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RECEIVED AUGUST 20, 2008

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FLUOR

Memorandum

M4W41-SLF-08-846

To:	H. Hampt	E6-35	Date:	August 19, 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 WSCF20081288

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 WSCF20081288:

- 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#: WSCF20081288
Data Deliverable Date: 11-aug-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
A08-006	B1VJK8	W08P003130	WATER
	B1VJK9	W08P003129	WATER
I08-039	B1V6W2	W08P003167	WATER
	B1V6W3	W08P003166	WATER
I08-042	B1VKP8	W08P003156	WATER
	B1VKP9	W08P003157	WATER
	B1VKR1	W08P003154	WATER
	B1VKR2	W08P003155	WATER
S08-006	B1VLN1	W08P003128	WATER
	B1VLN2	W08P003127	WATER
W08-006	B1VNN5	W08P003131	WATER
	B1VNN6	W08P003132	WATER
	B1VNN7	W08P003133	WATER
	B1VNN8	W08P003134	WATER
	B1VNN9	W08P003139	WATER
	B1VNP0	W08P003140	WATER
	B1VNP3	W08P003142	WATER
	B1VNP4	W08P003143	WATER
	B1VNP9	W08P003135	WATER
	B1VNR0	W08P003136	WATER
	B1VNR1	W08P003137	WATER
	B1VNR2	W08P003138	WATER
	B1VNR6	W08P003141	WATER
	B1VNR7	W08P003227	WATER
	B1VPF3	W08P003148	WATER
	B1VPF4	W08P003149	WATER
	B1VPF5	W08P003150	WATER
	B1VPF6	W08P003151	WATER
	B1VPF7	W08P003152	WATER
	B1VPF8	W08P003153	WATER
	B1VPH8	W08P003162	WATER
	B1VPH9	W08P003163	WATER
	B1VPJ0	W08P003164	WATER
	B1VPJ1	W08P003165	WATER
	B1VPM5	W08P003158	WATER
	B1VPM6	W08P003159	WATER
	B1VPM7	W08P003160	WATER
	B1VPM8	W08P003161	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Thirty-eight (38) groundwater samples were received at the WSCF Laboratory on June 26, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

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

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 60 through 63 for QC details. Analytical Note(s):

- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VK11 (SDG# 20081273); and. B1V6W2 and B1VNP4 of this SDG.
- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.

All QC controls are within the established limits.

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 64 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1V577 (SDG# 20081261, SAF# F08-103) and B1VLM5 (SDG# 20081358).

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

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VM29 (SDG# 20081287).
- Calcium, Magnesium and Sodium sample results exceeded spiking levels by a factor of 4. Spike recoveries are no valid. Check standard was analyzed to ensure linearity, because the sample results were greater than the calibration standard.
- Silver contamination detected in the Blank was evaluated and affected sample results were C flagged.
- Silver – Matrix Spike recovery was 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 69 for QC details. Analytical Note(s):

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

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 70 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1VRK0 (SDG# 20081240) and B1VK09 (SDG# 20081252).

All QC controls are within the established limits.

Total Organic Carbon – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Method Spike were analyzed with this delivery group per the GRP Letter of Instruction. See pages 71 through 72 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VR10 (SDG# 20081260); B1VNC2 (20081297); and, B1VNP9 and B1VPM6 of this SDG.

All QC controls are within the established limits.

Total Organic Halides – 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 page 73 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VPM5 and B1VPH8 of this SDG; B1W2T5 (SDG# 20081334); and B1VNV0 (SDG# 20081375).

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 78 through 80 for QC details. Analytical Note(s):

- Gross Alpha – Duplicate was analyzed on sample# B1VPR4 (SDG# 20081142).
- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1VLD6 (SDG# 20081275).
- Technetium-99 – Duplicates and Matrix Spikes were analyzed on samples B1VLJ6 (SDG# 20081245) and B1VJK8 of this SDG. Matrix Spike recoveries were less than established laboratory limits due to high sample activity. 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-08-846

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 74 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S.Fitzgerald 8/19/08

Client Services: P.D. Miy 8/19/2008

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

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Report#: WSCF20081288
Report Date: 17-aug-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 17-aug-2008 07:06:37

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081288

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36880	2	37301	41647	BLANK		Anions by Ion Chromatography
36880	12	37301	41647	BLANK		Anions by Ion Chromatography
36880	3	37301	41647	LCS		Anions by Ion Chromatography
36880	8	37301	41647	SAMPLE	W08P003153	Anions by Ion Chromatography
36880	9	37301	41647	SAMPLE	W08P003155	Anions by Ion Chromatography
36880	10	37301	41647	SAMPLE	W08P003157	Anions by Ion Chromatography
36880	11	37301	41647	SAMPLE	W08P003166	Anions by Ion Chromatography
36880	5	37301	41647	DUP	W08P003167	Anions by Ion Chromatography
36880	6	37301	41647	MS	W08P003167	Anions by Ion Chromatography
36880	7	37301	41647	MSD	W08P003167	Anions by Ion Chromatography
36880	4	37301	41647	SAMPLE	W08P003167	Anions by Ion Chromatography
36880	7	37301	41647	SPK-RPD	W08P003167	Anions by Ion Chromatography
36909	2	37330	41679	BLANK		Anions by Ion Chromatography
36909	14	37330	41679	BLANK		Anions by Ion Chromatography
36909	25	37330	41679	BLANK		Anions by Ion Chromatography
36909	3	37330	41679	LCS		Anions by Ion Chromatography
36909	15	37330	41679	LCS		Anions by Ion Chromatography
36909	11	37330	41679	DUP	W08P003107	Anions by Ion Chromatography
36909	12	37330	41679	MS	W08P003107	Anions by Ion Chromatography
36909	13	37330	41679	MSD	W08P003107	Anions by Ion Chromatography
36909	13	37330	41679	SPK-RPD	W08P003107	Anions by Ion Chromatography
36909	19	37330	41679	SAMPLE	W08P003140	Anions by Ion Chromatography
36909	22	37330	41679	DUP	W08P003143	Anions by Ion Chromatography
36909	23	37330	41679	MS	W08P003143	Anions by Ion Chromatography
36909	24	37330	41679	MSD	W08P003143	Anions by Ion Chromatography
36909	21	37330	41679	SAMPLE	W08P003143	Anions by Ion Chromatography
36909	24	37330	41679	SPK-RPD	W08P003143	Anions by Ion Chromatography
36924	1	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	13	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	24	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	36	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	46	37345	41702	LCS		Total Alkalinity as mg/L CaCO3
36924	3	37345	41702	DUP	W08P002897	Total Alkalinity as mg/L CaCO3
36924	26	37345	41702	DUP	W08P003018	Total Alkalinity as mg/L CaCO3
36924	41	37345	41702	SAMPLE	W08P003127	Total Alkalinity as mg/L CaCO3
36924	42	37345	41702	SAMPLE	W08P003128	Total Alkalinity as mg/L CaCO3
36924	43	37345	41702	SAMPLE	W08P003153	Total Alkalinity as mg/L CaCO3
36924	44	37345	41702	SAMPLE	W08P003155	Total Alkalinity as mg/L CaCO3
36924	45	37345	41702	SAMPLE	W08P003157	Total Alkalinity as mg/L CaCO3
36933	1	37349	41733	BLANK		Cyanide by Midi/Spectrophotom
36933	2	37349	41733	LCS		Cyanide by Midi/Spectrophotom
36933	5	37349	41733	MS	W08GR01833	Cyanide by Midi/Spectrophotom
36933	6	37349	41733	MSD	W08GR01833	Cyanide by Midi/Spectrophotom
36933	6	37349	41733	SPK-RPD	W08GR01833	Cyanide by Midi/Spectrophotom
36933	16	37349	41733	SAMPLE	W08P003141	Cyanide by Midi/Spectrophotom
37001	6	37424	41761	BLANK		Cyanide by Midi/Spectrophotom
37001	7	37424	41761	LCS		Cyanide by Midi/Spectrophotom
37001	20	37424	41761	SAMPLE	W08P003227	Cyanide by Midi/Spectrophotom

