0080018

RECEIVED AUGUST 11, 2008

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Richland, WA 99352
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FLUOR

Memorandum

M4W41-SLF-08-808

To:	H. Hampt	E6-35	Date:	August 11, 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 WSCF20081260

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 WSCF20081260:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Issue Resolution Form (Attachment 3)
- Analytical Results (Attachment 4)
- Sample Receipt Information (Attachment 5)

SLF/grf

Attachments 5

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081260
Data Deliverable Date: 07-aug-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID		WSCF#	Matrix
G08-006	B1VK19		W08P003036	WATER
	B1VK21		W08P003037	WATER
I08-039	B1V6W6	G	W08P003041	WATER
I08-043	B1VKR8	G	W08P003058	WATER
	B1VKR9	G	W08P003060	WATER
	B1VL00	G	W08P003059	WATER
	B1VL01	G	W08P003061	WATER
I08-045	B1VL47	G	W08P003039	WATER
	B1VL48	G	W08P003040	WATER
	B1VL52		W08P003063	WATER
W08-005	B1VHJ6	G	W08P003038	WATER
W08-006	B1VPW0	G	W08P003046	WATER
	B1VPW1	G	W08P003047	WATER
	B1VPW2	G	W08P003048	WATER
	B1VPW3	G	W08P003049	WATER
	B1VPX2	G	W08P003042	WATER
	B1VPX3	G	W08P003043	WATER
	B1VPX4	G	W08P003044	WATER
	B1VPX5	G	W08P003045	WATER
	B1VPY4	G	W08P003050	WATER
	B1VPY5	G	W08P003051	WATER
	B1VPY6	G	W08P003052	WATER
	B1VPY7	G	W08P003053	WATER
	B1VR08	G	W08P003054	WATER
	B1VR09	G	W08P003055	WATER
	B1VR10	G	W08P003056	WATER
	B1VR11	G	W08P003057	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Twenty-seven (27) groundwater samples were received at the WSCF Laboratory on June 24, 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 copy of proposed Issue Resolution Form, documenting missed regulatory hold time on two TOC samples but is included as Attachment 3. A Data Summary Report (Attachment 4) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 5.

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 16 through 18, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 47 through 49 for QC details. Analytical Note(s):

- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VRM7 (SDG# 20081245) and B1VL01 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.

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 50 through 53 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1V884 (SDG# 20081252).

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

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 54 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 Organic Carbon – The hold time requirement for this analysis was not met on two samples. See comment below. A Matrix Spike, Matrix Spike Duplicate, Blank and Method Spike were analyzed with this delivery group per the GRP Letter of Instruction. See pages 55 through 56 for QC details. Analytical Note(s):

- Miss Hold Time - A copy of proposed Issue Resolution Form, documenting missed regulatory hold time on two TOC samples, is included as Attachment 3.

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1VJT5 (SDG# 20081248); B1VNP9 (SDG# 20081288); and, B1VR10 and B1VPW1 of this SDG.

All QC controls are within the established limits.

Organic Comments

TPHD-WA – 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. See page 66 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VKV7 (SDG# 20081252).

All QC controls are within the established limits.

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample, were analyzed with this delivery group per the GRP Letter of Instruction. See pages 67 through 69 for QC details. Analytical Note(s):

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

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 74 through 76 for QC details. Analytical Note(s):

- Gross Beta – Duplicate QC was analyzed on sample# B1VJV5 (SDG# 20081248).
- Technetium-99 – Duplicate and Matrix Spike were analyzed on sample# B1VLJ6 (SDG# 20081245). Matrix Spike recovery was less than established laboratory limits due to high sample activity. No flags issued.
- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1V6P3 (SDG# 20081297).

All other QC controls are within the established limits.

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

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-808

ATTACHMENT 3

ISSUE RESOLUTION FORM

Consisting of 2 pages
Including cover page

ISSUE RESOLUTION FORM

PNNL TRACKING NUMBER: 08-XXX

DRAFT

Date : **7-28-2008** SAF No. **W08-006**

SDG: **WSCF20081260** LOGIN No.: TEST: TOC -30

Sample No.(s) **B1VR10, B1VR11**

(W08P003056, W08P003057)

Submitted By:	WW Baird	Submitted To:	H Hampt
Phone No.	373-7189	Phone No.	376-4319
Fax No.	372-0456	Fax No	

ISSUE	PROPOSED RESOLUTION
Missed regulatory holding time for TOC on GPAP samples identified above. Samples were collected and delivered to the WSCF Laboratory on June 24, 2008. Due to a WSCF Laboratory error, analysis of the TOC samples was slightly delayed beyond the 28-day regulatory hold time requirement. On July 23 and July 24, 2008, TOC samples were successfully analyzed with all associated QC controls within established laboratory limits.	Accept TOC results (accept as-is) and document missed holding time in the case narrative.

GRP COMMENTS

_____

Signature and Date

M4W41-SLF-08-808

ATTACHMENT 4

ANALYTICAL RESULTS

Consisting of 68 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 8/11/08

Client Services: P.D. Mio 8/11/2008

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

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Report#: WSCF20081260
Report Date: 11-aug-2008
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 11-aug-2008 06:51:43

