RECEIVED OCTOBER 1, 2008

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Memorandum

M4W41-SLF-08-1109

To:	H. Hampt	E6-35	Date:	September 30, 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 WSCF20081862

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 WSCF20081862:

- 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#: WSCF20081862
Data Deliverable Date: 26-sep-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
S08-006	B1VMJ7	W08P004255	WATER
	B1VMJ8	W08P004256	WATER
	B1VMK0	W08P004253	WATER
	B1VMK1	W08P004254	WATER
	B1VMK9	W08P004249	WATER
	B1VML0	W08P004250	WATER
	B1VML1	W08P004251	WATER
	B1VML2	W08P004252	WATER
S08-007	B1W211	W08P004247	WATER
	B1W212	W08P004248	WATER
S08-008	B1WMV1	W08P004246	WATER
W08-006	B1VR97 G	W08P004257	WATER
	B1VR98 G	W08P004258	WATER
	B1VRB1 G	W08P004259	WATER
	B1VRB2 G	W08P004260	WATER
	B1WJK4 G	W08P004263	WATER
	B1WKW4 G	W08P004261	WATER
W08-008	B1WJK5 G	W08P004264	WATER
	B1WKW5 G	W08P004262	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 5 pages
Including cover page

Introduction

Nineteen (19) groundwater samples were received at the WSCF Laboratory on August 27, 2008. With the exception of SVOC analyses, 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. Samples B1VML0, B1VML2 and B1VMJ8 were shipped to an offsite laboratory for analysis.

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. Also included in Attachment 4, are copies of the COCs used for offsite shipment of SVOC samples.

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 16 through 18, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 45 through 47 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.
- Nitrite-N (B1VR98) – Spike Relative Percent Difference (RPD) slightly exceeded established laboratory limits. No flags issued.

All other QC controls are within the established limits.

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

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

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1W2F4 (SDG# 20081860).
- 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.
- Calcium, Magnesium and Sodium sample 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.
- Zinc – Ending CCV recovery was slightly high @ 111% (B1VR97, B1VR98, B1VRB1, B1VRB2, B1WKW4, B1WKW5, B1WJK4 and B1WJK5).
- Potassium – Laboratory Control Sample recovery exceeded established laboratory limits. Affected sample results were X flagged.
- Silver – Matrix Spike and Matrix Spike Duplicate recoveries were less than established laboratory limits. Affected sample results were N flagged.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 53 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1WDN1 (SDG# 20081849) and B1WDN7 (SDG# 20081887).

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 54 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1WPK0 (SDG# 20081861, SAF# F02-009) and B1WJR1 (SDG# 20081816).

All QC controls are within the established limits.

Organic Comments

Semi-VOA – Samples B1VML0, B1VML2 and B1VMJ8 were shipped to an offsite laboratory for analysis.

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 68 through 71 for QC details. Analytical Note(s):

- Sample results that were less than the lowest calibration standard, however greater than the method detection limit, were J flagged.
- Acetone and Methylene Chloride contamination detected in the Blank was evaluated and affected sample results were B flagged.

All other QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 83 through 86 for QC details. Analytical Note(s):

- Gross Alpha/Gross Beta – Duplicate QC was sample# B1WFX7 (SDG# 20081801).
- Gross Alpha – Duplicate QC was also analyzed on sample# B1W211 of this SDG.
- Technetium-99 – Duplicate and Matrix Spike were analyzed on sample# B1WDW7 (SDG# 20081849).
- Tritium – Duplicates and Matrix Spikes were analyzed on samples B1W1H1 (SDG# 20081849) and B1VML2 of this SDG.
- Gross Beta – Duplicate QC was also analyzed on sample# B1VR98 of this SDG. Duplicate Relative Percent Difference (RPD) slightly exceeded established laboratory limits. No flags issued.

All other QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this

hard copy data package has been authorized by the Laboratory Analytical Manager and Client Services as verified by the following signatures.

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-1109

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 79 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 9/30/08

Client Services: P.D. Mix 9/30/2008

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

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Report#: WSCF20081862
Report Date: 30-sep-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 30-sep-2008 10:58:29

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081862

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37830	2	38253	42625	BLANK		Anions by Ion Chromatography
37830	15	38253	42625	BLANK		Anions by Ion Chromatography
37830	24	38253	42625	BLANK		Anions by Ion Chromatography
37830	3	38253	42625	LCS		Anions by Ion Chromatography
37830	16	38253	42625	LCS		Anions by Ion Chromatography
37830	9	38253	42625	SAMPLE	W08P004247	Anions by Ion Chromatography
37830	5	38253	42625	DUP	W08P004248	Anions by Ion Chromatography
37830	6	38253	42625	MS	W08P004248	Anions by Ion Chromatography
37830	7	38253	42625	MSD	W08P004248	Anions by Ion Chromatography
37830	4	38253	42625	SAMPLE	W08P004248	Anions by Ion Chromatography
37830	7	38253	42625	SPK-RPD	W08P004248	Anions by Ion Chromatography
37830	10	38253	42625	SAMPLE	W08P004250	Anions by Ion Chromatography
37830	11	38253	42625	SAMPLE	W08P004252	Anions by Ion Chromatography
37830	12	38253	42625	SAMPLE	W08P004254	Anions by Ion Chromatography
37830	13	38253	42625	SAMPLE	W08P004256	Anions by Ion Chromatography
37830	18	38253	42625	DUP	W08P004258	Anions by Ion Chromatography
37830	19	38253	42625	MS	W08P004258	Anions by Ion Chromatography
37830	21	38253	42625	MSD	W08P004258	Anions by Ion Chromatography
37830	17	38253	42625	SAMPLE	W08P004258	Anions by Ion Chromatography
37830	21	38253	42625	SPK-RPD	W08P004258	Anions by Ion Chromatography
37830	14	38253	42625	SAMPLE	W08P004260	Anions by Ion Chromatography
37830	22	38253	42625	SAMPLE	W08P004262	Anions by Ion Chromatography
37830	23	38253	42625	SAMPLE	W08P004264	Anions by Ion Chromatography
37883	1	38309	42731	BLANK		Cyanide by Midi/Spectrophotom
37883	2	38309	42731	LCS		Cyanide by Midi/Spectrophotom
37883	4	38309	42731	MS	W08P004262	Cyanide by Midi/Spectrophotom
37883	5	38309	42731	MSD	W08P004262	Cyanide by Midi/Spectrophotom
37883	3	38309	42731	SAMPLE	W08P004262	Cyanide by Midi/Spectrophotom
37883	5	38309	42731	SPK-RPD	W08P004262	Cyanide by Midi/Spectrophotom
37883	6	38309	42731	SAMPLE	W08P004264	Cyanide by Midi/Spectrophotom
37901	1	38329	42748	LCS		Total Alkalinity as mg/L CaCO3
37901	13	38329	42748	LCS		Total Alkalinity as mg/L CaCO3
37901	24	38329	42748	LCS		Total Alkalinity as mg/L CaCO3
37901	36	38329	42748	LCS		Total Alkalinity as mg/L CaCO3
37901	44	38329	42748	LCS		Total Alkalinity as mg/L CaCO3
37901	26	38329	42748	DUP	W08GR03517	Total Alkalinity as mg/L CaCO3
37901	3	38329	42748	DUP	W08P004191	Total Alkalinity as mg/L CaCO3
37901	31	38329	42748	SAMPLE	W08P004250	Total Alkalinity as mg/L CaCO3
37901	32	38329	42748	SAMPLE	W08P004252	Total Alkalinity as mg/L CaCO3
37901	33	38329	42748	SAMPLE	W08P004254	Total Alkalinity as mg/L CaCO3
37901	34	38329	42748	SAMPLE	W08P004256	Total Alkalinity as mg/L CaCO3
37901	35	38329	42748	SAMPLE	W08P004258	Total Alkalinity as mg/L CaCO3
37901	37	38329	42748	SAMPLE	W08P004260	Total Alkalinity as mg/L CaCO3
37901	38	38329	42748	SAMPLE	W08P004262	Total Alkalinity as mg/L CaCO3
37901	39	38329	42748	SAMPLE	W08P004264	Total Alkalinity as mg/L CaCO3
37946	1	38273	42802	BLANK		ICP Metals Analysis, Grd H20 P
37946	2	38273	42802	LCS		ICP Metals Analysis, Grd H20 P
37946	4	38273	42802	MS	W08P004239	ICP Metals Analysis, Grd H20 P
37946	5	38273	42802	MSD	W08P004239	ICP Metals Analysis, Grd H20 P

