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Memorandum

M4W41-SLF-07-160

To: S. J. Trent A0-21 Date: March 20, 2007

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

cc: w/Attachments
T. F. Dale S3-30
H. K. Meznarich S3-30
P. D. Mix S3-30
J. E. Trechter S3-30
D. D. Wright S3-30
File/LB

Subject: FINAL RESULTS FOR AQUIFER TUBE SAMPLES FROM 100-FR-3 OPERABLE UNIT – SAMPLE DELIVERY GROUP WSCF20070222 – SAF NUMBER F07-015

Reference:
(1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002
(2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20070222:

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

SLF/grf

Attachments 4

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MAR 2007
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M4W41-SLF-07-160

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20070222
Data Deliverable Date: 26-mar-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F07-015	B1LTH7	W07GR00247	WATER
	B1LTH8	W07GR00249	WATER
	B1LTK3	W07GR00248	WATER
	B1LTK4	W07GR00250	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Sample Delivery Group	**WSCF20070222**
Sample Matrix	**WATER**
Sample Visual	**N/A**
SAF Number	**F07-015**
Data Deliverable	**Summary Report**

Introduction

Four (4) Aquifer Tube samples from the100-FR-3 Operable Unit were received at the WSCF Laboratory on February 8, 2007. The 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. 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 13 through 15, for a complete listing of approved analytical methods.

Inorganic Comments

Alkalinity – The hold time for this analysis was met. A Duplicate and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 22 for QC details. Analytical Note:

- Duplicate QC was analyzed on GPAP samples B1LNP1 (SDG# 20070176 and B1M8D9 (SDG# 20070197).

All QC controls are within the established limit.

Anions – Hold time requirements 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 23 through 24 for QC details. Analytical Note:

- B1LTK3 – Sample results for Chloride, Nitrogen in Nitrate and Sulfate were D flagged (dilution). In addition, Fluoride was B flagged; result was less than the reportable limit, however greater than the method detection limit.

All QC controls are within the established limits.

Hexavalent Chromium - The hold time 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 25 for QC details. Analytical Note:

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

All other QC controls are within the established limits.

ICP-AES Metals – The hold time 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 26 through 27 for QC details. Analytical Notes:

- Preparation Date: 14-feb-2007.
- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1LTR2 (SDG# 20070178, SAF# F07-015).
- Calcium, Magnesium and Sodium – insufficient spike concentrations. Sample concentrations were greater than four times the spike concentration.

All other QC controls are within the established limits

ICP-MS Metals – The hold time 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 28 through 30 for QC details. Analytical Notes:

- Preparation Date: 12-feb-2007.
- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1LPP4 (SDG# 20070187, SAF# F07-012).

Organic Comments

VOA – The hold time 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 34 through 36 for QC details. Analytical Note:

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1LTJ4 (SDG# 20070178, SAF# F07-015).

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Blank, Duplicate, Matrix Spike (Tritium only) and a Laboratory Control Sample were analyzed with this delivery group. See pages 39 through 40 for QC details. Analytical Note:

- Tritium – Duplicate and Matrix Spike were analyzed on sample# B1LPP4 (SDG# 20070187, SAF# F07-012).

All QC controls are within established laboratory limits.

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.

Pauline D. Mix
WSCF Client Services

Abbreviations

Hg – mercury
IC – ion chromatography
ICP – inductively coupled plasma
ICP/AES – ICP/atomic emission spectroscopy
ICP/MS – ICP/mass spectrometry
Total U – total uranium
AT/TB – total alpha/total beta
AEA – Alpha Energy Analysis
WTPH-G – Total Hydrocarbons-Gasoline
Am – americium
Cm - curium
Pu – plutonium
Np – neptunium
GEA – gamma energy analysis
H3 – Tritium
Sr – Strontium 89, 90
WTPH-D – Total Hydrocarbons-Diesel
TSS – Total Suspended Solids

M4W41-SLF-07-160

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 33 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald

Client Services: P.D. Miy 3/20/2007

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.

Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20070222
Report Date: 20-mar-2007
Report WGPP/ver. 5.2
Groundwater Remediation Program

