta	12587-47-2	121.0	100.000	% Recov	80.000	120.000				07/18/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081312
 Matrix: WATER
 Test: Strontium 89/90

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003118											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	101.7	101.700	% Recov	30.000	105.000				07/16/08
DUP	Strontium-89/90	SR-RAD	U-2.2		RPD			n/a	20.000		07/16/08
Lab ID: W08P003231											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	86.4	86.400	% Recov	30.000	105.000				07/16/08
Lab ID: W08P003232											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	84.9	84.900	% Recov	30.000	105.000				07/16/08
Lab ID: W08P003233											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	76.5	76.500	% Recov	30.000	105.000				07/16/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	95.6	95.600	% Recov	30.000	105.000				07/16/08
BLANK	Strontium-89/90	10098-97-2	U-2.7	n/a	pCi/L	-10.000	100.000				07/16/08
LCS	Sr-85 Tracer by Beta Counting	SR85	90.3	90.300	% Recov	30.000	105.000				07/16/08
LCS	Strontium-89/90	10098-97-2	136	97.983	% Recov	80.000	120.000				07/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081312
 Matrix: WATER
 Test: TC99 by Liquid Scin.

Sample Date: 06/30/08
 Receive Date: 06/30/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003233											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	U-0.7		RPD			n/a	20.000		07/13/08
MS	Tc-99 by Liquid Scin.	14133-76-7	812.9	108.062	% Recov	75.000	125.000				07/13/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-0.3	n/a	pCi/L	-10.000	10.000				07/13/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	200.2	106.433	% Recov	80.000	120.000				07/13/08
Lab ID: W08P003130											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	2.6E+03		RPD			3.922	20.000		07/07/08
MS	Tc-99 by Liquid Scin.	14133-76-7	530.9	70.575	% Recov	75.000	125.000				07/07/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-0.8	n/a	pCi/L	-10.000	10.000				07/07/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	203.8	108.347	% Recov	80.000	120.000				07/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081312
 Matrix: WATER
 Test: Tritium by Liq Sct column prep

Sample Date: 06/27/08
 Receive Date: 06/27/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003217											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	U9.7E +01		RPD			n/a	20.000		07/11/08
MS	Tritium	10028-17-8	24652	95.548	% Recov	75.000	125.000				07/11/08
BATCH QC											
BLANK	Tritium	10028-17-8	U68.5	n/a	pCi/L	-10.000	1000.000				07/11/08
LCS	Tritium	10028-17-8	3260.0	95.324	% Recov	80.000	120.000				07/11/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081312
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>Tc99 matrix spike recovery is slightly low due to the high Tc-99 in the sample. Imh</p> <p>ICP-AES: Sodium MS/MSD acceptable; however, RPD exceeds established laboratory limits. Calcium results > 4X spiking level and spike results are not valid (X flag)</p> <p>ICP-AES: [Samples W08P3236-3248] No zirconium present in the LCS standard. Sodium and calcium sample result exceeds spiking level by a factor of 4 so spike recoveries are not valid. X flag Check standard used to ensure sodium and calcium linearity because sample results are greater than the calibration standard. High magnesium MS recovery; "N" flag.</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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wgppc/5.2 Report#: WSCF20081312

Report Date: 3-sep-2008

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M4W41-SLF-08-939

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 15 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
08/15/08
tel

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081312

The following samples were received from you on 06/30/08. 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
W08P003231	B1VKM5	GPP-PNNL @H3-33	TRENT Water @SR89 90 @TC99-30	06/30/08
W08P003232	B1VKM8	GPP-PNNL @H3-33	TRENT Water @SR89 90 @TC99-30	06/30/08
W08P003233	B1VKN0	GPP-PNNL @H3-33	TRENT Water @SR89 90 @TC99-30	06/30/08
W08P003234	B1VHJ9	GPP-PNNL @VOA-GPP	TRENT Water	06/30/08
W08P003235	B1VM75	GPP-PNNL @GPP6010	TRENT Water	06/30/08
W08P003236	B1VM76	GPP-PNNL @2008 @VOA-GPP	TRENT Water @AB-32 @ALPHA ALKALI	@GPP6010 @IC-30 06/30/08
W08P003237	B1VM78	GPP-PNNL @GPP6010	TRENT Water	06/30/08
W08P003238	B1VM81	GPP-PNNL @GPP6010	TRENT Water	06/30/08
W08P003239	B1VM87	GPP-PNNL @GPP6010	TRENT Water	06/30/08
W08P003240	B1VM79	GPP-PNNL @2008 @VOA-GPP	TRENT Water @AB-32 @ALPHA ALKALI	@GPP6010 @IC-30 06/30/08
W08P003241	B1VM82	GPP-PNNL @2008 @VOA-GPP	TRENT Water @AB-32 @ALPHA ALKALI	@GPP6010 @IC-30 06/30/08
W08P003242	B1VM88	GPP-PNNL @2008 @VOA-GPP	TRENT Water @AB-32 @ALPHA ALKALI	@GPP6010 @IC-30 06/30/08
W08P003243	B1VM72	PNNL-GPP @GPP6010	Water	06/30/08

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081312

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P003244	B1VM73	PNNL-GPP @2008 @AB-32 @VOA-GPP ALKALI	Water @ALPHA @GPP6010 @IC-30	06/30/08
W08P003245	B1VM63	PNNL-GPP @GPP6010	Water	06/30/08
W08P003246	B1VM60	PNNL-GPP @GPP6010	Water	06/30/08
W08P003247	B1VM64	PNNL-GPP @2008 @AB-32 @VOA-GPP ALKALI	Water @ALPHA @GPP6010 @IC-30	06/30/08
W08P003248	B1VM61	PNNL-GPP @2008 @AB-32 @VOA-GPP ALKALI	Water @ALPHA @GPP6010 @IC-30	06/30/08
W08P003249	B1VHK0	PNNL-GPP @VOA-GPP	Water	06/30/08

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
@SR89_90	Strontium 89/90
@TC99-30	TC99 by Liquid Scin.
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-006-226

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Collector R. A. Shepard	Contact/Requester Steve Trent	Telephone No. 509-373-5869	MSIN	FAX
SAF No. S08-006	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title SURV JUNE 2008	HANF-N-506-12	Ice Chest No. CEW0-07-002	Temp.	
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.		
Protocol SURV	Priority: 45 Days	Offsite Property No.		

POSSIBLE SAMPLE HAZARDS/REMARKS ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)	SPECIAL INSTRUCTIONS Site-Wide Generator Knowledge Information Form applies.	Hold Time Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VM72 (F)	W08 P003243	W	6-30-08	12:00	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VM73	3244	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VM73		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool-4C
B1VM73		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VM73		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool-4C
B1VM73		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VM73		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool-4C
ICED							

Relinquished By R. A. Shepard	Sign <i>[Signature]</i>	Date/Time JUN 30 2008	Received By Cathleen [Signature]	Sign <i>[Signature]</i>	Date/Time JUN 30 2008	Matrix *
Relinquished By		Date/Time	Received By		Date/Time	S = Soil DS = Drum Solid SF = Sediment DI = Drum Liquid SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By		Date/Time	Received By		Date/Time	
Relinquished By		Date/Time	Received By		Date/Time	
Relinquished By		Date/Time	Received By		Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time	

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