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FLUOR

Memorandum

M4W41-SLF-07-932

To: H. Hampt E6-35 Date: November 29, 2007

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

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071881

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. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20071881:

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

SLF/grf

Attachments 4

DEC 2007 RECEIVED

RECEIVED JUN 11 2008 EDMC

M4W41-SLF-07-932

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071881
Data Deliverable Date: 03-dec-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I08-002	B1PTK5	W07P002566	WATER
	B1PTN3	W07P002572	WATER
	B1PTN4	W07P002573	WATER
	B1PTT2	W07P002567	WATER
	B1PTT3	W07P002574	WATER
	B1PTT4	W07P002575	WATER
	B1PV14	W07P002570	WATER
	B1PV15	W07P002571	WATER
	B1PV40	W07P002576	WATER
	B1PV41	W07P002577	WATER
S08-010	B1PVP0	W07P002578	WATER
	B1PVP1	W07P002579	WATER
	B1PVP6	W07P002569	WATER
	B1PVT5	W07P002583	WATER
	B1PVT7	W07P002584	WATER
	B1PVT9	W07P002585	WATER
	B1PVY2	W07P002568	WATER
	B1PW25	W07P002580	WATER
	B1PW26	W07P002581	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Nineteen (19) groundwater samples were received at the WSCF Laboratory on October 19, 2007. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

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

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 41 through 43 for QC details. Analytical Note(s):

- Duplicates, Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1PVD5 (SDG# 20071871) and B1PVT7 of this SDG.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.
- Sample results were D flagged if dilution(s) were required.
- B1PVD5 (Chloride) – Matrix Spike Duplicate recovery slightly exceeded established laboratory limits. Affected sample results were N flagged.

All other QC controls are within the established limits.

Hexavalent Chromium – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 44 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.

- Duplicate Relative Percent Difference (RPD) exceeded established laboratory limits.

All other 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 45 through 48 for QC details. Analytical Note(s):

- Silver, Barium, Cobalt, Chromium, Copper, Iron, Potassium, Magnesium, Manganese, Nickel, Strontium, Vanadium and Zinc contamination detected in the Blank was evaluated and affected sample results were C flagged.

- Calcium, Magnesium and Zinc – Sample results were beyond the effective spike range. Spike recoveries were marked "N/A". Check and high standards were analyzed to ensure sample result linearity.

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 49 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1PVH3 and B1PVL0 (SDG# 20071792).

All QC controls are within the established limits.

Total Alkalinity – The hold time requirement for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 50 for QC details. Analytical Note(s):

- Duplicates were analyzed on samples B1PLC5 (SDG# 20071863, SAF# F07-030) and B1PVY2 of this SDG.

All QC controls are within the established limits.

Organic Comments

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample, were analyzed with this delivery group per the GRP Letter of Instruction. See pages 56 through 58 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1PVB9 (SDG# 20071870).

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

- Methylene Chloride contamination detected in the Blank was evaluated and the sample results were B flagged.

All other QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 68 through 71 for QC details. Analytical Note(s):

- Gamma Energy Analysis (GEA) – Duplicates were analyzed on samples B1PV45 (SDG# 20071871) and B1PV41 of this SDG.

- Technetium-99 – Duplicate and Matrix Spike were analyzed on sample# B1PVY4 (SDG# 20071859).

- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1PVD1 (SDG# 20071871).

All QC controls are within the established limits.

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

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

M4W41-SLF-07-932

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 64 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: Steve Trent E6-35

Analytical: S. Fitzgerald 12/3/07

Client Services: P.D. Mix 11/29/2007

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

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

Report#: WSCF20071881
Report Date: 29-nov-2007
Report WGPP/ver. 5.2
GPAP

w13qlog v4.2 29-nov-2007 13:00:46

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071881

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33782	2	34182	38342	BLANK		Hexavalent chromium
33782	11	34182	38342	BLANK		Hexavalent chromium
33782	3	34182	38342	LCS		Hexavalent chromium
33782	5	34182	38342	DUP	W07P002566	Hexavalent chromium
33782	6	34182	38342	MS	W07P002566	Hexavalent chromium
33782	7	34182	38342	MSD	W07P002566	Hexavalent chromium
33782	4	34182	38342	SAMPLE	W07P002566	Hexavalent chromium
33782	7	34182	38342	SPK-RPD	W07P002566	Hexavalent chromium
33782	8	34182	38342	SAMPLE	W07P002573	Hexavalent chromium
33782	9	34182	38342	SAMPLE	W07P002575	Hexavalent chromium
33782	10	34182	38342	SAMPLE	W07P002577	Hexavalent chromium
33802	2	34201	38354	BLANK		Anions by Ion Chromatography
33802	13	34201	38354	BLANK		Anions by Ion Chromatography
33802	3	34201	38354	LCS		Anions by Ion Chromatography
33802	5	34201	38354	DUP	W07P002552	Anions by Ion Chromatography
33802	6	34201	38354	MS	W07P002552	Anions by Ion Chromatography
33802	7	34201	38354	MSD	W07P002552	Anions by Ion Chromatography
33802	7	34201	38354	SPK-RPD	W07P002552	Anions by Ion Chromatography
33802	11	34201	38354	SAMPLE	W07P002571	Anions by Ion Chromatography
33802	9	34201	38354	SAMPLE	W07P002573	Anions by Ion Chromatography
33802	10	34201	38354	SAMPLE	W07P002575	Anions by Ion Chromatography
33802	12	34201	38354	SAMPLE	W07P002579	Anions by Ion Chromatography
33804	2	34203	38355	BLANK		Anions by Ion Chromatography
33804	12	34203	38355	BLANK		Anions by Ion Chromatography
33804	3	34203	38355	LCS		Anions by Ion Chromatography
33804	11	34203	38355	SAMPLE	W07P002577	Anions by Ion Chromatography
33804	8	34203	38355	SAMPLE	W07P002581	Anions by Ion Chromatography
33804	9	34203	38355	SAMPLE	W07P002583	Anions by Ion Chromatography
33804	5	34203	38355	DUP	W07P002584	Anions by Ion Chromatography
33804	6	34203	38355	MS	W07P002584	Anions by Ion Chromatography
33804	7	34203	38355	MSD	W07P002584	Anions by Ion Chromatography
33804	4	34203	38355	SAMPLE	W07P002584	Anions by Ion Chromatography
33804	7	34203	38355	SPK-RPD	W07P002584	Anions by Ion Chromatography
33804	10	34203	38355	SAMPLE	W07P002585	Anions by Ion Chromatography
33912	1	34314	38459	LCS		Total Alkalinity as mg/L CaCO3
33912	13	34314	38459	LCS		Total Alkalinity as mg/L CaCO3
33912	25	34314	38459	LCS		Total Alkalinity as mg/L CaCO3
33912	4	34314	38459	DUP	W07GR02652	Total Alkalinity as mg/L CaCO3
33912	15	34314	38459	DUP	W07P002568	Total Alkalinity as mg/L CaCO3
33912	14	34314	38459	SAMPLE	W07P002568	Total Alkalinity as mg/L CaCO3
33912	16	34314	38459	SAMPLE	W07P002569	Total Alkalinity as mg/L CaCO3
33912	17	34314	38459	SAMPLE	W07P002579	Total Alkalinity as mg/L CaCO3
33912	18	34314	38459	SAMPLE	W07P002581	Total Alkalinity as mg/L CaCO3
33912	19	34314	38459	SAMPLE	W07P002583	Total Alkalinity as mg/L CaCO3
33912	20	34314	38459	SAMPLE	W07P002584	Total Alkalinity as mg/L CaCO3
33912	21	34314	38459	SAMPLE	W07P002585	Total Alkalinity as mg/L CaCO3
33914	1	34303	38467	BLANK		ICP-200.8 MS All possible meta
33914	2	34303	38467	LCS		ICP-200.8 MS All possible meta