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081260

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36823	2	37244	41583	BLANK		Anions by Ion Chromatography
36823	15	37244	41583	BLANK		Anions by Ion Chromatography
36823	3	37244	41583	LCS		Anions by Ion Chromatography
36823	5	37244	41583	DUP	W08P003019	Anions by Ion Chromatography
36823	6	37244	41583	MS	W08P003019	Anions by Ion Chromatography
36823	7	37244	41583	MSD	W08P003019	Anions by Ion Chromatography
36823	7	37244	41583	SPK-RPD	W08P003019	Anions by Ion Chromatography
36823	14	37244	41583	SAMPLE	W08P003039	Anions by Ion Chromatography
36837	2	37259	41600	BLANK		Anions by Ion Chromatography
36837	12	37259	41600	BLANK		Anions by Ion Chromatography
36837	3	37259	41600	LCS		Anions by Ion Chromatography
36837	8	37259	41600	SAMPLE	W08P003040	Anions by Ion Chromatography
36837	9	37259	41600	SAMPLE	W08P003041	Anions by Ion Chromatography
36837	10	37259	41600	SAMPLE	W08P003060	Anions by Ion Chromatography
36837	5	37259	41600	DUP	W08P003061	Anions by Ion Chromatography
36837	6	37259	41600	MS	W08P003061	Anions by Ion Chromatography
36837	7	37259	41600	MSD	W08P003061	Anions by Ion Chromatography
36837	4	37259	41600	SAMPLE	W08P003061	Anions by Ion Chromatography
36837	7	37259	41600	SPK-RPD	W08P003061	Anions by Ion Chromatography
36837	11	37259	41600	SAMPLE	W08P003063	Anions by Ion Chromatography
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	17	37514	41869	SAMPLE	W08P003060	ICP-200.8 MS All possible meta
37088	18	37514	41869	SAMPLE	W08P003061	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
37239	1	37671	41987	BLANK		Total Organic Carbon
37239	2	37671	41987	METHSPIKE		Total Organic Carbon
37239	19	37671	41987	METHSPIKE		Total Organic Carbon
37239	3	37671	41987	SPK-RSD		Total Organic Carbon
37239	20	37671	41987	SPK-RSD		Total Organic Carbon
37239	4	37671	41987	MS	W08P002958	Total Organic Carbon
37239	5	37671	41987	MSD	W08P002958	Total Organic Carbon
37239	5	37671	41987	SPK-RPD	W08P002958	Total Organic Carbon
37239	15	37671	41987	SAMPLE	W08P003036	Total Organic Carbon
37239	16	37671	41987	SAMPLE	W08P003037	Total Organic Carbon
37239	11	37671	41987	SAMPLE	W08P003042	Total Organic Carbon
37239	12	37671	41987	SAMPLE	W08P003043	Total Organic Carbon
37239	13	37671	41987	SAMPLE	W08P003044	Total Organic Carbon
37239	14	37671	41987	SAMPLE	W08P003045	Total Organic Carbon
37239	17	37671	41987	SAMPLE	W08P003046	Total Organic Carbon
37239	21	37671	41987	MS	W08P003047	Total Organic Carbon
37239	22	37671	41987	MSD	W08P003047	Total Organic Carbon
37239	18	37671	41987	SAMPLE	W08P003047	Total Organic Carbon
37239	22	37671	41987	SPK-RPD	W08P003047	Total Organic Carbon

37239	24	37671	41987	SAMPLE	W08P003048	Total Organic Carbon
37239	25	37671	41987	SAMPLE	W08P003049	Total Organic Carbon
37239	26	37671	41987	SAMPLE	W08P003050	Total Organic Carbon
37239	27	37671	41987	SAMPLE	W08P003051	Total Organic Carbon
37239	28	37671	41987	SAMPLE	W08P003052	Total Organic Carbon
37239	29	37671	41987	SAMPLE	W08P003053	Total Organic Carbon
37239	30	37671	41987	SAMPLE	W08P003054	Total Organic Carbon
37239	31	37671	41987	SAMPLE	W08P003055	Total Organic Carbon
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	7	37709	42028	SAMPLE	W08P003056	Total Organic Carbon
37279	5	37709	42028	SPK-RPD	W08P003056	Total Organic Carbon
37279	28	37709	42028	SAMPLE	W08P003057	Total Organic Carbon
37279	17	37709	42028	MS	W08P003135	Total Organic Carbon
37279	18	37709	42028	MSD	W08P003135	Total Organic Carbon
37279	18	37709	42028	SPK-RPD	W08P003135	Total Organic Carbon
37349	1	37618	42272	BLANK		ICP Metals Analysis, Grd H20 P
37349	2	37618	42272	LCS		ICP Metals Analysis, Grd H20 P
37349	4	37618	42272	MS	W08P003032	ICP Metals Analysis, Grd H20 P
37349	5	37618	42272	MSD	W08P003032	ICP Metals Analysis, Grd H20 P
37349	5	37618	42272	SPK-RPD	W08P003032	ICP Metals Analysis, Grd H20 P
37349	8	37618	42272	SAMPLE	W08P003058	ICP Metals Analysis, Grd H20 P
37349	9	37618	42272	SAMPLE	W08P003059	ICP Metals Analysis, Grd H20 P
37349	10	37618	42272	SAMPLE	W08P003060	ICP Metals Analysis, Grd H20 P
37349	11	37618	42272	SAMPLE	W08P003061	ICP Metals Analysis, Grd H20 P

w13qlog v4.2 11-aug-2008 06:51:43

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20081260

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			41776	BLANK		NWTPH-D TPH Diesel Range (Wa)
			41776	LCS		NWTPH-D TPH Diesel Range (Wa)
			41776	MS	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41776	MSD	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41776	SPK-RPD	W08P003035	NWTPH-D TPH Diesel Range (Wa)
			41776	SAMPLE	W08P003036	NWTPH-D TPH Diesel Range (Wa)
			41776	SURR	W08P003036	NWTPH-D TPH Diesel Range (Wa)
			41776	SAMPLE	W08P003037	NWTPH-D TPH Diesel Range (Wa)
			41776	SURR	W08P003037	NWTPH-D TPH Diesel Range (Wa)
			42204	BLANK		VOA Ground Water Protection
			42204	LCS		VOA Ground Water Protection
			42204	MS	W08P003038	VOA Ground Water Protection
			42204	MSD	W08P003038	VOA Ground Water Protection
			42204	SAMPLE	W08P003038	VOA Ground Water Protection
			42204	SPK-RPD	W08P003038	VOA Ground Water Protection
			42204	SURR	W08P003038	VOA Ground Water Protection
			42204	SAMPLE	W08P003060	VOA Ground Water Protection
			42204	SURR	W08P003060	VOA Ground Water Protection
			42204	SAMPLE	W08P003061	VOA Ground Water Protection
			42204	SURR	W08P003061	VOA Ground Water Protection

w13qlog v4.2 11-aug-2008 06:51:43

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081260

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36963	1	37386	41891	BLANK		Gross Alpha/Gross Beta (AB32)
36963	2	37386	41891	LCS		Gross Alpha/Gross Beta (AB32)
36963	3	37386	41891	DUP	W08P002948	Gross Alpha/Gross Beta (AB32)
36963	14	37386	41891	SAMPLE	W08P003036	Gross Alpha/Gross Beta (AB32)
36963	15	37386	41891	SAMPLE	W08P003037	Gross Alpha/Gross Beta (AB32)
36974	1	37397	42071	BLANK		Tritium by Liq Sct column prep
36974	2	37397	42071	LCS		Tritium by Liq Sct column prep
36974	10	37397	42071	SAMPLE	W08P003061	Tritium by Liq Sct column prep
36974	4	37397	42071	DUP	W08P003217	Tritium by Liq Sct column prep
36974	3	37397	42071	MS	W08P003217	Tritium by Liq Sct column prep
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	13	37335	42102	SAMPLE	W08P003060	TC99 by Liquid Scin.
36914	14	37335	42102	SAMPLE	W08P003061	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-533-410 LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY

EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography

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

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

LA-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8260B	VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
	HEIS 8260_VOA_GCMS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
LA-523-493	NWTPH-Diesel and/or Gasoline	
	HEIS WTPH_DIESEL (HEIS)	Total Petroleum Hydrocarbons in Diesel
	WDOE TPHD	Total Petroleum Hydrocarbons in Diesel

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

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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

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

HEIS ALPHA_GPC	GROSS ALPHA GPC
HEIS BETA_GPC	GROSS BETA GPC
HEIS SRTOT_SEP_PRECIP_GPC	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: G08-006
Sample # W08P003036
Client ID: B1VK19 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		0.650	mg/L			1.00	0.30		07/22/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003037
Client ID: B1VK21 GPP-PNNL TRENT WSCF
Matrix: WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		1.30	mg/L			1.00	0.30		07/22/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-045
Sample # W08P003039
Client ID: B1VL47 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		06/24/08
Chloride	16887-00-6	LA-533-410	D	27.3	mg/L			10.00	1.1		06/24/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/24/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	12.3	mg/L			10.00	0.36		06/24/08
Sulfate	14808-79-8	LA-533-410	D	122	mg/L			10.00	0.77		06/24/08

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-045
Sample # W08P003040
Client ID: B1VL48 GPP-PNNL TRENT WSCF **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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	< 0.0630	mg/L			3.00	0.063		06/25/08
Chloride	16887-00-6	LA-533-410	D	32.0	mg/L			3.00	0.33		06/25/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0297	mg/L			3.00	0.030		06/25/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	13.8	mg/L			3.00	0.11		06/25/08
Sulfate	14808-79-8	LA-533-410	D	136	mg/L			10.00	0.77		06/25/08

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

* - 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 # W08P003041
Client ID: B1V6W6 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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	0.164	mg/L			3.00	0.063		06/25/08
Chloride	16887-00-6	LA-533-410	D	24.3	mg/L			3.00	0.33		06/25/08
Nitrogen in Nitrite	NO2-N	LA-533-410	BD	0.0594	mg/L			3.00	0.030		06/25/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.89	mg/L			3.00	0.11		06/25/08
Sulfate	14808-79-8	LA-533-410	D	179	mg/L			10.00	0.77		06/25/08

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

• - 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 # W08P003042
Client ID: B1VPX2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

• - 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 # W08P003043
Client ID: B1VPX3 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

• - 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 # W08P003044
Client ID: B1VPX4 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

* - 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 # W08P003045
Client ID: B1VPX5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

* - 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 # W08P003046
Client ID: B1VPW0 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

• - 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 # W08P003047
Client ID: B1VPW1 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

* - 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 # W08P003048
Client ID: B1VPW2 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

* - 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 # W08P003049
Client ID: B1VPW3 GPP-PNNL TRENT WSCF **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003050
Client ID: B1VPY4 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003051
Client ID: B1VPY5 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003052
Client ID: B1VPY6 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

* - 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 # W08P003053
Client ID: B1VPY7 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

• - 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 # W08P003054
Client ID: B1VR08 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

• - 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 # W08P003055
Client ID: B1VR09 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/22/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-006
Sample # W08P003056
Client ID: B1VR10 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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

* - 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 # W08P003057
Client ID: B1VR11 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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		07/24/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003058
Client ID: B1VKR8 GPP-PNNL TRENT WSCF **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
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		1.50e+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		5.09e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		2.04e+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		44.9	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		27.4	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		4.89e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		225	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)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.(org)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003059
Client ID: B1VL00 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
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		8.64e+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	U	< 4.00	ug/L			1.00	4.0		08/06/08
Potassium	7440-09-7	LA-505-411		3.35e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.73e+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		24.7	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		23.9	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		2.72e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		108	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)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.(org)
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U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003060
Client ID: B1VKR9 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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	0.295	mg/L			2.00	0.042		06/25/08
Chloride	16887-00-6	LA-533-410	D	8.92	mg/L			2.00	0.22		06/25/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/25/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	18.8	mg/L			10.00	0.36		06/25/08
Sulfate	14808-79-8	LA-533-410	D	28.2	mg/L			2.00	0.15		06/25/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		42.6	ug/L			1.00	25		08/06/08
Magnesium	7439-95-4	LA-505-411		1.49e+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		5.01e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		2.02e+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		44.5	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		14.2	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		28.7	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		4.89e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		224	ug/L			1.00	4.0		08/06/08

MDL=Minimum Detection Limit
RQ=Result Qualifier
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D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003060
Client ID: B1VKR9 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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
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		68.2	ug/L			1.00	0.0500		07/14/08

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003061
Client ID: B1VL01 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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	0.336	mg/L			2.00	0.042		06/25/08
Chloride	16887-00-6	LA-533-410	D	7.54	mg/L			2.00	0.22		06/25/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/25/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	0.764	mg/L			2.00	0.072		06/25/08
Sulfate	14808-79-8	LA-533-410	D	13.6	mg/L			2.00	0.15		06/25/08
ICP Metals Analysis, Grd H20 P Prep											**07/29/08**
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		8.59e+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		3.31e+03	ug/L			1.00	1.7e+02		08/06/08
Silver	7440-22-4	LA-505-411	U	< 5.00	ug/L			1.00	5.0		08/06/08
Sodium	7440-23-5	LA-505-411		1.71e+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		24.8	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		26.3	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		2.70e+04	ug/L			1.00	73		08/06/08
Strontium	7440-24-6	LA-505-411		108	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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U - Analyzed for but not detected above limiting criteria(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003061
Client ID: B1VL01 GPP-PNNL TRENT WSCF
Matrix: WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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
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		1.14	ug/L			1.00	0.0500		07/14/08

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-045
Sample # W08P003063
Client ID: B1VL52 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Inorganic
Sampled: 06/24/08
Received: 06/24/08

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	0.0685	mg/L			2.00	0.042		06/25/08
Chloride	16887-00-6	LA-533-410	D	13.5	mg/L			2.00	0.22		06/25/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.0198	mg/L			2.00	0.020		06/25/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	8.59	mg/L			2.00	0.072		06/25/08
Sulfate	14808-79-8	LA-533-410	D	84.9	mg/L			10.00	0.77		06/25/08

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081260
Matrix: WATER
Test: Anions by Ion Chromatography