37001	12	37424	41761	MS	W08P003311	Cyanide by Midi/Spectrophotom
37001	13	37424	41761	MSD	W08P003311	Cyanide by Midi/Spectrophotom
37001	13	37424	41761	SPK-RPD	W08P003311	Cyanide by Midi/Spectrophotom
37088	1	37514	41869	BLANK		ICP-200.8 MS All possible meta
37088	2	37514	41869	LCS		ICP-200.8 MS All possible meta
37088	4	37514	41869	MS	W08P003118	ICP-200.8 MS All possible meta
37088	5	37514	41869	MSD	W08P003118	ICP-200.8 MS All possible meta
37088	5	37514	41869	SPK-RPD	W08P003118	ICP-200.8 MS All possible meta
37088	7	37514	41869	MS	W08P003120	ICP-200.8 MS All possible meta
37088	8	37514	41869	MSD	W08P003120	ICP-200.8 MS All possible meta
37088	8	37514	41869	SPK-RPD	W08P003120	ICP-200.8 MS All possible meta
37088	25	37514	41869	SAMPLE	W08P003129	ICP-200.8 MS All possible meta
37088	26	37514	41869	SAMPLE	W08P003130	ICP-200.8 MS All possible meta
37146	1	37573	41905	BLANK		Total Organic Halides
37146	3	37573	41905	LCS		Total Organic Halides
37146	6	37573	41905	MS	W08P003158	Total Organic Halides
37146	7	37573	41905	MSD	W08P003158	Total Organic Halides
37146	5	37573	41905	SAMPLE	W08P003158	Total Organic Halides
37146	7	37573	41905	SPK-RPD	W08P003158	Total Organic Halides
37146	9	37573	41905	SAMPLE	W08P003159	Total Organic Halides
37146	10	37573	41905	SAMPLE	W08P003160	Total Organic Halides
37146	11	37573	41905	SAMPLE	W08P003161	Total Organic Halides
37146	13	37573	41905	MS	W08P003162	Total Organic Halides
37146	14	37573	41905	MSD	W08P003162	Total Organic Halides
37146	12	37573	41905	SAMPLE	W08P003162	Total Organic Halides
37146	14	37573	41905	SPK-RPD	W08P003162	Total Organic Halides
37146	15	37573	41905	SAMPLE	W08P003163	Total Organic Halides
37146	16	37573	41905	SAMPLE	W08P003164	Total Organic Halides
37146	17	37573	41905	SAMPLE	W08P003165	Total Organic Halides
37146	23	37573	41905	MS	W08P003301	Total Organic Halides
37146	24	37573	41905	MSD	W08P003301	Total Organic Halides
37146	24	37573	41905	SPK-RPD	W08P003301	Total Organic Halides
37146	33	37573	41905	MS	W08P003357	Total Organic Halides
37146	34	37573	41905	MSD	W08P003357	Total Organic Halides
37146	34	37573	41905	SPK-RPD	W08P003357	Total Organic Halides
37279	1	37709	42028	BLANK		Total Organic Carbon
37279	2	37709	42028	METHSPIKE		Total Organic Carbon
37279	3	37709	42028	SPK-RSD		Total Organic Carbon
37279	4	37709	42028	MS	W08P003056	Total Organic Carbon
37279	5	37709	42028	MSD	W08P003056	Total Organic Carbon
37279	5	37709	42028	SPK-RPD	W08P003056	Total Organic Carbon
37279	13	37709	42028	SAMPLE	W08P003131	Total Organic Carbon
37279	14	37709	42028	SAMPLE	W08P003132	Total Organic Carbon
37279	15	37709	42028	SAMPLE	W08P003133	Total Organic Carbon
37279	16	37709	42028	SAMPLE	W08P003134	Total Organic Carbon
37279	17	37709	42028	MS	W08P003135	Total Organic Carbon
37279	18	37709	42028	MSD	W08P003135	Total Organic Carbon
37279	20	37709	42028	SAMPLE	W08P003135	Total Organic Carbon
37279	18	37709	42028	SPK-RPD	W08P003135	Total Organic Carbon
37279	21	37709	42028	SAMPLE	W08P003136	Total Organic Carbon
37279	22	37709	42028	SAMPLE	W08P003137	Total Organic Carbon
37279	23	37709	42028	SAMPLE	W08P003138	Total Organic Carbon
37279	24	37709	42028	SAMPLE	W08P003148	Total Organic Carbon
37279	25	37709	42028	SAMPLE	W08P003149	Total Organic Carbon
37279	26	37709	42028	SAMPLE	W08P003150	Total Organic Carbon
37279	27	37709	42028	SAMPLE	W08P003151	Total Organic Carbon
37279	29	37709	42028	SAMPLE	W08P003158	Total Organic Carbon

37281	1	37717	42029	BLANK		Total Organic Carbon
37281	2	37717	42029	METHSPIKE		Total Organic Carbon
37281	3	37717	42029	SPK-RSD		Total Organic Carbon
37281	19	37717	42029	SPK-RSD		Total Organic Carbon
37281	4	37717	42029	MS	W08P003159	Total Organic Carbon
37281	5	37717	42029	MSD	W08P003159	Total Organic Carbon
37281	7	37717	42029	SAMPLE	W08P003159	Total Organic Carbon
37281	5	37717	42029	SPK-RPD	W08P003159	Total Organic Carbon
37281	11	37717	42029	SAMPLE	W08P003160	Total Organic Carbon
37281	9	37717	42029	SAMPLE	W08P003161	Total Organic Carbon
37281	10	37717	42029	SAMPLE	W08P003162	Total Organic Carbon
37281	8	37717	42029	SAMPLE	W08P003163	Total Organic Carbon
37281	12	37717	42029	SAMPLE	W08P003164	Total Organic Carbon
37281	13	37717	42029	SAMPLE	W08P003165	Total Organic Carbon
37281	17	37717	42029	MS	W08P003184	Total Organic Carbon
37281	18	37717	42029	MSD	W08P003184	Total Organic Carbon
37281	18	37717	42029	SPK-RPD	W08P003184	Total Organic Carbon
37350	1	37619	42405	BLANK		ICP Metals Analysis, Grd H20 P
37350	2	37619	42405	LCS		ICP Metals Analysis, Grd H20 P
37350	4	37619	42405	MS	W08P003118	ICP Metals Analysis, Grd H20 P
37350	5	37619	42405	MSD	W08P003118	ICP Metals Analysis, Grd H20 P
37350	5	37619	42405	SPK-RPD	W08P003118	ICP Metals Analysis, Grd H20 P
37350	10	37619	42405	SAMPLE	W08P003139	ICP Metals Analysis, Grd H20 P
37350	11	37619	42405	SAMPLE	W08P003140	ICP Metals Analysis, Grd H20 P
37350	12	37619	42405	SAMPLE	W08P003142	ICP Metals Analysis, Grd H20 P
37350	13	37619	42405	SAMPLE	W08P003143	ICP Metals Analysis, Grd H20 P
37350	14	37619	42405	SAMPLE	W08P003152	ICP Metals Analysis, Grd H20 P
37350	15	37619	42405	SAMPLE	W08P003153	ICP Metals Analysis, Grd H20 P
37350	16	37619	42405	SAMPLE	W08P003154	ICP Metals Analysis, Grd H20 P
37350	17	37619	42405	SAMPLE	W08P003155	ICP Metals Analysis, Grd H20 P
37350	18	37619	42405	SAMPLE	W08P003156	ICP Metals Analysis, Grd H20 P
37350	19	37619	42405	SAMPLE	W08P003157	ICP Metals Analysis, Grd H20 P