37946	5	38273	42802	SPK-RPD	W08P004239	ICP Metals Analysis, Grd H20 P
37946	7	38273	42802	SAMPLE	W08P004249	ICP Metals Analysis, Grd H20 P
37946	8	38273	42802	SAMPLE	W08P004250	ICP Metals Analysis, Grd H20 P
37946	9	38273	42802	SAMPLE	W08P004251	ICP Metals Analysis, Grd H20 P
37946	10	38273	42802	SAMPLE	W08P004252	ICP Metals Analysis, Grd H20 P
37946	11	38273	42802	SAMPLE	W08P004253	ICP Metals Analysis, Grd H20 P
37946	12	38273	42802	SAMPLE	W08P004254	ICP Metals Analysis, Grd H20 P
37946	13	38273	42802	SAMPLE	W08P004255	ICP Metals Analysis, Grd H20 P
37946	14	38273	42802	SAMPLE	W08P004256	ICP Metals Analysis, Grd H20 P
37946	15	38273	42802	SAMPLE	W08P004257	ICP Metals Analysis, Grd H20 P
37946	16	38273	42802	SAMPLE	W08P004258	ICP Metals Analysis, Grd H20 P
37946	17	38273	42802	SAMPLE	W08P004259	ICP Metals Analysis, Grd H20 P
37946	18	38273	42802	SAMPLE	W08P004260	ICP Metals Analysis, Grd H20 P
37946	19	38273	42802	SAMPLE	W08P004261	ICP Metals Analysis, Grd H20 P
37946	20	38273	42802	SAMPLE	W08P004262	ICP Metals Analysis, Grd H20 P
37946	21	38273	42802	SAMPLE	W08P004263	ICP Metals Analysis, Grd H20 P
37946	22	38273	42802	SAMPLE	W08P004264	ICP Metals Analysis, Grd H20 P
38030	1	38452	42858	BLANK		ICP-200.8 MS All possible meta
38030	2	38452	42858	BLANK		ICP-200.8 MS All possible meta
38030	3	38452	42858	LCS		ICP-200.8 MS All possible meta
38030	4	38452	42858	LCS		ICP-200.8 MS All possible meta
38030	6	38452	42858	MS	W08P004214	ICP-200.8 MS All possible meta
38030	7	38452	42858	MSD	W08P004214	ICP-200.8 MS All possible meta
38030	7	38452	42858	SPK-RPD	W08P004214	ICP-200.8 MS All possible meta
38030	44	38452	42858	SAMPLE	W08P004247	ICP-200.8 MS All possible meta
38030	45	38452	42858	SAMPLE	W08P004248	ICP-200.8 MS All possible meta
38030	46	38452	42858	SAMPLE	W08P004250	ICP-200.8 MS All possible meta
38030	47	38452	42858	SAMPLE	W08P004252	ICP-200.8 MS All possible meta
38030	48	38452	42858	SAMPLE	W08P004254	ICP-200.8 MS All possible meta
38030	49	38452	42858	SAMPLE	W08P004256	ICP-200.8 MS All possible meta
38030	50	38452	42858	SAMPLE	W08P004258	ICP-200.8 MS All possible meta
38030	51	38452	42858	SAMPLE	W08P004260	ICP-200.8 MS All possible meta
38030	52	38452	42858	SAMPLE	W08P004262	ICP-200.8 MS All possible meta
38030	53	38452	42858	SAMPLE	W08P004264	ICP-200.8 MS All possible meta
38030	9	38452	42858	MS	W08P004270	ICP-200.8 MS All possible meta
38030	10	38452	42858	MSD	W08P004270	ICP-200.8 MS All possible meta
38030	10	38452	42858	SPK-RPD	W08P004270	ICP-200.8 MS All possible meta

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Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20081862

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			42814	BLANK		VOA Ground Water Protection
			42814	LCS		VOA Ground Water Protection
			42814	MS	W08P004246	VOA Ground Water Protection
			42814	MSD	W08P004246	VOA Ground Water Protection
			42814	SAMPLE	W08P004246	VOA Ground Water Protection
			42814	SPK-RPD	W08P004246	VOA Ground Water Protection
			42814	SURR	W08P004246	VOA Ground Water Protection
			42814	SAMPLE	W08P004247	VOA Ground Water Protection
			42814	SURR	W08P004247	VOA Ground Water Protection
			42814	SAMPLE	W08P004248	VOA Ground Water Protection
			42814	SURR	W08P004248	VOA Ground Water Protection
			42814	SAMPLE	W08P004250	VOA Ground Water Protection
			42814	SURR	W08P004250	VOA Ground Water Protection
			42814	SAMPLE	W08P004252	VOA Ground Water Protection
			42814	SURR	W08P004252	VOA Ground Water Protection
			42814	SAMPLE	W08P004256	VOA Ground Water Protection
			42814	SURR	W08P004256	VOA Ground Water Protection

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Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081862

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37951	1	38375	42807	BLANK		TC99 by Liquid Scin.
37951	4	38375	42807	LCS		TC99 by Liquid Scin.
37951	3	38375	42807	DUP	W08P004212	TC99 by Liquid Scin.
37951	2	38375	42807	MS	W08P004212	TC99 by Liquid Scin.
37951	14	38375	42807	SAMPLE	W08P004250	TC99 by Liquid Scin.
37951	15	38375	42807	SAMPLE	W08P004252	TC99 by Liquid Scin.
37951	16	38375	42807	SAMPLE	W08P004256	TC99 by Liquid Scin.
37951	17	38375	42807	SAMPLE	W08P004264	TC99 by Liquid Scin.
38011	1	38432	42845	BLANK		Gross Alpha on Alpha Plateau
38011	2	38432	42845	LCS		Gross Alpha on Alpha Plateau
38011	3	38432	42845	DUP	W08P004247	Gross Alpha on Alpha Plateau
38011	4	38432	42845	SAMPLE	W08P004247	Gross Alpha on Alpha Plateau
38011	5	38432	42845	SAMPLE	W08P004248	Gross Alpha on Alpha Plateau
38012	1	38434	42852	BLANK		Gross Alpha/Gross Beta (AB32)
38012	2	38434	42852	LCS		Gross Alpha/Gross Beta (AB32)
38012	3	38434	42852	DUP	W08P004154	Gross Alpha/Gross Beta (AB32)
38012	8	38434	42852	SAMPLE	W08P004250	Gross Alpha/Gross Beta (AB32)
38012	9	38434	42852	SAMPLE	W08P004252	Gross Alpha/Gross Beta (AB32)
38012	10	38434	42852	SAMPLE	W08P004254	Gross Alpha/Gross Beta (AB32)
38012	11	38434	42852	SAMPLE	W08P004256	Gross Alpha/Gross Beta (AB32)
38012	12	38434	42852	SAMPLE	W08P004262	Gross Alpha/Gross Beta (AB32)
38012	13	38434	42852	SAMPLE	W08P004264	Gross Alpha/Gross Beta (AB32)
37950	1	38374	42894	BLANK		Tritium by Liq Sct column prep
37950	2	38374	42894	LCS		Tritium by Liq Sct column prep
37950	4	38374	42894	DUP	W08P004210	Tritium by Liq Sct column prep
37950	3	38374	42894	MS	W08P004210	Tritium by Liq Sct column prep
37950	14	38374	42894	SAMPLE	W08P004247	Tritium by Liq Sct column prep
37950	15	38374	42894	SAMPLE	W08P004248	Tritium by Liq Sct column prep
37950	16	38374	42894	SAMPLE	W08P004250	Tritium by Liq Sct column prep
38064	1	38484	42913	BLANK		Gross Alpha/Gross Beta (AB32)
38064	2	38484	42913	LCS		Gross Alpha/Gross Beta (AB32)
38064	3	38484	42913	DUP	W08P004258	Gross Alpha/Gross Beta (AB32)
38064	4	38484	42913	SAMPLE	W08P004258	Gross Alpha/Gross Beta (AB32)
38064	5	38484	42913	SAMPLE	W08P004260	Gross Alpha/Gross Beta (AB32)
38014	1	38436	42942	BLANK		Gross Alpha on Alpha Plateau
38014	2	38436	42942	LCS		Gross Alpha on Alpha Plateau
38014	3	38436	42942	DUP	W08P004154	Gross Alpha on Alpha Plateau
38014	8	38436	42942	SAMPLE	W08P004250	Gross Alpha on Alpha Plateau
38014	9	38436	42942	SAMPLE	W08P004252	Gross Alpha on Alpha Plateau
38014	10	38436	42942	SAMPLE	W08P004254	Gross Alpha on Alpha Plateau
38014	11	38436	42942	SAMPLE	W08P004256	Gross Alpha on Alpha Plateau
38014	12	38436	42942	SAMPLE	W08P004262	Gross Alpha on Alpha Plateau
38014	13	38436	42942	SAMPLE	W08P004264	Gross Alpha on Alpha Plateau
37953	1	38377	42975	BLANK		Tritium by Liq Sct column prep
37953	2	38377	42975	LCS		Tritium by Liq Sct column prep
37953	4	38377	42975	DUP	W08P004252	Tritium by Liq Sct column prep

37953	3	38377	42975	MS	W08P004252	Tritium by Liq Sct column prep
37953	5	38377	42975	SAMPLE	W08P004252	Tritium by Liq Sct column prep
37953	6	38377	42975	SAMPLE	W08P004254	Tritium by Liq Sct column prep
37953	7	38377	42975	SAMPLE	W08P004256	Tritium by Liq Sct column prep
37953	8	38377	42975	SAMPLE	W08P004262	Tritium by Liq Sct column prep
37953	9	38377	42975	SAMPLE	W08P004264	Tritium by Liq Sct column prep

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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

LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	HEIS 6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
	HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS
LA-531-411	LA-531-411: ALKALINITY (TITRIMETRIC)	
	HEIS 2320B	Alkalinity
	Standard Methods 2320B	Alkalinity
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
	HEIS 335.2_CYANIDE	Cyanide, Total

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

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

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

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

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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