w13qlog v4.2 20-mar-2007 09:38:46

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20070222

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
30912	1	31289	35377	BLANK		ICP-200.8 MS All possible meta
30912	2	31289	35377	LCS		ICP-200.8 MS All possible meta
30912	4	31289	35377	MS	W07GR00222	ICP-200.8 MS All possible meta
30912	5	31289	35377	MSD	W07GR00222	ICP-200.8 MS All possible meta
30912	5	31289	35377	SPK-RPD	W07GR00222	ICP-200.8 MS All possible meta
30912	9	31289	35377	SAMPLE	W07GR00247	ICP-200.8 MS All possible meta
30912	10	31289	35377	SAMPLE	W07GR00248	ICP-200.8 MS All possible meta
30912	11	31289	35377	SAMPLE	W07GR00249	ICP-200.8 MS All possible meta
30912	12	31289	35377	SAMPLE	W07GR00250	ICP-200.8 MS All possible meta
30914	2	31291	35378	BLANK		Anions by Ion Chromatography
30914	9	31291	35378	BLANK		Anions by Ion Chromatography
30914	3	31291	35378	LCS		Anions by Ion Chromatography
30914	5	31291	35378	DUP	W07GR00247	Anions by Ion Chromatography
30914	6	31291	35378	MS	W07GR00247	Anions by Ion Chromatography
30914	7	31291	35378	MSD	W07GR00247	Anions by Ion Chromatography
30914	4	31291	35378	SAMPLE	W07GR00247	Anions by Ion Chromatography
30914	7	31291	35378	SPK-RPD	W07GR00247	Anions by Ion Chromatography
30914	8	31291	35378	SAMPLE	W07GR00248	Anions by Ion Chromatography
30902	1	31279	35404	LCS		Total Alkalinity as mg/L CaCO3
30902	23	31279	35404	LCS		Total Alkalinity as mg/L CaCO3
30902	43	31279	35404	SAMPLE	W07GR00247	Total Alkalinity as mg/L CaCO3
30902	44	31279	35404	SAMPLE	W07GR00248	Total Alkalinity as mg/L CaCO3
30902	3	31279	35404	DUP	W07P000266	Total Alkalinity as mg/L CaCO3
30902	25	31279	35404	DUP	W07P000331	Total Alkalinity as mg/L CaCO3
30947	2	31323	35423	BLANK		Hexavalent chromium
30947	3	31323	35423	LCS		Hexavalent chromium
30947	5	31323	35423	DUP	W07GR00247	Hexavalent chromium
30947	6	31323	35423	MS	W07GR00247	Hexavalent chromium
30947	7	31323	35423	MSD	W07GR00247	Hexavalent chromium
30947	4	31323	35423	SAMPLE	W07GR00247	Hexavalent chromium
30947	7	31323	35423	SPK-RPD	W07GR00247	Hexavalent chromium
30947	8	31323	35423	SAMPLE	W07GR00248	Hexavalent chromium
30924	1	31301	35459	BLANK		ICP Metals Analysis, Grd H20 P
30924	2	31301	35459	LCS		ICP Metals Analysis, Grd H20 P
30924	4	31301	35459	MS	W07GR00208	ICP Metals Analysis, Grd H20 P
30924	5	31301	35459	MSD	W07GR00208	ICP Metals Analysis, Grd H20 P
30924	5	31301	35459	SPK-RPD	W07GR00208	ICP Metals Analysis, Grd H20 P
30924	17	31301	35459	SAMPLE	W07GR00247	ICP Metals Analysis, Grd H20 P
30924	18	31301	35459	SAMPLE	W07GR00248	ICP Metals Analysis, Grd H20 P
30924	19	31301	35459	SAMPLE	W07GR00249	ICP Metals Analysis, Grd H20 P
30924	20	31301	35459	SAMPLE	W07GR00250	ICP Metals Analysis, Grd H20 P

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Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20070222

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			35659	BLANK		VOA Ground Water Protection
			35659	LCS		VOA Ground Water Protection
			35659	MS	W07GR00212	VOA Ground Water Protection
			35659	MSD	W07GR00212	VOA Ground Water Protection
			35659	SPK-RPD	W07GR00212	VOA Ground Water Protection
			35659	SAMPLE	W07GR00248	VOA Ground Water Protection
			35659	SURR	W07GR00248	VOA Ground Water Protection

w13qlog v4.2 20-mar-2007 09:38:46

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20070222

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
30966	1	31345	35524	BLANK		Strontium 89/90
30966	2	31345	35524	LCS		Strontium 89/90
30966	3	31345	35524	DUP	W07GR00247	Strontium 89/90
30966	4	31345	35524	SAMPLE	W07GR00247	Strontium 89/90
30966	5	31345	35524	SURR	W07GR00247	Strontium 89/90
31007	1	31385	35543	BLANK		Tritium by Liq Sct column prep
31007	4	31385	35543	LCS		Tritium by Liq Sct column prep
31007	3	31385	35543	DUP	W07GR00222	Tritium by Liq Sct column prep
31007	2	31385	35543	MS	W07GR00222	Tritium by Liq Sct column prep
31007	7	31385	35543	SAMPLE	W07GR00248	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)

EPA-600/4-79-020 310.1	ALKALINITY
HEIS 310.1_ALKALINITY	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-508-415 LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS

HEIS ALPHA_GPC	GROSS ALPHA GPC
HEIS BETA_GPC	GROSS BETA GPC
HEIS SRTOT_SEP_PRECIP_GPC	Strontium 89/90

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-015
Sample # W07GR00247
Client ID: B1LTH7 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Inorganic
Sampled: 02/08/07
Received: 02/08/07

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	< 6.30e-03	mg/L			1.00	6.3e-03		02/09/07
Chloride	16887-00-6	LA-533-410		1.17	mg/L			1.00	0.015		02/09/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		02/09/07
Bromide	24959-67-9	LA-533-410	U	< 0.0450	mg/L			1.00	0.045		02/09/07
Nitrogen in Nitrate	NO3-N	LA-533-410		0.163	mg/L			1.00	6.6e-03		02/09/07
Phosphate (P) by IC	PO4-P	LA-533-410	U	< 0.0280	mg/L			1.00	0.028		02/09/07
Sulfate	14808-79-8	LA-533-410		11.3	mg/L			1.00	0.041		02/09/07
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403		4.90e-03	mg/L			1.00	2.0e-03		02/09/07
ICP Metals Analysis, Grd H20 P Prep											**02/14/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		415	ug/L			1.00	9.0		02/20/07
Magnesium	7439-95-4	LA-505-411		4.32e+03	ug/L			1.00	6.0		02/20/07
Potassium	7440-09-7	LA-505-411		2.42e+03	ug/L			1.00	45		02/20/07
Sodium	7440-23-5	LA-505-411		3.31e+03	ug/L			1.00	27		02/20/07
Calcium	7440-70-2	LA-505-411		2.91e+04	ug/L			1.00	34		02/20/07
ICP-200.8 MS All possible meta Prep											**02/12/07**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		27.0	ug/L			1.00	0.100	0.100	02/13/07
Nickel	7440-02-0	LA-505-412		0.380	ug/L			1.00	0.200	0.300	02/13/07
Silver	7440-22-4	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Antimony	7440-36-0	LA-505-412	U	< 0.300	ug/L			1.00	0.300	1.50	02/13/07
Barium	7440-39-3	LA-505-412		32.0	ug/L			1.00	0.200	1.00	02/13/07
Beryllium	7440-41-7	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500	0.100	02/13/07