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: W08P003019											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	4.7536		RPD			0.238	20.000		06/24/08
DUP	Fluoride	16984-48-8	0.3221		RPD			7.005	20.000		06/24/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/24/08
DUP	Nitrogen in Nitrate	NO3-N	2.1017		RPD			0.372	20.000		06/24/08
DUP	Sulfate	14808-79-8	14.1037		RPD			0.395	20.000		06/24/08
MS	Chloride	16887-00-6	1.01055	101.563	% Recov	80.000	120.000				06/24/08
MS	Fluoride	16984-48-8	0.498	101.014	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrite	NO2-N	0.44755	90.965	% Recov	80.000	120.000				06/24/08
MS	Nitrogen in Nitrate	NO3-N	0.4392	98.475	% Recov	80.000	120.000				06/24/08
MS	Sulfate	14808-79-8	1.8878	96.316	% Recov	80.000	120.000				06/24/08
MSD	Chloride	16887-00-6	1.01805	102.317	% Recov	80.000	120.000				06/24/08
MSD	Fluoride	16984-48-8	0.4954	100.487	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrite	NO2-N	0.4486	91.179	% Recov	80.000	120.000				06/24/08
MSD	Nitrogen in Nitrate	NO3-N	0.437	97.982	% Recov	80.000	120.000				06/24/08
MSD	Sulfate	14808-79-8	1.9178	97.847	% Recov	80.000	120.000				06/24/08
SPK-RPD	Chloride	16887-00-6	102.317		RPD			0.740	20.000		06/25/08
SPK-RPD	Fluoride	16984-48-8	100.487		RPD			0.523	20.000		06/25/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	91.179		RPD			0.235	20.000		06/25/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	97.982		RPD			0.502	20.000		06/25/08
SPK-RPD	Sulfate	14808-79-8	97.847		RPD			1.577	20.000		06/25/08
BATCH QC											
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/24/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/25/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/25/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/24/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081260
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	06/24/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/25/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/24/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/25/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/25/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/24/08
LCS	Chloride	16887-00-6	196.273	97.648	% Recov	80.000	120.000				06/24/08
LCS	Fluoride	16984-48-8	101.9111	102.320	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrite	NO2-N	99.4347	100.035	% Recov	80.000	120.000				06/24/08
LCS	Nitrogen in Nitrate	NO3-N	90.8676	100.852	% Recov	80.000	120.000				06/24/08
LCS	Sulfate	14808-79-8	376.8956	95.176	% Recov	80.000	120.000				06/24/08

Lab ID: W08P003061
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	7.552		RPD			0.106	20.000		06/25/08
DUP	Fluoride	16984-48-8	0.3232		RPD			3.913	20.000		06/25/08
DUP	Nitrogen in Nitrite	NO2-N	<1.98e-2		RPD			n/a	20.000	U	06/25/08
DUP	Nitrogen in Nitrate	NO3-N	0.7666		RPD			0.353	20.000		06/25/08
DUP	Sulfate	14808-79-8	13.6749		RPD			0.390	20.000		06/25/08
MS	Chloride	16887-00-6	1.0757	108.111	% Recov	80.000	120.000				06/25/08
MS	Fluoride	16984-48-8	0.5109	103.631	% Recov	80.000	120.000				06/25/08
MS	Nitrogen in Nitrite	NO2-N	0.4454	90.528	% Recov	80.000	120.000				06/25/08
MS	Nitrogen in Nitrate	NO3-N	0.4329	97.063	% Recov	80.000	120.000				06/25/08
MS	Sulfate	14808-79-8	1.8737	95.597	% Recov	80.000	120.000				06/25/08
MSD	Chloride	16887-00-6	1.0509	105.618	% Recov	80.000	120.000				06/25/08
MSD	Fluoride	16984-48-8	0.50225	101.876	% Recov	80.000	120.000				06/25/08
MSD	Nitrogen in Nitrite	NO2-N	0.4464	90.732	% Recov	80.000	120.000				06/25/08
MSD	Nitrogen in Nitrate	NO3-N	0.44015	98.688	% Recov	80.000	120.000				06/25/08
MSD	Sulfate	14808-79-8	1.89175	96.518	% Recov	80.000	120.000				06/25/08
SPK-RPD	Chloride	16887-00-6	105.618		RPD			2.333	20.000		06/25/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081260
Matrix: WATER
Test: Anions by Ion Chromatography

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
SPK-RPD	Fluoride	16984-48-8	101.876		RPD			1.708	20.000		06/25/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	90.732		RPD			0.225	20.000		06/25/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	98.688		RPD			1.660	20.000		06/25/08
SPK-RPD	Sulfate	14808-79-8	96.518		RPD			0.959	20.000		06/25/08
BATCH QC											
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/25/08
BLANK	Chloride	16887-00-6	<0.11	n/a	mg/L	0.000	0.030			U	06/25/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/25/08
BLANK	Fluoride	16984-48-8	<2.1e-2	n/a	mg/L	0.000	0.030			U	06/25/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/25/08
BLANK	Nitrogen in Nitrite	NO2-N	<9.9e-3	n/a	mg/L	0.000	0.020			U	06/25/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/25/08
BLANK	Nitrogen in Nitrate	NO3-N	<3.6e-2	n/a	mg/L	0.000	0.040			U	06/25/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/25/08
BLANK	Sulfate	14808-79-8	<7.7e-2	n/a	mg/L	0.000	0.200			U	06/25/08
LCS	Chloride	16887-00-6	190.9926	95.021	% Recov	80.000	120.000				06/25/08
LCS	Fluoride	16984-48-8	101.9824	102.392	% Recov	80.000	120.000				06/25/08
LCS	Nitrogen in Nitrite	NO2-N	97.8974	98.488	% Recov	80.000	120.000				06/25/08
LCS	Nitrogen in Nitrate	NO3-N	90.4725	100.413	% Recov	80.000	120.000				06/25/08
LCS	Sulfate	14808-79-8	375.9103	94.927	% Recov	80.000	120.000				06/25/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081260
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