LA-508-415 LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS

HEIS	**ALPHA_GPC**	GROSS ALPHA GPC
HEIS	**BETA_GPC**	GROSS BETA GPC
HEIS	**SRTOT_SEP_PRECIP_GP**	Strontium 89/90

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-007
Sample # W08P004247
Client ID: B1W211 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0464	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	23.5	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	25.9	mg/L			10.00	0.12		08/28/08
Sulfate	14808-79-8	LA-533-410	D	66.6	mg/L			2.00	0.26		08/28/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		10.7	ug/L			1.00	0.0500		09/15/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-007
Sample # W08P004248
Client ID: B1W212 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0464	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	DU	< 0.0938	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0242	mg/L			2.00	0.024		08/28/08
Sulfate	14808-79-8	LA-533-410	DU	< 0.264	mg/L			2.00	0.26		08/28/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		09/15/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004249
Client ID: B1VMK9 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411		1.58e+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	X	8.97e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.55e+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		62.3	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	U	< 12.0	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		6.74e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		400	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
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U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004250
Client ID: B1VML0 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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	0.0874	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	12.8	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	9.08	mg/L			2.00	0.024		08/28/08
Sulfate	14808-79-8	LA-533-410	D	58.6	mg/L			2.00	0.26		08/28/08
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		09/10/08
Magnesium	7439-95-4	LA-505-411		1.56e+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	X	8.91e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.52e+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		62.3	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	12.8	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		6.76e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		400	ug/L			1.00	4.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
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* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004250
Client ID: B1VML0 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		19.6	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		160	mg/L			1.00	1.0		09/03/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004251
Client ID: B1VML1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411		1.57e+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	X	8.81e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.56e+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		62.0	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	U	< 12.0	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		6.68e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		400	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
D - Analyte was identified at a secondary dilution factor
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U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004252
Client ID: B1VML2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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	0.0944	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	12.6	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	9.04	mg/L			2.00	0.024		08/28/08
Sulfate	14808-79-8	LA-533-410	D	58.1	mg/L			2.00	0.26		08/28/08
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		09/10/08
Magnesium	7439-95-4	LA-505-411		1.58e+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	X	8.85e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.52e+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		61.4	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	U	< 12.0	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		6.73e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		398	ug/L			1.00	4.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004252
Client ID: B1VML2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		20.0	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		160	mg/L			1.00	1.0		09/03/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004253
Client ID: B1VMK0 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411		1.51e+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	X	8.72e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.62e+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		55.8	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	U	< 12.0	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		6.01e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		359	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004254
Client ID: B1VMK1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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	0.123	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	16.0	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.72	mg/L			2.00	0.024		08/28/08
Sulfate	14808-79-8	LA-533-410	D	63.9	mg/L			2.00	0.26		08/28/08
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		09/10/08
Magnesium	7439-95-4	LA-505-411		1.55e+04	ug/L			1.00	50		09/10/08
Manganese	7439-96-5	LA-505-411	B	5.10	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	X	8.84e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.68e+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		58.7	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	U	< 12.0	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		6.28e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		373	ug/L			1.00	4.0		09/10/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
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B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004254
Client ID: B1VMK1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		7.93	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		140	mg/L			1.00	1.0		09/03/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004255
Client ID: B1VMJ7 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411		1.55e+04	ug/L			1.00	50		09/10/08
Manganese	7439-96-5	LA-505-411	B	18.4	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	X	8.95e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.69e+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		53.7	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	U	< 12.0	ug/L			1.00	12		09/10/08
Zinc	7440-66-6	LA-505-411		87.4	ug/L			1.00	9.0		09/10/08
Calcium	7440-70-2	LA-505-411		6.16e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		369	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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004256
Client ID: B1VMJ8 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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	0.130	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	15.7	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.59	mg/L			2.00	0.024		08/28/08
Sulfate	14808-79-8	LA-533-410	D	63.7	mg/L			2.00	0.26		08/28/08
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		877	ug/L			1.00	25		09/10/08
Magnesium	7439-95-4	LA-505-411		1.55e+04	ug/L			1.00	50		09/10/08
Manganese	7439-96-5	LA-505-411		28.6	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	X	8.87e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.67e+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		56.3	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	U	< 12.0	ug/L			1.00	12		09/10/08
Zinc	7440-66-6	LA-505-411		117	ug/L			1.00	9.0		09/10/08
Calcium	7440-70-2	LA-505-411		6.31e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		374	ug/L			1.00	4.0		09/10/08

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

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004256
Client ID: B1VMJ8 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		21.0	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		140	mg/L			1.00	1.0		09/03/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004257
Client ID: B1VR97 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411		2.01e+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	X	9.51e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.76e+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		72.0	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	15.2	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		6.81e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		397	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004258
Client ID: B1VR98 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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	0.254	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	14.7	mg/L			10.00	0.47		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.028		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	9.87	mg/L			10.00	0.12		08/28/08
Sulfate	14808-79-8	LA-533-410	D	101	mg/L			10.00	1.3		08/28/08
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	B	76.5	ug/L			1.00	25		09/10/08
Magnesium	7439-95-4	LA-505-411		2.04e+04	ug/L			1.00	50		09/10/08
Manganese	7439-96-5	LA-505-411	B	4.60	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	X	9.58e+03	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		2.78e+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		73.3	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	24.2	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		7.01e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		405	ug/L			1.00	4.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004258
Client ID: B1VR98 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		13.1	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		140	mg/L			1.00	1.0		09/03/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004259
Client ID: B1VRB1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411	B	72.8	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	UX	< 170	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411	B	112	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	U	< 4.00	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	U	< 12.0	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	B	311	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411	U	< 4.00	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004260
Client ID: B1VRB2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0464	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	DU	< 0.0938	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0242	mg/L			2.00	0.024		08/28/08
Sulfate	14808-79-8	LA-533-410	DU	< 0.264	mg/L			2.00	0.26		08/28/08
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		09/10/08
Magnesium	7439-95-4	LA-505-411	U	< 50.0	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	UX	< 170	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411	U	< 51.0	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	U	< 4.00	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	U	< 12.0	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	U	< 73.0	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004260
Client ID: B1VRB2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		09/10/08
ICP-200.8 MS All possible meta Prep											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411	U	< 1.00	mg/L			1.00	1.0		09/03/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
D - Analyte was identified at a secondary dilution factor
J - Analyte < lowest calibration but > = MDL.(org)
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B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
N - Spike sample recovery is outside control limits.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004261
Client ID: B1WKW4 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411		2.64e+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	X	1.11e+04	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		3.58e+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		83.8	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	U	< 12.0	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		9.30e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		555	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004262
Client ID: B1WKW5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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	0.0971	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	21.0	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	36.0	mg/L			10.00	0.12		08/28/08
Sulfate	14808-79-8	LA-533-410	D	99.0	mg/L			2.00	0.26		08/28/08
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		09/08/08
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		09/10/08
Magnesium	7439-95-4	LA-505-411		2.58e+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	X	1.06e+04	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		3.37e+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		83.5	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	B	14.3	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	U	< 12.0	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004262
Client ID: B1WKW5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		9.59e+04	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		557	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											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		55.2	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		09/03/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004263
Client ID: B1WJK4 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Magnesium	7439-95-4	LA-505-411		2.90e+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	X	1.12e+04	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		3.86e+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		93.9	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	12.2	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		1.01e+05	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		614	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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D - Analyte was identified at a secondary dilution factor(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004264
Client ID: B1WJK5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

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	0.0804	mg/L			2.00	0.046		08/28/08
Chloride	16887-00-6	LA-533-410	D	21.7	mg/L			2.00	0.094		08/28/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0256	mg/L			2.00	0.026		08/28/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	51.9	mg/L			10.00	0.12		08/28/08
Sulfate	14808-79-8	LA-533-410	D	101	mg/L			2.00	0.26		08/28/08
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		09/08/08
ICP Metals Analysis, Grd H20 P Prep											**08/31/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	B	108	ug/L			1.00	25		09/10/08
Magnesium	7439-95-4	LA-505-411		2.93e+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	B	5.60	ug/L			1.00	4.0		09/10/08
Potassium	7440-09-7	LA-505-411	X	1.14e+04	ug/L			1.00	1.7e+02		09/10/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		09/10/08
Sodium	7440-23-5	LA-505-411		3.88e+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		94.4	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	B	15.9	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	16.0	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