33914	4	34303	38467	MS	W07P002313	ICP-200.8 MS All possible meta
33914	5	34303	38467	MSD	W07P002313	ICP-200.8 MS All possible meta
33914	5	34303	38467	SPK-RPD	W07P002313	ICP-200.8 MS All possible meta
33914	7	34303	38467	MS	W07P002320	ICP-200.8 MS All possible meta
33914	8	34303	38467	MSD	W07P002320	ICP-200.8 MS All possible meta
33914	8	34303	38467	SPK-RPD	W07P002320	ICP-200.8 MS All possible meta
33914	24	34303	38467	SAMPLE	W07P002569	ICP-200.8 MS All possible meta
33914	25	34303	38467	SAMPLE	W07P002583	ICP-200.8 MS All possible meta
33914	26	34303	38467	SAMPLE	W07P002584	ICP-200.8 MS All possible meta
33914	27	34303	38467	SAMPLE	W07P002585	ICP-200.8 MS All possible meta
34134	1	34537	38906	BLANK		ICP Metals Analysis, Grd H20 P
34134	2	34537	38906	LCS		ICP Metals Analysis, Grd H20 P
34134	4	34537	38906	MS	W07P002570	ICP Metals Analysis, Grd H20 P
34134	5	34537	38906	MSD	W07P002570	ICP Metals Analysis, Grd H20 P
34134	3	34537	38906	SAMPLE	W07P002570	ICP Metals Analysis, Grd H20 P
34134	5	34537	38906	SPK-RPD	W07P002570	ICP Metals Analysis, Grd H20 P
34134	6	34537	38906	SAMPLE	W07P002571	ICP Metals Analysis, Grd H20 P
34134	7	34537	38906	SAMPLE	W07P002572	ICP Metals Analysis, Grd H20 P
34134	8	34537	38906	SAMPLE	W07P002573	ICP Metals Analysis, Grd H20 P
34134	9	34537	38906	SAMPLE	W07P002574	ICP Metals Analysis, Grd H20 P
34134	10	34537	38906	SAMPLE	W07P002575	ICP Metals Analysis, Grd H20 P
34134	11	34537	38906	SAMPLE	W07P002576	ICP Metals Analysis, Grd H20 P
34134	12	34537	38906	SAMPLE	W07P002577	ICP Metals Analysis, Grd H20 P
34134	13	34537	38906	SAMPLE	W07P002578	ICP Metals Analysis, Grd H20 P
34134	14	34537	38906	SAMPLE	W07P002579	ICP Metals Analysis, Grd H20 P
34134	15	34537	38906	SAMPLE	W07P002580	ICP Metals Analysis, Grd H20 P
34134	16	34537	38906	SAMPLE	W07P002581	ICP Metals Analysis, Grd H20 P

w13qlog v4.2 29-nov-2007 13:00:46

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071881

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			38893	BLANK		VOA Ground Water Protection
			38893	LCS		VOA Ground Water Protection
			38893	MS	W07P002546	VOA Ground Water Protection
			38893	MSD	W07P002546	VOA Ground Water Protection
			38893	SPK-RPD	W07P002546	VOA Ground Water Protection
			38893	SAMPLE	W07P002579	VOA Ground Water Protection
			38893	SURR	W07P002579	VOA Ground Water Protection
			38893	SAMPLE	W07P002581	VOA Ground Water Protection
			38893	SURR	W07P002581	VOA Ground Water Protection

w13qlog v4.2 29-nov-2007 13:00:46

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20071881

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33927	1	34327	38562	BLANK		TC99 by Liquid Scin.
33927	2	34327	38562	LCS		TC99 by Liquid Scin.
33927	4	34327	38562	DUP	W07P002535	TC99 by Liquid Scin.
33927	3	34327	38562	MS	W07P002535	TC99 by Liquid Scin.
33927	8	34327	38562	SAMPLE	W07P002568	TC99 by Liquid Scin.
33927	9	34327	38562	SAMPLE	W07P002569	TC99 by Liquid Scin.
33927	10	34327	38562	SAMPLE	W07P002579	TC99 by Liquid Scin.
33927	11	34327	38562	SAMPLE	W07P002581	TC99 by Liquid Scin.
33830	1	34230	38587	BLANK		Gamma Energy Analysis-grd H2O
33830	2	34230	38587	LCS		Gamma Energy Analysis-grd H2O
33830	3	34230	38587	DUP	W07P002577	Gamma Energy Analysis-grd H2O
33830	4	34230	38587	SAMPLE	W07P002577	Gamma Energy Analysis-grd H2O
33836	1	34229	38708	BLANK		Gamma Energy Analysis-grd H2O
33836	2	34229	38708	LCS		Gamma Energy Analysis-grd H2O
33836	3	34229	38708	DUP	W07P002558	Gamma Energy Analysis-grd H2O
33836	6	34229	38708	SAMPLE	W07P002567	Gamma Energy Analysis-grd H2O
33836	7	34229	38708	SAMPLE	W07P002571	Gamma Energy Analysis-grd H2O
33836	8	34229	38708	SAMPLE	W07P002573	Gamma Energy Analysis-grd H2O
33836	9	34229	38708	SAMPLE	W07P002575	Gamma Energy Analysis-grd H2O
33924	1	34324	38746	BLANK		Tritium by Liq Sct column prep
33924	2	34324	38746	LCS		Tritium by Liq Sct column prep
33924	4	34324	38746	DUP	W07P002548	Tritium by Liq Sct column prep
33924	3	34324	38746	MS	W07P002548	Tritium by Liq Sct column prep
33924	12	34324	38746	SAMPLE	W07P002571	Tritium by Liq Sct column prep
33924	13	34324	38746	SAMPLE	W07P002573	Tritium by Liq Sct column prep
33924	14	34324	38746	SAMPLE	W07P002575	Tritium by Liq Sct column prep
33924	15	34324	38746	SAMPLE	W07P002577	Tritium by Liq Sct column prep
33924	16	34324	38746	SAMPLE	W07P002579	Tritium by Liq Sct column prep
33924	17	34324	38746	SAMPLE	W07P002581	Tritium by Liq Sct column prep

WSCF
METHOD REFERENCES REPORT

Department: Inorganic

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

LA-265-403 LA-265-403: Hexavalent Chromium analysis by Spectrophotometer

EPA SW-846 7196A	HEXAVALENT CHROMIUM
HEIS 7196_CR6	Hexavalent Chromium

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

LA-531-411 LA-531-411: ALKALINITY (TITRIMETRIC)

HEIS 2320B	Alkalinity
Standard Methods 2320B	Alkalinity

LA-533-410 LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY

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

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

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

LA-523-455 LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846

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

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

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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

LA-508-421 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

LA-508-481 LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE

HEIS GAMMA_GS	Gamma Emmision Spectrometry

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: I08-002
Sample # W07P002566
Client ID: B1PTK5 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403		4.30e-03	mg/L			1.00	2.0e-03		10/19/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002568
Client ID: B1PVY2 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		10/29/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002569
Client ID: B1PVP6 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		3.13	ug/L			1.00	0.0500		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		120	mg/L			1.00	1.0		10/29/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002570
Client ID: B1PV14 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	15.3	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		1.10e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	10.5	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	19.7	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		6.28e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	21.5	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		1.40e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	31.5	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	21.2	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	21.4	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	11.1	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	21.1	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	30.1	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		5.72e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		259	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002571
Client ID: B1PV15 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		0.217	mg/L			1.00	6.0e-03		10/19/07
Chloride	16887-00-6	LA-533-410	DN	18.0	mg/L			5.00	0.15		10/19/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/19/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	12.2	mg/L			5.00	0.025		10/19/07
Sulfate	14808-79-8	LA-533-410		21.2	mg/L			1.00	0.070		10/19/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	25.1	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		1.08e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	10.9	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	18.1	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		6.14e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	25.2	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		1.40e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	32.0	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	22.9	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	16.8	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	12.8	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	18.0	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	27.1	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		5.60e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		256	ug/L			1.00	4.0		11/27/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002571
Client ID: B1PV15 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		11/27/07

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

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Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002572
Client ID: B1PTN3 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	14.9	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		8.25e+03	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	13.9	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	16.9	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	5.20e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	28.0	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		1.28e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	34.8	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	74.3	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	21.4	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	10.8	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	22.9	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	27.1	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		4.80e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		199	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

MDL=Minimum Detection Limit
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DF=Dilution Factor

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002573
Client ID: B1PTN4 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		0.196	mg/L			1.00	6.0e-03		10/19/07
Chloride	16887-00-6	LA-533-410	N	8.22	mg/L			1.00	0.030		10/19/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/19/07
Nitrogen in Nitrate	NO3-N	LA-533-410		4.67	mg/L			1.00	5.0e-03		10/19/07
Sulfate	14808-79-8	LA-533-410		32.5	mg/L			1.00	0.070		10/19/07
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403		0.0537	mg/L			1.00	2.0e-03		10/19/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	19.1	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		8.18e+03	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	9.90	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	16.9	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	5.12e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	26.0	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		1.26e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	34.5	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	69.4	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	17.4	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	11.9	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	14.8	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	27.2	ug/L			1.00	4.0		11/27/07

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: I08-002
Sample # W07P002573
Client ID: B1PTN4 PNNL-GPP TRENT WSCF **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		4.84e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		199	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

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RQ=Result Qualifier
TP Err=Total Propagated Error
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002574
Client ID: B1PTT3 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	16.7	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		8.97e+03	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	13.5	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	22.0	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	5.29e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	21.1	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		1.56e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	36.1	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411		456	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	21.1	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	10.3	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	21.3	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	36.6	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		4.69e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		190	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

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

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

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

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002575
Client ID: B1PTT4 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		0.252	mg/L			1.00	6.0e-03		10/19/07
Chloride	16887-00-6	LA-533-410	N	10.2	mg/L			1.00	0.030		10/19/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/19/07
Nitrogen in Nitrate	NO3-N	LA-533-410		4.71	mg/L			1.00	5.0e-03		10/19/07
Sulfate	14808-79-8	LA-533-410		37.2	mg/L			1.00	0.070		10/19/07
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403	D	0.487	mg/L			9.30	0.019		10/19/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	86.2	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		9.05e+03	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	10.8	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	16.6	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	5.30e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	25.6	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		1.57e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	36.9	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411		453	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	20.1	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	10.1	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	20.6	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	24.8	ug/L			1.00	4.0		11/27/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002575
Client ID: B1PTT4 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		4.70e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		191	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002576
Client ID: B1PV40 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	22.7	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		1.55e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	10.7	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	51.6	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		7.07e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	21.3	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		2.49e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	60.5	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	42.8	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	19.9	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	14.2	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	22.0	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	22.7	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		6.80e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		310	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

