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FLUOR

Memorandum

M4W41-SLF-08-1023

To:	H. Hampt	E6-35	Date:	September 17, 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 WSCF20081752

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 WSCF20081752:

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

SLF/grf

Attachments 4

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081752
Data Deliverable Date: 12-sep-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
S08-008	B1WMT2	W08P003990	WATER
W08-008	B1WK45	W08P003995	WATER
	B1WK46	W08P003998	WATER
	B1WKM1	W08P003991	WATER
	B1WKM2	W08P003992	WATER
	B1WKM6	W08P003993	WATER
	B1WKM7	W08P003994	WATER
	B1WKN1	W08P003996	WATER
	B1WKN2	W08P003997	WATER
	B1WKN7	W08P003999	WATER
	B1WKN8	W08P004000	WATER

M4W41-SLF-08-1023

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Eleven (11) groundwater samples were received at the WSCF Laboratory on August 14, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 13 through 14, for a complete listing of approved analytical methods.

Inorganic Comments

Ammonia – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 29 for QC details. Analytical Note(s):

- 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.

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 30 through 32 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1WFR2 (SDG# 20081736).
- 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.

Chemical Oxygen Demand – Hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 33 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1WJH4 (SDG# 20081701).

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 34 through 43 for QC details. Analytical Note(s):

- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1WDL4 (SDG# 20081716), B1WJH4 (SDG# 20081701) and B1WDN7 (SDG# 20081887).

  - Batch QC performed on Sample# B1WDL4

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

  - Batch QC performed on Sample# B1WJH4

    - Silver and Sodium contamination detected in the Blank was evaluated and there was no affect on sample results in this batch.

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

  - Batch QC performed on Sample# B1WDN7

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

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 44 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1WDL3 and B1WDL5 (SDG# 20081716); and, B1WDX0 (SDG# 20081785).

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 57 through 60 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1X1N4 (SDG# 20081823, SAF# F08-152) and B1WMT2 of this SDG.

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

All QC controls are within the established limits.

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-08-1023

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 53 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 9/17/08

Client Services: P.D. Min 9/17/2008

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

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Report#: WSCF20081752
Report Date: 16-sep-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 16-sep-2008 15:24:13

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081752

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37602	2	38041	42389	BLANK		Anions by Ion Chromatography
37602	14	38041	42389	BLANK		Anions by Ion Chromatography
37602	28	38041	42389	BLANK		Anions by Ion Chromatography
37602	3	38041	42389	LCS		Anions by Ion Chromatography
37602	15	38041	42389	LCS		Anions by Ion Chromatography
37602	5	38041	42389	DUP	W08P003919	Anions by Ion Chromatography
37602	6	38041	42389	MS	W08P003919	Anions by Ion Chromatography
37602	7	38041	42389	MSD	W08P003919	Anions by Ion Chromatography
37602	7	38041	42389	SPK-RPD	W08P003919	Anions by Ion Chromatography
37602	17	38041	42389	DUP	W08P003951	Anions by Ion Chromatography
37602	18	38041	42389	MS	W08P003951	Anions by Ion Chromatography
37602	19	38041	42389	MSD	W08P003951	Anions by Ion Chromatography
37602	19	38041	42389	SPK-RPD	W08P003951	Anions by Ion Chromatography
37602	24	38041	42389	SAMPLE	W08P003992	Anions by Ion Chromatography
37602	25	38041	42389	SAMPLE	W08P003994	Anions by Ion Chromatography
37602	26	38041	42389	SAMPLE	W08P003995	Anions by Ion Chromatography
37602	27	38041	42389	SAMPLE	W08P003998	Anions by Ion Chromatography
37710	1	38144	42502	BLANK		ICP-200.8 MS All possible meta
37710	2	38144	42502	LCS		ICP-200.8 MS All possible meta
37710	4	38144	42502	MS	W08P003904	ICP-200.8 MS All possible meta
37710	5	38144	42502	MSD	W08P003904	ICP-200.8 MS All possible meta
37710	5	38144	42502	SPK-RPD	W08P003904	ICP-200.8 MS All possible meta
37710	7	38144	42502	MS	W08P003906	ICP-200.8 MS All possible meta
37710	8	38144	42502	MSD	W08P003906	ICP-200.8 MS All possible meta
37710	8	38144	42502	SPK-RPD	W08P003906	ICP-200.8 MS All possible meta
37710	32	38144	42502	SAMPLE	W08P003991	ICP-200.8 MS All possible meta
37710	33	38144	42502	SAMPLE	W08P003992	ICP-200.8 MS All possible meta
37710	34	38144	42502	SAMPLE	W08P003993	ICP-200.8 MS All possible meta
37710	35	38144	42502	SAMPLE	W08P003994	ICP-200.8 MS All possible meta
37710	36	38144	42502	SAMPLE	W08P003996	ICP-200.8 MS All possible meta
37710	37	38144	42502	SAMPLE	W08P003997	ICP-200.8 MS All possible meta
37710	38	38144	42502	SAMPLE	W08P003999	ICP-200.8 MS All possible meta
37710	39	38144	42502	SAMPLE	W08P004000	ICP-200.8 MS All possible meta
37710	10	38144	42502	MS	W08P004107	ICP-200.8 MS All possible meta
37710	11	38144	42502	MSD	W08P004107	ICP-200.8 MS All possible meta
37710	11	38144	42502	SPK-RPD	W08P004107	ICP-200.8 MS All possible meta
37713	3	38152	42509	BLANK		Ammonia (N) by IC
37713	11	38152	42509	BLANK		Ammonia (N) by IC
37713	1	38152	42509	LCS		Ammonia (N) by IC
37713	5	38152	42509	DUP	W08P003992	Ammonia (N) by IC
37713	6	38152	42509	MS	W08P003992	Ammonia (N) by IC
37713	7	38152	42509	MSD	W08P003992	Ammonia (N) by IC
37713	4	38152	42509	SAMPLE	W08P003992	Ammonia (N) by IC
37713	7	38152	42509	SPK-RPD	W08P003992	Ammonia (N) by IC
37713	8	38152	42509	SAMPLE	W08P003994	Ammonia (N) by IC
37713	9	38152	42509	SAMPLE	W08P003997	Ammonia (N) by IC
37713	10	38152	42509	SAMPLE	W08P004000	Ammonia (N) by IC
37879	1	38305	42720	BLANK		Chemical Oxygen Demand
37879	2	38305	42720	LCS		Chemical Oxygen Demand

37879	4	38305	42720	MS	W08P003888	Chemical Oxygen Demand
37879	5	38305	42720	MSD	W08P003888	Chemical Oxygen Demand
37879	5	38305	42720	SPK-RPD	W08P003888	Chemical Oxygen Demand
37879	11	38305	42720	SAMPLE	W08P003992	Chemical Oxygen Demand
37879	12	38305	42720	SAMPLE	W08P003994	Chemical Oxygen Demand
37879	13	38305	42720	SAMPLE	W08P003997	Chemical Oxygen Demand
37879	14	38305	42720	SAMPLE	W08P004000	Chemical Oxygen Demand
37843	1	38274	42743	BLANK		ICP Metals Analysis, Grd H20 P
37843	2	38274	42743	LCS		ICP Metals Analysis, Grd H20 P
37843	4	38274	42743	MS	W08P003905	ICP Metals Analysis, Grd H20 P
37843	5	38274	42743	MSD	W08P003905	ICP Metals Analysis, Grd H20 P
37843	5	38274	42743	SPK-RPD	W08P003905	ICP Metals Analysis, Grd H20 P
37843	9	38274	42743	SAMPLE	W08P003991	ICP Metals Analysis, Grd H20 P
37843	10	38274	42743	SAMPLE	W08P003992	ICP Metals Analysis, Grd H20 P
37843	11	38274	42743	SAMPLE	W08P003994	ICP Metals Analysis, Grd H20 P
37843	12	38274	42743	SAMPLE	W08P003996	ICP Metals Analysis, Grd H20 P
37843	13	38274	42743	SAMPLE	W08P003997	ICP Metals Analysis, Grd H20 P
37843	14	38274	42743	SAMPLE	W08P003999	ICP Metals Analysis, Grd H20 P
37839	1	38269	42786	BLANK		ICP Metals Analysis, Grd H20 P
37839	2	38269	42786	LCS		ICP Metals Analysis, Grd H20 P
37839	4	38269	42786	MS	W08P003880	ICP Metals Analysis, Grd H20 P
37839	5	38269	42786	MSD	W08P003880	ICP Metals Analysis, Grd H20 P
37839	5	38269	42786	SPK-RPD	W08P003880	ICP Metals Analysis, Grd H20 P
37839	22	38269	42786	SAMPLE	W08P003993	ICP Metals Analysis, Grd H20 P
37978	1	38333	42808	BLANK		ICP Metals Analysis, Grd H20 P
37978	2	38333	42808	LCS		ICP Metals Analysis, Grd H20 P
37978	9	38333	42808	SAMPLE	W08P004000	ICP Metals Analysis, Grd H20 P
37978	4	38333	42808	MS	W08P004270	ICP Metals Analysis, Grd H20 P
37978	5	38333	42808	MSD	W08P004270	ICP Metals Analysis, Grd H20 P
37978	5	38333	42808	SPK-RPD	W08P004270	ICP Metals Analysis, Grd H20 P