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

* - 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 # W08P004264
Client ID: B1WJK5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Inorganic
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		1.04e+05	ug/L			1.00	73		09/10/08
Strontium	7440-24-6	LA-505-411		621	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											**09/15/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		41.4	ug/L			1.00	0.0500		09/15/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		09/03/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081862
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004248											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	<9.38e-2		RPD			n/a	20.000	U	08/28/08
DUP	Fluoride	16984-48-8	<4.64e-2		RPD			n/a	20.000	U	08/28/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	08/28/08
DUP	Nitrogen in Nitrate	NO3-N	<2.42e-2		RPD			n/a	20.000	U	08/28/08
DUP	Sulfate	14808-79-8	<0.264		RPD			n/a	20.000	U	08/28/08
MS	Chloride	16887-00-6	0.95975	96.457	% Recov	80.000	120.000				08/28/08
MS	Fluoride	16984-48-8	0.4133	83.834	% Recov	80.000	120.000				08/28/08
MS	Nitrogen in Nitrite	NO2-N	0.46795	95.112	% Recov	80.000	120.000				08/28/08
MS	Nitrogen in Nitrate	NO3-N	0.4484	100.538	% Recov	80.000	120.000				08/28/08
MS	Sulfate	14808-79-8	1.8979	96.832	% Recov	80.000	120.000				08/28/08
MSD	Chloride	16887-00-6	0.9649	96.975	% Recov	80.000	120.000				08/28/08
MSD	Fluoride	16984-48-8	0.4076	82.677	% Recov	80.000	120.000				08/28/08
MSD	Nitrogen in Nitrite	NO2-N	0.45955	93.404	% Recov	80.000	120.000				08/28/08
MSD	Nitrogen in Nitrate	NO3-N	0.46065	103.285	% Recov	80.000	120.000				08/28/08
MSD	Sulfate	14808-79-8	1.8742	95.622	% Recov	80.000	120.000				08/28/08
SPK-RPD	Chloride	16887-00-6	96.975		RPD			0.536	20.000		08/28/08
SPK-RPD	Fluoride	16984-48-8	82.677		RPD			1.390	20.000		08/28/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	93.404		RPD			1.812	20.000		08/28/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	103.285		RPD			2.695	20.000		08/28/08
SPK-RPD	Sulfate	14808-79-8	95.622		RPD			1.257	20.000		08/28/08
Lab ID: W08P004258											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	14.8355		RPD			1.078	20.000		08/28/08
DUP	Fluoride	16984-48-8	0.2189		RPD			15.001	20.000		08/28/08
DUP	Nitrogen in Nitrite	NO2-N	<2.56e-2		RPD			n/a	20.000	U	08/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081862
Matrix: WATER
Test: Anions by Ion Chromatography

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

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	9.8772		RPD			0.061	20.000		08/28/08
DUP	Sulfate	14808-79-8	101.244		RPD			0.262	20.000		08/28/08
MS	Chloride	16887-00-6	0.93451	93.921	% Recov	80.000	120.000				08/28/08
MS	Fluoride	16984-48-8	0.5257	106.633	% Recov	80.000	120.000				08/28/08
MS	Nitrogen in Nitrite	NO2-N	0.40105	81.514	% Recov	80.000	120.000				08/28/08
MS	Nitrogen in Nitrate	NO3-N	0.41473	92.989	% Recov	80.000	120.000				08/28/08
MS	Sulfate	14808-79-8	1.64529	83.943	% Recov	80.000	120.000				08/28/08
MSD	Chloride	16887-00-6	0.93289	93.758	% Recov	80.000	120.000				08/28/08
MSD	Fluoride	16984-48-8	0.54085	109.706	% Recov	80.000	120.000				08/28/08
MSD	Nitrogen in Nitrite	NO2-N	0.50555	102.754	% Recov	80.000	120.000				08/28/08
MSD	Nitrogen in Nitrate	NO3-N	0.41778	93.673	% Recov	80.000	120.000				08/28/08
MSD	Sulfate	14808-79-8	1.66983	85.195	% Recov	80.000	120.000				08/28/08
SPK-RPD	Chloride	16887-00-6	93.758		RPD			0.174	20.000		08/28/08
SPK-RPD	Fluoride	16984-48-8	109.706		RPD			2.841	20.000		08/28/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	102.754		RPD			23.053	20.000 *		08/28/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	93.673		RPD			0.733	20.000		08/28/08
SPK-RPD	Sulfate	14808-79-8	85.195		RPD			1.480	20.000		08/28/08

BATCH QC

BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/28/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/28/08
BLANK	Chloride	16887-00-6	<4.69e-2	n/a	mg/L	0.000	0.030			U	08/28/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/28/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/28/08
BLANK	Fluoride	16984-48-8	<2.32e-2	n/a	mg/L	0.000	0.030			U	08/28/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/28/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/28/08
BLANK	Nitrogen in Nitrite	NO2-N	<1.28e-2	n/a	mg/L	0.000	0.020			U	08/28/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/28/08
BLANK	Nitrogen in Nitrate	NO3-N	<1.21e-2	n/a	mg/L	0.000	0.040			U	08/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081862
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	08/28/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/28/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/28/08
BLANK	Sulfate	14808-79-8	<0.132	n/a	mg/L	0.000	0.200			U	08/28/08
LCS	Chloride	16887-00-6	201.9437	100.470	% Recov	80.000	120.000				08/28/08
LCS	Chloride	16887-00-6	197.2584	98.139	% Recov	80.000	120.000				08/28/08
LCS	Fluoride	16984-48-8	102.4666	102.878	% Recov	80.000	120.000				08/28/08
LCS	Fluoride	16984-48-8	106.5366	106.964	% Recov	80.000	120.000				08/28/08
LCS	Nitrogen in Nitrite	NO2-N	98.4047	98.999	% Recov	80.000	120.000				08/28/08
LCS	Nitrogen in Nitrite	NO2-N	95.6675	96.245	% Recov	80.000	120.000				08/28/08
LCS	Nitrogen in Nitrate	NO3-N	92.5346	102.702	% Recov	80.000	120.000				08/28/08
LCS	Nitrogen in Nitrate	NO3-N	92.8567	103.060	% Recov	80.000	120.000				08/28/08
LCS	Sulfate	14808-79-8	392.2316	99.048	% Recov	80.000	120.000				08/28/08
LCS	Sulfate	14808-79-8	390.9893	98.735	% Recov	80.000	120.000				08/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081862
Matrix: WATER
Test: Cyanide by Midi/Spectrophotom

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004262											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	41.4	103.500	% Recov	75.000	125.000				09/08/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	41.4	103.500	% Recov	75.000	125.000				09/08/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	103.500		RPD			0.000	20.000		09/08/08
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	09/08/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	48.7	97.400	% Recov	85.000	115.000				09/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081862
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