Lab ID: W08P003032
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	1008	100.800	% Recov	75.000	125.000				08/06/08
MS	Barium	7440-39-3	511.1	102.220	% Recov	75.000	125.000				08/06/08
MS	Beryllium	7440-41-7	526	105.200	% Recov	75.000	125.000				08/06/08
MS	Calcium	7440-70-2	8100	810.000	% Recov	75.000	125.000			*	08/06/08
MS	Cadmium	7440-43-9	1012	101.200	% Recov	75.000	125.000				08/06/08
MS	Cobalt	7440-48-4	990.5	99.050	% Recov	75.000	125.000				08/06/08
MS	Chromium	7440-47-3	976.5	97.650	% Recov	75.000	125.000				08/06/08
MS	Copper	7440-50-8	995.7	99.570	% Recov	75.000	125.000				08/06/08
MS	Iron	7439-89-6	1007.3	100.730	% Recov	75.000	125.000				08/06/08
MS	Potassium	7440-09-7	10789	107.890	% Recov	75.000	125.000				08/06/08
MS	Magnesium	7439-95-4	2040	204.000	% Recov	75.000	125.000			*	08/06/08
MS	Manganese	7439-96-5	1007	100.700	% Recov	75.000	125.000				08/06/08
MS	Sodium	7440-23-5	2000	200.000	% Recov	75.000	125.000			*	08/06/08
MS	Nickel	7440-02-0	982.4	98.240	% Recov	75.000	125.000				08/06/08
MS	Antimony	7440-36-0	1014	101.400	% Recov	75.000	125.000				08/06/08
MS	Strontium	7440-24-6	539.3	107.860	% Recov	75.000	125.000				08/06/08
MS	Vanadium	7440-62-2	991.4	99.140	% Recov	75.000	125.000				08/06/08
MS	Zinc	7440-66-6	1009	100.900	% Recov	75.000	125.000				08/06/08
MSD	Silver	7440-22-4	1012	101.200	% Recov	75.000	125.000				08/06/08
MSD	Barium	7440-39-3	510.4	102.080	% Recov	75.000	125.000				08/06/08
MSD	Beryllium	7440-41-7	526.1	105.220	% Recov	75.000	125.000				08/06/08
MSD	Calcium	7440-70-2	4500	450.000	% Recov	75.000	125.000			*	08/06/08
MSD	Cadmium	7440-43-9	1014	101.400	% Recov	75.000	125.000				08/06/08
MSD	Cobalt	7440-48-4	992.9	99.290	% Recov	75.000	125.000				08/06/08
MSD	Chromium	7440-47-3	986.9	98.690	% Recov	75.000	125.000				08/06/08
MSD	Copper	7440-50-8	1004	100.400	% Recov	75.000	125.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081260
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	1006.3	100.630	% Recov	75.000	125.000				08/06/08
MSD	Potassium	7440-09-7	10619	106.190	% Recov	75.000	125.000				08/06/08
MSD	Magnesium	7439-95-4	1450	145.000	% Recov	75.000	125.000			•	08/06/08
MSD	Manganese	7439-96-5	1010	101.000	% Recov	75.000	125.000				08/06/08
MSD	Sodium	7440-23-5	1430	143.000	% Recov	75.000	125.000			•	08/06/08
MSD	Nickel	7440-02-0	983.8	98.380	% Recov	75.000	125.000				08/06/08
MSD	Antimony	7440-36-0	1027	102.700	% Recov	75.000	125.000				08/06/08
MSD	Strontium	7440-24-6	530.9	106.180	% Recov	75.000	125.000				08/06/08
MSD	Vanadium	7440-62-2	999	99.900	% Recov	75.000	125.000				08/06/08
MSD	Zinc	7440-66-6	1010	101.000	% Recov	75.000	125.000				08/06/08
SPK-RPD	Silver	7440-22-4	101.200		RPD			0.396	20.000		08/06/08
SPK-RPD	Barium	7440-39-3	102.080		RPD			0.137	20.000		08/06/08
SPK-RPD	Beryllium	7440-41-7	105.220		RPD			0.019	20.000		08/06/08
SPK-RPD	Calcium	7440-70-2	450.000		RPD			57.143	20.000	•	08/06/08
SPK-RPD	Cadmium	7440-43-9	101.400		RPD			0.197	20.000		08/06/08
SPK-RPD	Cobalt	7440-48-4	99.290		RPD			0.242	20.000		08/06/08
SPK-RPD	Chromium	7440-47-3	98.690		RPD			1.059	20.000		08/06/08
SPK-RPD	Copper	7440-50-8	100.400		RPD			0.830	20.000		08/06/08
SPK-RPD	Iron	7439-89-6	100.630		RPD			0.099	20.000		08/06/08
SPK-RPD	Potassium	7440-09-7	106.190		RPD			1.588	20.000		08/06/08
SPK-RPD	Magnesium	7439-95-4	145.000		RPD			33.811	20.000	•	08/06/08
SPK-RPD	Manganese	7439-96-5	101.000		RPD			0.297	20.000		08/06/08
SPK-RPD	Sodium	7440-23-5	143.000		RPD			33.236	20.000	•	08/06/08
SPK-RPD	Nickel	7440-02-0	98.380		RPD			0.142	20.000		08/06/08
SPK-RPD	Antimony	7440-36-0	102.700		RPD			1.274	20.000		08/06/08
SPK-RPD	Strontium	7440-24-6	106.180		RPD			1.570	20.000		08/06/08
SPK-RPD	Vanadium	7440-62-2	99.900		RPD			0.764	20.000		08/06/08
SPK-RPD	Zinc	7440-66-6	101.000		RPD			0.099	20.000		08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081260
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	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	996.4	99.640	% Recov	80.000	120.000				08/06/08
LCS	Barium	7440-39-3	487.2	97.440	% Recov	80.000	120.000				08/06/08
LCS	Beryllium	7440-41-7	528	105.600	% Recov	80.000	120.000				08/06/08
LCS	Calcium	7440-70-2	1074	107.400	% Recov	80.000	120.000				08/06/08
LCS	Cadmium	7440-43-9	1023	102.300	% Recov	80.000	120.000				08/06/08
LCS	Cobalt	7440-48-4	1028	102.800	% Recov	80.000	120.000				08/06/08
LCS	Chromium	7440-47-3	990.5	99.050	% Recov	80.000	120.000				08/06/08
LCS	Copper	7440-50-8	1009	100.900	% Recov	80.000	120.000				08/06/08
LCS	Iron	7439-89-6	987.8	98.780	% Recov	80.000	120.000				08/06/08
LCS	Potassium	7440-09-7	10370	103.700	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081260
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	982.5	98.250	% Recov	80.000	120.000				08/06/08
LCS	Manganese	7439-96-5	1007	100.700	% Recov	80.000	120.000				08/06/08
LCS	Sodium	7440-23-5	1013	101.300	% Recov	80.000	120.000				08/06/08
LCS	Nickel	7440-02-0	1025	102.500	% Recov	80.000	120.000				08/06/08
LCS	Antimony	7440-36-0	1046	104.600	% Recov	80.000	120.000				08/06/08
LCS	Strontium	7440-24-6	501.3	100.260	% Recov	80.000	120.000				08/06/08
LCS	Vanadium	7440-62-2	984	98.400	% Recov	80.000	120.000				08/06/08
LCS	Zinc	7440-66-6	1016	101.600	% Recov	80.000	120.000				08/06/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081260
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: WSCF20081260
Matrix: WATER
Test: Total Organic Carbon