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

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

D - Analyte was identified at a secondary dilution factor(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
SAF Number: F07-015
Sample # W07GR00247
Client ID: B1LTH7 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Inorganic
Sampled: 02/08/07
Received: 02/08/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Chromium	7440-47-3	LA-505-412		6.26	ug/L			1.00	0.500	3.50	02/13/07
Cobalt	7440-48-4	LA-505-412		0.126	ug/L			1.00	0.0500	0.100	02/13/07
Vanadium	7440-62-2	LA-505-412		2.38	ug/L			1.00	0.200	2.50	02/13/07
Zinc	7440-66-6	LA-505-412	U	< 0.800	ug/L			1.00	0.800	1.50	02/13/07
Arsenic	7440-38-2	LA-505-412		1.72	ug/L			1.00	0.400	5.00	02/13/07
Strontium	7440-24-6	LA-505-412		158	ug/L			1.00	0.100	0.150	02/13/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		82.0	mg/L			1.00	1.0		02/12/07

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

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

D - Analyte was identified at a secondary dilution factor(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
SAF Number: F07-015
Sample # W07GR00248
Client ID: B1LTK3 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Inorganic
Sampled: 02/08/07
Received: 02/08/07

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	B	0.0641	mg/L			1.00	6.3e-03		02/09/07
Chloride	16887-00-6	LA-533-410	D	4.36	mg/L			5.00	0.075		02/09/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		02/09/07
Bromide	24959-67-9	LA-533-410	U	< 0.0450	mg/L			1.00	0.045		02/09/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	2.55	mg/L			5.00	0.033		02/09/07
Phosphate (P) by IC	PO4-P	LA-533-410	U	< 0.0280	mg/L			1.00	0.028		02/09/07
Sulfate	14808-79-8	LA-533-410	D	21.4	mg/L			5.00	0.20		02/09/07
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403		4.90e-03	mg/L			1.00	2.0e-03		02/09/07
ICP Metals Analysis, Grd H20 P Prep											**02/14/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		63.4	ug/L			1.00	9.0		02/20/07
Magnesium	7439-95-4	LA-505-411		7.60e+03	ug/L			1.00	6.0		02/20/07
Potassium	7440-09-7	LA-505-411		2.86e+03	ug/L			1.00	45		02/20/07
Sodium	7440-23-5	LA-505-411		5.44e+03	ug/L			1.00	27		02/20/07
Calcium	7440-70-2	LA-505-411		3.44e+04	ug/L			1.00	34		02/20/07
ICP-200.8 MS All possible meta Prep											**02/12/07**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		2.02	ug/L			1.00	0.100	0.100	02/13/07
Nickel	7440-02-0	LA-505-412		0.287	ug/L			1.00	0.200	0.300	02/13/07
Silver	7440-22-4	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Antimony	7440-36-0	LA-505-412	U	< 0.300	ug/L			1.00	0.300	1.50	02/13/07
Barium	7440-39-3	LA-505-412		37.1	ug/L			1.00	0.200	1.00	02/13/07
Beryllium	7440-41-7	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500	0.100	02/13/07

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

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

D - Analyte was identified at a secondary dilution factor(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
SAF Number: F07-015
Sample # W07GR00248
Client ID: B1LTK3 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Inorganic
Sampled: 02/08/07
Received: 02/08/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Chromium	7440-47-3	LA-505-412		5.20	ug/L			1.00	0.500	3.50	02/13/07
Cobalt	7440-48-4	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500	0.100	02/13/07
Vanadium	7440-62-2	LA-505-412		4.15	ug/L			1.00	0.200	2.50	02/13/07
Zinc	7440-66-6	LA-505-412	U	< 0.800	ug/L			1.00	0.800	1.50	02/13/07
Arsenic	7440-38-2	LA-505-412		1.06	ug/L			1.00	0.400	5.00	02/13/07
Strontium	7440-24-6	LA-505-412		166	ug/L			1.00	0.100	0.150	02/13/07
Total Alkalinity as mg/L CaCO3											
Total Alkalinity as mg/L CaCO3	ALKALINITY	LA-531-411		90.0	mg/L			1.00	1.0		02/12/07

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
SAF Number: F07-015
Sample # W07GR00249
Client ID: B1LTH8 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Inorganic
Sampled: 02/08/07
Received: 02/08/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**02/14/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	U	< 9.00	ug/L			1.00	9.0		02/20/07
Magnesium	7439-95-4	LA-505-411		4.18e+03	ug/L			1.00	6.0		02/20/07
Potassium	7440-09-7	LA-505-411		2.35e+03	ug/L			1.00	45		02/20/07
Sodium	7440-23-5	LA-505-411		3.25e+03	ug/L			1.00	27		02/20/07
Calcium	7440-70-2	LA-505-411		2.86e+04	ug/L			1.00	34		02/20/07
ICP-200.8 MS All possible meta Prep											**02/12/07**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.100	02/13/07
Nickel	7440-02-0	LA-505-412	U	< 0.200	ug/L			1.00	0.200	0.300	02/13/07
Silver	7440-22-4	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Antimony	7440-36-0	LA-505-412	U	< 0.300	ug/L			1.00	0.300	1.50	02/13/07
Barium	7440-39-3	LA-505-412		27.3	ug/L			1.00	0.200	1.00	02/13/07
Beryllium	7440-41-7	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500	0.100	02/13/07
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Chromium	7440-47-3	LA-505-412		5.47	ug/L			1.00	0.500	3.50	02/13/07
Cobalt	7440-48-4	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500	0.100	02/13/07
Vanadium	7440-62-2	LA-505-412		2.18	ug/L			1.00	0.200	2.50	02/13/07
Zinc	7440-66-6	LA-505-412	U	< 0.800	ug/L			1.00	0.800	1.50	02/13/07
Arsenic	7440-38-2	LA-505-412		1.54	ug/L			1.00	0.400	5.00	02/13/07
Strontium	7440-24-6	LA-505-412		153	ug/L			1.00	0.100	0.150	02/13/07