MDL=Minimum Detection Limit
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N - Spike sample recovery is outside control limits.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002577
Client ID: B1PV41 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		0.328	mg/L			1.00	6.0e-03		10/20/07
Chloride	16887-00-6	LA-533-410	D	61.4	mg/L			10.00	0.30		10/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410		5.79	mg/L			1.00	5.0e-03		10/20/07
Sulfate	14808-79-8	LA-533-410	D	56.9	mg/L			10.00	0.70		10/20/07
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403		0.0316	mg/L			1.00	2.0e-03		10/19/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	154	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		1.49e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	11.4	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	52.2	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		6.99e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	27.5	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		2.41e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	58.8	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	68.9	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	20.2	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	13.0	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	27.3	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	26.7	ug/L			1.00	4.0		11/27/07

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002577
Client ID: B1PV41 PNNL-GPP TRENT WSCF
Matrix: WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Calcium	7440-70-2	LA-505-411		6.58e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		299	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

MDL=Minimum Detection Limit
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TP Err=Total Propagated Error
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002578
Client ID: B1PVP0 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	24.8	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		1.81e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	10.8	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	19.6	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		8.88e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	23.7	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		2.71e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	51.8	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	20.0	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	20.3	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	11.6	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	17.7	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	24.8	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		8.04e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		392	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002579
Client ID: B1PVP1 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		0.210	mg/L			1.00	6.0e-03		10/19/07
Chloride	16887-00-6	LA-533-410	DN	45.9	mg/L			10.00	0.30		10/19/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/19/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	18.0	mg/L			10.00	0.050		10/19/07
Sulfate	14808-79-8	LA-533-410		21.1	mg/L			1.00	0.070		10/19/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	20.3	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411		1.87e+04	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	8.80	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	20.4	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411		9.10e+03	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	25.9	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411		2.80e+04	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	53.1	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	24.9	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	19.9	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	12.5	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	20.7	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	24.5	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411		8.23e+04	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411		407	ug/L			1.00	4.0		11/27/07

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Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002579
Client ID: B1PVP1 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		11/27/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		190	mg/L			1.00	1.0		10/29/07

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Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002580
Client ID: B1PW25 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	19.7	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411	C	32.4	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	9.40	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	19.5	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	365	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	27.6	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411	U	< 27.0	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	5.00	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	19.1	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	20.3	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	11.3	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	18.7	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	23.0	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411	U	< 34.0	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411	C	6.80	ug/L			1.00	4.0		11/27/07
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07

MDL=Minimum Detection Limit
RQ=Result Qualifier
TP Err=Total Propagated Error
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N - Spike sample recovery is outside control limits.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002581
Client ID: B1PW26 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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	U	< 6.00e-03	mg/L			1.00	6.0e-03		10/20/07
Chloride	16887-00-6	LA-533-410	U	< 0.0300	mg/L			1.00	0.030		10/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	U	< 5.00e-03	mg/L			1.00	5.0e-03		10/20/07
Sulfate	14808-79-8	LA-533-410	U	< 0.0700	mg/L			1.00	0.070		10/20/07
ICP Metals Analysis, Grd H20 P Prep											**11/15/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	C	12.0	ug/L			1.00	9.0		11/27/07
Magnesium	7439-95-4	LA-505-411	C	32.9	ug/L			1.00	6.0		11/27/07
Manganese	7439-96-5	LA-505-411	C	9.00	ug/L			1.00	4.0		11/27/07
Nickel	7440-02-0	LA-505-411	C	16.5	ug/L			1.00	4.0		11/27/07
Potassium	7440-09-7	LA-505-411	C	276	ug/L			1.00	45		11/27/07
Silver	7440-22-4	LA-505-411	C	26.8	ug/L			1.00	5.0		11/27/07
Sodium	7440-23-5	LA-505-411	U	< 27.0	ug/L			1.00	27		11/27/07
Antimony	7440-36-0	LA-505-411	U	< 32.0	ug/L			1.00	32		11/27/07
Barium	7440-39-3	LA-505-411	C	5.00	ug/L			1.00	4.0		11/27/07
Cadmium	7440-43-9	LA-505-411	U	< 4.00	ug/L			1.00	4.0		11/27/07
Chromium	7440-47-3	LA-505-411	C	17.4	ug/L			1.00	4.0		11/27/07
Cobalt	7440-48-4	LA-505-411	C	18.9	ug/L			1.00	4.0		11/27/07
Copper	7440-50-8	LA-505-411	C	11.8	ug/L			1.00	4.0		11/27/07
Vanadium	7440-62-2	LA-505-411	C	10.6	ug/L			1.00	7.0		11/27/07
Zinc	7440-66-6	LA-505-411	C	27.2	ug/L			1.00	4.0		11/27/07
Calcium	7440-70-2	LA-505-411	U	< 34.0	ug/L			1.00	34		11/27/07
Strontium	7440-24-6	LA-505-411	C	6.70	ug/L			1.00	4.0		11/27/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002581
Client ID: B1PW26 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		11/27/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411	U	< 1.00	mg/L			1.00	1.0		10/29/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but >= MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002583
Client ID: B1PVT5 GRP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		1.42	mg/L			1.00	6.0e-03		10/20/07
Chloride	16887-00-6	LA-533-410		11.3	mg/L			1.00	0.030		10/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410	U	< 5.00e-03	mg/L			1.00	5.0e-03		10/20/07
Sulfate	14808-79-8	LA-533-410	U	< 0.0700	mg/L			1.00	0.070		10/20/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		180	mg/L			1.00	1.0		10/29/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002584
Client ID: B1PVT7 GRP-PNNL WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		1.61	mg/L			1.00	6.0e-03		10/19/07
Chloride	16887-00-6	LA-533-410		11.4	mg/L			1.00	0.030		10/19/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/19/07
Nitrogen in Nitrate	NO3-N	LA-533-410	B	0.0128	mg/L			1.00	5.0e-03		10/19/07
Sulfate	14808-79-8	LA-533-410	U	< 0.0700	mg/L			1.00	0.070		10/19/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		160	mg/L			1.00	1.0		10/29/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002585
Client ID: B1PVT9 GRP-PNNL TRENT WSCF **Matrix:** WATER

Group #: WSCF20071881
Department: Inorganic
Sampled: 10/19/07
Received: 10/19/07

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		0.304	mg/L			1.00	6.0e-03		10/20/07
Chloride	16887-00-6	LA-533-410	D	20.9	mg/L			10.00	0.30		10/20/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/20/07
Nitrogen in Nitrate	NO3-N	LA-533-410		5.87	mg/L			1.00	5.0e-03		10/20/07
Sulfate	14808-79-8	LA-533-410	D	54.7	mg/L			10.00	0.70		10/20/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		134	ug/L			1.00	0.0500		10/29/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		130	mg/L			1.00	1.0		10/29/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 10/18/07
Receive Date:10/18/07

Lab ID: W07P002552

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Chloride	16887-00-6	4.391		RPD			0.922	20.000		10/19/07
DUP	Fluoride	16984-48-8	7.32e-2		RPD			2.162	20.000		10/19/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	10/19/07
DUP	Nitrogen in Nitrate	NO3-N	2.5545		RPD			1.122	20.000		10/19/07
DUP	Sulfate	14808-79-8	29.931		RPD			0.725	20.000		10/19/07
MS	Chloride	16887-00-6	1.1308	114.222	% Recov	75.000	125.000				10/19/07
MS	Fluoride	16984-48-8	0.5044	100.478	% Recov	75.000	125.000				10/19/07
MS	Nitrogen in Nitrite	NO2-N	0.449	90.161	% Recov	75.000	125.000				10/19/07
MS	Nitrogen in Nitrate	NO3-N	0.4531	100.466	% Recov	75.000	125.000				10/19/07
MS	Sulfate	14808-79-8	1.9127	96.601	% Recov	75.000	125.000				10/19/07
MSD	Chloride	16887-00-6	1.1939	120.596	% Recov	75.000	125.000				10/19/07
MSD	Fluoride	16984-48-8	0.51	101.594	% Recov	75.000	125.000				10/19/07
MSD	Nitrogen in Nitrite	NO2-N	0.4487	90.100	% Recov	75.000	125.000				10/19/07
MSD	Nitrogen in Nitrate	NO3-N	0.4746	105.233	% Recov	75.000	125.000				10/19/07
MSD	Sulfate	14808-79-8	1.8569	93.783	% Recov	75.000	125.000				10/19/07
SPK-RPD	Chloride	16887-00-6	120.596		RPD			5.429	20.000		10/19/07
SPK-RPD	Fluoride	16984-48-8	101.594		RPD			1.105	20.000		10/19/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	90.100		RPD			0.068	20.000		10/19/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	105.233		RPD			4.635	20.000		10/19/07
SPK-RPD	Sulfate	14808-79-8	93.783		RPD			2.960	20.000		10/19/07