w13qlog v4.2 17-aug-2008 07:06:37

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081288

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36966	1	37389	41771	BLANK		Tritium by Liq Sct column prep
36966	4	37389	41771	LCS		Tritium by Liq Sct column prep
36966	3	37389	41771	DUP	W08P003087	Tritium by Liq Sct column prep
36966	2	37389	41771	MS	W08P003087	Tritium by Liq Sct column prep
36966	11	37389	41771	SAMPLE	W08P003129	Tritium by Liq Sct column prep
36966	12	37389	41771	SAMPLE	W08P003130	Tritium by Liq Sct column prep
37296	1	37726	42069	BLANK		Gross Alpha on Alpha Plateau
37296	2	37726	42069	LCS		Gross Alpha on Alpha Plateau
37296	3	37726	42069	DUP	W08P002724	Gross Alpha on Alpha Plateau
37296	5	37726	42069	SAMPLE	W08P003153	Gross Alpha on Alpha Plateau
36914	1	37335	42102	BLANK		TC99 by Liquid Scin.
36914	2	37335	42102	LCS		TC99 by Liquid Scin.
36914	4	37335	42102	DUP	W08P002940	TC99 by Liquid Scin.
36914	3	37335	42102	MS	W08P002940	TC99 by Liquid Scin.
36914	18	37335	42102	SAMPLE	W08P003129	TC99 by Liquid Scin.
37003	1	37426	42207	BLANK		TC99 by Liquid Scin.
37003	4	37426	42207	LCS		TC99 by Liquid Scin.
37003	3	37426	42207	DUP	W08P003130	TC99 by Liquid Scin.
37003	2	37426	42207	MS	W08P003130	TC99 by Liquid Scin.
37003	7	37426	42207	SAMPLE	W08P003130	TC99 by Liquid Scin.

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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

LA-344-406	LA-344-406: TOTAL ORGANIC CARBON (TOC) BASED ON SW-846	
	EPA SW-846 9060	TOTAL ORGANIC CARBON
	HEIS 9060_TOC	Total Organic Carbon
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	HEIS 6010_METALS_ICP	Inductively Coupled Plasma-Atomic Emmision Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
	HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
	HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS
LA-523-444	LA-523-444: TOTAL ORGANIC HALIDES BASED ON SW-846 METHOD 9020B	
	EPA SW-846 9020B	TOTAL ORGANIC HALIDES (TOX)
	HEIS 9020_TOX	Total Organic Halides based on SW846 Method 9020B
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	

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

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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

EPA-600/4-79-020 335.2	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: 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 2-INCH PROTEAN ALPHA/BETA COUNTING SYSTEM FOR GROSS

HEIS	**ALPHA_GPC**	GROSS ALPHA GPC
HEIS	**BETA_GPC**	GROSS BETA GPC
HEIS	**SRTOT_SEP_PRECIP_GPC**	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: S08-006
Sample # W08P003127
Client ID: B1VLN2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411	U	< 1.00	mg/L			1.00	1.0		07/02/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003128
Client ID: B1VLN1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		110	mg/L			1.00	1.0		07/02/08

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

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

C - The Analyte was found in the Associated Blank.(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: A08-006
Sample # W08P003129
Client ID: B1VJK9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta Prep											**07/10/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		07/14/08

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

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

C - The Analyte was found in the Associated Blank.(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: A08-006
Sample # W08P003130
Client ID: B1VJK8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta Prep											**07/10/08**
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		7.91	ug/L			1.00	0.0500		07/14/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003131
Client ID: B1VNN5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.304	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003132
Client ID: B1VNN6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003133
Client ID: B1VNN7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.307	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003134
Client ID: B1VNN8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.309	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003135
Client ID: B1VNP9 PNNL-GPP WSCF
Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003136
Client ID: B1VNR0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		07/23/08

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

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

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U - Analyzed for but not detected above limiting criteria.

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003137
Client ID: B1VNR1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003138
Client ID: B1VNR2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406	U	< 0.300	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003139
Client ID: B1VNN9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		2.20e+04	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		8.50e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		2.32e+04	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		72.5	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411		17.2	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		7.66e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		400	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003140
Client ID: B1VNP0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

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	0.211	mg/L			2.00	0.042		06/26/08
Chloride	16887-00-6	LA-533-410	D	16.2	mg/L			2.00	0.22		06/26/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/26/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	32.7	mg/L			10.00	0.36		06/26/08
Sulfate	14808-79-8	LA-533-410	D	77.6	mg/L			2.00	0.15		06/26/08
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		57.3	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		2.10e+04	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411		5.70	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		7.99e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		2.16e+04	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		71.0	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411		21.5	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411		19.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		7.72e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		389	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(inorg)
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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: W08-006
Sample # W08P003140
Client ID: B1VNP0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003141
Client ID: B1VNR6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		06/30/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003142
Client ID: B1VNP3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		65.7	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411	U	< 170	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		63.4	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		287	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003143
Client ID: B1VNP4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.0420	mg/L			2.00	0.042		06/26/08
Chloride	16887-00-6	LA-533-410	DU	< 0.220	mg/L			2.00	0.22		06/26/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/26/08
Nitrogen in Nitrate	NO3-N	LA-533-410	DU	< 0.0720	mg/L			2.00	0.072		06/26/08
Sulfate	14808-79-8	LA-533-410	DU	< 0.154	mg/L			2.00	0.15		06/26/08
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411	U	< 50.0	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411	U	< 170	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411	U	< 51.0	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411	U	< 73.0	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003143
Client ID: B1VNP4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003148
Client ID: B1VPF3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406		1.84	mg/L			1.00	0.30		07/23/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003149
Client ID: B1VPF4 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406		1.90	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003150
Client ID: B1VPF5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406		1.90	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003151
Client ID: B1VPF6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total organic carbon											
Total organic carbon	TOC	LA-344-406		1.86	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003152
Client ID: B1VPF7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		6.64e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411		5.30	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		4.29e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.53e+05	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		21.5	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		3.73e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		162	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(inorg)
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U - Analyzed for but not detected above limiting criteria.

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003153
Client ID: B1VPF8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

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	0.172	mg/L			5.00	0.10		06/27/08
Chloride	16887-00-6	LA-533-410	D	25.6	mg/L			5.00	0.55		06/27/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.144	mg/L			5.00	0.050		06/27/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	13.5	mg/L			5.00	0.18		06/27/08
Sulfate	14808-79-8	LA-533-410	D	251	mg/L			5.00	0.38		06/27/08
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		140	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		6.85e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411		4.60	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411		13.4	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		4.48e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	CN	13.1	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.61e+05	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		22.6	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411		24.1	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		3.81e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		167	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003153
Client ID: B1VPF8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		170	mg/L			1.00	1.0		07/02/08

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

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

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U - Analyzed for but not detected above limiting criteria.