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

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

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-015
Sample # W07GR00250
Client ID: B1LTK4 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Inorganic
Sampled: 02/08/07
Received: 02/08/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											**02/14/07**
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411		79.0	ug/L			1.00	9.0		02/20/07
Magnesium	7439-95-4	LA-505-411		7.80e+03	ug/L			1.00	6.0		02/20/07
Potassium	7440-09-7	LA-505-411		2.90e+03	ug/L			1.00	45		02/20/07
Sodium	7440-23-5	LA-505-411		5.56e+03	ug/L			1.00	27		02/20/07
Calcium	7440-70-2	LA-505-411		3.50e+04	ug/L			1.00	34		02/20/07
ICP-200.8 MS All possible meta Prep											**02/12/07**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		0.873	ug/L			1.00	0.100	0.100	02/13/07
Nickel	7440-02-0	LA-505-412		0.202	ug/L			1.00	0.200	0.300	02/13/07
Silver	7440-22-4	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Antimony	7440-36-0	LA-505-412	U	< 0.300	ug/L			1.00	0.300	1.50	02/13/07
Barium	7440-39-3	LA-505-412		35.3	ug/L			1.00	0.200	1.00	02/13/07
Beryllium	7440-41-7	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500	0.100	02/13/07
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100	0.200	02/13/07
Chromium	7440-47-3	LA-505-412		5.08	ug/L			1.00	0.500	3.50	02/13/07
Cobalt	7440-48-4	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500	0.100	02/13/07
Vanadium	7440-62-2	LA-505-412		4.02	ug/L			1.00	0.200	2.50	02/13/07
Zinc	7440-66-6	LA-505-412	U	< 0.800	ug/L			1.00	0.800	1.50	02/13/07
Arsenic	7440-38-2	LA-505-412		0.945	ug/L			1.00	0.400	5.00	02/13/07
Strontium	7440-24-6	LA-505-412		160	ug/L			1.00	0.100	0.150	02/13/07

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

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

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U - Analyzed for but not detected above limiting criteria.

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: Total Alkalinity as mg/L CaCO3

Sample Date: 02/01/07
Receive Date:02/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000266											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	125		RPD			0.803	20.000		02/12/07
Lab ID: W07P000331											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Total Alkalinity as mg/L CaCO3	ALKALINITY	124		RPD			0.000	20.000		02/12/07
BATCH QC											
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	45.1	100.670	%Recove	80.000	120.000				02/12/07
LCS	Total Alkalinity as mg/L CaCO3	ALKALINITY	41.97	93.683	%Recove	80.000	120.000				02/12/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 02/08/07
Receive Date:02/08/07

Lab ID: W07GR00247
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	Bromide	24959-67-9	<4.5e-2		RPD			n/a	20.000	U	02/09/07
DUP	Chloride	16887-00-6	1.1646		RPD			0.514	20.000		02/09/07
DUP	Fluoride	16984-48-8	<6.3e-3		RPD			n/a	20.000	U	02/09/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	02/09/07
DUP	Nitrogen in Nitrate	NO3-N	0.1581		RPD			2.806	20.000		02/09/07
DUP	Phosphate (P) by IC	PO4-P	<2.8e-2		RPD			n/a	20.000	U	02/09/07
DUP	Sulfate	14808-79-8	11.4489		RPD			0.978	20.000		02/09/07
MS	Bromide	24959-67-9	1.8174	91.327	% Recov	75.000	125.000				02/09/07
MS	Chloride	16887-00-6	0.9398	94.452	% Recov	75.000	125.000				02/09/07
MS	Fluoride	16984-48-8	0.46	91.633	% Recov	75.000	125.000				02/09/07
MS	Nitrogen in Nitrite	NO2-N	0.4689	94.536	% Recov	75.000	125.000				02/09/07
MS	Nitrogen in Nitrate	NO3-N	0.4168	91.806	% Recov	75.000	125.000				02/09/07
MS	Phosphate (P) by IC	PO4-P	0.8261	86.142	% Recov	75.000	125.000				02/09/07
MS	Sulfate	14808-79-8	2.1451	107.794	% Recov	75.000	125.000				02/09/07
MSD	Bromide	24959-67-9	1.8337	92.146	% Recov	75.000	125.000				02/09/07
MSD	Chloride	16887-00-6	0.9279	93.256	% Recov	75.000	125.000				02/09/07
MSD	Fluoride	16984-48-8	0.4413	87.908	% Recov	75.000	125.000				02/09/07
MSD	Nitrogen in Nitrite	NO2-N	0.4758	95.927	% Recov	75.000	125.000				02/09/07
MSD	Nitrogen in Nitrate	NO3-N	0.4325	95.264	% Recov	75.000	125.000				02/09/07
MSD	Phosphate (P) by IC	PO4-P	0.821	85.610	% Recov	75.000	125.000				02/09/07
MSD	Sulfate	14808-79-8	2.3224	116.704	% Recov	75.000	125.000				02/09/07
SPK-RPD	Bromide	24959-67-9	92.146		RPD			0.893	20.000		02/09/07
SPK-RPD	Chloride	16887-00-6	93.256		RPD			1.274	20.000		02/09/07
SPK-RPD	Fluoride	16984-48-8	87.908		RPD			4.149	20.000		02/09/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	95.927		RPD			1.461	20.000		02/09/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	95.264		RPD			3.697	20.000		02/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 02/08/07
Receive Date:02/08/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Phosphate (P) by IC	PO4-P	85.610		RPD			0.619	20.000		02/09/07
SPK-RPD	Sulfate	14808-79-8	116.704		RPD			7.938	20.000		02/09/07