w13qlog v4.2 16-sep-2008 15:24:13

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20081752

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			42590	BLANK		VOA Ground Water Protection
			42590	LCS		VOA Ground Water Protection
			42590	MS	W08GR03486	VOA Ground Water Protection
			42590	MSD	W08GR03486	VOA Ground Water Protection
			42590	MS	W08P003990	VOA Ground Water Protection
			42590	MSD	W08P003990	VOA Ground Water Protection
			42590	SAMPLE	W08P003990	VOA Ground Water Protection
			42590	SPK-RPD	W08P003990	VOA Ground Water Protection
			42590	SURR	W08P003990	VOA Ground Water Protection
			42590	SAMPLE	W08P003992	VOA Ground Water Protection
			42590	SURR	W08P003992	VOA Ground Water Protection
			42590	SAMPLE	W08P003994	VOA Ground Water Protection
			42590	SURR	W08P003994	VOA Ground Water Protection
			42590	SAMPLE	W08P003997	VOA Ground Water Protection
			42590	SURR	W08P003997	VOA Ground Water Protection
			42590	SAMPLE	W08P004000	VOA Ground Water Protection
			42590	SURR	W08P004000	VOA Ground Water Protection

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-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY	
	EPA-600/4-86-024 300.7	Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical
	HEIS 300.7_CATIONS_IC	Determination of Ammonium by Ion Chromatography
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	HEIS 6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
	HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS
LA-523-470	LA-523-470: CHEMICAL OXYGEN DEMAND	
	EPA-600/4-79-020 410.4	CHEMICAL OXYGEN DEMAND
	HEIS 410.4_COD	Chemical Oxygen Demand
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

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

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

LA-523-455	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
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003991
Client ID: B1WKM1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	B	41.7	ug/L			1.00	25		09/05/08
Magnesium	7439-95-4	LA-505-411		2.11e+04	ug/L			1.00	50		09/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Potassium	7440-09-7	LA-505-411		7.98e+03	ug/L			1.00	1.7e+02		09/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/05/08
Sodium	7440-23-5	LA-505-411		1.96e+04	ug/L			1.00	51		09/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/05/08
Barium	7440-39-3	LA-505-411		76.7	ug/L			1.00	4.0		09/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		09/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/05/08
Calcium	7440-70-2	LA-505-411		1.05e+05	ug/L			1.00	73		09/05/08
Strontium	7440-24-6	LA-505-411		530	ug/L			1.00	4.0		09/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		1.83	ug/L			1.00	0.400		08/20/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003992
Client ID: B1WKM2 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

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	0.174	mg/L			2.00	0.046		08/14/08
Chloride	16887-00-6	LA-533-410	D	6.88	mg/L			2.00	0.094		08/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.64	mg/L			2.00	0.024		08/14/08
Sulfate	14808-79-8	LA-533-410	D	41.8	mg/L			2.00	0.26		08/14/08
Chemical Oxygen Demand											
Chemical Oxygen Demand	COD	LA-523-470	U	< 10.0	mg/L			1.00	10		09/04/08
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	B	53.6	ug/L			1.00	25		09/05/08
Magnesium	7439-95-4	LA-505-411		2.09e+04	ug/L			1.00	50		09/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Nickel	7440-02-0	LA-505-411	B	14.6	ug/L			1.00	4.0		09/05/08
Potassium	7440-09-7	LA-505-411		7.89e+03	ug/L			1.00	1.7e+02		09/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/05/08
Sodium	7440-23-5	LA-505-411		1.93e+04	ug/L			1.00	51		09/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/05/08
Barium	7440-39-3	LA-505-411		76.2	ug/L			1.00	4.0		09/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		09/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/05/08

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003992
Client ID: B1WKM2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		1.06e+05	ug/L			1.00	73		09/05/08
Strontium	7440-24-6	LA-505-411		527	ug/L			1.00	4.0		09/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		1.88	ug/L			1.00	0.400		08/20/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	B	0.0136	mg/L			1.00	9.3e-03		08/20/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003993
Client ID: B1WKM6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		09/09/08
Magnesium	7439-95-4	LA-505-411		1.64e+04	ug/L			1.00	50		09/09/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/09/08
Nickel	7440-02-0	LA-505-411	B	4.80	ug/L			1.00	4.0		09/09/08
Potassium	7440-09-7	LA-505-411		8.61e+03	ug/L			1.00	1.7e+02		09/09/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/09/08
Sodium	7440-23-5	LA-505-411		2.16e+04	ug/L			1.00	51		09/09/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/09/08
Barium	7440-39-3	LA-505-411		77.9	ug/L			1.00	4.0		09/09/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/09/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/09/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/09/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/09/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		09/09/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/09/08
Calcium	7440-70-2	LA-505-411		7.71e+04	ug/L			1.00	73		09/09/08
Strontium	7440-24-6	LA-505-411		433	ug/L			1.00	4.0		09/09/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/09/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.49	ug/L			1.00	0.400		08/20/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003994
Client ID: B1WKM7 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	BD	0.101	mg/L			2.00	0.046		08/14/08
Chloride	16887-00-6	LA-533-410	D	6.16	mg/L			2.00	0.094		08/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	2.87	mg/L			2.00	0.024		08/14/08
Sulfate	14808-79-8	LA-533-410	D	44.8	mg/L			2.00	0.26		08/14/08
Chemical Oxygen Demand											
Chemical Oxygen Demand	COD	LA-523-470	U	< 10.0	mg/L			1.00	10		09/04/08
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	B	81.1	ug/L			1.00	25		09/05/08
Magnesium	7439-95-4	LA-505-411		1.62e+04	ug/L			1.00	50		09/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Potassium	7440-09-7	LA-505-411		7.88e+03	ug/L			1.00	1.7e+02		09/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/05/08
Sodium	7440-23-5	LA-505-411		2.02e+04	ug/L			1.00	51		09/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/05/08
Barium	7440-39-3	LA-505-411		77.6	ug/L			1.00	4.0		09/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		09/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/05/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003994
Client ID: B1WKM7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		8.11e+04	ug/L			1.00	73		09/05/08
Strontium	7440-24-6	LA-505-411		438	ug/L			1.00	4.0		09/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.63	ug/L			1.00	0.400		08/20/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	B	0.0123	mg/L			1.00	9.3e-03		08/20/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003995
Client ID: B1WK45 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