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-042
Sample # W08P003154
Client ID: B1VKR1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		2.47e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		2.37e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	CN	7.30	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.26e+05	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		14.5	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411		13.4	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		1.28e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		63.2	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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: I08-042
Sample # W08P003155
Client ID: B1VKR2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

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	0.632	mg/L			3.00	0.063		06/27/08
Chloride	16887-00-6	LA-533-410	D	23.7	mg/L			3.00	0.33		06/27/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.118	mg/L			3.00	0.030		06/27/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.45	mg/L			3.00	0.11		06/27/08
Sulfate	14808-79-8	LA-533-410	D	151	mg/L			3.00	0.23		06/27/08
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		33.8	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		2.56e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		2.44e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.30e+05	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		15.0	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411		14.1	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		1.33e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		65.5	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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: I08-042
Sample # W08P003155
Client ID: B1VKR2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		140	mg/L			1.00	1.0		07/02/08

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

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

C - The Analyte was found in the Associated Blank.(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: I08-042
Sample # W08P003156
Client ID: B1VKP8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 25.0	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		2.51e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		2.44e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.28e+05	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		14.4	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		1.31e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		64.3	ug/L			1.00	4.0		08/06/08
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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: I08-042
Sample # W08P003157
Client ID: B1VKP9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

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	0.640	mg/L			3.00	0.063		06/27/08
Chloride	16887-00-6	LA-533-410	D	23.8	mg/L			3.00	0.33		06/27/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.136	mg/L			3.00	0.030		06/27/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.47	mg/L			3.00	0.11		06/27/08
Sulfate	14808-79-8	LA-533-410	D	152	mg/L			3.00	0.23		06/27/08
ICP Metals Analysis, Grd H20 P Prep											**07/30/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		36.1	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		2.59e+03	ug/L			1.00	50		08/06/08
Manganese	7439-96-5	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Nickel	7440-02-0	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		2.49e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	NU	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.30e+05	ug/L			1.00	51		08/06/08
Antimony	7440-36-0	LA-505-411	U	< 56.0	ug/L			1.00	56		08/06/08
Barium	7440-39-3	LA-505-411		15.2	ug/L			1.00	4.0		08/06/08
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Chromium	7440-47-3	LA-505-411	U	< 13.0	ug/L			1.00	13		08/06/08
Cobalt	7440-48-4	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Copper	7440-50-8	LA-505-411	U	< 6.00	ug/L			1.00	6.0		08/06/08
Vanadium	7440-62-2	LA-505-411	U	< 12.0	ug/L			1.00	12		08/06/08
Zinc	7440-66-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		08/06/08
Calcium	7440-70-2	LA-505-411		1.34e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		66.3	ug/L			1.00	4.0		08/06/08

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

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

C - The Analyte was found in the Associated Blank.(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: I08-042
Sample # W08P003157
Client ID: B1VKP9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		08/06/08
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		140	mg/L			1.00	1.0		07/02/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003158
Client ID: B1VPM5 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444		7.74	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.631	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003159
Client ID: B1VPM6 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444		7.10	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.614	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003160
Client ID: B1VPM7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444		7.30	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.622	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003161
Client ID: B1VPM8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444		8.68	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.614	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003162
Client ID: B1VPH8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444		5.17	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.330	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003163
Client ID: B1VPH9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444		5.48	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.362	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003164
Client ID: B1VPJ0 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444		5.80	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.336	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003165
Client ID: B1VPJ1 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Organic Halides Prep											**07/14/08**
Total Organic Halides											
Total Organic Halides	59473-04-0	LA-523-444	U	< 5.00	ug/L			1.00	5.0		07/17/08
Total organic carbon											
Total organic carbon	TOC	LA-344-406		0.324	mg/L			1.00	0.30		07/24/08

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

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

C - The Analyte was found in the Associated Blank.(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: I08-039
Sample # W08P003166
Client ID: B1V6W3 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

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	0.192	mg/L			2.00	0.042		06/27/08
Chloride	16887-00-6	LA-533-410	D	7.23	mg/L			2.00	0.22		06/27/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.0993	mg/L			2.00	0.020		06/27/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	1.02	mg/L			2.00	0.072		06/27/08
Sulfate	14808-79-8	LA-533-410	D	45.9	mg/L			2.00	0.15		06/27/08

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

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

C - The Analyte was found in the Associated Blank.(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: I08-039
Sample # W08P003167
Client ID: B1V6W2 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

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	0.210	mg/L			2.00	0.042		06/27/08
Chloride	16887-00-6	LA-533-410	D	7.20	mg/L			2.00	0.22		06/27/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.0871	mg/L			2.00	0.020		06/27/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	1.02	mg/L			2.00	0.072		06/27/08
Sulfate	14808-79-8	LA-533-410	D	45.7	mg/L			2.00	0.15		06/27/08

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

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

C - The Analyte was found in the Associated Blank.(inorg)
N - Spike sample recovery is outside control limits.(inorg)
U - Analyzed for but not detected above limiting criterie.

* - 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 # W08P003227
Client ID: B1VNR7 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Inorganic
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		07/08/08

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

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

C - The Analyte was found in the Associated Blank.(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: WSCF20081288
Matrix: WATER
Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003167											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	7.1913		RPD			0.161	20.000		06/27/08
DUP	Fluoride	16984-48-8	0.1863		RPD			11.771	20.000		06/27/08
DUP	Nitrogen in Nitrite	NO2-N	9.15e-2		RPD			4.927	20.000		06/27/08
DUP	Nitrogen in Nitrate	NO3-N	1.013		RPD			0.777	20.000		06/27/08
DUP	Sulfate	14808-79-8	45.742		RPD			0.072	20.000		06/27/08
MS	Chloride	16887-00-6	0.9103	91.487	% Recov	80.000	120.000				06/27/08
MS	Fluoride	16984-48-8	0.49435	100.274	% Recov	80.000	120.000				06/27/08
MS	Nitrogen in Nitrite	NO2-N	0.40415	82.144	% Recov	80.000	120.000				06/27/08
MS	Nitrogen in Nitrate	NO3-N	0.433	97.085	% Recov	80.000	120.000				06/27/08
MS	Sulfate	14808-79-8	1.80005	91.839	% Recov	80.000	120.000				06/27/08
MSD	Chloride	16887-00-6	0.8923	89.678	% Recov	80.000	120.000				06/27/08
MSD	Fluoride	16984-48-8	0.4913	99.655	% Recov	80.000	120.000				06/27/08
MSD	Nitrogen in Nitrite	NO2-N	0.4061	82.541	% Recov	80.000	120.000				06/27/08
MSD	Nitrogen in Nitrate	NO3-N	0.4363	97.825	% Recov	80.000	120.000				06/27/08
MSD	Sulfate	14808-79-8	1.61205	82.247	% Recov	80.000	120.000				06/27/08
SPK-RPD	Chloride	16887-00-6	89.678		RPD			1.997	20.000		06/27/08
SPK-RPD	Fluoride	16984-48-8	99.655		RPD			0.619	20.000		06/27/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	82.541		RPD			0.482	20.000		06/27/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	97.825		RPD			0.759	20.000		06/27/08
SPK-RPD	Sulfate	14808-79-8	82.247		RPD			11.020	20.000		06/27/08
BATCH QC											
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/27/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/27/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/27/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/27/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/27/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/27/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/27/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/27/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/27/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/27/08
LCS	Chloride	16887-00-6	198.4577	98.735	% Recov	80.000	120.000				06/27/08
LCS	Fluoride	16984-48-8	103.6839	104.100	% Recov	80.000	120.000				06/27/08
LCS	Nitrogen in Nitrite	NO2-N	98.905	99.502	% Recov	80.000	120.000				06/27/08
LCS	Nitrogen in Nitrate	NO3-N	92.6922	102.877	% Recov	80.000	120.000				06/27/08
LCS	Sulfate	14808-79-8	395.8396	99.959	% Recov	80.000	120.000				06/27/08

Lab ID: W08P003107
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	0.9928		RPD			12.933	20.000		06/26/08
DUP	Fluoride	16984-48-8	<4.2e-2		RPD			n/a	20.000	U	06/26/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/26/08
DUP	Nitrogen in Nitrate	NO3-N	0.2959		RPD			2.083	20.000		06/26/08
DUP	Sulfate	14808-79-8	6.7987		RPD			0.203	20.000		06/26/08
MS	Chloride	16887-00-6	0.96595	97.080	% Recov	80.000	120.000				06/26/08
MS	Fluoride	16984-48-8	0.47175	95.690	% Recov	80.000	120.000				06/26/08
MS	Nitrogen in Nitrite	NO2-N	0.4712	95.772	% Recov	80.000	120.000				06/26/08
MS	Nitrogen in Nitrate	NO3-N	0.44505	99.787	% Recov	80.000	120.000				06/26/08
MS	Sulfate	14808-79-8	1.89355	96.610	% Recov	80.000	120.000				06/26/08
MSD	Chloride	16887-00-6	0.95805	96.286	% Recov	80.000	120.000				06/26/08
MSD	Fluoride	16984-48-8	0.47415	96.176	% Recov	80.000	120.000				06/26/08
MSD	Nitrogen in Nitrite	NO2-N	0.4683	95.183	% Recov	80.000	120.000				06/26/08
MSD	Nitrogen in Nitrate	NO3-N	0.4414	98.969	% Recov	80.000	120.000				06/26/08
MSD	Sulfate	14808-79-8	1.8517	94.474	% Recov	80.000	120.000				06/26/08
SPK-RPD	Chloride	16887-00-6	96.286		RPD			0.821	20.000		06/26/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 06/25/08
Receive Date:06/25/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Fluoride	16984-48-8	96.176		RPD			0.507	20.000		06/26/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	95.183		RPD			0.617	20.000		06/26/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	98.969		RPD			0.823	20.000		06/26/08
SPK-RPD	Sulfate	14808-79-8	94.474		RPD			2.236	20.000		06/26/08