BATCH QC

BLANK	Bromide	24959-67-9	<4.5e-2	n/a	mg/L	0.000	0.100			U	02/09/07
BLANK	Bromide	24959-67-9	<4.5e-2	n/a	mg/L	0.000	0.100			U	02/09/07
BLANK	Chloride	16887-00-6	<1.5e-2	n/a	mg/L	0.000	0.030			U	02/09/07
BLANK	Chloride	16887-00-6	<1.5e-2	n/a	mg/L	0.000	0.030			U	02/09/07
BLANK	Fluoride	16984-48-8	<6.3e-3	n/a	mg/L	0.000	0.030			U	02/09/07
BLANK	Fluoride	16984-48-8	<6.3e-3	n/a	mg/L	0.000	0.030			U	02/09/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	02/09/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	02/09/07
BLANK	Nitrogen in Nitrate	NO3-N	<6.6e-3	n/a	mg/L	0.000	0.040			U	02/09/07
BLANK	Nitrogen in Nitrate	NO3-N	<6.6e-3	n/a	mg/L	0.000	0.040			U	02/09/07
BLANK	Phosphate (P) by IC	PO4-P	<2.8e-2	n/a	mg/L	0.000	0.200			U	02/09/07
BLANK	Phosphate (P) by IC	PO4-P	<2.8e-2	n/a	mg/L	0.000	0.200			U	02/09/07
BLANK	Sulfate	14808-79-8	<4.1e-2	n/a	mg/L	0.000	0.200			U	02/09/07
BLANK	Sulfate	14808-79-8	<4.1e-2	n/a	mg/L	0.000	0.200			U	02/09/07
LCS	Bromide	24959-67-9	419.4776	104.869	% Recov	80.000	120.000				02/09/07
LCS	Chloride	16887-00-6	198.3715	99.186	% Recov	80.000	120.000				02/09/07
LCS	Fluoride	16984-48-8	104.4217	103.388	% Recov	80.000	120.000				02/09/07
LCS	Nitrogen in Nitrite	NO2-N	105.9947	106.420	% Recov	80.000	120.000				02/09/07
LCS	Nitrogen in Nitrate	NO3-N	96.1878	105.469	% Recov	80.000	120.000				02/09/07
LCS	Phosphate (P) by IC	PO4-P	192.3509	99.767	% Recov	80.000	120.000				02/09/07
LCS	Sulfate	14808-79-8	387.9041	96.976	% Recov	80.000	120.000				02/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: Hexavalent chromium

Sample Date: 02/08/07
Receive Date:02/08/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR00247											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	0.0076		RPD			43.200	15.000 *		02/09/07
MS	Hexavalent chromium	18540-29-9	0.0551	104.356	% Recov	85.000	115.000				02/09/07
MSD	Hexavalent chromium	18540-29-9	0.0551	104.356	% Recov	85.000	115.000				02/09/07
SPK-RPD	Hexavalent chromium	18540-29-9	104.356		RPD			0.000	20.000		02/09/07
BATCH QC											
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	02/09/07
LCS	Hexavalent chromium	18540-29-9	0.0508	102.213	% Recov	80.000	120.000				02/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 02/01/07
Receive Date:02/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR00208											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				02/20/07
MS	Iron	7439-89-6	1023	102.300	% Recov	75.000	125.000				02/20/07
MS	Potassium	7440-09-7	10337	103.370	% Recov	75.000	125.000				02/20/07
MS	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				02/20/07
MS	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				02/20/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				02/20/07
MSD	Iron	7439-89-6	1052	105.200	% Recov	75.000	125.000				02/20/07
MSD	Potassium	7440-09-7	10137	101.370	% Recov	75.000	125.000				02/20/07
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				02/20/07
MSD	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				02/20/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		02/20/07
SPK-RPD	Iron	7439-89-6	105.200		RPD			2.795	20.000		02/20/07
SPK-RPD	Potassium	7440-09-7	101.370		RPD			1.954	20.000		02/20/07
SPK-RPD	Magnesium	7439-95-4			RPD			n/a	20.000		02/20/07
SPK-RPD	Sodium	7440-23-5			RPD			n/a	20.000		02/20/07
BATCH QC											
BLANK	Calcium	7440-70-2	<31	n/a	ug/L					U	02/20/07
BLANK	Iron	7439-89-6	<33	n/a	ug/L					U	02/20/07
BLANK	Potassium	7440-09-7	<220	n/a	ug/L					U	02/20/07
BLANK	Magnesium	7439-95-4	<15	n/a	ug/L					U	02/20/07
BLANK	Sodium	7440-23-5	<115	n/a	ug/L					U	02/20/07
LCS	Calcium	7440-70-2	997.9	99.790	% Recov	80.000	120.000				02/20/07
LCS	Iron	7439-89-6	981.4	98.140	% Recov	80.000	120.000				02/20/07
LCS	Potassium	7440-09-7	10140	101.400	% Recov	80.000	120.000				02/20/07
LCS	Magnesium	7439-95-4	970.7	97.070	% Recov	80.000	120.000				02/20/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
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	Sodium	7440-23-5	1028	102.800	% Recov	80.000	120.000				02/20/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 02/05/07
Receive Date:02/05/07