Sample Date: 06/23/08
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: W08P002958											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.070	101.750	% Recov	75.000	125.000				07/22/08
MSD	Total Organic Carbon	TOC	4.081	102.025	% Recov	75.000	125.000				07/22/08
SPK-RPD	Total Organic Carbon	TOC	102.025		RPD			0.270	20.000		07/22/08
Lab ID: W08P003047											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Total Organic Carbon	TOC	4.251	106.275	% Recov	75.000	125.000				07/22/08
MSD	Total Organic Carbon	TOC	4.262	106.550	% Recov	75.000	125.000				07/22/08
SPK-RPD	Total Organic Carbon	TOC	106.550		RPD			0.258	20.000		07/22/08
BATCH QC											
BLANK	Total Organic Carbon	TOC	< 0.045	n/a	mg/L	0.000	300.000			U	07/22/08
METHSPIKE	Total Organic Carbon	TOC	2.154	107.700	% Recov	80.000	120.000				07/22/08
METHSPIKE	Total Organic Carbon	TOC	2.179	108.950	% Recov	80.000	120.000				07/22/08
SPK-RSD	Total Organic Carbon	TOC	0.4127	0.413	% RSD	0.000	20.000				07/22/08
SPK-RSD	Total Organic Carbon	TOC	0.4162	0.416	% RSD	0.000	20.000				07/22/08
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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081260
Matrix: WATER
Test: Total Organic Carbon

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	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

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081260
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: No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check standard is used to ensure sodium, calcium, and and magnesium linearity because sample results are greater than the calibration standard.

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003036
Client ID: B1VK19 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											**06/26/08**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 78.0	ug/L			1.00	78		07/08/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 78.0	ug/L			1.00	78		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)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.(org)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003037
Client ID: B1VK21 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											**06/26/08**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493		130	ug/L			1.00	77		07/08/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 77.0	ug/L			1.00	77		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)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.(org)
D - Analyte was identified at a secondary dilution factor(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003038
Client ID: B1VHJ6 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/02/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/02/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/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)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.(org)
D - Analyte was identified at a secondary dilution factor(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: W08-005
Sample # W08P003038
Client ID: B1VHJ6 GPP-PNNL TRENT WSCF
Matrix: WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/02/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/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)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.(org)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003060
Client ID: B1VKR9 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Carbon tetrachloride	56-23-5	LA-523-455		110	ug/L			1.00	1.0		07/02/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Chloroform	67-66-3	LA-523-455	J	2.40	ug/L			1.00	1.0		07/02/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/02/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/02/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/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)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003060
Client ID: B1VKR9 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/02/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/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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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003061
Client ID: B1VL01 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Carbon tetrachloride	56-23-5	LA-523-455	J	3.50	ug/L			1.00	1.0		07/02/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		07/02/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/02/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		07/02/08

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RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003061
Client ID: B1VL01 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Organic
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Ethyl cyanide	107-12-0	LA-523-455	U	< 2.00	ug/L			1.00	2.0		07/02/08
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/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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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081260
Matrix: WATER
Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 06/23/08
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: W08P003035											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl Surr	84-15-1	427.81	89.000	% Recov	70.000	130.000				07/08/08
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2174.4	90.500	% Recov	75.000	125.000				07/08/08
MSD	ortho-Terphenyl Surr	84-15-1	436.63	105.000	% Recov	70.000	130.000				07/08/08
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2166.3	104.000	% Recov	75.000	125.000				07/08/08
SPK-RPD	ortho-Terphenyl Surr	84-15-1	105.000		RPD			16.495	20.000		07/08/08
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	104.000		RPD			13.882	20.000		07/08/08
Lab ID: W08P003036											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl Surr	84-15-1	528.63	101.000	% Recov	70.000	130.000				07/08/08
Lab ID: W08P003037											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl Surr	84-15-1	509.96	100.000	% Recov	70.000	130.000				07/08/08
BATCH QC											
BLANK	Kerosene	TPHKEROSENE	< 75	n/a	ug/L					U	07/08/08
BLANK	ortho-Terphenyl Surr	84-15-1	473.35	94.700	% Recov	70.000	130.000				07/08/08
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 75	n/a	ug/L					U	07/08/08
LCS	ortho-Terphenyl Surr	84-15-1	480.40	96.100	% Recov	70.000	130.000				07/08/08
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2300.0	92.000	% Recov	80.000	120.000				07/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081260
Matrix: WATER
Test: VOA Ground Water Protection

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

Lab ID: W08P003038
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,1-Dichloroethene	75-35-4	27.430	110.000	% Recov	63.000	117.000				07/02/08
MS	Benzene	71-43-2	24.450	97.800	% Recov	75.000	129.000				07/02/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	50.110	100.000	% Recov	75.000	125.000				07/02/08
MS	Chlorobenzene	108-90-7	25.760	103.000	% Recov	79.000	119.000				07/02/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.800	108.000	% Recov	75.000	125.000				07/02/08
MS	Toluene-d8(Surr)	2037-26-5	48.170	96.300	% Recov	75.000	125.000				07/02/08
MS	Toluene	108-88-3	25.960	104.000	% Recov	76.000	120.000				07/02/08
MS	Trichloroethene	79-01-6	23.460	93.800	% Recov	73.000	123.000				07/02/08
MSD	1,1-Dichloroethene	75-35-4	28.520	114.000	% Recov	63.000	117.000				07/02/08
MSD	Benzene	71-43-2	24.630	98.500	% Recov	75.000	129.000				07/02/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	50.760	102.000	% Recov	75.000	125.000				07/02/08
MSD	Chlorobenzene	108-90-7	25.920	104.000	% Recov	79.000	119.000				07/02/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.360	107.000	% Recov	75.000	125.000				07/02/08
MSD	Toluene-d8(Surr)	2037-26-5	48.800	97.600	% Recov	75.000	125.000				07/02/08
MSD	Toluene	108-88-3	26.060	104.000	% Recov	76.000	120.000				07/02/08
MSD	Trichloroethene	79-01-6	22.810	91.200	% Recov	73.000	123.000				07/02/08
SPK-RPD	1,1-Dichloroethene	75-35-4	114.000		RPD			3.571	20.000		07/02/08
SPK-RPD	Benzene	71-43-2	98.500		RPD			0.713	20.000		07/02/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	102.000		RPD			1.980	20.000		07/02/08
SPK-RPD	Chlorobenzene	108-90-7	104.000		RPD			0.966	20.000		07/02/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	107.000		RPD			0.930	20.000		07/02/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	97.600		RPD			1.341	20.000		07/02/08
SPK-RPD	Toluene	108-88-3	104.000		RPD			0.000	20.000		07/02/08
SPK-RPD	Trichloroethene	79-01-6	91.200		RPD			2.811	20.000		07/02/08
SURR	4-Bromofluorobenzene(Surr)	460-00-4	50.270	101.000	% Recov	75.000	125.000				07/02/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.330	105.000	% Recov	75.000	125.000				07/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081260
Matrix: WATER
Test: VOA Ground Water Protection

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
SURR	Toluene-d8(Surr)	2037-26-5	48.600	97.200	% Recov	75.000	125.000				07/02/08
Lab ID: W08P003060											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	50.260	101.000	% Recov	75.000	125.000				07/02/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.640	111.000	% Recov	75.000	125.000				07/02/08
SURR	Toluene-d8(Surr)	2037-26-5	48.760	97.500	% Recov	75.000	125.000				07/02/08
Lab ID: W08P003061											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	50.130	100.000	% Recov	75.000	125.000				07/02/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	55.470	111.000	% Recov	75.000	125.000				07/02/08
SURR	Toluene-d8(Surr)	2037-26-5	49.030	98.100	% Recov	75.000	125.000				07/02/08
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	07/02/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	07/02/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	07/02/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	07/02/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	07/02/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	07/02/08
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	07/02/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	07/02/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	50.180	100.000	% Recov	75.000	125.000				07/02/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	07/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081260
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	07/02/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.680	109.000	% Recov	75.000	125.000				07/02/08
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	07/02/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	07/02/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	07/02/08
BLANK	Toluene-d8(Surr)	2037-26-5	47.890	95.800	% Recov	75.000	125.000				07/02/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	07/02/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	07/02/08
LCS	1,1-Dichloroethene	75-35-4	28.410	114.000	% Recov	75.000	125.000				07/02/08
LCS	Benzene	71-43-2	24.960	99.800	% Recov	75.000	125.000				07/02/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	49.420	98.800	% Recov	75.000	125.000				07/02/08
LCS	Chlorobenzene	108-90-7	25.770	103.000	% Recov	75.000	125.000				07/02/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.780	110.000	% Recov	75.000	125.000				07/02/08
LCS	Toluene-d8(Surr)	2037-26-5	48.890	97.800	% Recov	75.000	125.000				07/02/08
LCS	Toluene	108-88-3	26.120	104.000	% Recov	75.000	125.000				07/02/08
LCS	Trichloroethene	79-01-6	22.470	89.900	% Recov	75.000	125.000				07/02/08

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003036
Client ID: B1VK19 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Radiochemistry
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415	U	1.40	pCi/L	+-0.966	pCi/L	1.00	1.6		07/09/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: G08-006
Sample # W08P003037
Client ID: B1VK21 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Radiochemistry
Sampled: 06/24/08
Received: 06/24/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gross Alpha/Gross Beta (AB32)											
Gross beta	12587-47-2	LA-508-415		7.60	pCi/L	+-1.52	pCi/L	1.00	1.6		07/09/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003060
Client ID: B1VKR9 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Radiochemistry
Sampled: 06/24/08
Received: 06/24/08

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		510	pCi/L	+-102	pCi/L	1.00	5.9		07/05/08

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-043
Sample # W08P003061
Client ID: B1VL01 GPP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20081260
Department: Radiochemistry
Sampled: 06/24/08
Received: 06/24/08

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	0.700	pCi/L	+-3.50	pCi/L	1.00	5.9		07/05/08
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	110	pCi/L	+-109	pCi/L	1.00	2.0e+02		07/11/08

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

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081260
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

Sample Date: 06/23/08
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: W08P002948											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross beta	12587-47-2	1.1E+02		RPD			8.696	20.000		07/09/08
BATCH QC											
BLANK	Gross beta	12587-47-2	U-4.5E-01	n/a	pCi/L	-10.000	10.000				07/09/08
LCS	Gross beta	12587-47-2	124.0	110.517	% Recov	80.000	120.000				07/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20081260
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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081260
Matrix: WATER
Test: Tritium by Liq Sct column prep

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

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

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20081260
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: No zirconium present in the LCS standard. Magnesium, calcium, and sodium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid. Check standard is used to ensure sodium, calcium, and and magnesium linearity because sample results are greater than the calibration standard.

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

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M4W41-SLF-08-808

ATTACHMENT 5

SAMPLE RECEIPT INFORMATION

Consisting of 16 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
8/7/08

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081260

The following samples were received from you on 06/24/08. 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
W08P003036	B1VK19	GPP-PNNL @AB-32	TRENT Water @TPHD-WA TOC-30	06/24/08
W08P003037	B1VK21	GPP-PNNL @AB-32	TRENT Water @TPHD-WA TOC-30	06/24/08
W08P003038	B1VHJ6	GPP-PNNL @VOA-GPP	TRENT Water	06/24/08
W08P003039	B1VL47	GPP-PNNL @IC-30	TRENT Water	06/24/08
W08P003040	B1VL48	GPP-PNNL @IC-30	TRENT Water	06/24/08
W08P003041	B1V6W6	GPP-PNNL @IC-30	TRENT Water	06/24/08
W08P003042	B1VPX2	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003043	B1VPX3	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003044	B1VPX4	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003045	B1VPX5	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003046	B1VPW0	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003047	B1VPW1	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003048	B1VPW2	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003049	B1VPW3	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003050	B1VPY4	GPP-PNNL TOC-30	TRENT Water	06/24/08

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20081260

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08P003051	B1VPY5	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003052	B1VPY6	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003053	B1VPY7	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003054	B1VR08	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003055	B1VR09	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003056	B1VR10	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003057	B1VR11	GPP-PNNL TOC-30	TRENT Water	06/24/08
W08P003058	B1VKR8	GPP-PNNL @GPP6010	TRENT Water	06/24/08
W08P003059	B1VL00	GPP-PNNL @GPP6010	TRENT Water	06/24/08
W08P003060	B1VKR9	GPP-PNNL u @2008	TRENT Water @GPP6010 @IC-30 @TC99-30 @VOA-GPP	06/24/08
W08P003061	B1VL01	GPP-PNNL u @2008 @VOA-GPP	TRENT Water @GPP6010 @H3-33 @IC-30 @TC99-30	06/24/08
W08P003063	B1VL52	GPP-PNNL @IC-30	TRENT Water	06/24/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AB-32	Gross Alpha/Gross Beta (AB32)
@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.
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
TOC-30	Total Organic Carbon

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

8/7/08

C.O.C. # **G08-006-29**

Page 1 of 1

Collector: Rosane McIntyre	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: G08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 1NR2-RB, JUNE 2008		Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: SURV 2.2.8.1260	Priority: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

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
B1VK19 W5PIC3036		W	6-24-08	0921	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VK19		W	6-24-08	0921	3x1000-mL aG	TPH-Diesel Range - WTPH-D	HCl to pH <2 Cool~4C
B1VK19		W	6-24-08	0921	1x500-mL G/P	Gross Beta	HNO3 to pH <2

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Larry Rosane		Larry Rosane	6-24-08 / 1305	CA Hudson			6/24/08 1305
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. # G08-006-33
		Page 1 of 1

Collector: Rosanne, McIntyre	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: G08-006	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: INR2-RB, JUNE 2008		Ice Chest No. 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
** **

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
B1VK21	WCBP00037	W	6-24-08	0848	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VK21		W	6-24-08	0848	3x1000-mL aG	TPH-Diesel Range - WTPH-D	HCl to pH <2 Cool~4C
B1VK21		W	6-24-08	0848	1x500-mL G/P	Gross Beta	HNO3 to pH <2 ✓

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Larry Rosanne	Larry Rosanne		6-24-08/ 1305	CA Hudson			6/24/08 1305
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. # **W08-005-463**

Page 1 of 1

Collector: D. J. Sparks	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: W08-005	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: RCRA, MAY 2008	HNF-N-506 17/3	Ice Chest No.: GWS-008 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
Site-Wide Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VHJ6	W08F003039	W	6/24/08	1041	1x20-mL P	Activity Scan	None
B1VHJ6		W	6/24/08	1041	4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C

ICED

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. J. Sparks			JUN 24 2008 1420				JUN 24 2008 1420
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. # **I08-045-2**

Page 1 of 1

Collector Roy Sickle	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-045	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title ISRM JUNE 2008	HNF-N-506-15/73	**Ice Chest No.** GWS-001 **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
B1VL47	W0SF003039	W	6/24/08	1142	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
Roy Sickle			JUN 24 2008 14:20	Victor Bins			JUN 24 2008 14:20
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. # **108-045-3**

Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: 108-045	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: ISRM, JUNE 2008	HNF-N-586-15/73	Ice Chest No.: GWS-001 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
B1VL48	W0608030-10	W	6/24/08	1142	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
Roy Sickle		JUN 24 2008	14:20	Victor Burns			JUN 24 2008 14:20
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. # **108-039-66**

Page 1 of 1

Collector: Roy Sickle	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: 108-039	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: ISRM MAY 2008	HNF-N-506-15/74	Ice Chest No.: GWS-001 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
B1V6W6	W0400304(	W	6/24/08	1318	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
Roy Sickle	JUN 24 2008 1420		JUN 24 2008 1420
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. # **W08-006-357**

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 3	Ice Chest No. GWS-008 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
B1VPX2	W08F003042	W	6/24/08	0735	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPX3	3043	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPX4	3044	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPX5	3045	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C

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Relinquished By	Received By
Print: D. J. Sparks; Sign: [signature]; Date/Time: JUN 24 2008 1420	Print: [illegible]; Sign: [signature]; Date/Time: JUN 24 2008 1420
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 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. # **W08-006-356**

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 3	Ice Chest No.: GWS-008 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
B1VPW0	WCF003046	W	6/24/08	0942	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPW1	3047	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPW2	3048	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPW3	3049	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or 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 24 2008 1420				1420 JUN 24 2008
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **W08-006-362**

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 3	Ice Chest No.: GWS-008 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
B1VPY4	W08P003050	W	6/24/08	1041	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPY5	3051	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPY6	3052	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VPY7	3053	W			1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C

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Relinquished By	Received By
Print: D. J. Sparks Sign: [signature] Date/Time: JUN 24 2008 1420	Print: [signature] Sign: [signature] Date/Time: JUN 24 2008 1420
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. # **W08-006-368**

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 pg 3	Ice Chest No.: GWS-008 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
B1VR08	W08P0054	W	6/24/08	1216	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VR09	3053	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VR10	3055	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or H2SO4 to pH <2 Cool~4C
B1VR11	3057	W	↓	↓	1x250-mL aGs*	9060_TOC: TOC (1)	HCl or 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 24 2008 1420				JUN 24 2008 1420
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

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **I08-043-3**

Page 1 of 1

Collector: D. J. Sparks	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: I08-043	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UP1, JUNE 2008	HNF-N-506/17 pg 4	Ice Chest No.: GWS-008 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
200 Area Generator Knowledge Information Form applies.

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VKR8 (F)	W0608058	W	6/24/08	1344	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VKR9	3060	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1VKR9		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VKR9		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VKR9		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VKR9		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. J. Sparks			JUN 24 2008 1426				JUN 24 2008 1426
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. # **I08-043-61**

Page 1 of 1

Collector: D. J. Sparks	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: I08-043	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 2UP1, JUNE 2008	HNF-N-506/17 3	Ice Chest No.: GWS-008 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 ☐
200 Area Generator Knowledge Information Form applies.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1VL00 (F) W	08B3059	W	6/24/08	1041	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VL01	3061	W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1VL01		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2
B1VL01		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1VL01		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1VL01		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1VL01		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

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Relinquished By	Received By
Print: D. J. Sparks Sign: JUN 24 2008 Date/Time: 1420	Print: Sign: JUN 24 2008 Date/Time: 1420
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

02 of 03

FLUOR HANFORD	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I08-045-10
		Page 1 of 1

Collector: R. Ellingsworth	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: I08-045	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: ISRM JUNE 2008	HNF-N-506-16	Ice Chest No.: GW-1 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
B1VL52	W0P003003	W	6-27-06	1041	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
R. Ellingsworth			1505 JUN 24 2008				1505 JUN 24 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