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	0.218	mg/L			2.00	0.046		08/14/08
Chloride	16887-00-6	LA-533-410	D	7.17	mg/L			2.00	0.094		08/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.97	mg/L			2.00	0.024		08/14/08
Sulfate	14808-79-8	LA-533-410	D	39.3	mg/L			2.00	0.26		08/14/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003996
Client ID: B1WKN1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	B	45.0	ug/L			1.00	25		09/05/08
Magnesium	7439-95-4	LA-505-411		1.62e+04	ug/L			1.00	50		09/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Potassium	7440-09-7	LA-505-411		7.03e+03	ug/L			1.00	1.7e+02		09/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/05/08
Sodium	7440-23-5	LA-505-411		1.98e+04	ug/L			1.00	51		09/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/05/08
Barium	7440-39-3	LA-505-411		51.8	ug/L			1.00	4.0		09/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		09/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/05/08
Calcium	7440-70-2	LA-505-411		6.91e+04	ug/L			1.00	73		09/05/08
Strontium	7440-24-6	LA-505-411		387	ug/L			1.00	4.0		09/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.81	ug/L			1.00	0.400		08/20/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003997
Client ID: B1WKN2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Chemical Oxygen Demand											
Chemical Oxygen Demand	COD	LA-523-470	U	< 10.0	mg/L			1.00	10		09/04/08
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		09/05/08
Magnesium	7439-95-4	LA-505-411		1.64e+04	ug/L			1.00	50		09/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Potassium	7440-09-7	LA-505-411		7.06e+03	ug/L			1.00	1.7e+02		09/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/05/08
Sodium	7440-23-5	LA-505-411		1.99e+04	ug/L			1.00	51		09/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/05/08
Barium	7440-39-3	LA-505-411		51.9	ug/L			1.00	4.0		09/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		09/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/05/08
Calcium	7440-70-2	LA-505-411		6.98e+04	ug/L			1.00	73		09/05/08
Strontium	7440-24-6	LA-505-411		391	ug/L			1.00	4.0		09/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.82	ug/L			1.00	0.400		08/20/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003997
Client ID: B1WKN2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	U	< 9.32e-03	mg/L			1.00	9.3e-03		08/20/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003998
Client ID: B1WK46 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

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	0.223	mg/L			2.00	0.046		08/14/08
Chloride	16887-00-6	LA-533-410	D	7.16	mg/L			2.00	0.094		08/14/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/14/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	3.98	mg/L			2.00	0.024		08/14/08
Sulfate	14808-79-8	LA-533-410	D	39.3	mg/L			2.00	0.26		08/14/08

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003999
Client ID: B1WKN7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		09/05/08
Magnesium	7439-95-4	LA-505-411		1.58e+04	ug/L			1.00	50		09/05/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Potassium	7440-09-7	LA-505-411		6.79e+03	ug/L			1.00	1.7e+02		09/05/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/05/08
Sodium	7440-23-5	LA-505-411		1.91e+04	ug/L			1.00	51		09/05/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/05/08
Barium	7440-39-3	LA-505-411		49.4	ug/L			1.00	4.0		09/05/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/05/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/05/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		09/05/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/05/08
Calcium	7440-70-2	LA-505-411		6.81e+04	ug/L			1.00	73		09/05/08
Strontium	7440-24-6	LA-505-411		378	ug/L			1.00	4.0		09/05/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/05/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.80	ug/L			1.00	0.400		08/20/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004000
Client ID: B1WKN8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Chemical Oxygen Demand											
Chemical Oxygen Demand	COD	LA-523-470	U	< 10.0	mg/L			1.00	10		09/04/08
ICP Metals Analysis, Grd H20 P Prep											**09/08/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		09/10/08
Magnesium	7439-95-4	LA-505-411		1.61e+04	ug/L			1.00	50		09/10/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
Potassium	7440-09-7	LA-505-411		7.60e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.07e+04	ug/L			1.00	51		09/10/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		09/10/08
Barium	7440-39-3	LA-505-411		54.2	ug/L			1.00	4.0		09/10/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		09/10/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		09/10/08
Vanadium	7440-62-2	LA-505-411	B	12.7	ug/L			1.00	12		09/10/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		09/10/08
Calcium	7440-70-2	LA-505-411		6.75e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		399	ug/L			1.00	4.0		09/10/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
ICP-200.8 MS All possible meta Prep											**08/20/08**
ICP-200.8 MS All possible meta											
Arsenic	7440-38-2	LA-505-412		2.78	ug/L			1.00	0.400		08/20/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004000
Client ID: B1WKN8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Inorganic
Sampled: 08/14/08
Received: 08/14/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	B	0.0119	mg/L			1.00	9.3e-03		08/20/08

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

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: Ammonia (N) by IC

Sample Date: 08/14/08
Receive Date:08/14/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003992											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Ammonia (N) by IC	7664-41-7	<9.32e-3		RPD			n/a	20.000	U	08/20/08
MS	Ammonia (N) by IC	7664-41-7	0.506	101.606	% Recov	80.000	120.000				08/20/08
MSD	Ammonia (N) by IC	7664-41-7	0.5048	101.365	% Recov	80.000	120.000				08/20/08
SPK-RPD	Ammonia (N) by IC	7664-41-7	101.365		RPD			0.237	20.000		08/20/08
BATCH QC											
BLANK	Ammonia (N) by IC	7664-41-7	<9.32e-3	n/a	mg/L	0.000	0.002			U	08/20/08
BLANK	Ammonia (N) by IC	7664-41-7	<9.32e-3	n/a	mg/L	0.000	0.002			U	08/20/08
LCS	Ammonia (N) by IC	7664-41-7	99.016	99.016	% Recov	80.000	120.000				08/20/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003919											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	5.336		RPD			0.056	20.000		08/14/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	08/14/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	08/14/08
DUP	Nitrogen in Nitrate	NO3-N	2.2604		RPD			0.199	20.000		08/14/08
DUP	Sulfate	14808-79-8	24.3181		RPD			0.087	20.000		08/14/08
MS	Chloride	16887-00-6	0.9185	92.312	% Recov	80.000	120.000				08/14/08
MS	Fluoride	16984-48-8	0.4837	98.114	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrite	NO2-N	0.47875	97.307	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrate	NO3-N	0.429	96.188	% Recov	80.000	120.000				08/14/08
MS	Sulfate	14808-79-8	1.8072	92.204	% Recov	80.000	120.000				08/14/08
MSD	Chloride	16887-00-6	0.92505	92.970	% Recov	80.000	120.000				08/14/08
MSD	Fluoride	16984-48-8	0.5002	101.460	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrite	NO2-N	0.49125	99.848	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrate	NO3-N	0.45835	102.769	% Recov	80.000	120.000				08/14/08
MSD	Sulfate	14808-79-8	1.83265	93.503	% Recov	80.000	120.000				08/14/08
SPK-RPD	Chloride	16887-00-6	92.970		RPD			0.710	20.000		08/14/08
SPK-RPD	Fluoride	16984-48-8	101.460		RPD			3.353	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	99.848		RPD			2.578	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	102.769		RPD			6.615	20.000		08/14/08
SPK-RPD	Sulfate	14808-79-8	93.503		RPD			1.399	20.000		08/14/08
Lab ID: W08P003951											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	3.3561		RPD			0.967	20.000		08/14/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	08/14/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Nitrogen in Nitrate	NO3-N	1.3416		RPD			0.424	20.000		08/14/08
DUP	Sulfate	14808-79-8	17.556		RPD			1.327	20.000		08/14/08
MS	Chloride	16887-00-6	0.918	92.261	% Recov	80.000	120.000				08/14/08
MS	Fluoride	16984-48-8	0.49865	101.146	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrite	NO2-N	0.4784	97.236	% Recov	80.000	120.000				08/14/08
MS	Nitrogen in Nitrate	NO3-N	0.4491	100.695	% Recov	80.000	120.000				08/14/08
MS	Sulfate	14808-79-8	1.7471	89.138	% Recov	80.000	120.000				08/14/08
MSD	Chloride	16887-00-6	0.9115	91.608	% Recov	80.000	120.000				08/14/08
MSD	Fluoride	16984-48-8	0.4957	100.548	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrite	NO2-N	0.4876	99.106	% Recov	80.000	120.000				08/14/08
MSD	Nitrogen in Nitrate	NO3-N	0.41975	94.114	% Recov	80.000	120.000				08/14/08
MSD	Sulfate	14808-79-8	1.6764	85.531	% Recov	80.000	120.000				08/14/08
SPK-RPD	Chloride	16887-00-6	91.608		RPD			0.710	20.000		08/14/08
SPK-RPD	Fluoride	16984-48-8	100.548		RPD			0.593	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	99.106		RPD			1.905	20.000		08/14/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	94.114		RPD			6.756	20.000		08/14/08
SPK-RPD	Sulfate	14808-79-8	85.531		RPD			4.130	20.000		08/14/08