BATCH QC

BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/19/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/19/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/19/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/19/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
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	<1e-2	n/a	mg/L	0.000	0.020			U	10/19/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/19/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/19/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/19/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/19/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/19/07
LCS	Chloride	16887-00-6	191.6789	95.839	% Recov	80.000	120.000				10/19/07
LCS	Fluoride	16984-48-8	102.6082	101.592	% Recov	80.000	120.000				10/19/07
LCS	Nitrogen in Nitrite	NO2-N	95.7759	95.776	% Recov	80.000	120.000				10/19/07
LCS	Nitrogen in Nitrate	NO3-N	88.5345	97.077	% Recov	80.000	120.000				10/19/07
LCS	Sulfate	14808-79-8	385.7638	96.441	% Recov	80.000	120.000				10/19/07

Lab ID: W07P002584
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	11.4187		RPD			0.536	20.000		10/19/07
DUP	Fluoride	16984-48-8	1.6186		RPD			0.626	20.000		10/19/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	10/19/07
DUP	Nitrogen in Nitrate	NO3-N	1.13e-2		RPD			12.448	20.000		10/19/07
DUP	Sulfate	14808-79-8	<7e-2		RPD			n/a	20.000	U	10/19/07
MS	Chloride	16887-00-6	0.8321	84.051	% Recov	75.000	125.000				10/20/07
MS	Fluoride	16984-48-8	0.5169	102.968	% Recov	75.000	125.000				10/20/07
MS	Nitrogen in Nitrite	NO2-N	0.4898	98.353	% Recov	75.000	125.000				10/20/07
MS	Nitrogen in Nitrate	NO3-N	0.4459	98.869	% Recov	75.000	125.000				10/20/07
MS	Sulfate	14808-79-8	1.8885	95.379	% Recov	75.000	125.000				10/20/07
MSD	Chloride	16887-00-6	0.8581	86.677	% Recov	75.000	125.000				10/20/07
MSD	Fluoride	16984-48-8	0.5556	110.677	% Recov	75.000	125.000				10/20/07
MSD	Nitrogen in Nitrite	NO2-N	0.5261	105.643	% Recov	75.000	125.000				10/20/07
MSD	Nitrogen in Nitrate	NO3-N	0.4349	96.430	% Recov	75.000	125.000				10/20/07
MSD	Sulfate	14808-79-8	1.9033	96.126	% Recov	75.000	125.000				10/20/07
SPK-RPD	Chloride	16887-00-6	86.677		RPD			3.076	20.000		10/20/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 10/19/07
Receive Date:10/19/07

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	110.677		RPD			7.217	20.000		10/20/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	105.643		RPD			7.147	20.000		10/20/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	96.430		RPD			2.498	20.000		10/20/07
SPK-RPD	Sulfate	14808-79-8	96.126		RPD			0.780	20.000		10/20/07

BATCH QC

BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/19/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/20/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/19/07
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	10/20/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/19/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/20/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/19/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/20/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/20/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/19/07
LCS	Chloride	16887-00-6	193.1817	96.591	% Recov	80.000	120.000				10/19/07
LCS	Fluoride	16984-48-8	101.9427	100.933	% Recov	80.000	120.000				10/19/07
LCS	Nitrogen in Nitrite	NO2-N	97.412	97.412	% Recov	80.000	120.000				10/19/07
LCS	Nitrogen in Nitrate	NO3-N	89.6106	98.257	% Recov	80.000	120.000				10/19/07
LCS	Sulfate	14808-79-8	382.3477	95.587	% Recov	80.000	120.000				10/19/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
Matrix: WATER
Test: Hexavalent chromium

Sample Date: 10/19/07
Receive Date:10/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002566											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	0.0030		RPD			35.616	15.000 *		10/19/07
MS	Hexavalent chromium	18540-29-9	0.0533	100.947	% Recov	85.000	115.000				10/19/07
MSD	Hexavalent chromium	18540-29-9	0.0520	98.485	% Recov	85.000	115.000				10/19/07
SPK-RPD	Hexavalent chromium	18540-29-9	98.485		RPD			2.469	20.000		10/19/07
BATCH QC											
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	10/19/07
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	10/19/07
LCS	Hexavalent chromium	18540-29-9	0.0498	100.201	% Recov	80.000	120.000				10/19/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 10/19/07
Receive Date:10/19/07

Lab ID: W07P002570
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	998.5	99.850	% Recov	75.000	125.000				11/27/07
MS	Barium	7440-39-3	490.8	98.160	% Recov	75.000	125.000				11/27/07
MS	Beryllium	7440-41-7	517	103.400	% Recov	75.000	125.000				11/27/07
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				11/27/07
MS	Cadmium	7440-43-9	1013	101.300	% Recov	75.000	125.000				11/27/07
MS	Cobalt	7440-48-4	991.6	99.160	% Recov	75.000	125.000				11/27/07
MS	Chromium	7440-47-3	980.8	98.080	% Recov	75.000	125.000				11/27/07
MS	Copper	7440-50-8	968.2	96.820	% Recov	75.000	125.000				11/27/07
MS	Iron	7439-89-6	1001.7	100.170	% Recov	75.000	125.000				11/27/07
MS	Potassium	7440-09-7	10105	101.050	% Recov	75.000	125.000				11/27/07
MS	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				11/27/07
MS	Manganese	7439-96-5	1010.5	101.050	% Recov	75.000	125.000				11/27/07
MS	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				11/27/07
MS	Nickel	7440-02-0	998.3	99.830	% Recov	75.000	125.000				11/27/07
MS	Antimony	7440-36-0	1028	102.800	% Recov	75.000	125.000				11/27/07
MS	Strontium	7440-24-6	498.9	99.780	% Recov	75.000	125.000				11/27/07
MS	Vanadium	7440-62-2	974.6	97.460	% Recov	75.000	125.000				11/27/07
MS	Zinc	7440-66-6	995.9	99.590	% Recov	75.000	125.000				11/27/07
MSD	Silver	7440-22-4	999.5	99.950	% Recov	75.000	125.000				11/27/07
MSD	Barium	7440-39-3	490.7	98.140	% Recov	75.000	125.000				11/27/07
MSD	Beryllium	7440-41-7	511.5	102.300	% Recov	75.000	125.000				11/27/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				11/27/07
MSD	Cadmium	7440-43-9	1010	101.000	% Recov	75.000	125.000				11/27/07
MSD	Cobalt	7440-48-4	988.6	98.860	% Recov	75.000	125.000				11/27/07
MSD	Chromium	7440-47-3	986.8	98.680	% Recov	75.000	125.000				11/27/07
MSD	Copper	7440-50-8	965.1	96.510	% Recov	75.000	125.000				11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 10/19/07
Receive Date:10/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	985.7	98.570	% Recov	75.000	125.000				11/27/07
MSD	Potassium	7440-09-7	10185	101.850	% Recov	75.000	125.000				11/27/07
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				11/27/07
MSD	Manganese	7439-96-5	1005.5	100.550	% Recov	75.000	125.000				11/27/07
MSD	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				11/27/07
MSD	Nickel	7440-02-0	993.3	99.330	% Recov	75.000	125.000				11/27/07
MSD	Antimony	7440-36-0	1009	100.900	% Recov	75.000	125.000				11/27/07
MSD	Strontium	7440-24-6	500.2	100.040	% Recov	75.000	125.000				11/27/07
MSD	Vanadium	7440-62-2	966.4	96.640	% Recov	75.000	125.000				11/27/07
MSD	Zinc	7440-66-6	987.9	98.790	% Recov	75.000	125.000				11/27/07
SPK-RPD	Silver	7440-22-4	99.950		RPD			0.100	20.000		11/27/07
SPK-RPD	Barium	7440-39-3	98.140		RPD			0.020	20.000		11/27/07
SPK-RPD	Beryllium	7440-41-7	102.300		RPD			1.070	20.000		11/27/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		11/27/07
SPK-RPD	Cadmium	7440-43-9	101.000		RPD			0.297	20.000		11/27/07
SPK-RPD	Cobalt	7440-48-4	98.860		RPD			0.303	20.000		11/27/07
SPK-RPD	Chromium	7440-47-3	98.680		RPD			0.610	20.000		11/27/07
SPK-RPD	Copper	7440-50-8	96.510		RPD			0.321	20.000		11/27/07
SPK-RPD	Iron	7439-89-6	98.570		RPD			1.610	20.000		11/27/07
SPK-RPD	Potassium	7440-09-7	101.850		RPD			0.789	20.000		11/27/07
SPK-RPD	Magnesium	7439-95-4			RPD			n/a	20.000		11/27/07
SPK-RPD	Manganese	7439-96-5	100.550		RPD			0.496	20.000		11/27/07
SPK-RPD	Sodium	7440-23-5			RPD			n/a	20.000		11/27/07
SPK-RPD	Nickel	7440-02-0	99.330		RPD			0.502	20.000		11/27/07
SPK-RPD	Antimony	7440-36-0	100.900		RPD			1.865	20.000		11/27/07
SPK-RPD	Strontium	7440-24-6	100.040		RPD			0.260	20.000		11/27/07
SPK-RPD	Vanadium	7440-62-2	96.640		RPD			0.845	20.000		11/27/07
SPK-RPD	Zinc	7440-66-6	98.790		RPD			0.807	20.000		11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
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	24.4	24.400	ug/L						11/27/07
BLANK	Barium	7440-39-3	4.8	4.800	ug/L						11/27/07
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	11/27/07
BLANK	Calcium	7440-70-2	<34	n/a	ug/L					U	11/27/07
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	11/27/07
BLANK	Cobalt	7440-48-4	15.3	15.300	ug/L						11/27/07
BLANK	Chromium	7440-47-3	18.3	18.300	ug/L						11/27/07
BLANK	Copper	7440-50-8	11.1	11.100	ug/L						11/27/07
BLANK	Iron	7439-89-6	14.4	14.400	ug/L						11/27/07
BLANK	Potassium	7440-09-7	297.4	297.400	ug/L						11/27/07
BLANK	Magnesium	7439-95-4	46.7	46.700	ug/L						11/27/07
BLANK	Manganese	7439-96-5	10.2	10.200	ug/L						11/27/07
BLANK	Sodium	7440-23-5	<27	n/a	ug/L					U	11/27/07
BLANK	Nickel	7440-02-0	16.5	16.500	ug/L						11/27/07
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	11/27/07
BLANK	Strontium	7440-24-6	6.7	6.700	ug/L						11/27/07
BLANK	Vanadium	7440-62-2	16.2	16.200	ug/L						11/27/07
BLANK	Zinc	7440-66-6	23.3	23.300	ug/L						11/27/07
LCS	Silver	7440-22-4	1008	100.800	% Recov	80.000	120.000				11/27/07
LCS	Barium	7440-39-3	482.7	96.540	% Recov	80.000	120.000				11/27/07
LCS	Beryllium	7440-41-7	518.2	103.640	% Recov	80.000	120.000				11/27/07
LCS	Calcium	7440-70-2	1156	115.600	% Recov	80.000	120.000				11/27/07
LCS	Cadmium	7440-43-9	1018	101.800	% Recov	80.000	120.000				11/27/07
LCS	Cobalt	7440-48-4	1022	102.200	% Recov	80.000	120.000				11/27/07
LCS	Chromium	7440-47-3	1003	100.300	% Recov	80.000	120.000				11/27/07
LCS	Copper	7440-50-8	976.9	97.690	% Recov	80.000	120.000				11/27/07
LCS	Iron	7439-89-6	1007	100.700	% Recov	80.000	120.000				11/27/07
LCS	Potassium	7440-09-7	10270	102.700	% Recov	80.000	120.000				11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
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	997.2	99.720	% Recov	80.000	120.000				11/27/07
LCS	Manganese	7439-96-5	1010	101.000	% Recov	80.000	120.000				11/27/07
LCS	Sodium	7440-23-5	953.1	95.310	% Recov	80.000	120.000				11/27/07
LCS	Nickel	7440-02-0	1027	102.700	% Recov	80.000	120.000				11/27/07
LCS	Antimony	7440-36-0	1022	102.200	% Recov	80.000	120.000				11/27/07
LCS	Strontium	7440-24-6	484.1	96.820	% Recov	80.000	120.000				11/27/07
LCS	Vanadium	7440-62-2	984.7	98.470	% Recov	80.000	120.000				11/27/07
LCS	Zinc	7440-66-6	1024	102.400	% Recov	80.000	120.000				11/27/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 10/09/07
Receive Date:10/09/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002313											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	46.57	116.425	% Recov	70.000	130.000				10/29/07
MSD	Uranium	7440-61-1	47.11	117.775	% Recov	70.000	130.000				10/29/07
SPK-RPD	Uranium	7440-61-1	117.775		RPD			1.153	20.000		10/29/07
Lab ID: W07P002320											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	48.95	122.375	% Recov	70.000	130.000				10/29/07
MSD	Uranium	7440-61-1	47.42	118.550	% Recov	70.000	130.000				10/29/07
SPK-RPD	Uranium	7440-61-1	118.550		RPD			3.175	20.000		10/29/07
BATCH QC											
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	10/29/07
LCS	Uranium	7440-61-1	43.73	109.325	% Recov	85.000	115.000				10/29/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071881
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