Lab ID: W08P003143
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	<0.22		RPD			n/a	20.000	U	06/26/08
DUP	Fluoride	16984-48-8	<4.2e-2		RPD			n/a	20.000	U	06/26/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/26/08
DUP	Nitrogen in Nitrate	NO3-N	<7.2e-2		RPD			n/a	20.000	U	06/26/08
DUP	Sulfate	14808-79-8	<0.154		RPD			n/a	20.000	U	06/26/08
MS	Chloride	16887-00-6	0.9089	91.347	% Recov	80.000	120.000				06/26/08
MS	Fluoride	16984-48-8	0.43655	88.550	% Recov	80.000	120.000				06/26/08
MS	Nitrogen in Nitrite	NO2-N	0.47395	96.331	% Recov	80.000	120.000				06/26/08
MS	Nitrogen in Nitrate	NO3-N	0.44105	98.890	% Recov	80.000	120.000				06/26/08
MS	Sulfate	14808-79-8	1.80485	92.084	% Recov	80.000	120.000				06/26/08
MSD	Chloride	16887-00-6	0.9023	90.683	% Recov	80.000	120.000				06/26/08
MSD	Fluoride	16984-48-8	0.4323	87.688	% Recov	80.000	120.000				06/26/08
MSD	Nitrogen in Nitrite	NO2-N	0.46465	94.441	% Recov	80.000	120.000				06/26/08
MSD	Nitrogen in Nitrate	NO3-N	0.4337	97.242	% Recov	80.000	120.000				06/26/08
MSD	Sulfate	14808-79-8	1.82275	92.997	% Recov	80.000	120.000				06/26/08
SPK-RPD	Chloride	16887-00-6	90.683		RPD			0.730	20.000		06/26/08
SPK-RPD	Fluoride	16984-48-8	87.688		RPD			0.978	20.000		06/26/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	94.441		RPD			1.981	20.000		06/26/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	97.242		RPD			1.681	20.000		06/26/08
SPK-RPD	Sulfate	14808-79-8	92.997		RPD			0.987	20.000		06/26/08

BATCH QC

BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/26/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
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	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/26/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/26/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/26/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/26/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/26/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/26/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/26/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/26/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/26/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/26/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/26/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/26/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/26/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/26/08
LCS	Chloride	16887-00-6	189.6618	94.359	% Recov	80.000	120.000				06/26/08
LCS	Chloride	16887-00-6	195.5387	97.283	% Recov	80.000	120.000				06/26/08
LCS	Fluoride	16984-48-8	98.8757	99.273	% Recov	80.000	120.000				06/26/08
LCS	Fluoride	16984-48-8	102.6829	103.095	% Recov	80.000	120.000				06/26/08
LCS	Nitrogen in Nitrite	NO2-N	94.9374	95.510	% Recov	80.000	120.000				06/26/08
LCS	Nitrogen in Nitrite	NO2-N	99.6812	100.283	% Recov	80.000	120.000				06/26/08
LCS	Nitrogen in Nitrate	NO3-N	90.2636	100.182	% Recov	80.000	120.000				06/26/08
LCS	Nitrogen in Nitrate	NO3-N	91.9024	102.000	% Recov	80.000	120.000				06/26/08
LCS	Sulfate	14808-79-8	374.5702	94.588	% Recov	80.000	120.000				06/26/08
LCS	Sulfate	14808-79-8	382.1547	96.504	% Recov	80.000	120.000				06/26/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: Cyanide by Midi/Spectrophotom

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01833											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	40.1	100.250	% Recov	75.000	125.000				06/30/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	41.2	103.000	% Recov	75.000	125.000				06/30/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	103.000		RPD			2.706	20.000		06/30/08
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	06/30/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	50	100.000	% Recov	85.000	115.000				06/30/08
Lab ID: W08P003311											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	43.7	109.250	% Recov	75.000	125.000				07/08/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	40.6	101.500	% Recov	75.000	125.000				07/08/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	101.500		RPD			7.355	20.000		07/08/08
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	07/08/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	50.9	101.800	% Recov	85.000	115.000				07/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