BATCH QC

BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/14/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/14/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/14/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081752
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 Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/14/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/14/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/14/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/14/08
LCS	Chloride	16887-00-6	196.9433	97.982	% Recov	80.000	120.000				08/14/08
LCS	Chloride	16887-00-6	201.4201	100.209	% Recov	80.000	120.000				08/14/08
LCS	Fluoride	16984-48-8	108.5712	109.007	% Recov	80.000	120.000				08/14/08
LCS	Fluoride	16984-48-8	111.7975	112.246	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrite	NO2-N	95.8553	96.434	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrite	NO2-N	98.8522	99.449	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrate	NO3-N	90.1066	100.007	% Recov	80.000	120.000				08/14/08
LCS	Nitrogen in Nitrate	NO3-N	92.8255	103.025	% Recov	80.000	120.000				08/14/08
LCS	Sulfate	14808-79-8	386.056	97.489	% Recov	80.000	120.000				08/14/08
LCS	Sulfate	14808-79-8	394.3108	99.573	% Recov	80.000	120.000				08/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: Chemical Oxygen Demand

Sample Date: 08/11/08
Receive Date:08/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003888											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Chemical Oxygen Demand	COD	237	94.800	% Recov	75.000	125.000				09/04/08
MSD	Chemical Oxygen Demand	COD	244	97.600	% Recov	75.000	125.000				09/04/08
SPK-RPD	Chemical Oxygen Demand	COD	97.600		RPD			2.911	20.000		09/04/08
BATCH QC											
BLANK	Chemical Oxygen Demand	COD	< 10	n/a	mg/L	-20.000	20.000			U	09/04/08
LCS	Chemical Oxygen Demand	COD	104	104.000	% Recov	80.000	120.000				09/04/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

Lab ID: W08P003905
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Silver	7440-22-4	909.9	90.990	% Recov	75.000	125.000				09/05/08
MS	Barium	7440-39-3	466.5	93.300	% Recov	75.000	125.000				09/05/08
MS	Beryllium	7440-41-7	475.2	95.040	% Recov	75.000	125.000				09/05/08
MS	Calcium	7440-70-2	1620	162.000	% Recov	75.000	125.000			*	09/05/08
MS	Cadmium	7440-43-9	959.9	95.990	% Recov	75.000	125.000				09/05/08
MS	Cobalt	7440-48-4	909.3	90.930	% Recov	75.000	125.000				09/05/08
MS	Chromium	7440-47-3	941.8	94.180	% Recov	75.000	125.000				09/05/08
MS	Copper	7440-50-8	901	90.100	% Recov	75.000	125.000				09/05/08
MS	Iron	7439-89-6	968.1	96.810	% Recov	75.000	125.000				09/05/08
MS	Potassium	7440-09-7	9136	91.360	% Recov	75.000	125.000				09/05/08
MS	Magnesium	7439-95-4	1090	109.000	% Recov	75.000	125.000				09/05/08
MS	Manganese	7439-96-5	946.8	94.680	% Recov	75.000	125.000				09/05/08
MS	Sodium	7440-23-5	1155	115.500	% Recov	75.000	125.000				09/05/08
MS	Nickel	7440-02-0	962	96.200	% Recov	75.000	125.000				09/05/08
MS	Antimony	7440-36-0	943.2	94.320	% Recov	75.000	125.000				09/05/08
MS	Strontium	7440-24-6	440.6	88.120	% Recov	75.000	125.000				09/05/08
MS	Vanadium	7440-62-2	943.5	94.350	% Recov	75.000	125.000				09/05/08
MS	Zinc	7440-66-6	963.4	96.340	% Recov	75.000	125.000				09/05/08
MSD	Silver	7440-22-4	919.9	91.990	% Recov	75.000	125.000				09/05/08
MSD	Barium	7440-39-3	473.4	94.680	% Recov	75.000	125.000				09/05/08
MSD	Beryllium	7440-41-7	480.2	96.040	% Recov	75.000	125.000				09/05/08
MSD	Calcium	7440-70-2	1450	145.000	% Recov	75.000	125.000			*	09/05/08
MSD	Cadmium	7440-43-9	972.4	97.240	% Recov	75.000	125.000				09/05/08
MSD	Cobalt	7440-48-4	916.3	91.630	% Recov	75.000	125.000				09/05/08
MSD	Chromium	7440-47-3	943.4	94.340	% Recov	75.000	125.000				09/05/08
MSD	Copper	7440-50-8	919.9	91.990	% Recov	75.000	125.000				09/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	1039	103.900	% Recov	75.000	125.000				09/05/08
MSD	Potassium	7440-09-7	9476	94.760	% Recov	75.000	125.000				09/05/08
MSD	Magnesium	7439-95-4	1219	121.900	% Recov	75.000	125.000				09/05/08
MSD	Manganese	7439-96-5	953.2	95.320	% Recov	75.000	125.000				09/05/08
MSD	Sodium	7440-23-5	1425	142.500	% Recov	75.000	125.000			*	09/05/08
MSD	Nickel	7440-02-0	966	96.600	% Recov	75.000	125.000				09/05/08
MSD	Antimony	7440-36-0	980.8	98.080	% Recov	75.000	125.000				09/05/08
MSD	Strontium	7440-24-6	446.9	89.380	% Recov	75.000	125.000				09/05/08
MSD	Vanadium	7440-62-2	939.2	93.920	% Recov	75.000	125.000				09/05/08
MSD	Zinc	7440-66-6	973	97.300	% Recov	75.000	125.000				09/05/08
SPK-RPD	Silver	7440-22-4	91.990		RPD			1.093	20.000		09/05/08
SPK-RPD	Barium	7440-39-3	94.680		RPD			1.468	20.000		09/05/08
SPK-RPD	Beryllium	7440-41-7	96.040		RPD			1.047	20.000		09/05/08
SPK-RPD	Calcium	7440-70-2	145.000		RPD			11.075	20.000		09/05/08
SPK-RPD	Cadmium	7440-43-9	97.240		RPD			1.294	20.000		09/05/08
SPK-RPD	Cobalt	7440-48-4	91.630		RPD			0.767	20.000		09/05/08
SPK-RPD	Chromium	7440-47-3	94.340		RPD			0.170	20.000		09/05/08
SPK-RPD	Copper	7440-50-8	91.990		RPD			2.076	20.000		09/05/08
SPK-RPD	Iron	7439-89-6	103.900		RPD			7.065	20.000		09/05/08
SPK-RPD	Potassium	7440-09-7	94.760		RPD			3.654	20.000		09/05/08
SPK-RPD	Magnesium	7439-95-4	121.900		RPD			11.174	20.000		09/05/08
SPK-RPD	Manganese	7439-96-5	95.320		RPD			0.674	20.000		09/05/08
SPK-RPD	Sodium	7440-23-5	142.500		RPD			20.930	20.000 *		09/05/08
SPK-RPD	Nickel	7440-02-0	96.600		RPD			0.415	20.000		09/05/08
SPK-RPD	Antimony	7440-36-0	98.080		RPD			3.909	20.000		09/05/08
SPK-RPD	Strontium	7440-24-6	89.380		RPD			1.420	20.000		09/05/08
SPK-RPD	Vanadium	7440-62-2	93.920		RPD			0.457	20.000		09/05/08
SPK-RPD	Zinc	7440-66-6	97.300		RPD			0.992	20.000		09/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

BATCH QC

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	09/05/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	09/05/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	09/05/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	09/05/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	09/05/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	09/05/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	09/05/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	09/05/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	09/05/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	09/05/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	09/05/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	09/05/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	09/05/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	09/05/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	09/05/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	09/05/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	09/05/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	09/05/08
LCS	Silver	7440-22-4	924.2	92.420	% Recov	80.000	120.000				09/05/08
LCS	Barium	7440-39-3	467.2	93.440	% Recov	80.000	120.000				09/05/08
LCS	Beryllium	7440-41-7	486	97.200	% Recov	80.000	120.000				09/05/08
LCS	Calcium	7440-70-2	1001	100.100	% Recov	80.000	120.000				09/05/08
LCS	Cadmium	7440-43-9	989.2	98.920	% Recov	80.000	120.000				09/05/08
LCS	Cobalt	7440-48-4	935.1	93.510	% Recov	80.000	120.000				09/05/08
LCS	Chromium	7440-47-3	949.9	94.990	% Recov	80.000	120.000				09/05/08
LCS	Copper	7440-50-8	934.9	93.490	% Recov	80.000	120.000				09/05/08
LCS	Iron	7439-89-6	964.7	96.470	% Recov	80.000	120.000				09/05/08
LCS	Potassium	7440-09-7	9445	94.450	% Recov	80.000	120.000				09/05/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Magnesium	7439-95-4	926.7	92.670	% Recov	80.000	120.000				09/05/08
LCS	Manganese	7439-96-5	954.9	95.490	% Recov	80.000	120.000				09/05/08
LCS	Sodium	7440-23-5	856.4	85.640	% Recov	80.000	120.000				09/05/08
LCS	Nickel	7440-02-0	990.9	99.090	% Recov	80.000	120.000				09/05/08
LCS	Antimony	7440-36-0	990.9	99.090	% Recov	80.000	120.000				09/05/08
LCS	Strontium	7440-24-6	434.3	86.860	% Recov	80.000	120.000				09/05/08
LCS	Vanadium	7440-62-2	935.6	93.560	% Recov	80.000	120.000				09/05/08
LCS	Zinc	7440-66-6	989.9	98.990	% Recov	80.000	120.000				09/05/08

Lab ID: W08P003880
BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	949.3	94.930	% Recov	75.000	125.000				09/09/08
MS	Barium	7440-39-3	474.8	94.960	% Recov	75.000	125.000				09/09/08
MS	Beryllium	7440-41-7	490.6	98.120	% Recov	75.000	125.000				09/09/08
MS	Calcium	7440-70-2	-4800	-480.000	% Recov	75.000	125.000			•	09/09/08
MS	Cadmium	7440-43-9	950	95.000	% Recov	75.000	125.000				09/09/08
MS	Cobalt	7440-48-4	899.8	89.980	% Recov	75.000	125.000				09/09/08
MS	Chromium	7440-47-3	924.6	92.460	% Recov	75.000	125.000				09/09/08
MS	Copper	7440-50-8	920.6	92.060	% Recov	75.000	125.000				09/09/08
MS	Iron	7439-89-6	929.5	92.950	% Recov	75.000	125.000				09/09/08
MS	Potassium	7440-09-7	9250	92.500	% Recov	75.000	125.000				09/09/08
MS	Magnesium	7439-95-4	-1350	-135.000	% Recov	75.000	125.000			•	09/09/08
MS	Manganese	7439-96-5	948.8	94.880	% Recov	75.000	125.000				09/09/08
MS	Sodium	7440-23-5	-1600	-160.000	% Recov	75.000	125.000			•	09/09/08
MS	Nickel	7440-02-0	883.3	88.330	% Recov	75.000	125.000				09/09/08
MS	Antimony	7440-36-0	937.7	93.770	% Recov	75.000	125.000				09/09/08
MS	Strontium	7440-24-6	439	87.800	% Recov	75.000	125.000				09/09/08
MS	Vanadium	7440-62-2	934.7	93.470	% Recov	75.000	125.000				09/09/08
MS	Zinc	7440-66-6	929.2	92.920	% Recov	75.000	125.000				09/09/08
MSD	Silver	7440-22-4	948.9	94.890	% Recov	75.000	125.000				09/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 08/11/08
Receive Date:08/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Barium	7440-39-3	479.8	95.960	% Recov	75.000	125.000				09/09/08
MSD	Beryllium	7440-41-7	491.8	98.360	% Recov	75.000	125.000				09/09/08
MSD	Calcium	7440-70-2	-1200	-120.000	% Recov	75.000	125.000			•	09/09/08
MSD	Cadmium	7440-43-9	946.3	94.630	% Recov	75.000	125.000				09/09/08
MSD	Cobalt	7440-48-4	906.8	90.680	% Recov	75.000	125.000				09/09/08
MSD	Chromium	7440-47-3	939.4	93.940	% Recov	75.000	125.000				09/09/08
MSD	Copper	7440-50-8	918.4	91.840	% Recov	75.000	125.000				09/09/08
MSD	Iron	7439-89-6	931.5	93.150	% Recov	75.000	125.000				09/09/08
MSD	Potassium	7440-09-7	8530	85.300	% Recov	75.000	125.000				09/09/08
MSD	Magnesium	7439-95-4	-1010	-101.000	% Recov	75.000	125.000			•	09/09/08
MSD	Manganese	7439-96-5	955.8	95.580	% Recov	75.000	125.000				09/09/08
MSD	Sodium	7440-23-5	-4300	-430.000	% Recov	75.000	125.000			•	09/09/08
MSD	Nickel	7440-02-0	885.3	88.530	% Recov	75.000	125.000				09/09/08
MSD	Antimony	7440-36-0	911.5	91.150	% Recov	75.000	125.000				09/09/08
MSD	Strontium	7440-24-6	470	94.000	% Recov	75.000	125.000				09/09/08
MSD	Vanadium	7440-62-2	952.3	95.230	% Recov	75.000	125.000				09/09/08
MSD	Zinc	7440-66-6	927.3	92.730	% Recov	75.000	125.000				09/09/08
SPK-RPD	Silver	7440-22-4	94.890		RPD			0.042	20.000		09/09/08
SPK-RPD	Barium	7440-39-3	95.960		RPD			1.048	20.000		09/09/08
SPK-RPD	Beryllium	7440-41-7	98.360		RPD			0.244	20.000		09/09/08
SPK-RPD	Calcium	7440-70-2	-120.000		RPD			-120.000	20.000	•	09/09/08
SPK-RPD	Cadmium	7440-43-9	94.630		RPD			0.390	20.000		09/09/08
SPK-RPD	Cobalt	7440-48-4	90.680		RPD			0.775	20.000		09/09/08
SPK-RPD	Chromium	7440-47-3	93.940		RPD			1.588	20.000		09/09/08
SPK-RPD	Copper	7440-50-8	91.840		RPD			0.239	20.000		09/09/08
SPK-RPD	Iron	7439-89-6	93.150		RPD			0.215	20.000		09/09/08
SPK-RPD	Potassium	7440-09-7	85.300		RPD			8.099	20.000		09/09/08
SPK-RPD	Magnesium	7439-95-4	-101.000		RPD			-28.814	20.000	•	09/09/08
SPK-RPD	Manganese	7439-96-5	95.580		RPD			0.735	20.000		09/09/08
SPK-RPD	Sodium	7440-23-5	-430.000		RPD			-91.525	20.000	•	09/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 08/11/08
Receive Date:08/11/08

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	88.530		RPD			0.226	20.000		09/09/08
SPK-RPD	Antimony	7440-36-0	91.150		RPD			2.834	20.000		09/09/08
SPK-RPD	Strontium	7440-24-6	94.000		RPD			6.821	20.000		09/09/08
SPK-RPD	Vanadium	7440-62-2	95.230		RPD			1.865	20.000		09/09/08
SPK-RPD	Zinc	7440-66-6	92.730		RPD			0.205	20.000		09/09/08