Sample Date: 10/17/07
Receive Date:10/17/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02652											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	155.6		RPD			2.161	20.000		10/29/07
Lab ID: W07P002568											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	126.4		RPD			1.023	20.000		10/29/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	53.06	100.113	%Recove	80.000	120.000				10/29/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	53.11	100.208	%Recove	80.000	120.000				10/29/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	53.17	100.321	%Recove	80.000	120.000				10/29/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent E6-35

Group #: WSCF20071881
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: High barium, chromium, manganese, nickel, silver, vanadium, zinc, iron, magnesium, potassium, cobalt, copper, and strontium preparation blank results; "C" flag if applicable. Calcium, sodium, and magnesium sample results beyond effective spike range (spike recoveries marked "NA"). Check and high standards used to ensure calcium, sodium, 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: S08-010
Sample # W07P002579
Client ID: B1PVP1 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Organic
Sampled: 10/19/07
Received: 10/19/07

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		10/31/07
Trichloroethene	79-01-6	LA-523-455	J	2.60	ug/L			1.00	1.0		10/31/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Methylenechloride	75-09-2	LA-523-455	BJ	3.00	ug/L			1.00	1.0		10/31/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		10/31/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/31/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002579
Client ID: B1PVP1 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Organic
Sampled: 10/19/07
Received: 10/19/07

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		10/31/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07

MDL = Minimum Detection Limit
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TP Err = Total Propagated Error
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N - Spike sample recovery is outside control limits.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002581
Client ID: B1PW26 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Organic
Sampled: 10/19/07
Received: 10/19/07

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		10/31/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
Methylenechloride	75-09-2	LA-523-455	B	5.20	ug/L			1.00	1.0		10/31/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		10/31/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		10/31/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002581
Client ID: B1PW26 PNNL-GPP TRENT WSCF **Matrix:** WATER

Group #: WSCF20071881
Department: Organic
Sampled: 10/19/07
Received: 10/19/07

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		10/31/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/31/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071881
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 10/18/07
Receive Date:10/18/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002546											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	20.540	82.200	% Recov	63.000	117.000				10/31/07
MS	Benzene	71-43-2	25.260	101.000	% Recov	75.000	129.000				10/31/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	46.510	93.000	% Recov	75.000	125.000				10/31/07
MS	Chlorobenzene	108-90-7	25.110	100.000	% Recov	79.000	119.000				10/31/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.440	90.900	% Recov	75.000	125.000				10/31/07
MS	Toluene-d8(Surr)	2037-26-5	50.020	100.000	% Recov	75.000	125.000				10/31/07
MS	Toluene	108-88-3	25.400	102.000	% Recov	76.000	120.000				10/31/07
MS	Trichloroethene	79-01-6	19.480	77.900	% Recov	73.000	123.000				10/31/07
MSD	1,1-Dichloroethene	75-35-4	20.640	82.600	% Recov	63.000	117.000				10/31/07
MSD	Benzene	71-43-2	24.570	98.300	% Recov	75.000	129.000				10/31/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	45.860	91.700	% Recov	75.000	125.000				10/31/07
MSD	Chlorobenzene	108-90-7	24.340	97.400	% Recov	79.000	119.000				10/31/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.770	91.500	% Recov	75.000	125.000				10/31/07
MSD	Toluene-d8(Surr)	2037-26-5	50.020	100.000	% Recov	75.000	125.000				10/31/07
MSD	Toluene	108-88-3	25.010	100.000	% Recov	76.000	120.000				10/31/07
MSD	Trichloroethene	79-01-6	19.210	76.800	% Recov	73.000	123.000				10/31/07
SPK-RPD	1,1-Dichloroethene	75-35-4	82.600		RPD			0.485	20.000		10/31/07
SPK-RPD	Benzene	71-43-2	98.300		RPD			2.709	20.000		10/31/07
SPK-RPD	Chlorobenzene	108-90-7	97.400		RPD			2.634	20.000		10/31/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	91.500		RPD			0.658	20.000		10/31/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	100.000		RPD			0.000	20.000		10/31/07
SPK-RPD	Toluene	108-88-3	100.000		RPD			1.980	20.000		10/31/07
SPK-RPD	Trichloroethene	79-01-6	76.800		RPD			1.422	20.000		10/31/07
Lab ID: W07P002579											
BATCH QC ASSOCIATED WITH SAMPLE											

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071881
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 10/19/07
Receive Date:10/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	4-Bromofluorobenzene(Surr)	460-00-4	46.180	92.400	% Recov	75.000	125.000				10/31/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.440	90.900	% Recov	75.000	125.000				10/31/07
SURR	Toluene-d8(Surr)	2037-26-5	48.800	97.600	% Recov	75.000	125.000				10/31/07

Lab ID: W07P002581
BATCH QC ASSOCIATED WITH SAMPLE

SURR	4-Bromofluorobenzene(Surr)	460-00-4	45.640	91.300	% Recov	75.000	125.000				10/31/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.430	90.900	% Recov	75.000	125.000				10/31/07
SURR	Toluene-d8(Surr)	2037-26-5	48.620	97.200	% Recov	75.000	125.000				10/31/07