Lab ID: W07GR00222
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	36.18	90.450	% Recov	70.000	130.000				02/13/07
MS	Arsenic	7440-38-2	38.4855	96.214	% Recov	70.000	130.000				02/13/07
MS	Barium	7440-39-3	38.24	95.600	% Recov	70.000	130.000				02/13/07
MS	Beryllium	7440-41-7	37.28	93.200	% Recov	70.000	130.000				02/13/07
MS	Cadmium	7440-43-9	37.29	93.225	% Recov	70.000	130.000				02/13/07
MS	Cobalt	7440-48-4	37.12	92.800	% Recov	70.000	130.000				02/13/07
MS	Chromium	7440-47-3	35.37	88.425	% Recov	70.000	130.000				02/13/07
MS	Manganese	7439-96-5	38.016	95.040	% Recov	70.000	130.000				02/13/07
MS	Nickel	7440-02-0	36.3949	90.987	% Recov	70.000	130.000				02/13/07
MS	Antimony	7440-36-0	43.19	107.975	% Recov	70.000	130.000				02/13/07
MS	Strontium	7440-24-6	30.7	76.750	% Recov	70.000	130.000				02/13/07
MS	Vanadium	7440-62-2	38.514	96.285	% Recov	70.000	130.000				02/13/07
MS	Zinc	7440-66-6	35.95	89.875	% Recov	70.000	130.000				02/13/07
MSD	Silver	7440-22-4	36.39	90.975	% Recov	70.000	130.000				02/13/07
MSD	Arsenic	7440-38-2	38.5255	96.314	% Recov	70.000	130.000				02/13/07
MSD	Barium	7440-39-3	38.89	97.225	% Recov	70.000	130.000				02/13/07
MSD	Beryllium	7440-41-7	37.53	93.825	% Recov	70.000	130.000				02/13/07
MSD	Cadmium	7440-43-9	37.5	93.750	% Recov	70.000	130.000				02/13/07
MSD	Cobalt	7440-48-4	37.42	93.550	% Recov	70.000	130.000				02/13/07
MSD	Chromium	7440-47-3	37.14	92.850	% Recov	70.000	130.000				02/13/07
MSD	Manganese	7439-96-5	38.716	96.790	% Recov	70.000	130.000				02/13/07
MSD	Nickel	7440-02-0	36.9149	92.287	% Recov	70.000	130.000				02/13/07
MSD	Antimony	7440-36-0	43.83	109.575	% Recov	70.000	130.000				02/13/07
MSD	Strontium	7440-24-6	32.2	80.500	% Recov	70.000	130.000				02/13/07
MSD	Vanadium	7440-62-2	39.074	97.685	% Recov	70.000	130.000				02/13/07
MSD	Zinc	7440-66-6	36.9	92.250	% Recov	70.000	130.000				02/13/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 02/05/07
Receive Date:02/05/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Silver	7440-22-4	90.975		RPD			0.579	20.000		02/13/07
SPK-RPD	Arsenic	7440-38-2	96.314		RPD			0.104	20.000		02/13/07
SPK-RPD	Barium	7440-39-3	97.225		RPD			1.685	20.000		02/13/07
SPK-RPD	Beryllium	7440-41-7	93.825		RPD			0.668	20.000		02/13/07
SPK-RPD	Cadmium	7440-43-9	93.750		RPD			0.562	20.000		02/13/07
SPK-RPD	Cobalt	7440-48-4	93.550		RPD			0.805	20.000		02/13/07
SPK-RPD	Chromium	7440-47-3	92.850		RPD			4.882	20.000		02/13/07
SPK-RPD	Manganese	7439-96-5	96.790		RPD			1.825	20.000		02/13/07
SPK-RPD	Nickel	7440-02-0	92.287		RPD			1.419	20.000		02/13/07
SPK-RPD	Antimony	7440-36-0	109.575		RPD			1.471	20.000		02/13/07
SPK-RPD	Strontium	7440-24-6	80.500		RPD			4.769	20.000		02/13/07
SPK-RPD	Vanadium	7440-62-2	97.685		RPD			1.444	20.000		02/13/07
SPK-RPD	Zinc	7440-66-6	92.250		RPD			2.608	20.000		02/13/07

BATCH QC

BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	02/13/07
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	02/13/07
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L					U	02/13/07
BLANK	Beryllium	7440-41-7	<5e-2	n/a	ug/L					U	02/13/07
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	02/13/07
BLANK	Cobalt	7440-48-4	<5e-2	n/a	ug/L					U	02/13/07
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	02/13/07
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	02/13/07
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	02/13/07
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	02/13/07
BLANK	Strontium	7440-24-6	<0.1	n/a	ug/L					U	02/13/07
BLANK	Vanadium	7440-62-2	<0.2	n/a	ug/L					U	02/13/07
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	02/13/07
LCS	Silver	7440-22-4	38.86	97.150	% Recov	85.000	115.000				02/13/07
LCS	Arsenic	7440-38-2	38.77	96.925	% Recov	85.000	115.000				02/13/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070222
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Barium	7440-39-3	39.83	99.575	% Recov	85.000	115.000				02/13/07
LCS	Beryllium	7440-41-7	38.01	95.025	% Recov	85.000	115.000				02/13/07
LCS	Cadmium	7440-43-9	38.99	97.475	% Recov	85.000	115.000				02/13/07
LCS	Cobalt	7440-48-4	39.77	99.425	% Recov	85.000	115.000				02/13/07
LCS	Chromium	7440-47-3	40.32	100.800	% Recov	85.000	115.000				02/13/07
LCS	Manganese	7439-96-5	39.9	99.750	% Recov	85.000	115.000				02/13/07
LCS	Nickel	7440-02-0	39.72	99.300	% Recov	85.000	115.000				02/13/07
LCS	Antimony	7440-36-0	43.26	108.150	% Recov	85.000	115.000				02/13/07
LCS	Strontium	7440-24-6	40.08	100.200	% Recov	80.000	120.000				02/13/07
LCS	Vanadium	7440-62-2	40	100.000	% Recov	85.000	115.000				02/13/07
LCS	Zinc	7440-66-6	38.89	97.225	% Recov	85.000	115.000				02/13/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-015

Group #: WSCF20070222
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-AES: Magnesium, sodium, and calcium sample results beyond effective spike range (spike results marked "NA").