Lab ID: W08P003118
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	83.8	8.380	% Recov	75.000	125.000			*	08/06/08
MS	Barium	7440-39-3	489.6	97.920	% Recov	75.000	125.000				08/06/08
MS	Beryllium	7440-41-7	515.2	103.040	% Recov	75.000	125.000				08/06/08
MS	Calcium	7440-70-2	-3960	-396.000	% Recov	75.000	125.000			*	08/06/08
MS	Cadmium	7440-43-9	1009	100.900	% Recov	75.000	125.000				08/06/08
MS	Cobalt	7440-48-4	1006	100.600	% Recov	75.000	125.000				08/06/08
MS	Chromium	7440-47-3	984.9	98.490	% Recov	75.000	125.000				08/06/08
MS	Copper	7440-50-8	984.2	98.420	% Recov	75.000	125.000				08/06/08
MS	Iron	7439-89-6	961.8	96.180	% Recov	75.000	125.000				08/06/08
MS	Potassium	7440-09-7	11199	111.990	% Recov	75.000	125.000				08/06/08
MS	Magnesium	7439-95-4	1210	121.000	% Recov	75.000	125.000				08/06/08
MS	Manganese	7439-96-5	997.8	99.780	% Recov	75.000	125.000				08/06/08
MS	Sodium	7440-23-5	2930	293.000	% Recov	75.000	125.000			*	08/06/08
MS	Nickel	7440-02-0	979.6	97.960	% Recov	75.000	125.000				08/06/08
MS	Antimony	7440-36-0	1028	102.800	% Recov	75.000	125.000				08/06/08
MS	Strontium	7440-24-6	417	83.400	% Recov	75.000	125.000				08/06/08
MS	Vanadium	7440-62-2	965.1	96.510	% Recov	75.000	125.000				08/06/08
MS	Zinc	7440-66-6	997.7	99.770	% Recov	75.000	125.000				08/06/08
MSD	Silver	7440-22-4	843	84.300	% Recov	75.000	125.000				08/06/08
MSD	Barium	7440-39-3	470.8	94.160	% Recov	75.000	125.000				08/06/08
MSD	Beryllium	7440-41-7	502.7	100.540	% Recov	75.000	125.000				08/06/08
MSD	Calcium	7440-70-2	-5590	-559.000	% Recov	75.000	125.000			*	08/06/08
MSD	Cadmium	7440-43-9	972.8	97.280	% Recov	75.000	125.000				08/06/08
MSD	Cobalt	7440-48-4	974.6	97.460	% Recov	75.000	125.000				08/06/08
MSD	Chromium	7440-47-3	945.8	94.580	% Recov	75.000	125.000				08/06/08
MSD	Copper	7440-50-8	943.3	94.330	% Recov	75.000	125.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	924.1	92.410	% Recov	75.000	125.000				08/06/08
MSD	Potassium	7440-09-7	10239	102.390	% Recov	75.000	125.000				08/06/08
MSD	Magnesium	7439-95-4	370	37.000	% Recov	75.000	125.000			•	08/06/08
MSD	Manganese	7439-96-5	964.5	96.450	% Recov	75.000	125.000				08/06/08
MSD	Sodium	7440-23-5	1710	171.000	% Recov	75.000	125.000			•	08/06/08
MSD	Nickel	7440-02-0	946.2	94.620	% Recov	75.000	125.000				08/06/08
MSD	Antimony	7440-36-0	998.7	99.870	% Recov	75.000	125.000				08/06/08
MSD	Strontium	7440-24-6	390.6	78.120	% Recov	75.000	125.000				08/06/08
MSD	Vanadium	7440-62-2	936.8	93.680	% Recov	75.000	125.000				08/06/08
MSD	Zinc	7440-66-6	957.9	95.790	% Recov	75.000	125.000				08/06/08
SPK-RPD	Silver	7440-22-4	84.300		RPD			163.833	20.000	•	08/06/08
SPK-RPD	Barium	7440-39-3	94.160		RPD			3.915	20.000		08/06/08
SPK-RPD	Beryllium	7440-41-7	100.540		RPD			2.456	20.000		08/06/08
SPK-RPD	Calcium	7440-70-2	-559.000		RPD			-34.136	20.000	•	08/06/08
SPK-RPD	Cadmium	7440-43-9	97.280		RPD			3.653	20.000		08/06/08
SPK-RPD	Cobalt	7440-48-4	97.460		RPD			3.171	20.000		08/06/08
SPK-RPD	Chromium	7440-47-3	94.580		RPD			4.050	20.000		08/06/08
SPK-RPD	Copper	7440-50-8	94.330		RPD			4.244	20.000		08/06/08
SPK-RPD	Iron	7439-89-6	92.410		RPD			3.998	20.000		08/06/08
SPK-RPD	Potassium	7440-09-7	102.390		RPD			8.956	20.000		08/06/08
SPK-RPD	Magnesium	7439-95-4	37.000		RPD			106.329	20.000	•	08/06/08
SPK-RPD	Manganese	7439-96-5	96.450		RPD			3.394	20.000		08/06/08
SPK-RPD	Sodium	7440-23-5	171.000		RPD			52.586	20.000	•	08/06/08
SPK-RPD	Nickel	7440-02-0	94.620		RPD			3.469	20.000		08/06/08
SPK-RPD	Antimony	7440-36-0	99.870		RPD			2.891	20.000		08/06/08
SPK-RPD	Strontium	7440-24-6	78.120		RPD			6.538	20.000		08/06/08
SPK-RPD	Vanadium	7440-62-2	93.680		RPD			2.976	20.000		08/06/08
SPK-RPD	Zinc	7440-66-6	95.790		RPD			4.070	20.000		08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
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	10.6	10.600	ug/L						08/06/08
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	08/06/08
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	08/06/08
BLANK	Calcium	7440-70-2	<73	n/a	ug/L					U	08/06/08
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	08/06/08
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	08/06/08
BLANK	Chromium	7440-47-3	<13	n/a	ug/L					U	08/06/08
BLANK	Copper	7440-50-8	<6	n/a	ug/L					U	08/06/08
BLANK	Iron	7439-89-6	<25	n/a	ug/L					U	08/06/08
BLANK	Potassium	7440-09-7	<170	n/a	ug/L					U	08/06/08
BLANK	Magnesium	7439-95-4	<50	n/a	ug/L					U	08/06/08
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	08/06/08
BLANK	Sodium	7440-23-5	<51	n/a	ug/L					U	08/06/08
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	08/06/08
BLANK	Antimony	7440-36-0	<56	n/a	ug/L					U	08/06/08
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	08/06/08
BLANK	Vanadium	7440-62-2	<12	n/a	ug/L					U	08/06/08
BLANK	Zinc	7440-66-6	<9	n/a	ug/L					U	08/06/08
LCS	Silver	7440-22-4	1009	100.900	% Recov	80.000	120.000				08/06/08
LCS	Barium	7440-39-3	482.9	96.580	% Recov	80.000	120.000				08/06/08
LCS	Beryllium	7440-41-7	529.2	105.840	% Recov	80.000	120.000				08/06/08
LCS	Calcium	7440-70-2	1077	107.700	% Recov	80.000	120.000				08/06/08
LCS	Cadmium	7440-43-9	1019	101.900	% Recov	80.000	120.000				08/06/08
LCS	Cobalt	7440-48-4	1046	104.600	% Recov	80.000	120.000				08/06/08
LCS	Chromium	7440-47-3	998.5	99.850	% Recov	80.000	120.000				08/06/08
LCS	Copper	7440-50-8	1008	100.800	% Recov	80.000	120.000				08/06/08
LCS	Iron	7439-89-6	982.9	98.290	% Recov	80.000	120.000				08/06/08
LCS	Potassium	7440-09-7	10510	105.100	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081288
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	966.7	96.670	% Recov	80.000	120.000				08/06/08
LCS	Manganese	7439-96-5	1004	100.400	% Recov	80.000	120.000				08/06/08
LCS	Sodium	7440-23-5	1023	102.300	% Recov	80.000	120.000				08/06/08
LCS	Nickel	7440-02-0	1028	102.800	% Recov	80.000	120.000				08/06/08
LCS	Antimony	7440-36-0	1020	102.000	% Recov	80.000	120.000				08/06/08
LCS	Strontium	7440-24-6	501.9	100.380	% Recov	80.000	120.000				08/06/08
LCS	Vanadium	7440-62-2	981	98.100	% Recov	80.000	120.000				08/06/08
LCS	Zinc	7440-66-6	1001	100.100	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: ICP-200.8 MS All possible meta

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: Total Organic Carbon

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003056											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.125	103.125	% Recov	75.000	125.000				07/23/08
MSD	Total Organic Carbon	TOC	4.148	103.700	% Recov	75.000	125.000				07/23/08
SPK-RPD	Total Organic Carbon	TOC	103.700		RPD			0.556	20.000		07/24/08
Lab ID: W08P003135											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.243	106.075	% Recov	75.000	125.000				07/23/08
MSD	Total Organic Carbon	TOC	4.207	105.175	% Recov	75.000	125.000				07/23/08
SPK-RPD	Total Organic Carbon	TOC	105.175		RPD			0.852	20.000		07/24/08
BATCH QC											
BLANK	Total Organic Carbon	TOC	<0.045	n/a	mg/L	0.000	300.000			U	07/23/08
METHSPIKE	Total Organic Carbon	TOC	2.094	104.700	% Recov	80.000	120.000				07/23/08
SPK-RSD	Total Organic Carbon	TOC	1.376	1.376	% RSD	0.000	20.000				07/23/08
Lab ID: W08P003159											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.259	106.475	% Recov	75.000	125.000				07/24/08
MSD	Total Organic Carbon	TOC	4.282	107.050	% Recov	75.000	125.000				07/24/08
SPK-RPD	Total Organic Carbon	TOC	107.050		RPD			0.539	20.000		07/24/08
Lab ID: W08P003184											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.270	106.750	% Recov	75.000	125.000				07/24/08
MSD	Total Organic Carbon	TOC	4.311	107.775	% Recov	75.000	125.000				07/24/08
SPK-RPD	Total Organic Carbon	TOC	107.775		RPD			0.956	20.000		07/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: Total Organic Carbon

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Total Organic Carbon	TOC	<0.045	n/a	mg/L	0.000	300.000			U	07/24/08
METHSPIKE	Total Organic Carbon	TOC	2.177	108.850	% Recov	80.000	120.000				07/24/08
SPK-RSD	Total Organic Carbon	TOC	0.086	0.086	% RSD	0.000	20.000				07/24/08
SPK-RSD	Total Organic Carbon	TOC	0.5231	0.523	% RSD	0.000	20.000				07/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081288
Matrix: WATER
Test: Total Organic Halides