BATCH QC

BLANK	Silver	7440-22-4	6	6.000	ug/L						09/09/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	09/09/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	09/09/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	09/09/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	09/09/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	09/09/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	09/09/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	09/09/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	09/09/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	09/09/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	09/09/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	09/09/08
BLANK	Sodium	7440-23-5	666.3	666.300	ug/L						09/09/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	09/09/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	09/09/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	09/09/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	09/09/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	09/09/08
LCS	Silver	7440-22-4	956.7	95.670	% Recov	80.000	120.000				09/09/08
LCS	Barium	7440-39-3	459.9	91.980	% Recov	80.000	120.000				09/09/08
LCS	Beryllium	7440-41-7	516.6	103.320	% Recov	80.000	120.000				09/09/08
LCS	Calcium	7440-70-2	1029	102.900	% Recov	80.000	120.000				09/09/08
LCS	Cadmium	7440-43-9	1004	100.400	% Recov	80.000	120.000				09/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Cobalt	7440-48-4	976.1	97.610	% Recov	80.000	120.000				09/09/08
LCS	Chromium	7440-47-3	947.3	94.730	% Recov	80.000	120.000				09/09/08
LCS	Copper	7440-50-8	978.2	97.820	% Recov	80.000	120.000				09/09/08
LCS	Iron	7439-89-6	944.4	94.440	% Recov	80.000	120.000				09/09/08
LCS	Potassium	7440-09-7	11060	110.600	% Recov	80.000	120.000				09/09/08
LCS	Magnesium	7439-95-4	980.9	98.090	% Recov	80.000	120.000				09/09/08
LCS	Manganese	7439-96-5	958.2	95.820	% Recov	80.000	120.000				09/09/08
LCS	Sodium	7440-23-5	1093	109.300	% Recov	80.000	120.000				09/09/08
LCS	Nickel	7440-02-0	986.1	98.610	% Recov	80.000	120.000				09/09/08
LCS	Antimony	7440-36-0	1001	100.100	% Recov	80.000	120.000				09/09/08
LCS	Strontium	7440-24-6	497.4	99.480	% Recov	80.000	120.000				09/09/08
LCS	Vanadium	7440-62-2	953.8	95.380	% Recov	80.000	120.000				09/09/08
LCS	Zinc	7440-66-6	986.1	98.610	% Recov	80.000	120.000				09/09/08

Lab ID: W08P004270
BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	953.1	95.310	% Recov	75.000	125.000				09/10/08
MS	Barium	7440-39-3	476.1	95.220	% Recov	75.000	125.000				09/10/08
MS	Beryllium	7440-41-7	516.7	103.340	% Recov	75.000	125.000				09/10/08
MS	Calcium	7440-70-2	-20	-2.000	% Recov	75.000	125.000			*	09/10/08
MS	Cadmium	7440-43-9	981.7	98.170	% Recov	75.000	125.000				09/10/08
MS	Cobalt	7440-48-4	977	97.700	% Recov	75.000	125.000				09/10/08
MS	Chromium	7440-47-3	963.1	96.310	% Recov	75.000	125.000				09/10/08
MS	Copper	7440-50-8	966.3	96.630	% Recov	75.000	125.000				09/10/08
MS	Iron	7439-89-6	951.1	95.110	% Recov	75.000	125.000				09/10/08
MS	Potassium	7440-09-7	10068	100.680	% Recov	75.000	125.000				09/10/08
MS	Magnesium	7439-95-4	90	9.000	% Recov	75.000	125.000			*	09/10/08
MS	Manganese	7439-96-5	984.5	98.450	% Recov	75.000	125.000				09/10/08
MS	Sodium	7440-23-5	-230	-23.000	% Recov	75.000	125.000			*	09/10/08
MS	Nickel	7440-02-0	968.1	96.810	% Recov	75.000	125.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 08/29/08
Receive Date:08/29/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Antimony	7440-36-0	977.3	97.730	% Recov	75.000	125.000				09/10/08
MS	Strontium	7440-24-6	511.5	102.300	% Recov	75.000	125.000				09/10/08
MS	Vanadium	7440-62-2	955	95.500	% Recov	75.000	125.000				09/10/08
MS	Zinc	7440-66-6	985.8	98.580	% Recov	75.000	125.000				09/10/08
MSD	Silver	7440-22-4	970.5	97.050	% Recov	75.000	125.000				09/10/08
MSD	Barium	7440-39-3	474.5	94.900	% Recov	75.000	125.000				09/10/08
MSD	Beryllium	7440-41-7	519	103.800	% Recov	75.000	125.000				09/10/08
MSD	Calcium	7440-70-2	-350	-35.000	% Recov	75.000	125.000			*	09/10/08
MSD	Cadmium	7440-43-9	994.9	99.490	% Recov	75.000	125.000				09/10/08
MSD	Cobalt	7440-48-4	973.5	97.350	% Recov	75.000	125.000				09/10/08
MSD	Chromium	7440-47-3	968.2	96.820	% Recov	75.000	125.000				09/10/08
MSD	Copper	7440-50-8	990.7	99.070	% Recov	75.000	125.000				09/10/08
MSD	Iron	7439-89-6	953.3	95.330	% Recov	75.000	125.000				09/10/08
MSD	Potassium	7440-09-7	10828	108.280	% Recov	75.000	125.000				09/10/08
MSD	Magnesium	7439-95-4	660	66.000	% Recov	75.000	125.000			*	09/10/08
MSD	Manganese	7439-96-5	978.7	97.870	% Recov	75.000	125.000				09/10/08
MSD	Sodium	7440-23-5	1030	103.000	% Recov	75.000	125.000				09/10/08
MSD	Nickel	7440-02-0	971	97.100	% Recov	75.000	125.000				09/10/08
MSD	Antimony	7440-36-0	994.9	99.490	% Recov	75.000	125.000				09/10/08
MSD	Strontium	7440-24-6	508.7	101.740	% Recov	75.000	125.000				09/10/08
MSD	Vanadium	7440-62-2	957.5	95.750	% Recov	75.000	125.000				09/10/08
MSD	Zinc	7440-66-6	988.6	98.860	% Recov	75.000	125.000				09/10/08
SPK-RPD	Silver	7440-22-4	97.050		RPD			1.809	20.000		09/10/08
SPK-RPD	Barium	7440-39-3	94.900		RPD			0.337	20.000		09/10/08
SPK-RPD	Beryllium	7440-41-7	103.800		RPD			0.444	20.000		09/10/08
SPK-RPD	Calcium	7440-70-2	-35.000		RPD			-178.378	20.000	*	09/10/08
SPK-RPD	Cadmium	7440-43-9	99.490		RPD			1.336	20.000		09/10/08
SPK-RPD	Cobalt	7440-48-4	97.350		RPD			0.359	20.000		09/10/08
SPK-RPD	Chromium	7440-47-3	96.820		RPD			0.528	20.000		09/10/08
SPK-RPD	Copper	7440-50-8	99.070		RPD			2.494	20.000		09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 08/29/08
Receive Date:08/29/08

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	95.330		RPD			0.231	20.000		09/10/08
SPK-RPD	Potassium	7440-09-7	108.280		RPD			7.274	20.000		09/10/08
SPK-RPD	Magnesium	7439-95-4	66.000		RPD			152.000	20.000 •		09/10/08
SPK-RPD	Manganese	7439-96-5	97.870		RPD			0.591	20.000		09/10/08
SPK-RPD	Sodium	7440-23-5	103.000		RPD			315.000	20.000 •		09/10/08
SPK-RPD	Nickel	7440-02-0	97.100		RPD			0.299	20.000		09/10/08
SPK-RPD	Antimony	7440-36-0	99.490		RPD			1.785	20.000		09/10/08
SPK-RPD	Strontium	7440-24-6	101.740		RPD			0.549	20.000		09/10/08
SPK-RPD	Vanadium	7440-62-2	95.750		RPD			0.261	20.000		09/10/08
SPK-RPD	Zinc	7440-66-6	98.860		RPD			0.284	20.000		09/10/08