Lab ID: W08P004239
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	172.5	17.250	% Recov	75.000	125.000			•	09/10/08
MS	Barium	7440-39-3	503	100.600	% Recov	75.000	125.000				09/10/08
MS	Beryllium	7440-41-7	528.3	105.660	% Recov	75.000	125.000				09/10/08
MS	Calcium	7440-70-2	-1630	-163.000	% Recov	75.000	125.000			•	09/10/08
MS	Cadmium	7440-43-9	1068.7	106.870	% Recov	75.000	125.000				09/10/08
MS	Cobalt	7440-48-4	1010.5	101.050	% Recov	75.000	125.000				09/10/08
MS	Chromium	7440-47-3	1032	103.200	% Recov	75.000	125.000				09/10/08
MS	Copper	7440-50-8	1048.7	104.870	% Recov	75.000	125.000				09/10/08
MS	Iron	7439-89-6	999.8	99.980	% Recov	75.000	125.000				09/10/08
MS	Potassium	7440-09-7	12016	120.160	% Recov	75.000	125.000				09/10/08
MS	Magnesium	7439-95-4	660	66.000	% Recov	75.000	125.000			•	09/10/08
MS	Manganese	7439-96-5	1047.3	104.730	% Recov	75.000	125.000				09/10/08
MS	Sodium	7440-23-5	870	87.000	% Recov	75.000	125.000				09/10/08
MS	Nickel	7440-02-0	1020	102.000	% Recov	75.000	125.000				09/10/08
MS	Antimony	7440-36-0	1029	102.900	% Recov	75.000	125.000				09/10/08
MS	Strontium	7440-24-6	540.7	108.140	% Recov	75.000	125.000				09/10/08
MS	Vanadium	7440-62-2	1011.7	101.170	% Recov	75.000	125.000				09/10/08
MS	Zinc	7440-66-6	1134	113.400	% Recov	75.000	125.000				09/10/08
MSD	Silver	7440-22-4	179.5	17.950	% Recov	75.000	125.000			•	09/10/08
MSD	Barium	7440-39-3	497.5	99.500	% Recov	75.000	125.000				09/10/08
MSD	Beryllium	7440-41-7	530	106.000	% Recov	75.000	125.000				09/10/08
MSD	Calcium	7440-70-2	540	54.000	% Recov	75.000	125.000			•	09/10/08
MSD	Cadmium	7440-43-9	1081.7	108.170	% Recov	75.000	125.000				09/10/08
MSD	Cobalt	7440-48-4	1029.5	102.950	% Recov	75.000	125.000				09/10/08
MSD	Chromium	7440-47-3	1042	104.200	% Recov	75.000	125.000				09/10/08
MSD	Copper	7440-50-8	1029.7	102.970	% Recov	75.000	125.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081862
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	1005.8	100.580	% Recov	75.000	125.000				09/10/08
MSD	Potassium	7440-09-7	11996	119.960	% Recov	75.000	125.000				09/10/08
MSD	Magnesium	7439-95-4	740	74.000	% Recov	75.000	125.000			•	09/10/08
MSD	Manganese	7439-96-5	1055.3	105.530	% Recov	75.000	125.000				09/10/08
MSD	Sodium	7440-23-5	1000	100.000	% Recov	75.000	125.000				09/10/08
MSD	Nickel	7440-02-0	1034	103.400	% Recov	75.000	125.000				09/10/08
MSD	Antimony	7440-36-0	1058	105.800	% Recov	75.000	125.000				09/10/08
MSD	Strontium	7440-24-6	535	107.000	% Recov	75.000	125.000				09/10/08
MSD	Vanadium	7440-62-2	1020.7	102.070	% Recov	75.000	125.000				09/10/08
MSD	Zinc	7440-66-6	1138	113.800	% Recov	75.000	125.000				09/10/08
SPK-RPD	Silver	7440-22-4	17.950		RPD			3.977	20.000		09/10/08
SPK-RPD	Barium	7440-39-3	99.500		RPD			1.099	20.000		09/10/08
SPK-RPD	Beryllium	7440-41-7	106.000		RPD			0.321	20.000		09/10/08
SPK-RPD	Calcium	7440-70-2	54.000		RPD			-398.165	20.000 •		09/10/08
SPK-RPD	Cadmium	7440-43-9	108.170		RPD			1.209	20.000		09/10/08
SPK-RPD	Cobalt	7440-48-4	102.950		RPD			1.863	20.000		09/10/08
SPK-RPD	Chromium	7440-47-3	104.200		RPD			0.964	20.000		09/10/08
SPK-RPD	Copper	7440-50-8	102.970		RPD			1.828	20.000		09/10/08
SPK-RPD	Iron	7439-89-6	100.580		RPD			0.598	20.000		09/10/08
SPK-RPD	Potassium	7440-09-7	119.960		RPD			0.167	20.000		09/10/08
SPK-RPD	Magnesium	7439-95-4	74.000		RPD			11.429	20.000		09/10/08
SPK-RPD	Manganese	7439-96-5	105.530		RPD			0.761	20.000		09/10/08
SPK-RPD	Sodium	7440-23-5	100.000		RPD			13.904	20.000		09/10/08
SPK-RPD	Nickel	7440-02-0	103.400		RPD			1.363	20.000		09/10/08
SPK-RPD	Antimony	7440-36-0	105.800		RPD			2.779	20.000		09/10/08
SPK-RPD	Strontium	7440-24-6	107.000		RPD			1.060	20.000		09/10/08
SPK-RPD	Vanadium	7440-62-2	102.070		RPD			0.886	20.000		09/10/08
SPK-RPD	Zinc	7440-66-6	113.800		RPD			0.352	20.000		09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081862
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	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
LCS	Silver	7440-22-4	1041	104.100	% Recov	80.000	120.000				09/10/08
LCS	Barium	7440-39-3	490.5	98.100	% Recov	80.000	120.000				09/10/08
LCS	Beryllium	7440-41-7	559.1	111.820	% Recov	80.000	120.000				09/10/08
LCS	Calcium	7440-70-2	1189	118.900	% Recov	80.000	120.000				09/10/08
LCS	Cadmium	7440-43-9	1114	111.400	% Recov	80.000	120.000				09/10/08
LCS	Cobalt	7440-48-4	1081	108.100	% Recov	80.000	120.000				09/10/08
LCS	Chromium	7440-47-3	1043	104.300	% Recov	80.000	120.000				09/10/08
LCS	Copper	7440-50-8	1057	105.700	% Recov	80.000	120.000				09/10/08
LCS	Iron	7439-89-6	1016	101.600	% Recov	80.000	120.000				09/10/08
LCS	Potassium	7440-09-7	12200	122.000	% Recov	80.000	120.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081862
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	1065	106.500	% Recov	80.000	120.000				09/10/08
LCS	Manganese	7439-96-5	1071	107.100	% Recov	80.000	120.000				09/10/08
LCS	Sodium	7440-23-5	1142	114.200	% Recov	80.000	120.000				09/10/08
LCS	Nickel	7440-02-0	1099	109.900	% Recov	80.000	120.000				09/10/08
LCS	Antimony	7440-36-0	1089	108.900	% Recov	80.000	120.000				09/10/08
LCS	Strontium	7440-24-6	537.8	107.560	% Recov	80.000	120.000				09/10/08
LCS	Vanadium	7440-62-2	1037	103.700	% Recov	80.000	120.000				09/10/08
LCS	Zinc	7440-66-6	1167	116.700	% Recov	80.000	120.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081862
Matrix: WATER
Test: ICP-200.8 MS All possible meta

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004214											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	39.23	98.075	% Recov	70.000	130.000				09/15/08
MSD	Uranium	7440-61-1	39.88	99.700	% Recov	70.000	130.000				09/15/08
SPK-RPD	Uranium	7440-61-1	99.700		RPD			1.643	20.000		09/15/08
Lab ID: W08P004270											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	44.466	111.165	% Recov	70.000	130.000				09/15/08
MSD	Uranium	7440-61-1	44.566	111.415	% Recov	70.000	130.000				09/15/08
SPK-RPD	Uranium	7440-61-1	111.415		RPD			0.225	20.000		09/15/08
BATCH QC											
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	09/15/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	09/15/08
LCS	Uranium	7440-61-1	40.32	100.800	% Recov	85.000	115.000				09/15/08
LCS	Uranium	7440-61-1	40.35	100.875	% Recov	85.000	115.000				09/15/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081862
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03517											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	6561		RPD			2.929	20.000		09/03/08
Lab ID: W08P004191											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	157.5		RPD			4.651	20.000		09/03/08
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	31.59	106.007	%Recove	80.000	120.000				09/03/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	31.73	106.477	%Recove	80.000	120.000				09/03/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	31.82	106.779	%Recove	80.000	120.000				09/03/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	32.11	107.752	%Recove	80.000	120.000				09/03/08
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	32.40	108.725	%Recove	80.000	120.000				09/03/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081862
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: [Samples W08P4249-4264] 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. Check and high standards used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard. High potassium LCS recovery; "X" flag. Low silver spike recoveries; "N" flag. Samples W08P4257-4264: Ending zinc CCV has high recovery (111%); ICP-AES: B flag used for samples < 5X MDL IC Anion - Sample spike RPD out of limits for nitrite in sample W08P004258; No flag required. DTS Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh VOA: Acetone and methylene chloride were in the blank due to carryover from a waste sample; flagged "B" where detected. MS 9/25/08

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 # W08P004246
Client ID: B1WMV1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Acetone	67-64-1	LA-523-455	B	31.0	ug/L			1.00	1.0		09/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Methylenechloride	75-09-2	LA-523-455	B	27.0	ug/L			1.00	1.0		09/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		09/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		09/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

* - 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 # W08P004246
Client ID: B1WMV1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-007
Sample # W08P004247
Client ID: B1W211 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Methylenechloride	75-09-2	LA-523-455	B	13.0	ug/L			1.00	1.0		09/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		09/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		09/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-007
Sample # W08P004247
Client ID: B1W211 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

MDL=Minimum Detection Limit
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D - Analyte was identified at a secondary dilution factor(inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-007
Sample # W08P004248
Client ID: B1W212 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Methylenechloride	75-09-2	LA-523-455	B	12.0	ug/L			1.00	1.0		09/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		09/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		09/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-007
Sample # W08P004248
Client ID: B1W212 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004250
Client ID: B1VML0 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Trichloroethene	79-01-6	LA-523-455	J	1.10	ug/L			1.00	1.0		09/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Acetone	67-64-1	LA-523-455	B	8.20	ug/L			1.00	1.0		09/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Methylenechloride	75-09-2	LA-523-455	B	9.00	ug/L			1.00	1.0		09/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		09/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		09/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004250
Client ID: B1VML0 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
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D - Analyte was identified at a secondary dilution factor(inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criteria.

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004252
Client ID: B1VML2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Trichloroethene	79-01-6	LA-523-455	J	1.00	ug/L			1.00	1.0		09/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Methylenechloride	75-09-2	LA-523-455	B	6.80	ug/L			1.00	1.0		09/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		09/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		09/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
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N - Spike sample recovery is outside control limits.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004252
Client ID: B1VML2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004256
Client ID: B1VMJ8 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
Methylenechloride	75-09-2	LA-523-455	B	6.30	ug/L			1.00	1.0		09/10/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		09/10/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		09/10/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
D - Analyte was identified at a secondary dilution factor
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B - The analyte < the RDL but > = the IDL/MDL (inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004256
Client ID: B1VMJ8 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Organic
Sampled: 08/27/08
Received: 08/27/08

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		09/10/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		09/10/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

B - The analyte < the RDL but > = the IDL/MDL (inorg)
D - Analyte was identified at a secondary dilution factor(inorg)
N - Spike sample recovery is outside control limits.(inorg)
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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081862
Matrix: WATER
Test: VOA Ground Water Protection