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003158											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Halides	TOX	41.6	104.000	% Recov	50.000	150.000				07/17/08
MSD	Total Organic Halides	TOX	41.2	103.000	% Recov	50.000	150.000				07/17/08
SPK-RPD	Total Organic Halides	TOX	103.000		RPD			0.966	20.000		07/17/08
Lab ID: W08P003162											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Halides	TOX	42.1	105.250	% Recov	50.000	150.000				07/17/08
MSD	Total Organic Halides	TOX	42.0	105.000	% Recov	50.000	150.000				07/17/08
SPK-RPD	Total Organic Halides	TOX	105.000		RPD			0.238	20.000		07/17/08
Lab ID: W08P003301											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Halides	TOX	40.5	101.250	% Recov	50.000	150.000				07/17/08
MSD	Total Organic Halides	TOX	43.4	108.500	% Recov	50.000	150.000				07/17/08
SPK-RPD	Total Organic Halides	TOX	108.500		RPD			6.913	20.000		07/17/08
Lab ID: W08P003357											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Halides	TOX	38.8	97.000	% Recov	50.000	150.000				07/17/08
MSD	Total Organic Halides	TOX	40.1	100.250	% Recov	50.000	150.000				07/17/08
SPK-RPD	Total Organic Halides	TOX	100.250		RPD			3.295	20.000		07/17/08
BATCH QC											
BLANK	Total Organic Halides	TOX	<5	n/a	ug/L	0.000	300.000			U	07/17/08
LCS	Total Organic Halides	TOX	397	99.250	%rec	80.000	120.000				07/17/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081288
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Tc-99 matrix spike recovery is low due to the high Tc99 activity in the sample. lmh ICP-AES: High silver preparation blank result; "C" flag if applicable. No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. High and check standards are used to ensure sodium, calcium, and magnesium linearity because sample results are greater than the calibration standard. Low silver MS recovery; "N" flag.

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: A08-006
Sample # W08P003129
Client ID: B1VJK9 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Radiochemistry
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421	U	-1.60	pCi/L	+-3.58	pCi/L	1.00	5.9		07/05/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	35.0	pCi/L	+-350	pCi/L	1.00	2.0e+02		07/03/08

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

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

C - The Analyte was found in the Associated Blank.(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: A08-006
Sample # W08P003130
Client ID: B1VJK8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Radiochemistry
Sampled: 06/26/08
Received: 06/26/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Tc-99 by Liquid Scin.	14133-76-7	LA-508-421		2.50e+03	pCi/L	+-500	pCi/L	1.00	5.8		07/07/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		7.60e+03	pCi/L	+-1.52e+03	pCi/L	1.00	2.0e+02		07/03/08

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

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

C - The Analyte was found in the Associated Blank.(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 # W08P003153
Client ID: B1VPF8 PNNL-GPP WSCF

Matrix: WATER

Group #: WSCF20081288
Department: Radiochemistry
Sampled: 06/26/08
Received: 06/26/08

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		4.70	pCi/L	+-2.35	pCi/L	1.00	2.7		07/28/08

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

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

C - The Analyte was found in the Associated Blank.(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: Radiochemistry

SDG Number: WSCF20081288
Matrix: WATER
Test: Gross Alpha on Alpha Plateau

Sample Date: 06/05/08
Receive Date:06/05/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002724											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha on alpha plateau	12587-46-1	U9.2E-01		RPD			n/a	20.000		07/28/08
BATCH QC											
BLANK	Gross alpha on alpha plateau	12587-46-1-ap	U4.2E-01	n/a	pCi/L	-100.000	100.000				07/28/08
LCS	Gross alpha on alpha plateau	12587-46-1-ap	71.7	92.516	% Recov	80.000	120.000				07/28/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081288
Matrix: WATER
Test: TC99 by Liquid Scin.

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P002940											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	4.2E+03		RPD			6.897	20.000		07/05/08
MS	Tc-99 by Liquid Scin.	14133-76-7	423.4	56.284	% Recov	75.000	125.000			*	07/05/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-2.2	n/a	pCi/L	-10.000	10.000				07/05/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	202.2	107.496	% Recov	80.000	120.000				07/05/08
Lab ID: W08P003130											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tc-99 by Liquid Scin.	14133-76-7	2.6E+03		RPD			3.922	20.000		07/07/08
MS	Tc-99 by Liquid Scin.	14133-76-7	530.9	70.575	% Recov	75.000	125.000			*	07/07/08
BATCH QC											
BLANK	Tc-99 by Liquid Scin.	14133-76-7	U-0.8	n/a	pCi/L	-10.000	10.000				07/07/08
LCS	Tc-99 by Liquid Scin.	14133-76-7	203.8	108.347	% Recov	80.000	120.000				07/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081288
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 06/25/08
Receive Date:06/25/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08P003087											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	8.0E+03		RPD			3.681	20.000		07/03/08
MS	Tritium	10028-17-8	20270	78.516	% Recov	75.000	125.000				07/03/08
BATCH QC											
BLANK	Tritium	10028-17-8	U1.3E+02	n/a	pCi/L	-10.000	1000.000				07/03/08
LCS	Tritium	10028-17-8	3260	95.266	% Recov	80.000	120.000				07/03/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081288
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Tc-99 matrix spike recovery is low due to the high Tc99 activity in the sample. lmh ICP-AES: High silver preparation blank result; "C" flag if applicable. No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. High and check standards are used to ensure sodium, calcium, and magnesium linearity because sample results are greater than the calibration standard. Low silver MS recovery; "N" flag.

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-08-846

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 17 pages
Including cover page

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

File
mod
6/30/08

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Added CN
Spl II
B1VNR7 W08P003227

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081288

The following samples were received from you on 06/26/08. 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
W08P003127	B1VLN2	PNNL-GPP ALKALI	Water	06/26/08
W08P003128	B1VLN1	PNNL-GPP ALKALI	Water	06/26/08
W08P003129	B1VJK9	PNNL-GPP @2008 @H3-33 @TC99-30	Water	06/26/08
W08P003130	B1VJK8	PNNL-GPP @2008 @H3-33 @TC99-30	Water	06/26/08
W08P003131	B1VNN5	PNNL-GPP TOC-30	Water	06/26/08
W08P003132	B1VNN6	PNNL-GPP TOC-30	Water	06/26/08
W08P003133	B1VNN7	PNNL-GPP TOC-30	Water	06/26/08
W08P003134	B1VNN8	PNNL-GPP TOC-30	Water	06/26/08
W08P003135	B1VNP9	PNNL-GPP TOC-30	Water	06/26/08
W08P003136	B1VNR0	PNNL-GPP TOC-30	Water	06/26/08
W08P003137	B1VNR1	PNNL-GPP TOC-30	Water	06/26/08
W08P003138	B1VNR2	PNNL-GPP TOC-30	Water	06/26/08
W08P003139	B1VNN9	PNNL-GPP @GPP6010	Water	06/26/08
W08P003140	B1VNP0	PNNL-GPP @GPP6010 @IC-30	Water	06/26/08
W08P003141	B1VNR6	PNNL-GPP CN-02	Water	06/26/08