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
SAF Number: F07-015
Sample # W07GR00248
Client ID: B1LTK3 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Organic
Sampled: 02/08/07
Received: 02/08/07

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		02/14/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Styrene	100-42-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
2-Hexanone	591-78-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Bromomethane	74-83-9	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Chloromethane	74-87-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07

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

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-015
Sample # W07GR00248
Client ID: B1LTK3 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Organic
Sampled: 02/08/07
Received: 02/08/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Chloroethane	75-00-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		02/14/07

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

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

D - Analyte was identified at a secondary dilution factor(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: WSCF20070222
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 02/01/07
Receive Date:02/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR00212											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	26.980	108.000	% Recov	63.000	117.000				02/14/07
MS	Benzene	71-43-2	27.230	109.000	% Recov	75.000	129.000				02/14/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	48.330	96.700	% Recov	84.000	116.000				02/14/07
MS	Chlorobenzene	108-90-7	26.760	107.000	% Recov	79.000	119.000				02/14/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.310	103.000	% Recov	82.000	136.000				02/14/07
MS	Toluene-d8(Surr)	2037-26-5	51.880	104.000	% Recov	89.000	119.000				02/14/07
MS	Toluene	108-88-3	27.330	109.000	% Recov	76.000	120.000				02/14/07
MS	Trichloroethene	79-01-6	22.280	89.100	% Recov	73.000	123.000				02/14/07
MSD	1,1-Dichloroethene	75-35-4	25.280	101.000	% Recov	63.000	117.000				02/14/07
MSD	Benzene	71-43-2	26.220	105.000	% Recov	75.000	129.000				02/14/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	47.460	94.900	% Recov	84.000	116.000				02/14/07
MSD	Chlorobenzene	108-90-7	26.290	105.000	% Recov	79.000	119.000				02/14/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.360	105.000	% Recov	82.000	136.000				02/14/07
MSD	Toluene-d8(Surr)	2037-26-5	51.870	104.000	% Recov	89.000	119.000				02/14/07
MSD	Toluene	108-88-3	26.220	105.000	% Recov	76.000	120.000				02/14/07
MSD	Trichloroethene	79-01-6	21.530	86.100	% Recov	73.000	123.000				02/14/07
SPK-RPD	1,1-Dichloroethene	75-35-4	101.000		RPD			6.699	20.000		02/14/07
SPK-RPD	Benzene	71-43-2	105.000		RPD			3.738	20.000		02/14/07
SPK-RPD	Chlorobenzene	108-90-7	105.000		RPD			1.887	20.000		02/14/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	105.000		RPD			1.923	20.000		02/14/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	104.000		RPD			0.000	20.000		02/14/07
SPK-RPD	Toluene	108-88-3	105.000		RPD			3.738	20.000		02/14/07
SPK-RPD	Trichloroethene	79-01-6	86.100		RPD			3.425	20.000		02/14/07

Lab ID: W07GR00248
BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20070222
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 02/08/07
Receive Date:02/08/07

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	48.060	96.100	% Recov	84.000	116.000				02/14/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.000	104.000	% Recov	82.000	136.000				02/14/07
SURR	Toluene-d8(Surr)	2037-26-5	52.910	106.000	% Recov	89.000	119.000				02/14/07
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	02/14/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	02/14/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	02/14/07
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/L	0.000	5.000			U	02/14/07
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	02/14/07
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	02/14/07
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/L					U	02/14/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	02/14/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	48.840	97.700	% Recov	84.000	116.000				02/14/07
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	02/14/07
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/L					U	02/14/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.400	103.000	% Recov	82.000	136.000				02/14/07
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/L					U	02/14/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20070222
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	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	02/14/07
BLANK	Toluene-d8(Surr)	2037-26-5	51.850	104.000	% Recov	89.000	119.000				02/14/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	02/14/07
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	02/14/07
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	02/14/07
LCS	1,1-Dichloroethene	75-35-4	24.810	99.200	% Recov	70.000	130.000				02/14/07
LCS	Benzene	71-43-2	28.530	114.000	% Recov	70.000	130.000				02/14/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	48.050	96.100	% Recov	84.000	116.000				02/14/07
LCS	Chlorobenzene	108-90-7	27.590	110.000	% Recov	70.000	130.000				02/14/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.720	105.000	% Recov	82.000	136.000				02/14/07
LCS	Toluene-d8(Surr)	2037-26-5	52.180	104.000	% Recov	89.000	119.000				02/14/07
LCS	Toluene	108-88-3	28.050	112.000	% Recov	70.000	130.000				02/14/07
LCS	Trichloroethene	79-01-6	22.500	90.000	% Recov	70.000	130.000				02/14/07

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-015
Sample # W07GR00247
Client ID: B1LTH7 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Radiochemistry
Sampled: 02/08/07
Received: 02/08/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	0.500	pCi/L	+-1.35	pCi/L	1.00	0.84		02/20/07
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		96.0	Percent			1.00	0.0		02/20/07

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

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

D - Analyte was identified at a secondary dilution factor(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
SAF Number: F07-015
Sample # W07GR00248
Client ID: B1LTK3 TRENT WSCF

Matrix: WATER

Group #: WSCF20070222
Department: Radiochemistry
Sampled: 02/08/07
Received: 02/08/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		300	pCi/L	+-132	pCi/L	1.00	2.0e+02		02/25/07

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

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

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20070222
Matrix: WATER
Test: Strontium 89/90

Sample Date: 02/08/07
Receive Date:02/08/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR00247											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	94.9	94.900	% Recov	30.000	105.000				02/20/07
DUP	Strontium-89/90	SR-RAD	U-1.7E-01		RPD			n/a	20.000		02/20/07
SURR	Sr-85 Tracer by Beta Counting	SR85	96.0	96.000	% Recov	30.000	105.000				02/20/07
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	96.2	96.200	% Recov	30.000	105.000				02/20/07
BLANK	Strontium-89/90	10098-97-2	U-8.1E-01	n/a	pCi/L	-10.000	100.000				02/20/07
LCS	Sr-85 Tracer by Beta Counting	SR85	86.7	86.700	% Recov	30.000	105.000				02/20/07
LCS	Strontium-89/90	10098-97-2	166.0	96.596	% Recov	80.000	120.000				02/20/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20070222
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 02/05/07
Receive Date:02/05/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR00222											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	1.1E+04		RPD			0.000	20.000		02/25/07
MS	Tritium	10028-17-8	7800	89.046	% Recov	75.000	125.000				02/25/07
BATCH QC											
BLANK	Tritium	10028-17-8	U1.2e+02	n/a	pCi/L	-10.000	1000.000				02/25/07
LCS	Tritium	10028-17-8	1580.0	84.078	% Recov	80.000	120.000				02/25/07