BATCH QC

BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	10/31/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	10/31/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	10/31/07
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	10/31/07
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	10/31/07
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	10/31/07
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	10/31/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	10/31/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	43.040	86.100	% Recov	75.000	125.000				10/31/07
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	10/31/07
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	10/31/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	45.610	91.200	% Recov	75.000	125.000				10/31/07
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	10/31/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071881
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	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	10/31/07
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Methylenechloride	75-09-2	3.3	3.300	ug/L						10/31/07
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	10/31/07
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	10/31/07
BLANK	Toluene-d8(Surr)	2037-26-5	47.030	94.100	% Recov	75.000	125.000				10/31/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	10/31/07
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	10/31/07
LCS	1,1-Dichloroethene	75-35-4	19.490	78.000	% Recov	75.000	125.000				10/31/07
LCS	Benzene	71-43-2	25.040	100.000	% Recov	75.000	125.000				10/31/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	41.430	82.900	% Recov	75.000	125.000				10/31/07
LCS	Chlorobenzene	108-90-7	25.940	104.000	% Recov	75.000	125.000				10/31/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	46.370	92.700	% Recov	75.000	125.000				10/31/07
LCS	Toluene-d8(Surr)	2037-26-5	48.640	97.300	% Recov	75.000	125.000				10/31/07
LCS	Toluene	108-88-3	25.410	102.000	% Recov	75.000	125.000				10/31/07
LCS	Trichloroethene	79-01-6	19.160	76.600	% Recov	75.000	125.000				10/31/07

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002567
Client ID: B1PTT2 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gamma Energy Analysis-grd H2O											
Antimony-125	14234-35-6	LA-508-481	U	-11.7	pCi/L	+-13.4	pCi/L	1.00	22		11/07/07
Cobalt-60	10198-40-0	LA-508-481	U	-1.08	pCi/L	+-4.97	pCi/L	1.00	8.6		11/07/07
Cesium-134	13967-70-9	LA-508-481	U	-0.153	pCi/L	+-1.53	pCi/L	1.00	8.7		11/07/07
Cesium-137	10045-97-3	LA-508-481	U	-0.997	pCi/L	+-5.09	pCi/L	1.00	8.6		11/07/07
Europium-152	14683-23-9	LA-508-481	U	0.915	pCi/L	+-9.15	pCi/L	1.00	24		11/07/07
Europium-154	15585-10-1	LA-508-481	U	-4.03	pCi/L	+-13.9	pCi/L	1.00	24		11/07/07
Europium-155	14391-16-3	LA-508-481	U	17.4	pCi/L	+-18.1	pCi/L	1.00	31		11/07/07
Potassium-40	13966-00-2	LA-508-481	U	-52.2	pCi/L	+-85.5	pCi/L	1.00	1.3e+02		11/07/07
Ruthenium-106	13967-48-1	LA-508-481	U	-34.3	pCi/L	+-57.1	pCi/L	1.00	80		11/07/07
Be-7 by GEA	13966-02-4	LA-508-481	U	-2.50	pCi/L	+-2.50	pCi/L	1.00	82		11/07/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002568
Client ID: B1PVY2 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	2.30	pCi/L	+-2.67	pCi/L	1.00	4.3		11/01/07

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

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C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002569
Client ID: B1PVP6 PNNL-GPP TRENT WSCF **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421		34.0	pCi/L	+-7.48	pCi/L	1.00	4.3		11/01/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
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Report WGPP/ver. 5.2
GPAP

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002571
Client ID: B1PV15 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gamma Energy Analysis-grd H2O											
Antimony-125	14234-35-6	LA-508-481	U	6.69	pCi/L	+-13.1	pCi/L	1.00	23		11/06/07
Cobalt-60	10198-40-0	LA-508-481	U	0.978	pCi/L	+-3.94	pCi/L	1.00	7.3		11/06/07
Cesium-134	13967-70-9	LA-508-481	U	-0.390	pCi/L	+-3.90	pCi/L	1.00	8.0		11/06/07
Cesium-137	10045-97-3	LA-508-481	U	0.990	pCi/L	+-4.40	pCi/L	1.00	7.9		11/06/07
Europium-152	14683-23-9	LA-508-481	U	-1.15	pCi/L	+-11.5	pCi/L	1.00	24		11/06/07
Europium-154	15585-10-1	LA-508-481	U	1.79	pCi/L	+-11.7	pCi/L	1.00	21		11/06/07
Europium-155	14391-16-3	LA-508-481	U	2.18	pCi/L	+-14.8	pCi/L	1.00	25		11/06/07
Potassium-40	13966-00-2	LA-508-481		159	pCi/L	+-87.8	pCi/L	1.00	70		11/06/07
Ruthenium-106	13967-48-1	LA-508-481	U	-3.84	pCi/L	+-38.4	pCi/L	1.00	70		11/06/07
Be-7 by GEA	13966-02-4	LA-508-481	U	-19.0	pCi/L	+-19.0	pCi/L	1.00	74		11/06/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		2.70e+05	pCi/L	+-5.40e+04	pCi/L	1.00	2.1e+02		11/07/07

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002573
Client ID: B1PTN4 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gamma Energy Analysis-grd H2O											
Antimony-125	14234-35-6	LA-508-481	U	22.7	pCi/L	+-28.3	pCi/L	1.00	49		11/06/07
Cobalt-60	10198-40-0	LA-508-481	U	5.42	pCi/L	+-9.81	pCi/L	1.00	18		11/06/07
Cesium-134	13967-70-9	LA-508-481	U	2.91	pCi/L	+-10.8	pCi/L	1.00	19		11/06/07
Cesium-137	10045-97-3	LA-508-481	U	-9.99	pCi/L	+-11.1	pCi/L	1.00	18		11/06/07
Europium-152	14683-23-9	LA-508-481	U	10.7	pCi/L	+-28.4	pCi/L	1.00	49		11/06/07
Europium-154	15585-10-1	LA-508-481	U	17.4	pCi/L	+-31.2	pCi/L	1.00	55		11/06/07
Europium-155	14391-16-3	LA-508-481	U	6.96	pCi/L	+-27.8	pCi/L	1.00	47		11/06/07
Potassium-40	13966-00-2	LA-508-481		273	pCi/L	+-264	pCi/L	1.00	1.5e+02		11/06/07
Ruthenium-106	13967-48-1	LA-508-481	U	-70.8	pCi/L	+-93.1	pCi/L	1.00	1.5e+02		11/06/07
Be-7 by GEA	13966-02-4	LA-508-481	U	88.0	pCi/L	+-94.2	pCi/L	1.00	1.6e+02		11/06/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		880	pCi/L	+-264	pCi/L	1.00	2.1e+02		11/07/07

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TP Err=Total Propagated Error
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C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002575
Client ID: B1PTT4 PNNL-GPP TRENT WSCF **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gamma Energy Analysis-grd H2O											
Antimony-125	14234-35-6	LA-508-481	U	-12.6	pCi/L	+-15.1	pCi/L	1.00	25		11/07/07
Cobalt-60	10198-40-0	LA-508-481	U	-0.755	pCi/L	+-5.73	pCi/L	1.00	9.7		11/07/07
Cesium-134	13967-70-9	LA-508-481	U	2.83	pCi/L	+-5.86	pCi/L	1.00	10		11/07/07
Cesium-137	10045-97-3	LA-508-481	U	-0.0750	pCi/L	+-0.750	pCi/L	1.00	10		11/07/07
Europium-152	14683-23-9	LA-508-481	U	6.62	pCi/L	+-15.3	pCi/L	1.00	27		11/07/07
Europium-154	15585-10-1	LA-508-481	U	2.88	pCi/L	+-14.6	pCi/L	1.00	26		11/07/07
Europium-155	14391-16-3	LA-508-481	U	13.6	pCi/L	+-19.3	pCi/L	1.00	33		11/07/07
Potassium-40	13966-00-2	LA-508-481	U	80.2	pCi/L	+-103	pCi/L	1.00	1.6e+02		11/07/07
Ruthenium-106	13967-48-1	LA-508-481	U	0.618	pCi/L	+-6.18	pCi/L	1.00	91		11/07/07
Be-7 by GEA	13966-02-4	LA-508-481	U	8.10	pCi/L	+-53.5	pCi/L	1.00	91		11/07/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		750	pCi/L	+-210	pCi/L	1.00	2.1e+02		11/07/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: I08-002
Sample # W07P002577
Client ID: B1PV41 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Gamma Energy Analysis-grd H2O											
Antimony-125	14234-35-6	LA-508-481	U	0.422	pCi/L	+-4.22	pCi/L	1.00	21		11/07/07
Cobalt-60	10198-40-0	LA-508-481	U	0.0246	pCi/L	+-0.246	pCi/L	1.00	7.9		11/07/07
Cesium-134	13967-70-9	LA-508-481	U	1.55	pCi/L	+-4.43	pCi/L	1.00	7.9		11/07/07
Cesium-137	10045-97-3	LA-508-481	U	-1.55	pCi/L	+-4.57	pCi/L	1.00	7.9		11/07/07
Europium-152	14683-23-9	LA-508-481	U	-7.47	pCi/L	+-13.9	pCi/L	1.00	23		11/07/07
Europium-154	15585-10-1	LA-508-481	U	-2.73	pCi/L	+-11.0	pCi/L	1.00	19		11/07/07
Europium-155	14391-16-3	LA-508-481	U	0.252	pCi/L	+-2.52	pCi/L	1.00	25		11/07/07
Potassium-40	13966-00-2	LA-508-481	U	28.8	pCi/L	+-68.2	pCi/L	1.00	1.3e+02		11/07/07
Ruthenium-106	13967-48-1	LA-508-481	U	-3.21	pCi/L	+-32.1	pCi/L	1.00	67		11/07/07
Be-7 by GEA	13966-02-4	LA-508-481	U	-26.0	pCi/L	+-26.0	pCi/L	1.00	58		11/07/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	210	pCi/L	+-139	pCi/L	1.00	2.1e+02		11/07/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002579
Client ID: B1PVP1 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	-1.30	pCi/L	+-2.57	pCi/L	1.00	4.3		11/01/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		1.00e+04	pCi/L	+-2.00e+03	pCi/L	1.00	2.1e+02		11/07/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent E6-35
SAF Number: S08-010
Sample # W07P002581
Client ID: B1PW26 PNNL-GPP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071881
Department: Radiochemistry
Sampled: 10/19/07
Received: 10/19/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	-1.70	pCi/L	+-2.55	pCi/L	1.00	4.3		11/01/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421	U	100	pCi/L	+-125	pCi/L	1.00	2.1e+02		11/07/07