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

Lab ID: W08P004246
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,1-Dichloroethene	75-35-4	20.220	80.900	% Recov	63.000	117.000				09/10/08
MS	Benzene	71-43-2	22.960	91.800	% Recov	75.000	129.000				09/10/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	47.340	94.700	% Recov	75.000	125.000				09/10/08
MS	Chlorobenzene	108-90-7	23.690	94.800	% Recov	79.000	119.000				09/10/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.450	84.900	% Recov	75.000	125.000				09/10/08
MS	Toluene-d8(Surr)	2037-26-5	44.280	88.600	% Recov	75.000	125.000				09/10/08
MS	Toluene	108-88-3	22.740	91.000	% Recov	76.000	120.000				09/10/08
MS	Trichloroethene	79-01-6	21.530	86.100	% Recov	73.000	123.000				09/10/08
MSD	1,1-Dichloroethene	75-35-4	20.850	83.400	% Recov	63.000	117.000				09/10/08
MSD	Benzene	71-43-2	22.530	90.100	% Recov	75.000	129.000				09/10/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	47.710	95.400	% Recov	75.000	125.000				09/10/08
MSD	Chlorobenzene	108-90-7	23.530	94.100	% Recov	79.000	119.000				09/10/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.120	86.200	% Recov	75.000	125.000				09/10/08
MSD	Toluene-d8(Surr)	2037-26-5	44.540	89.100	% Recov	75.000	125.000				09/10/08
MSD	Toluene	108-88-3	22.590	90.400	% Recov	76.000	120.000				09/10/08
MSD	Trichloroethene	79-01-6	21.290	85.200	% Recov	73.000	123.000				09/10/08
SPK-RPD	1,1-Dichloroethene	75-35-4	83.400		RPD			3.043	20.000		09/10/08
SPK-RPD	Benzene	71-43-2	90.100		RPD			1.869	20.000		09/10/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	95.400		RPD			0.736	20.000		09/10/08
SPK-RPD	Chlorobenzene	108-90-7	94.100		RPD			0.741	20.000		09/10/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	86.200		RPD			1.520	20.000		09/10/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	89.100		RPD			0.563	20.000		09/10/08
SPK-RPD	Toluene	108-88-3	90.400		RPD			0.662	20.000		09/10/08
SPK-RPD	Trichloroethene	79-01-6	85.200		RPD			1.051	20.000		09/10/08
SURR	4-Bromofluorobenzene(Surr)	460-00-4	46.910	93.800	% Recov	75.000	125.000				09/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.510	85.000	% Recov	75.000	125.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081862
Matrix: WATER
Test: VOA Ground Water Protection

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Toluene-d8(Surr)	2037-26-5	44.170	88.300	% Recov	75.000	125.000				09/10/08
Lab ID: W08P004247											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.800	95.600	% Recov	75.000	125.000				09/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.440	86.900	% Recov	75.000	125.000				09/10/08
SURR	Toluene-d8(Surr)	2037-26-5	44.420	88.800	% Recov	75.000	125.000				09/10/08
Lab ID: W08P004248											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.670	95.300	% Recov	75.000	125.000				09/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.120	88.200	% Recov	75.000	125.000				09/10/08
SURR	Toluene-d8(Surr)	2037-26-5	44.480	89.000	% Recov	75.000	125.000				09/10/08
Lab ID: W08P004250											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.610	95.200	% Recov	75.000	125.000				09/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.000	88.000	% Recov	75.000	125.000				09/10/08
SURR	Toluene-d8(Surr)	2037-26-5	44.360	88.700	% Recov	75.000	125.000				09/10/08
Lab ID: W08P004252											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.690	95.400	% Recov	75.000	125.000				09/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.190	88.400	% Recov	75.000	125.000				09/10/08
SURR	Toluene-d8(Surr)	2037-26-5	44.590	89.200	% Recov	75.000	125.000				09/10/08
Lab ID: W08P004256											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	47.860	95.700	% Recov	75.000	125.000				09/10/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.940	87.900	% Recov	75.000	125.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081862
Matrix: WATER
Test: VOA Ground Water Protection

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Toluene-d8(Surr)	2037-26-5	44.650	89.300	% Recov	75.000	125.000				09/10/08
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	09/10/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	09/10/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	09/10/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	09/10/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	09/10/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	09/10/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	09/10/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Acetone	67-64-1	27	27.000	ug/L						09/10/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	09/10/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	46.860	93.700	% Recov	75.000	125.000				09/10/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	09/10/08
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	09/10/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	41.860	83.700	% Recov	75.000	125.000				09/10/08
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	09/10/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Methylenechloride	75-09-2	37	37.000	ug/L						09/10/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	09/10/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	09/10/08
BLANK	Toluene-d8(Surr)	2037-26-5	43.970	87.900	% Recov	75.000	125.000				09/10/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20081862
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	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	09/10/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	09/10/08
LCS	1,1-Dichloroethene	75-35-4	20.330	81.300	% Recov	75.000	125.000				09/10/08
LCS	Benzene	71-43-2	23.280	93.100	% Recov	75.000	125.000				09/10/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	46.650	93.300	% Recov	75.000	125.000				09/10/08
LCS	Chlorobenzene	108-90-7	23.290	93.200	% Recov	75.000	125.000				09/10/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.900	87.800	% Recov	75.000	125.000				09/10/08
LCS	Toluene-d8(Surr)	2037-26-5	44.550	89.100	% Recov	75.000	125.000				09/10/08
LCS	Toluene	108-88-3	22.940	91.800	% Recov	75.000	125.000				09/10/08
LCS	Trichloroethene	79-01-6	21.110	84.400	% Recov	75.000	125.000				09/10/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081862
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: [Samples W08P4249-4264] 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. Check and high standards used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard. High potassium LCS recovery; "X" flag. Low silver spike recoveries; "N" flag. Samples W08P4257-4264: Ending zinc CCV has high recovery (111%); ICP-AES: B flag used for samples < 5X MDL IC Anion - Sample spike RPD out of limits for nitrite in sample W08P004258; No flag required. DTS Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh VOA: Acetone end methylene chloride were in the blank due to carryover from a waste sample; flagged "B" where detected. MS 9/25/08

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: S08-007
Sample # W08P004247
Client ID: B1W211 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		2.80	pCi/L	+-1.85	pCi/L	1.00	2.5		09/14/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.50e+03	pCi/L	+-360	pCi/L	1.00	2.4e+02		09/12/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-007
Sample # W08P004248
Client ID: B1W212 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415	U	-0.130	pCi/L	+-0.313	pCi/L	1.00	0.71		09/14/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	19.0	pCi/L	+-190	pCi/L	1.00	2.4e+02		09/12/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004250
Client ID: B1VML0 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		7.60	pCi/L	+-2.20	pCi/L	1.00	1.8		09/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		31.0	pCi/L	+-4.34	pCi/L	1.00	2.6		09/12/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		26.0	pCi/L	+-6.50	pCi/L	1.00	5.5		09/10/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		9.30e+03	pCi/L	+-1.86e+03	pCi/L	1.00	2.4e+02		09/12/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
D - Anelyte was identified at a secondary dilution factor
J - Anelyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004252
Client ID: B1VML2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		6.70	pCi/L	+-2.28	pCi/L	1.00	2.1		09/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		28.0	pCi/L	+-4.20	pCi/L	1.00	3.1		09/12/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		24.0	pCi/L	+-6.00	pCi/L	1.00	5.5		09/10/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		9.00e+03	pCi/L	+-1.80e+03	pCi/L	1.00	2.3e+02		09/18/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004254
Client ID: B1VMK1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		2.70	pCi/L	+-1.54	pCi/L	1.00	1.9		09/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		25.0	pCi/L	+-4.00	pCi/L	1.00	3.1		09/12/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.10e+04	pCi/L	+-2.20e+03	pCi/L	1.00	2.3e+02		09/18/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-006
Sample # W08P004256
Client ID: B1VMJ8 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		5.50	pCi/L	+-1.87	pCi/L	1.00	1.7		09/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		29.0	pCi/L	+-4.06	pCi/L	1.00	2.5		09/12/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		28.0	pCi/L	+-6.44	pCi/L	1.00	5.5		09/10/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.10e+04	pCi/L	+-2.20e+03	pCi/L	1.00	2.3e+02		09/18/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004258
Client ID: B1VR98 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		26.0	pCi/L	+-3.90	pCi/L	1.00	3.0		09/17/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P004260
Client ID: B1VRB2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415	U	-0.0540	pCi/L	+-0.540	pCi/L	1.00	1.6		09/17/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-008
Sample # W08P004262
Client ID: B1WKW5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		15.0	pCi/L	+-3.90	pCi/L	1.00	2.7		09/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		1.00e+03	pCi/L	+-100	pCi/L	1.00	4.2		09/12/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		8.50e+03	pCi/L	+-1.70e+03	pCi/L	1.00	2.3e+02		09/18/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

* - 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 # W08P004264
Client ID: B1WJK5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081862
Department: Radiochemistry
Sampled: 08/27/08
Received: 08/27/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha on Alpha Plateau											
Gross alpha on alpha plateau	12587-46-1	LA-508-415		14.0	pCi/L	+-3.92	pCi/L	1.00	2.9		09/15/08
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		1.80e+03	pCi/L	+-180	pCi/L	1.00	4.2		09/12/08
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		2.60e+03	pCi/L	+-520	pCi/L	1.00	5.5		09/10/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		8.00e+03	pCi/L	+-1.60e+03	pCi/L	1.00	2.3e+02		09/18/08

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

B - The Analyte detected in both the BLANK and the SAMPLE.(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(inorg)

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081862
Matrix: WATER
Test: Gross Alpha on Alpha Plateau

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004247											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	3.1		RPD			10.169	20.000		09/14/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U-9.0E-02	n/a	pCi/L	-100.000	100.000				09/14/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	34.7	89.572	% Recov	80.000	120.000				09/14/08
Lab ID: W08P004154											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	U9.3E-01		RPD			n/a	20.000		09/15/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U-1.3E-01	n/a	pCi/L	-100.000	100.000				09/15/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	31.9	82.344	% Recov	80.000	120.000				09/15/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081862
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004154											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	6.3		RPD			19.130	20.000		09/12/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U-1.0E-01	n/a	pCi/L	-10.000	10.000				09/12/08
LCS	Gross beta	12587-47-2	121.0	107.843	% Recov	80.000	120.000				09/12/08
Lab ID: W08P004258											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	3.3E+01		RPD			23.729	20.000 *		09/17/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U-2.9E-01	n/a	pCi/L	-10.000	10.000				09/17/08
LCS	Gross beta	12587-47-2	113.0	100.713	% Recov	80.000	120.000				09/17/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081862
Matrix: WATER
Test: TC99 by Liquid Scin.