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081288

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P003142	B1VNP3	PNNL-GPP @GPP6010	Water	06/26/08
W08P003143	B1VNP4	PNNL-GPP @GPP6010 @IC-30	Water	06/26/08
W08P003148	B1VPF3	PNNL-GPP TOC-30	Water	06/26/08
W08P003149	B1VPF4	PNNL-GPP TOC-30	Water	06/26/08
W08P003150	B1VPF5	PNNL-GPP TOC-30	Water	06/26/08
W08P003151	B1VPF6	PNNL-GPP TOC-30	Water	06/26/08
W08P003152	B1VPF7	PNNL-GPP @GPP6010	Water	06/26/08
W08P003153	B1VPF8	PNNL-GPP @ALPHA @GPP6010 @IC-30 ALKALI	Water	06/26/08
W08P003154	B1VKR1	PNNL-GPP @GPP6010	Water	06/26/08
W08P003155	B1VKR2	PNNL-GPP @GPP6010 @IC-30 ALKALI	Water	06/26/08
W08P003156	B1VKP8	PNNL-GPP @GPP6010	Water	06/26/08
W08P003157	B1VKP9	PNNL-GPP @GPP6010 @IC-30 ALKALI	Water	06/26/08
W08P003158	B1VPM5	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003159	B1VPM6	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003160	B1VPM7	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003161	B1VPM8	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003162	B1VPH8	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003163	B1VPH9	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003164	B1VPJ0	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003165	B1VPJ1	PNNL-GPP TOC-30 TOX	Water	06/26/08
W08P003166	B1V6W3	PNNL-GPP @IC-30	Water	06/26/08

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081288

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P003167	B1V6W2	PNNL-GPP @IC-30	Water	06/26/08
W08P003227	B1VNR7	PNNL-GPP CN-02	Water	06/26/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@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
@TC99-30	TC99 by Liquid Scin.
ALKALI	Total Alkalinity as mg/L CaCO3
CN-02	Cyanide by Midi/Spectrophotom
TOC-30	Total Organic Carbon
TOX	Total Organic Halides

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

08/11/08 20081288

S08-006-159

Collector: R. Ellingsworth	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-500-12	Ice Chest No.: SML 442 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
B1VLN2	W08P003127	W	6-26-08	[illegible]	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R. Ellingsworth	[signature]		JUN 26 2008 1330		[signature]	[signature]	JUN 26 2008 1330
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

S08-006-158

Collector: R. Ellingsworth	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-506-12	Ice Chest No.: SML 442 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
B1VLN1	3128	W	6-26-08	1226	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C

ICED

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
R. Ellingsworth	R. Ellingsworth	JUN 26 2008 1330	C A Hudson	C A Hudson	JUN 26 2008 1330
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

C.O.C.# **A08-006-62**

Page 1 of 1

Collector R. Ellingsworth	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. A08-006	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title LLWMA(1)-PA, JUNE 2008	HNF-N-506-12	Ice Chest No. 3ML-442 Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol Other	Priority: 45 Days	Offsite Property No.

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VJK9	3129	W	6-26-08	0830	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VJK9	↓	W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1VJK9	↓	W	↓	↓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICE

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R. Ellingsworth	[illegible]	[illegible]	JUN 26 2008 0830	[illegible]	[illegible]	[illegible]	JUN 26 2008 0830
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. # **A08-006-61**

Page 1 of 1

Collector: R. Ellingsworth	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: A08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: LLWMA(1)-PA, JUNE 2008	HNF-N-506-12	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: Other	Priority: 45 Days	Offsite Property No.

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VJK8	3130	W	6-26-08	1220	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VJK8		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1VJK8		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

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Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
R. Ellingsworth		JUN 26 2008 1330	C. Hudson		JUN 26 2008 1320
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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **W08-006-270**

Collector R. Ellingsworth	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-506-12	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: 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
B1VNN5	3131	W	6-26-08	1226	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNN6	3132	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNN7	3133	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNN8	3134	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNN9 (F)	3139	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VNP0	3140	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VNP0		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VNR6	3141	W			1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C

ICED

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
R. Ellingsworth		JUN 26 2008			JUN 26 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. # **W08-006-271**

Collector: R. Ellingsworth	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	HWF-N-506-12	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: 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
B1VNP3 (F)	3142	W	6-26-08	0800	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VNP4	3143	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VNP4	↓	W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VNP9	3135	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNR0	3136	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNR1	3137	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNR2	3138	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VNR7	3227	W	↓	↓	1x250-mL G/P	335.2_CYANIDE: Cyanide (1)	NaOH to pH >= 12 Cool~4C

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Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
R. Ellingsworth	[signature]	JUN 26 2008 1330	[signature]		JUN 26 2008 1330
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. # **W08-006-3**

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA, JUNE 2008	HNF-N-506-17/7	**Ice Chest No.** aws-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol RCRA	**Priority:** 45 Days	**Offsite Property No.**

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VPF3	W08P003148	W	6/26/08	1241	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPF4	3149	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPF5	3150	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPF6	3151	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPF7 (F)	3152	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VPF8	3153	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VPF8		W			1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VPF8		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VPF8		W	✓	✓	1x500-mL G/P	Gross Alpha	HNO3 to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. J. Sparks			JUN 26 2008 1340	CA Hudon			6/26/08 1340
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

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **I08-042-3**

Page 1 of 1

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-042	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 100NR2IAM, JUNE 2008	HNF-N-506-17/7	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol CERCLA	**Priority:** 45 Days	**Offsite Property No.**

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKR1 (F)	3154	W	6/26/08	1146	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VKR2	3155	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VKR2	↓	W	↓	↓	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VKR2	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. J. Sparks	JUN 26 2008 1340	CA Hodson	6/26/08 1340

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. # **I08-042-2**

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-042	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 100NR2IAM, JUNE 2008	HNF-N-506-17/7	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol CERCLA	**Priority:** 45 Days	**Offsite Property No.**

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

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

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKP8 (F)	3156	W	6/26/08	1146	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VKP9	3157	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VKP9	↓	W	↓	↓	1x250-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1VKP9	↓	W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. J. Sparks		JUN 26 2008	1340	C.A. Hudson			6/26/06 1340
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

C.O.C. # **W08-006-16**

Page 1 of 1

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. W08-006	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title RCRA JUNE 2008	HNF-N-506-17/7	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol RCRA	**Priority:** 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
B1VPM5	3158	W	6/26/08	1146	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPM5	↓	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1VPM6	3159	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPM6	↓	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1VPM7	3160	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPM7	↓	W			1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1VPM8	3161	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPM8	↓	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. J. Sparks		JUN 26 2008	1310	CA Hudson			6/26/08 1310
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. # **W08-006-6**

Collector D. J. Sparks	**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	TINF-N-506-17/6	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt Vehicle	**Bill of Lading/Air Bill No.**
Protocol RCRA	**Priority:** 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
B1VPH8	3162	W	6/26/08	1053	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPH8	↓	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1VPH9	3163	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPH9	↓	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1VPJ0	3164	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPJ0	↓	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C
B1VPJ1	3165	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPJ1	↓	W	↓	↓	1x1000-mL aGs*	9020_TOX: TOX (1)	H2SO4 to pH <2 Cool~4C

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Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. J. Sparks JUN 26 2008	1340	[illegible]	6/26/08 1340

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

COC #: **I08-039-63**

Collector D. J. Sparks	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-039	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title ISRM, MAY 2008	HNF-N-506-17/6	**Ice Chest No.** GWS-029 **Temp.**
Shipped To (Lab) Waste Sampling & Characterization	**Method of Shipment** Govt. Vehicle	**Bill of Lading/Air Bill No.**
Protocol CERCLA	**Priority:** 45 Days	**Offsite Property No.**

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

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

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1V6W3	3166	W	6/26/08	0916	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C

ICED

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. J. Sparks	JUN 26 2008 1310		6/26/08 1310

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. # **I08-039-62**

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Collector D. J. Sparks	Contact/Requester Steve Trent	Telephone No. 509-373-5869 MSIN FAX
SAF No. I08-039	Sampling Origin Hanford Site	Purchase Order/Charge Code
Project Title ISRM, MAY 2008	MNF-N-506-17/6	Ice Chest No. GW5-029 Temp.
Shipped To (Lab) Waste Sampling & Characterization	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol CERCLA	Priority: 45 Days	Offsite Property No.

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

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

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1V6W2	3167	W	6/26/08	0916	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D. J. Sparks		JUN 26 2008 1340				6/26/08 1340
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S	= Soil	DS	= Drum Solid
SF	= Sediment	DL	= Drum 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