BATCH QC

BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	09/10/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	09/10/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	09/10/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	09/10/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	09/10/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	09/10/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	09/10/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	09/10/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	09/10/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	09/10/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	09/10/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	09/10/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	09/10/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	09/10/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	09/10/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	09/10/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	09/10/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Silver	7440-22-4	967.4	96.740	% Recov	80.000	120.000				09/10/08
LCS	Barium	7440-39-3	472.6	94.520	% Recov	80.000	120.000				09/10/08
LCS	Beryllium	7440-41-7	532.4	106.480	% Recov	80.000	120.000				09/10/08
LCS	Calcium	7440-70-2	944.4	94.440	% Recov	80.000	120.000				09/10/08
LCS	Cadmium	7440-43-9	1006	100.600	% Recov	80.000	120.000				09/10/08
LCS	Cobalt	7440-48-4	1012	101.200	% Recov	80.000	120.000				09/10/08
LCS	Chromium	7440-47-3	981.7	98.170	% Recov	80.000	120.000				09/10/08
LCS	Copper	7440-50-8	1006	100.600	% Recov	80.000	120.000				09/10/08
LCS	Iron	7439-89-6	951.9	95.190	% Recov	80.000	120.000				09/10/08
LCS	Potassium	7440-09-7	10850	108.500	% Recov	80.000	120.000				09/10/08
LCS	Magnesium	7439-95-4	979.9	97.990	% Recov	80.000	120.000				09/10/08
LCS	Manganese	7439-96-5	994.8	99.480	% Recov	80.000	120.000				09/10/08
LCS	Sodium	7440-23-5	1004	100.400	% Recov	80.000	120.000				09/10/08
LCS	Nickel	7440-02-0	1008	100.800	% Recov	80.000	120.000				09/10/08
LCS	Antimony	7440-36-0	998.2	99.820	% Recov	80.000	120.000				09/10/08
LCS	Strontium	7440-24-6	522.1	104.420	% Recov	80.000	120.000				09/10/08
LCS	Vanadium	7440-62-2	972.3	97.230	% Recov	80.000	120.000				09/10/08
LCS	Zinc	7440-66-6	1052	105.200	% Recov	80.000	120.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081752
Matrix: WATER
Test: ICP-200.8 MS All possible meta

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003904											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	36.76	91.900	% Recov	70.000	130.000				08/20/08
MSD	Arsenic	7440-38-2	36.52	91.300	% Recov	70.000	130.000				08/20/08
SPK-RPD	Arsenic	7440-38-2	91.300		RPD			0.655	20.000		08/20/08
Lab ID: W08P003906											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	35.57	88.925	% Recov	70.000	130.000				08/20/08
MSD	Arsenic	7440-38-2	36.32	90.800	% Recov	70.000	130.000				08/20/08
SPK-RPD	Arsenic	7440-38-2	90.800		RPD			2.087	20.000		08/20/08
Lab ID: W08P004107											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Arsenic	7440-38-2	37.02	92.550	% Recov	70.000	130.000				08/20/08
MSD	Arsenic	7440-38-2	36.9	92.250	% Recov	70.000	130.000				08/20/08
SPK-RPD	Arsenic	7440-38-2	92.250		RPD			0.325	20.000		08/20/08
BATCH QC											
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	08/20/08
LCS	Arsenic	7440-38-2	34.31	85.775	% Recov	85.000	115.000				08/20/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081752
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: [Samples W08P3991-3992; 3994; 3996-3997; 3999] No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards used to ensure sodium, calcium, and magnesium linearity because sample results are greater than the calibration standard. ICP-AES: [Samples W08P3993] High silver and sodium preparation blank results; "C" flag if applicable. No zirconium present in the LCS standard. Magnesium, sodium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check and high standards used to ensure sodium, magnesium, and calcium linearity because sample results are greater than the calibration standard. ICP-AES: B-Flag for samples <5X MDL ICP-AES: [Sample W08P4000] No zirconium is present in the LCS standard. Magnesium, sodium, and calcium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid.

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

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WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081752
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
				Check standard used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard.

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-008
Sample # W08P003990
Client ID: B1WMT2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	J	4.40	ug/L			1.00	1.0		08/26/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		08/26/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/26/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-008
Sample # W08P003990
Client ID: B1WMT2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003992
Client ID: B1WKM2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Tetrachloroethene	127-18-4	LA-523-455	J	2.50	ug/L			1.00	1.0		08/26/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		08/26/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/26/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003992
Client ID: B1WKM2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003994
Client ID: B1WKM7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		08/26/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/26/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003994
Client ID: B1WKM7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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U - Analyzed for but not detected above limiting criteria.

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003997
Client ID: B1WKN2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		08/26/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/26/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P003997
Client ID: B1WKN2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004000
Client ID: B1WKN8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		08/26/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		08/26/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

D - Analyte was identified at a secondary dilution factor
J - Analyte < lowest calibration but >= MDL.(org)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004000
Client ID: B1WKN8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081752
Department: Organic
Sampled: 08/14/08
Received: 08/14/08

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		08/26/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		08/26/08

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

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081752
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 08/25/08
Receive Date:08/25/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03486											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	24.760	99.000	% Recov	63.000	117.000				08/26/08
MS	Benzene	71-43-2	23.180	92.700	% Recov	75.000	129.000				08/26/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	47.890	95.800	% Recov	75.000	125.000				08/26/08
MS	Chlorobenzene	108-90-7	24.950	99.800	% Recov	79.000	119.000				08/26/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.920	108.000	% Recov	75.000	125.000				08/26/08
MS	Toluene-d8(Surr)	2037-26-5	49.010	98.000	% Recov	75.000	125.000				08/26/08
MS	Toluene	108-88-3	24.560	98.200	% Recov	76.000	120.000				08/26/08
MS	Trichloroethene	79-01-6	22.076	88.300	% Recov	73.000	123.000				08/26/08
MSD	1,1-Dichloroethene	75-35-4	23.740	95.000	% Recov	63.000	117.000				08/26/08
MSD	Benzene	71-43-2	23.330	93.300	% Recov	75.000	129.000				08/26/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	47.620	95.200	% Recov	75.000	125.000				08/26/08
MSD	Chlorobenzene	108-90-7	25.720	103.000	% Recov	79.000	119.000				08/26/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.090	108.000	% Recov	75.000	125.000				08/26/08
MSD	Toluene-d8(Surr)	2037-26-5	48.840	97.700	% Recov	75.000	125.000				08/26/08
MSD	Toluene	108-88-3	24.650	98.600	% Recov	76.000	120.000				08/26/08
MSD	Trichloroethene	79-01-6	22.076	88.300	% Recov	73.000	123.000				08/26/08
Lab ID: W08P003990											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	23.560	94.200	% Recov	63.000	117.000				08/26/08
MS	Benzene	71-43-2	23.480	93.900	% Recov	75.000	129.000				08/26/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	47.590	95.200	% Recov	75.000	125.000				08/26/08
MS	Chlorobenzene	108-90-7	25.160	101.000	% Recov	79.000	119.000				08/26/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.660	107.000	% Recov	75.000	125.000				08/26/08
MS	Toluene-d8(Surr)	2037-26-5	49.550	99.100	% Recov	75.000	125.000				08/26/08
MS	Toluene	108-88-3	24.710	98.800	% Recov	76.000	120.000				08/26/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081752
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 08/14/08
Receive Date:08/14/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Trichloroethene	79-01-6	20.210	80.800	% Recov	73.000	123.000				08/26/08
MSD	1,1-Dichloroethene	75-35-4	24.250	97.000	% Recov	63.000	117.000				08/26/08
MSD	Benzene	71-43-2	24.220	96.900	% Recov	75.000	129.000				08/26/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	47.220	94.400	% Recov	75.000	125.000				08/26/08
MSD	Chlorobenzene	108-90-7	26.400	106.000	% Recov	79.000	119.000				08/26/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.840	108.000	% Recov	75.000	125.000				08/26/08
MSD	Toluene-d8(Surr)	2037-26-5	49.680	99.400	% Recov	75.000	125.000				08/26/08
MSD	Toluene	108-88-3	25.620	102.000	% Recov	76.000	120.000				08/26/08
MSD	Trichloroethene	79-01-6	20.410	81.600	% Recov	73.000	123.000				08/26/08
SPK-RPD	1,1-Dichloroethene	75-35-4	97.000		RPD			2.929	20.000		08/26/08
SPK-RPD	Benzene	71-43-2	96.900		RPD			3.145	20.000		08/26/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	94.400		RPD			0.844	20.000		08/26/08
SPK-RPD	Chlorobenzene	108-90-7	106.000		RPD			4.831	20.000		08/26/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	108.000		RPD			0.930	20.000		08/26/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	99.400		RPD			0.302	20.000		08/26/08
SPK-RPD	Toluene	108-88-3	102.000		RPD			3.187	20.000		08/26/08
SPK-RPD	Trichloroethene	79-01-6	81.600		RPD			0.985	20.000		08/26/08
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.070	94.100	% Recov	75.000	125.000				08/26/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.800	108.000	% Recov	75.000	125.000				08/26/08
SURR	Toluene-d8(Surr)	2037-26-5	50.120	100.000	% Recov	75.000	125.000				08/26/08