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004212											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	U-0.8		RPD			n/a	20.000		09/10/08
MS	Tc-99 by Liquid Scin.	14133-76-7	660.4	103.732	% Recov	75.000	125.000				09/10/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U2.0	n/a	pCi/L	-10.000	10.000				09/10/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	166.6	104.648	% Recov	80.000	120.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081862
Matrix: WATER
Test: Tritium by Liq Sct column prep

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P004210											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	1.1E+03		RPD			8.696	20.000		09/12/08
MS	Tritium	10028-17-8	20310	90.325	% Recov	75.000	125.000				09/12/08
BATCH QC											
BLANK	Tritium	10028-17-8	U-7.2E+01	n/a	pCi/L	-10.000	1000.000				09/12/08
LCS	Tritium	10028-17-8	3110.0	91.816	% Recov	80.000	120.000				09/12/08
Lab ID: W08P004252											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	9.5E+03		RPD			5.405	20.000		09/18/08
MS	Tritium	10028-17-8	21380.0	95.112	% Recov	75.000	125.000				09/18/08
BATCH QC											
BLANK	Tritium	10028-17-8	U-5.1E+01	n/a	pCi/L	-10.000	1000.000				09/18/08
LCS	Tritium	10028-17-8	3160	93.323	% Recov	80.000	120.000				09/18/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081862
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: [Samples W08P4249-4264] 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. Check and high standards used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard. High potassium LCS recovery; "X" flag. Low silver spike recoveries; "N" flag. Samples W08P4257-4264: Ending zinc CCV has high recovery (111%); ICP-AES: B flag used for samples < 5X MDL IC Anion - Sample spike RPD out of limits for nitrite in sample W08P004258; No flag required. DTS Gross beta duplicate is flagged for poor RPD. Since all the other QC checks came out fine, this batch has been approved. lmh VOA: Acetone end methylene chloride were in the blank due to carryover from a waste sample; flagged "B" where detected. MS 9/25/08

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

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M4W41-SLF-08-1109

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 17 pages
Including cover page

File
9/24/08

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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081862

The following samples were received from you on 08/27/08. 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
W08P004246	B1WMV1	GPP-PNNL TRENT @VOA-GPP	Water	08/27/0
W08P004247	B1W211	GPP-PNNL TRENT @2008 @ALPHA @H3-33 @IC-30 @VOA-GPP	Water	08/27/0
W08P004248	B1W212	GPP-PNNL TRENT @2008 @ALPHA @H3-33 @IC-30 @VOA-GPP	Water	08/27/0
W08P004249	B1VMK9	GPP-PNNL TRENT @GPP6010	Water	08/27/0
W08P004250	B1VML0	GPP-PNNL TRENT @2008 @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 ~~@SVOCGPP~~ @TC99-30 @VOA-GPP ALKALI	Water	08/27/0
W08P004251	B1VML1	GPP-PNNL TRENT @GPP6010	Water pDH; P.D. Mix 9/27/2008	08/27/0
W08P004252	B1VML2	GPP-PNNL TRENT @2008 @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 ~~@SVOCGPP~~ @TC99-30 @VOA-GPP ALKALI	Water	08/27/0
W08P004253	B1VMK0	GPP-PNNL TRENT @GPP6010	Water pDH; P.D. Mix 9/27/2008	08/27/0
W08P004254	B1VMK1	GPP-PNNL TRENT @2008 @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 ALKALI	Water	08/27/0
W08P004255	B1VMJ7	GPP-PNNL TRENT @GPP6010	Water	08/27/0
W08P004256	B1VMJ8	GPP-PNNL TRENT @2008 @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 ~~@SVOCGPP~~ @TC99-30 @VOA-GPP ALKALI	Water	08/27/0
W08P004257	B1VR97	GPP-PNNL TRENT @GPP6010	Water pDH; P.D. Mix 9/27/2008	08/27/0
W08P004258	B1VR98	GPP-PNNL TRENT @2008 @AB-32 @GPP6010 @IC-30 ALKALI	Water	08/27/0

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081862

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P004259	B1VRB1	GPP-PNNL TRENT @GPP6010	Water	08/27/08
W08P004260	B1VRB2	GPP-PNNL TRENT @2008 @AB-32 @GPP6010 @IC-30 ALKALI	Water	08/27/08
W08P004261	B1WKW4	GPP-PNNL TRENT @GPP6010	Water	08/27/08
W08P004262	B1WKW5	GPP-PNNL TRENT @2008 @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 ALKALI CN-02	Water	08/27/08
W08P004263	B1WJK4	GPP-PNNL TRENT @GPP6010	Water	08/27/08
W08P004264	B1WJK5	GPP-PNNL TRENT @2008 @AB-32 @ALPHA @GPP6010 @H3-33 @IC-30 @TC99-30 ALKALI CN-02	Water	08/27/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AB-32	Gross Alpha/Gross Beta (AB32)
@ALPHA	Gross Alpha on Alpha Plateau
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@SVOCGPP	SW-846 8270C Semi-Vols
@TC99-30	TC99 by Liquid Scin.
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3
CN-02	Cyanide by Midi/Spectrophotom

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-008-84

Collector Scott E. Hamaker	**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-506-16	**Ice Chest No.** GW5-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol SURV 20081862	**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
B1WMV1 WG	SP00424	W	8/27/08	1025	1x20-mL P	Activity Scan	None
B1WMV1		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
Scott E. Hamaker	AUG 27 2008 1500	Victor Bins	AUG 27 2008 1500

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-007-106

Collector Scott E. Hamaker	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-007	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV JULY 2008	HWF-N-506-16	**Ice Chest No.** GW3-029 **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
B1W211	WO8P004247	W	8/27/08	1025	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1W211		W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1W211		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1W211		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1W211		W	↓	↓	1x500-mL G/P	Gross Alpha	HNO3 to pH <2

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Scott E. Hamaker / [signature]	AUG 27 2008 1500	[signature]	AUG 27 2008 1500

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

S08-007-107

Page 1 of 1

Collector Scott E. Hamaker	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-007	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV, JULY 2008	HWF-W-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 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
B1W212 W08	P004248	W	8/27/08	0900	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1W212		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1W212		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1W212		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1W212		W			1x500-mL G/P	Gross Alpha	HNO3 to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Scott E. Hamaker	Scott Hamaker		AUG 27 2008 1500		Victor Rios		AUG 27 2008 1500
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

S08-006-432

Collector Scott E. Hamaker	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV, JUNE 2008	HNF-W-586-16	**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:** 45 Days	**Offsite Property No.**

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VMK9 (F)	W08P0042	W	8/27/08	1339	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VML0	41250	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VML0		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1VML0		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VML0		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VML0		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1VML0		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VML0		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VML0		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1VML0		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	Cool~4C

ICED

Relinquished By	Received By
Print: Scott E. Hamaker Sign: [signature] 1500 Date/Time: AUG 27 2008	Print: [signature] Sign: [signature] 1500 Date/Time: AUG 27 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 Liquid
SO	= Solid	T	= Tissue
SL	= Sludge	WI	= Wine
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-006-433

Collector Scott E. Hamaker	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV, JUNE 2008	HNF-W-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 SURV	**Priority:** 45 Days	**Offsite Property No.**

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VML1 (F)	WCH8P1U92S1	W	8/27/08	1339	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VML2	4232	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VML2		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1VML2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VML2		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VML2		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1VML2		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VML2		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VML2		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1VML2		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	Cool~4C

ICED

Relinquished By Scott E. Ham Print Scott Hamaker Sign 1500 Date/Time AUG 27 2008	Received By Print Sign 1500 Date/Time AUG 27 2008	Matrix *
Relinquished By Date/Time	Received By Date/Time	S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Oil, A = Air, DS = Drum Solid, DL = Drum Liquid, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other
Relinquished By Date/Time	Received By Date/Time	
Relinquished By Date/Time	Received By Date/Time	

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-006-420

Collector Scott E. Hamaker	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. S08-006	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SURV. JUNE 2008	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 SURV	Priority: 45 Days	Offsite Property No.

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

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

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VMK0 (F)	W08P004253	W	8/27/08	1247	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VMK1	7254	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
B1VMK1		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1VMK1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VMK1		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VMK1		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VMK1		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Scott E. Hamaker		Scott Hamaker	1500 AUG 27 2008			1500	AUG 27 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 Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wine	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

S08-006-416

Collector: Scott E. Hamaker	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. JUNE 2008	HWF-N-506-11	Ice Chest No.: 6WS-029 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV	Priority: 45 Days	Offsite Property No.