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

B - The Analyte detected in both the BLANK and the SAMPLE.(org)
C - The Analyte was found in the Associated Blank.(inorg)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria(inorg)

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

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

Report WGPP/ver. 5.2
GPAP

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071881
Matrix: WATER
Test: Gamma Energy Analysis-grd H2O

Sample Date: 10/19/07
Receive Date:10/19/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002577											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U-1.037		RPD			n/a	20.000		10/24/07
DUP	Cesium-134	13967-70-9	U-0.2376		RPD			n/a	20.000		10/24/07
DUP	Cesium-137	10045-97-3	U-0.8158		RPD			n/a	20.000		10/24/07
DUP	Europium-152	14683-23-9	U10.86		RPD			n/a	20.000		10/24/07
DUP	Europium-154	15585-10-1	U-8.021		RPD			n/a	20.000		10/24/07
DUP	Europium-155	14391-16-3	U10.58		RPD			n/a	20.000		10/24/07
DUP	Potassium-40	13966-00-2	U20.4		RPD			n/a	20.000		10/24/07
DUP	Ruthenium-106	13967-48-1	U3.889		RPD			n/a	20.000		10/24/07
DUP	Antimony-125	14234-35-6	U-4.524		RPD			n/a	20.000		10/24/07
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U0.5727	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Cesium-134	13967-70-9	U0.1226	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Cesium-137	10045-97-3	U-4.731	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Europium-152	14683-23-9	U-7.273	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Europium-154	15585-10-1	U-6.329	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Europium-155	14391-16-3	U-3.448	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Potassium-40	13966-00-2	U-9.799	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Ruthenium-106	13967-48-1	U13.58	n/a	pCi/L	-10.000	1000.000				10/31/07
BLANK	Antimony-125	14234-35-6	U2.867	n/a	pCi/L	-10.000	1000.000				10/31/07
LCS	Cobalt-60	10198-40-0	10090	101.509	% Recov	80.000	120.000				11/01/07
LCS	Cesium-137	10045-97-3	6454	106.854	% Recov	80.000	120.000				11/01/07
Lab ID: W07P002558											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U-0.845		RPD			n/a	20.000		11/14/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071881
Matrix: WATER
Test: Gamma Energy Analysis-grd H2O

Sample Date: 10/18/07
Receive Date:10/18/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Cesium-134	13967-70-9	U-5.845		RPD			n/a	20.000		11/14/07
DUP	Cesium-137	10045-97-3	U-1.883		RPD			n/a	20.000		11/14/07
DUP	Europium-152	14683-23-9	U-2.582		RPD			n/a	20.000		11/14/07
DUP	Europium-154	15585-10-1	U4.603		RPD			n/a	20.000		11/14/07
DUP	Europium-155	14391-16-3	U3.356		RPD			n/a	20.000		11/14/07
DUP	Potassium-40	13966-00-2	U-75.79		RPD			n/a	20.000		11/14/07
DUP	Ruthenium-106	13967-48-1	U12.15		RPD			n/a	20.000		11/14/07
DUP	Antimony-125	14234-35-6	U-20.06		RPD			n/a	20.000		11/14/07

BATCH QC

BLANK	Cobalt-60	10198-40-0	U2.851	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Cesium-134	13967-70-9	U1.024	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Cesium-137	10045-97-3	U3.369	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Europium-152	14683-23-9	U-2.147	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Europium-154	15585-10-1	U19.51	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Europium-155	14391-16-3	U-14.46	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Potassium-40	13966-00-2	U11.67	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Ruthenium-106	13967-48-1	U-9.086	n/a	pCi/L	-10.000	1000.000				11/07/07
BLANK	Antimony-125	14234-35-6	U-1.455	n/a	pCi/L	-10.000	1000.000				11/07/07
LCS	Cobalt-60	10198-40-0	10180	102.414	% Recov	80.000	120.000				11/02/07
LCS	Cesium-137	10045-97-3	6408	106.093	% Recov	80.000	120.000				11/02/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071881
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 10/17/07
Receive Date:10/17/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002535											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Technetium-99	14133-76-7	9.1E+01		RPD			9.195	20.000		11/01/07
MS	Technetium-99	14133-76-7	88.43	104.837	% Recov	75.000	125.000				11/01/07
BATCH QC											
BLANK	Technetium-99	14133-76-7	U-1.6	n/a	pCi/L	-10.000	10.000				11/01/07
LCS	Technetium-99	14133-76-7	216.1	106.611	% Recov	80.000	120.000				11/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20071881
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 10/18/07
Receive Date:10/18/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002548											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	2.5E+02		RPD			18.182	20.000		11/07/07
MS	Tritium	10028-17-8	20898	99.629	% Recov	75.000	125.000				11/07/07
BATCH QC											
BLANK	Tritium	10028-17-8	U4.3E+01	n/a	pCi/L	-10.000	1000.000				11/07/07
LCS	Tritium	10028-17-8	2430.0	95.647	% Recov	80.000	120.000				11/07/07

M4W41-SLF-07-932

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 15 pages
Including cover page

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

File
12/3/07

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071881

The following samples were received from you on 10/19/07. 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
W07P002566	B1PTK5	PNNL-GPP CR+6	TRENT Water	10/19/07
W07P002567	B1PTT2	PNNL-GPP @GEA-GPP	TRENT Water	10/19/07
W07P002568	B1PVY2	PNNL-GPP @TC99-30	TRENT Water ALKALI	10/19/07
W07P002569	B1PVP6	PNNL-GPP @2008	TRENT Water @TC99-30 ALKALI	10/19/07
W07P002570	B1PV14	PNNL-GPP @GPP6010	TRENT Water	10/19/07
W07P002571	B1PV15	PNNL-GPP @GEA-GPP	TRENT Water @GPP6010 @H3-33 @IC-30	10/19/07
W07P002572	B1PTN3	PNNL-GPP @GPP6010	TRENT Water	10/19/07
W07P002573	B1PTN4	PNNL-GPP @GEA-GPP	TRENT Water @GPP6010 @H3-33 @IC-30 CR+6	10/19/07
W07P002574	B1PTT3	PNNL-GPP @GPP6010	TRENT Water	10/19/07
W07P002575	B1PTT4	PNNL-GPP @GEA-GPP	TRENT Water @GPP6010 @H3-33 @IC-30 CR+6	10/19/07
W07P002576	B1PV40	PNNL-GPP @GPP6010	TRENT Water	10/19/07
W07P002577	B1PV41	PNNL-GPP @GEA-GPP	TRENT Water @GPP6010 @H3-33 @IC-30 CR+6	10/19/07
W07P002578	B1PVP0	PNNL-GPP @GPP6010	TRENT Water	10/19/07
W07P002579	B1PVP1	PNNL-GPP @GPP6010 ALKALI	TRENT Water @H3-33 @IC-30 @TC99-30 @VOA-GPP	10/19/07
W07P002580	B1PW25	PNNL-GPP @GPP6010	TRENT Water	10/19/07

GPAP

Richland, WA 99352
Attn: Steve Trent E6-35

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20071881

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W07P002581	B1PW26	PNNL-GPP @GPP6010 ALKALI TRENT @H3-33 @IC-30 @TC99-30 @VOA-GPP	Water	10/19/07
W07P002583	B1PVT5	GRP-PNNL @2008 TRENT @IC-30 ALKALI	Water	10/19/07
W07P002584	B1PVT7	GRP-PNNL @2008 TRENT @IC-30 ALKALI	Water	10/19/07
W07P002585	B1PVT9	GRP-PNNL @2008 TRENT @IC-30 ALKALI	Water	10/19/07