Lab ID: W08P003992
BATCH QC ASSOCIATED WITH SAMPLE

SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.620	95.200	% Recov	75.000	125.000				08/26/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.150	108.000	% Recov	75.000	125.000				08/26/08
SURR	Toluene-d8(Surr)	2037-26-5	50.360	101.000	% Recov	75.000	125.000				08/26/08

Lab ID: W08P003994
BATCH QC ASSOCIATED WITH SAMPLE

SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.870	95.700	% Recov	75.000	125.000				08/26/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081752
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 08/14/08
Receive Date:08/14/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.910	108.000	% Recov	75.000	125.000				08/26/08
SURR	Toluene-d8(Surr)	2037-26-5	50.490	101.000	% Recov	75.000	125.000				08/26/08
Lab ID: W08P003997											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.610	95.200	% Recov	75.000	125.000				08/26/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.440	109.000	% Recov	75.000	125.000				08/26/08
SURR	Toluene-d8(Surr)	2037-26-5	50.360	101.000	% Recov	75.000	125.000				08/26/08
Lab ID: W08P004000											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.400	94.800	% Recov	75.000	125.000				08/26/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.530	109.000	% Recov	75.000	125.000				08/26/08
SURR	Toluene-d8(Surr)	2037-26-5	50.380	101.000	% Recov	75.000	125.000				08/26/08
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	08/26/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	08/26/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	08/26/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	08/26/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	08/26/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	08/26/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	08/26/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	08/26/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	48.320	96.600	% Recov	75.000	125.000				08/26/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	08/26/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081752
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	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	08/26/08
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	08/26/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.170	108.000	% Recov	75.000	125.000				08/26/08
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	08/26/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	08/26/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	08/26/08
BLANK	Toluene-d8(Surr)	2037-26-5	49.000	98.000	% Recov	75.000	125.000				08/26/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	08/26/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	08/26/08
LCS	1,1-Dichloroethene	75-35-4	23.380	93.500	% Recov	75.000	125.000				08/26/08
LCS	Benzene	71-43-2	23.140	92.600	% Recov	75.000	125.000				08/26/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	47.720	95.400	% Recov	75.000	125.000				08/26/08
LCS	Chlorobenzene	108-90-7	25.560	102.000	% Recov	75.000	125.000				08/26/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.000	108.000	% Recov	75.000	125.000				08/26/08
LCS	Toluene-d8(Surr)	2037-26-5	48.920	97.800	% Recov	75.000	125.000				08/26/08
LCS	Toluene	108-88-3	24.270	97.100	% Recov	75.000	125.000				08/26/08
LCS	Trichloroethene	79-01-6	20.130	80.500	% Recov	75.000	125.000				08/26/08

M4W41-SLF-08-1023

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 8 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
09/12/08

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081752

The following samples were received from you on 08/14/08. 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
W08P003990	B1WMT2	PNNL-GPP @VOA-GPP	Water	08/14/08
W08P003991	B1WKM1	PNNL-GPP @2008 @GPP6010	Water	08/14/08
W08P003992	B1WKM2	PNNL-GPP @2008 @GPP6010 @IC-30 @VOA-GPP COD NH4-IC	Water	08/14/08
W08P003993	B1WKM6	PNNL-GPP @2008 @GPP6010	Water	08/14/08
W08P003994	B1WKM7	PNNL-GPP @2008 @GPP6010 @IC-30 @VOA-GPP COD NH4-IC	Water	08/14/08
W08P003995	B1WK45	PNNL-GPP @IC-30	Water	08/14/08
W08P003996	B1WKN1	PNNL-GPP @2008 @GPP6010	Water	08/14/08
W08P003997	B1WKN2	PNNL-GPP @2008 @GPP6010 @VOA-GPP COD NH4-IC	Water	08/14/08
W08P003998	B1WK46	PNNL-GPP @IC-30	Water	08/14/08
W08P003999	B1WKN7	PNNL-GPP @2008 @GPP6010	Water	08/14/08
W08P004000	B1WKN8	PNNL-GPP @2008 @GPP6010 @VOA-GPP COD NH4-IC	Water	08/14/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@GPP6010	ICP Metals Analysis, Grd H20 P
@IC-30	Anions by Ion Chromatography
@VOA-GPP	VOA Ground Water Protection
COD	Chemical Oxygen Demand

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081752

Test Acronym Description

Test Acronym	Description
NH4-IC	Ammonia (N) by IC

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

09/12/08 20081752

S08-008-75

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV, AUGUST 2008	HWF-N-566-16	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol SURV	**Priority:** 30 Days **PRIORITY**	**Offsite Property No.**

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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1WMT2 W08	P003950	W	8/14/08	1021	1x20-mL P	Activity Scan	None
B1WMT2	↓	W	↓	↓	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C

ICED

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
D. J. Sparks		AUG 14 2008 1555			AUG 14 2008 1555
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-008-478

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA AUGUST 2008	HWF-N-506-16	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol RCRA	**Priority:** 30 Days **PRIORITY**	**Offsite Property No.**

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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1WKM1 (F)	3991	W	8/14/08	1021	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKM1 (F)	3992	W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKM2	3992	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1WKM2		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKM2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1WKM2		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKM2		W			1x250-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1WKM2		W			1x500-mL G/P	410.4_COD: COD (1)	H2SO4 to pH <2 Cool~4C

ICED

Relinquished By D. J. Sparks	Print Sign	Date/Time AUG 14 2008 1555	Received By Print Sign	Date/Time AUG 14 2008 1555
Relinquished By		Date/Time	Received By	Date/Time
Relinquished By		Date/Time	Received By	Date/Time
Relinquished By		Date/Time	Received By	Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-008-486

Collector: D. J. Sparks	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: W08-008	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: RCRA AUGUST 2008	HNF-N-506/6	Ice Chest No.: GWS-029 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: RCRA	Priority: 30 Days **PRIORITY**	Offsite Property No.

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

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

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1WKM6 (F)	3993	W	8/14/08	1239	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKM6 (F)	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKM7	3994	W	↓	↓	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1WKM7	↓	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKM7	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1WKM7	↓	W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKM7	↓	W	↓	↓	1x250-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1WKM7	↓	W	↓	↓	1x500-mL G/P	410.4_COD: COD (1)	H2SO4 to pH <2 Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. J. Sparks			AUG 14 2008 1555				AUG 14 2008 1555
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-008-536

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA AUGUST 2008	HWF-N-50646	**Ice Chest No.** 6WS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol RCRA	**Priority:** 30 Days **PRIORITY**	**Offsite Property No.**

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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1WK45	3995	W	8/14/08	1129	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1WKN1 (F)	3996	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKN1 (F)	↓	W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKN2	3997	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1WKN2		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKN2		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKN2		W			1x250-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1WKN2	↓	W	↓	↓	1x500-mL G/P	410.4_COD: COD (1)	H2SO4 to pH <2 Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. J. Sparks			1455 AUG 14 2008	JA ENAZIM			1455 AUG 14 2008
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-008-537

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-008	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA AUGUST 2008	HWF-N-506-16	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol RCRA	**Priority:** 30 Days **PRIORITY**	**Offsite Property No.**

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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
Site-Wide Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1WK46	3998	W	8/14/08	1129	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1WKN7 (F)	3999	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKN7 (F)		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKN8	4000	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1WKN8		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKN8		W			1x500-mL G/P	200.8_METALS_ICPMS: Arsenic (1)	HNO3 to pH <2
B1WKN8		W			1x250-mL G/P	300.7_CATIONS_IC: Ammonia (1)	H2SO4 to pH <2
B1WKN8		W			1x500-mL G/P	410.4_COD: COD (1)	H2SO4 to pH <2 Cool~4C

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. J. Sparks	AUG 14 2008 1455	TA FNAZIM	AUG 14 2008 1455

Matrix *

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

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