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

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

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VMJ7 (F)	W08P04255	W	8/27/08	1144	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VMJ8	4256	W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2) X X	HNO3 to pH <2
B1VMJ8		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1) X	None
B1VMJ8		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5) X	Cool~4C
B1VMJ8		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1) X	HNO3 to pH <2
B1VMJ8		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25) X	HCl or H2SO4 to pH <2 Cool~4C
B1VMJ8		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18) X	HNO3 to pH <2
B1VMJ8		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1) X	Cool~4C
B1VMJ8		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13) X	Cool~4C
B1VMJ8		W			2x1000-mL P	TC99_ETVDSK_LSC: Tc-99 (1) X	HCl to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Scott E. Hamaker			AUG 27 2008 1500		Victor Blue		AUG 27 2008 1500
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-006-28

Collector D. Woehle	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, JUNE 2008		**Ice Chest No.** **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
B1VR97 (F)	W08P004257	W	8/27/08	1201	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VR98	4258	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VR98		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VR98		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VR98		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VR98		W			1x500-mL G/P	Gross Beta	HNO3 to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. Woehle			1530 AUG 27 2008				1530 AUG 27 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	= Wipe
W	= Water	L	= Liquid
O	= Oil	V	= Vegetation
A	= Air	X	= Other

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-006-29

Collector D. Woehle	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA JUNE 2008	HNF-N-506-19/6	**Ice Chest No.** SML-442 **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
B1VRB1 (F)	NOCP004259	W	8/27/08	0930	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VRB2	4260	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VRB2		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VRB2		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VRB2		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VRB2		W			1x500-mL G/P	Gross Beta	HNO3 to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. Woehle			1530 AUG 27 2008			1530	AUG 27 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 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

W08-008-168

Collector: D. Woehle	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	MNF-N-506-19	Ice Chest No.: SML-442 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
B1WKW4 (F)	W08P00426	W	8/27/08	1300	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WKW5	4262	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1) X	HNO3 to pH <2
B1WKW5		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18) X	HNO3 to pH <2
B1WKW5		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1) X	Cool~4C
B1WKW5		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5) X	Cool~4C
B1WKW5		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1) X	NaOH to pH >= 12 Cool~4C
B1WKW5		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1) X	None
B1WKW5		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2) X X	HNO3 to pH <2

CED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. Woehle			1530 AUG 27 2008			1530	AUG 27 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 Liquid	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

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

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

W08-008-110

Collector D. Woehle	**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-506-19	**Ice Chest No.** SMC-442 **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
B1WJK4 (F)	W08P004263	W	8/27/08	1350	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1WJK5	4264	W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1) X	HNO3 to pH <2
B1WJK5		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18) X	HNO3 to pH <2
B1WJK5		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1) X	Cool~4C
B1WJK5		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5) X	Cool~4C
B1WJK5		W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1) X	NaOH to pH >= 12 Cool~4C
B1WJK5		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1) X	None
B1WJK5		W			1x500-mL G/P	ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC: Alpha discrete + Beta (2) X X	HNO3 to pH <2
B1WJK5		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1) X	HCl to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. Woehle			1530 AUG 27 2008			1530	AUG 27 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 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	C.O.C. # S08-006-432
		Page 1 of 1

Collector: Scott E. Hamaker	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. JUNE 2008	HNF-N-586-16	Ice Chest No.: GWS-029 Temp.
Shipped To (Lab): ~~Waste Sampling & Characterization~~ TASL	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV 9/2/08	Priority: 45 Days	Offsite Property No.

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

SDG# 20081862

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
~~B1VMK9 (F)~~	4250	~~W~~	8/27/08	1339	~~1x500-mL G/P~~	~~6010_METALS_ICP: List-3 (18)~~	~~HNO3 to pH <2~~
~~B1VML0~~	4250	~~W~~			~~1x500-mL G/P~~	~~ALPHABETA_GPC: Alpha discrete + Beta (2);~~ ALPHABETA_GPC: Alpha discrete + Beta (2)	HNO3 to pH <2
~~B1VML0~~		~~W~~			~~1x250-mL G~~	~~TRITIUM_EIE_LSC: Tritium (1)~~	~~None~~
~~B1VML0~~		~~W~~			~~1x500-mL P~~	~~300.0_ANIONS_IC: List-1 (5)~~	~~Cool~4C~~
~~B1VML0~~		~~W~~			~~1x500-mL G/P~~	~~200.8_METALS_ICPMS: Uranium (1)~~	~~HNO3 to pH <2~~
~~B1VML0~~		~~W~~			~~4x40-mL aGs*~~	~~8260_VOA_GCMS: List-2 (25)~~	~~HCl or H2SO4 to pH <2 Cool~4C~~
~~B1VML0~~		~~W~~			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	~~HNO3 to pH <2~~
~~B1VML0~~		W			~~1x250-mL G/P~~	~~2320_ALKALINITY: Alkalinity (1)~~	~~Cool~4C~~
~~B1VML0~~		W			~~1x1000-mL G/P~~	~~TC99_3MDSK_LSC: Tc-99 (1)~~	~~HCl to pH <2~~
B1VML0		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	Cool~4C

Shipped off Site

CED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Scott E. Hamaker		1500 AUG 27 2008				1500 AUG 27 2008
			9/2/08 1435				9/2/08 1435

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

C.O.C. # **S08-006-433**

Page 1 of 1

Collector Scott E. Hamaker	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. S08-006	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title SURV JUNE 2008	HNF-W-506-16	Ice Chest No. GWS-029 Temp.
Shipped To (Lab) ~~Waste Sampling & Characterization~~ TBSL	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol SURV 9/2/08 YCS	Priority: 45 Days	Offsite Property No.

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

SDG # 20081862

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
~~B1VML1 (F)~~	~~W0804251~~	~~W~~	~~8/27/08~~	~~1339~~	~~1x500-mL G/P~~	~~6010_METALS_ICP: List-3 (18)~~	~~HNO3 to pH <2~~
~~B1VML2~~	~~TBSL~~	~~W~~			~~1x500-mL G/P~~	~~ALPHABETA_GPC: Alpha discrete + Beta (2); ALPHABETA_GPC:~~ Alpha discrete + Beta (2)	HNO3 to pH <2
~~B1VML2~~		~~W~~			~~1x250-mL G~~	~~TRITIUM_EIE_LSC: Tritium (1)~~	None
~~B1VML2~~		~~W~~			~~1x500-mL P~~	~~300.0_ANIONS_IC: List-1 (5)~~	Cool~4C
~~B1VML2~~		~~W~~			~~1x500-mL G/P~~	~~200.8_METALS_ICPMS: Uranium (1)~~	~~HNO3 to pH <2~~
~~B1VML2~~		~~W~~			~~4x40-mL aGs*~~	~~8260_VOA_GCMS: List-2 (25)~~	HCl or H2SO4 to pH <2 Cool~4C
~~B1VML2~~		~~W~~			~~1x500-mL G/P~~	~~6010_METALS_ICP: List-3 (18)~~	~~HNO3 to pH <2~~
~~B1VML2~~		~~W~~			~~1x250-mL G/P~~	~~2320_ALKALINITY: Alkalinity (1)~~	Cool~4C
~~B1VML2~~		~~W~~			~~1x1000-mL G/P~~	~~TC99_3MDSK_LSC: Tc-99 (1)~~	HCl to pH <2
B1VML2		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13)	Cool~4C

Shipped off Site

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Scott E. Ham	Scott Hamaker		1500 AUG 27 2008				1500 AUG 27 2008
			9/2/08 1435				9/2/08 1435

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

C.O.C. # **S08-006-416**

Page 1 of 1

Collector Scott E. Hamaker	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV JUNE 2008	HNF-N-506-11	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) ~~Waste Sampling & Characterization~~ TASL	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol SURV 9/2/08	**Priority:** 45 Days	**Offsite Property No.**

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

SDG # 2008 1862

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
B1VMJ7 (F)	W0808425	W	8/27/08	1144	~~1x500-mL G/P~~	~~6010_METALS_ICP: List-3 (18)~~	HNO3 to pH <2
B1VMJ8	4254	W			1x500-mL G/P	ALPHABETA_GPC: ~~Alpha discrete + Beta (2); ALPHABETA_GPC:~~ Alpha discrete + Beta (2) X X	~~HNO3 to pH <2~~
~~B1VMJ8~~		~~W~~			~~1x250-mL G~~	~~TRITIUM_EIE_LSC: Tritium (1)~~ X	~~None~~
~~B1VMJ8~~		~~W~~			~~1x500-mL P~~	~~300.0_ANIONS_IC: List-1 (5)~~ X	~~Cool~4C~~
~~B1VMJ8~~		~~W~~			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1) X	HNO3 to pH <2
~~B1VMJ8~~		~~W~~			4x40-mL aGs*	~~8260_VOA_GCMS: List-2 (25)~~ X	HCl or H2SO4 to pH <2 Cool~4C
B1VMJ8		W			~~1x500-mL G/P~~	~~6010_METALS_ICP: List-3 (18)~~ X	~~HNO3 to pH <2~~
~~B1VMJ8~~		~~W~~			~~1x250-mL G/P~~	~~2320_ALKALINITY: Alkalinity (1)~~ X	~~Cool~4C~~
B1VMJ8		W			4x1000-mL aG	8270_SVOA_GCMS: List-1 (13) X	Cool~4C
~~B1VMJ8~~		~~W~~			~~2x1000-mL P~~	~~TC99_ETVDSK_LSC: Tc-99 (1)~~ X	~~HCl to pH <2~~

Shipped off Site

RECEIVED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Scott E. Hamaker			AUG 27 2008 1500				AUG 27 2008 1500
			9/2/08 1435				9/2/08 1435

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