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@GEA-GPP	Gamma Energy Analysis-grd H2O
@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.
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3
CR+6	Hexavalent chromium

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I08-002-2

Collector: Fluor Hanford R. T. SICKLE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: I08-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 100KR4IAM(1/2), OCTOBER 2007	HNF-N-506-5	Ice Chest No.: GW1 Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: CERCLA 20071881	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 ☐

All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 08 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all GW samples submitted into one SDG, daily closure.
FY07 and FY08 samples cannot be in the same SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PTK5	W07P00256	W	10-19-07	0948	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C
B1PTT2	2567	W	↓	↓	1x500-mL G/P	GAMMA_GS: List-1 (10)	HNO3 to pH <2

ICED
Initial
Date

Relinquished By	Date/Time	Received By	Date/Time
Print: Fluor Hanford R. T. SICKLE Sign:	OCT 19 2007 12:30	Print: Victor J Silva Sign:	OCT 19 2007 12:30
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. #
S08-010-160

Collector: Fluor Hanford R. T. SICKLE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. OCTOBER 2007	HNF-N-506-5	Ice Chest No.: 6w1 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 ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVY2	W07P0254	W	10-19-07	0907	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVY2		W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

IGED Initial Date

Relinquished By	Date/Time	Received By	Date/Time
Print: Fluor Hanford R. T. SICKLE Sign:	12:30 OCT 19 2007	Print: Victor Bim Sign:	12:30 OCT 19 2007
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. # S08-010-92

Collector: Fluor Hanford R. T. SICKLE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. OCTOBER 2007	HNF-N-~~507-5~~ 506-5 10-19-07	Ice Chest No.: GW1 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 ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVP6	W07P00256	W	10-19-07	1039	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVP6		W	↓	↓	1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2
B1PVP6		W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2

ICED Initial Date

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Fluor Hanford R. T. SICKLE	OCT 19 2007 12:30	Victor Bins	OCT 19 2007 12:30
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I08-002-138

Collector: Fluor Hanford R. T. SICKLE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: 108-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 100KR4IAM(1/2), OCTOBER 2007	HNF-N-506-5	Ice Chest No.: GW1 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 ☐
All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 08 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all GW samples submitted into one SDG, daily closure.
FY07 and FY08 samples cannot be in the same SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PV14 (F)	W07P002570	W	10-19-07	0907	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PV15	2571	W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PV15		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PV15		W			1x500-mL G/P	GAMMA_GS: List-1 (10)	HNO3 to pH <2
B1PV15		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Fluor Hanford R. T. SICKLE		OCT 19 2007 12:30		Victor Bins		OCT 19 2007 12:30
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. # I08-002-64

Collector: Fluor Hanford R. T. SICKLE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: I08-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 100KR4IAM(1/2), OCTOBER 2007	HNF-N-506-5	Ice Chest No.: GW1 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 ☐

All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 08 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all GW samples submitted into one SDG, daily closure.
FY07 and FY08 samples cannot be in the same SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PTN3 (F)	W07P002572	W	10-9-07	0817	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PTN4	2573	W			1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C
B1PTN4		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PTN4		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PTN4		W			1x500-mL G/P	GAMMA_GS: List-1 (10)	HNO3 to pH <2
B1PTN4		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford R. T. SICKLE			OCT 19 2007 1230		Victor Bins		OCT 19 2007 1230
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

98 10 67

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # I08-002-5

Page 1 of 1

Collector Fluor Hanford R. T. SICKLE	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. I08-002	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title 100KR4IAM(1/2) OCTOBER 2007	HNF-N-506-5	**Ice Chest No.** 6W1 **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 ☐
All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 08 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all GW samples submitted into one SDG, daily closure.
FY07 and FY08 samples cannot be in the same SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PTT3 (F)	07PB2574	W	10-19-07	1039	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PTT4	2575	W			1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C
B1PTT4		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PTT4		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PTT4		W			1x500-mL G/P	GAMMA_GS: List-1 (10)	HNO3 to pH <2
B1PTT4		W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICED
Initial
Date

Relinquished By	Received By
Fluor Hanford R. T. SICKLE — Print — Sign — Date/Time 1213 OCT 19 2007	Victor Sims — Print — Sign — Date/Time 1213 OCT 19 2007
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. # I08-002-176

Page 1 of 1

Collector: Fluor Hanford R. T. SICKLE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: I08-002	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: 100KR4IAM(1/2) OCTOBER 2007	HNF-N-516-5	Ice Chest No.: GW1 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 ☐

All Labs except WSCF: Batch all samples submitted under A, G, I, S, and W 08 SAFs into one SDG, not to exceed SDG closure of 14 days.
WSCF: Batch all GW samples submitted into one SDG, daily closure.
FY07 and FY08 samples cannot be in the same SDG.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PV40 (F)	W07P002576	W	10 19-07	1137	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PV41	2577	W	↓	↓	1x500-mL aG	7196_CR6: Hexavalent Chromium (1)	Cool~4C
B1PV41		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PV41		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PV41		W			1x500-mL G/P	GAMMA_GS: List-1 (10)	HNO3 to pH <2
B1PV41		W	✓	✓	1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None

ICRD Initial Date

Relinquished By: Fluor Hanford R. T. SICKLE Print Sign	Date/Time: 2:30 OCT 19 2007	Received By: Victor Bias Print Sign	Date/Time: 12:30 OCT 19 2007
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. # S08-010-86

Collector: Fluor Hanford R. T. SICKLE	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. OCTOBER 2007	HNF-N-506-5	Ice Chest No.: GW1 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 ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVP0 (F)	W07P002578	W	10-19-07	0948	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PVP1	2579	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1PVP1		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1PVP1		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PVP1		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVP1		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PVP1		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

TCLP Initial Date

Relinquished By	Date/Time	Received By	Date/Time
Print: Fluor Hanford R. T. SICKLE Sign:	12:30 OCT 19 2007	Print: Victor Sims Sign:	12:30 OCT 19 2007
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

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

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

FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S08-010-269

Collector Fluor Hanford R. T. SICKLE	**Contact/Requester** Steve Trent	**Telephone No.** 509-373-5869 **MSIN** **FAX**
SAF No. S08-010	**Sampling Origin** Hanford Site	**Purchase Order/Charge Code**
Project Title SURV. OCTOBER 2007	HNF-N-506-5	**Ice Chest No.** GCU **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 ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PW25 (F)	W07P002580	W	10-19-07	0700	1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PW26	2581	W			1x250-mL G	TRITIUM_EIE_LSC: Tritium (1)	None
B1PW26		W			4x40-mL aGs*	8260_VOA_GCMS: List-2 (25)	HCl or H2SO4 to pH <2 Cool~4C
B1PW26		W			1x500-mL G/P	6010_METALS_ICP: List-3 (18)	HNO3 to pH <2
B1PW26		W			1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PW26		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PW26		W			1x1000-mL G/P	TC99_3MDSK_LSC: Tc-99 (1)	HCl to pH <2

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Fluor Hanford R. T. SICKLE			12:30 OCT 19 2007	Victor Bins			10/19/07 12:30
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. # S08-010-196

Collector: F. H. Hall, Fluor Hanford Inc	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. OCTOBER 2007	HNF-N-506-12	Ice Chest No: GRP-03-011 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 ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVT5	W07P002583	W	10-19-07	0946	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVT5		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PVT5		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. H. Hall, Fluor Hanford Inc			OCT 19 2007 1525		Victor Bias		10-19-07 1525
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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FLUOR HANFORD

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S08-010-200

Page 1 of 1

Collector: F. H. Hall, Fluor Hanford Inc	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV, OCTOBER 2007		Ice Chest No.: GRP-03-011 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 ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVT7	1W07902258	W	10-19-07	1116	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVT7		W	↓	↓	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PVT7		W	↓	↓	1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2

LGED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. H. Hall, Fluor Hanford Inc			OCT 19 2007 1325	Victor Bims			OCT 19 2007 1325
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. # S08-010-204

Collector	Contact/Requester: Steve Trent	Telephone No.: 509-373-5869 MSIN FAX
SAF No.: S08-010	Sampling Origin: Hanford Site	Purchase Order/Charge Code
Project Title: SURV. OCTOBER 2007	HNF-N-506-12	Ice Chest No. Temp.
Shipped To (Lab): Waste Sampling & Characterization	Method of Shipment: Govt. Vehicle	Bill of Lading/Air Bill No.
Protocol: 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 ☐

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1PVT9	W0TP002258	SW	10-19-07	10:24	1x500-mL G/P	2320_ALKALINITY: Alkalinity (1)	Cool~4C
B1PVT9		W			1x500-mL P	300.0_ANIONS_IC: List-1 (5)	Cool~4C
B1PVT9		W			1x500-mL G/P	200.8_METALS_ICPMS: Uranium (1)	HNO3 to pH <2

ICED Initial Date

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. H. Hall, Fluor Hanford Inc			OCT 19 2007 1325	Victor Bins			OCT 19 2007 1325
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