M4W41-SLF-07-160

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 6 pages
Including cover page

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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 122543/ES10
Group#: 20070222
Project#: F07-015
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

The following samples were received from you on 02/08/07. 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
W07GR00247	B1LTH7	TRENT @2008 @GPP6010 @IC-30 @SR89_90 ALKALI CR+6	Water	02/08/07
W07GR00248	B1LTK3	TRENT @2008 @GPP6010 @H3-33 @IC-30 @VOA-GPP ALKALI CR+6	Water	02/08/07
W07GR00249	B1LTH8	TRENT @2008 @GPP6010	Water	02/08/07
W07GR00250	B1LTK4	TRENT @2008 @GPP6010	Water	02/08/07

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
@VOA-GPP	VOA Ground Water Protection
ALKALI	Total Alkalinity as mg/L CaCO3
CR+6	Hexavalent chromium

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	7N	DATA TURNAROUND
POPE/PFISTER/HUGHES/WISE	TRENT, SJ	373-5869	TRENT, SJ			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	☐	**45 Days / 45 Days**
AT-F-1-D	AQUIFER TUBE SAMPLING IN THE 100-FR-3 OU		F07-015			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
	HNF-N-451-1	122543ES10	GOVERNMENT VEHICLE			
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

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 HANDLING AND/OR STORAGE
20070222

PRESERVATION			HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C	HNO3 to pH <2				
TYPE OF CONTAINER			P	aG	P	P	P				
NO. OF CONTAINER(S)			1	1	1	1	2				
VOLUME			500mL	500mL	500mL	500mL	1L				
SAMPLE ANALYSIS			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196; *	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Alkalinity - 310.1;	Strontium-89,90 – Total Sr;				
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**								
B1LTH7	WATER	2/8/07	1040	✓	✓	✓	✓	✓			
W07GR00247											

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
KHUGHES	2-8-07 / 1320	[signature]	2/8/07 1320
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
(1)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Manganese, Nickel, Silver, Vanadium, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Strontium} ICP Metals - 6010B (TAL) {Calcium, Iron, Magnesium, Potassium, Sodium}
(2)IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorus in phosphate, Sulfate}
* filtered <0.45 µm

ICED
VB Initial
Date

LABORATORY SECTION	**RECEIVED BY**	**TITLE**	**DATE/TIME**
FINAL SAMPLE DISPOSITION	**DISPOSAL METHOD**	**DISPOSED BY**	**DATE/TIME**

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	7N	DATA TURNAROUND
POPE/PFISTER/HUGHES/WISE	TRENT, SJ	373-5869	TRENT, SJ	AIR QUALITY	☐	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**			
AT-F-2-M	AQUIFER TUBE SAMPLING IN THE 100-FR-3 OU		F07-015			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
	HNF-N-451-1	122543ES10	GOVERNMENT VEHICLE			
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

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 HANDLING AND/OR STORAGE

PRESERVATION	HCl or H2SO4 to pH <2/Cool 4C	HNO3 to pH <2	Cool 4C	Cool 4C	Cool 4C	None
TYPE OF CONTAINER	aGs*	P	aG	P	P	G
NO. OF CONTAINER(S)	4	1	1	1	1	1
VOLUME	40mL	500mL	500mL	500mL	500mL	1000mL
SAMPLE ANALYSIS	VOA - 8260B (TCL);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196; *	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Alkalinity - 310.1;	Tritium - Ion Ex;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1LTK3	WATER	2/8/07	0917	✓	✓	✓	✓	✓	✓
246									

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
[signature]	2-8-07 / 1320	[signature]	2/8/07 1320
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

(1)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Manganese, Nickel, Silver, Vanadium, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Strontium} ICP Metals - 6010B (TAL) {Calcium, Iron, Magnesium, Potassium, Sodium}
(2)IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorus in phosphate, Sulfate}

* filtered <0.45 µm

ICED
Initial
Date

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	DATA TURNAROUND
POPE/PFISTER/HUGHES/WISE	TRENT, SJ	373-5869	TRENT, SJ	7N	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	
AT-F-1-D	AQUIFER TUBE SAMPLING IN THE 100-FR-3 OU		F07-015		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-451-1	122543ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Waste Sampling & Characterization	N/A		N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

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 HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS *

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B1LTH8	WATER	7/8/07	1040	✓
249				

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
HUGHES	7-8-07 1320	[signature]	7/8/07 1320
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
(1)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Manganese, Nickel, Silver, Vanadium, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Strontium} ICP Metals - 6010B (TAL) {Calcium, Iron, Magnesium, Potassium, Sodium}

* filtered <0.45µm

ICED
Initial
Date

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 7N	DATA TURNAROUND
POPE/PFISTER/HUGHES/WISE	TRENT, SJ	373-5869	TRENT, SJ	AIR QUALITY ☐	45 Days / 45 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
AT-F-2-M	AQUIFER TUBE SAMPLING IN THE 100-FR-3 OU		F07-015		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**		
	HNF-N-451-1	122543ES10	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Waste Sampling & Characterization	N/A		N/A		

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

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 HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2
TYPE OF CONTAINER	P
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

ICED
Initial
Date

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	[redacted]
B1LTK4	WATER	2/8/07	0917	✓
25)				

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K HUGHES	2807/1320	[signature]	2/8/07 1320

SPECIAL INSTRUCTIONS
(1)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Manganese, Nickel, Silver, Vanadium, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Strontium} ICP Metals - 6010B (TAL) {Calcium, Iron, Magnesium, Potassium, Sodium} Lab to filter water to < 0.45 µm. Rom 2/8/07

~~* filtered < 0.45 µm~~
Rom 2/8/07

LAB to filter water to < 0.45 µm Rom 2/8/07

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME