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FLUOR

Memorandum

To: H. Hampt E6-35 Date: M4W41-SLF-07-446
July 9, 2007

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

cc: w/Attachments

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

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20070896

Reference: 1) Letter of Instruction for Analytical Services for the Groundwater Performance Assessment Project and Analytical Laboratory Transition Plan, FH-0602422, September 19, 2006

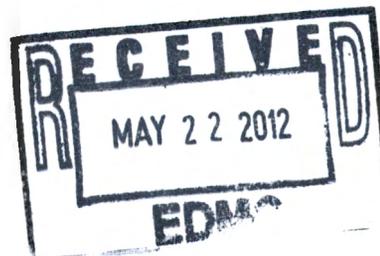
2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This transmittal contains the following information for sample delivery group WSCF20070896:

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

SLF/grf

Attachments 4



JUL 16 2007

M4W41-SLF-07-446

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20070896
Data Deliverable Date: 09-jul-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
I07-038	B1MN44	W07P000955	WATER
	B1MN45	W07P000956	WATER
I07-044	B1N2V4	W07P000964	WATER
	B1N2V5	W07P000968	WATER
	B1N2X4	W07P000965	WATER
	B1N2X5	W07P000969	WATER
	B1N2X9	W07P000957	WATER
	B1N2Y0	W07P000958	WATER
	B1N2Y4	W07P000966	WATER
	B1N2Y5	W07P000970	WATER
	B1N328	W07P000967	WATER
	B1N329	W07P000971	WATER
	B1N333	W07P000959	WATER
	B1N334	W07P000961	WATER
	B1N338	W07P000960	WATER
	B1N339	W07P000962	WATER
	B1N364	W07P000972	WATER
S07-005	B1N421	W07P000963	WATER

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ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Sample Delivery Group	WSCF20070896
Sample Matrix	Water
Data Deliverable	Summary Report

Introduction

Eighteen (18) groundwater samples were received at the WSCF Laboratory on May 24, 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 – 48-hour hold time requirement for this analysis was not met on two samples (B1N329 and B1N364). See comment below. 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 34 through 37 for QC details. Analytical Note(s):

- Except for two (2) samples, all hold time requirements were met. Samples B1N329 and B1N364 however, required re-analysis at a 10X dilution for chloride, nitrate-N and sulfate. As a result, the 48-hour hold time requirement for nitrate-N was missed for these two samples. Note: Sample #B1N364 re-analysis for nitrate-N was still slightly out of calibration range by approximately 0.5 ppm. Sample result was X flagged.
- Sample results were D flagged if dilution(s) were required.

All QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery

group per the GRP Letter of Instruction. See pages 38 through 41 for QC details. Analytical Note(s):

- Calcium, Chromium, Iron and Magnesium contamination detected in the blank was evaluated and affected sample results were C flagged.
- Barium – Matrix Spike recovery was less than established laboratory limit. No flags issued.
- Zinc – Matrix Spike and Matrix Spike Duplicate recoveries were less than established laboratory limits; sample results were N flagged.
- Calcium, Magnesium and Sodium – insufficient spike concentrations. Sample concentrations were greater than four times the spike concentration. For results higher than the highest calibration standard, a high-level standard and an ICP interference check sample were analyzed to ensure acceptable sample results.

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 42 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1M6K8 (SDG# 20070760).

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

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

All other QC controls are within the established limits.

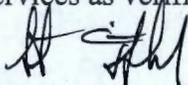
Radiochemistry Comments

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 60 through 61 for QC details. Analytical Note(s):

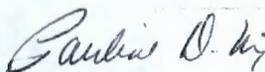
- B1MN45, B1N2Y0, B1N334, B1N339, B1N2V5 and B1N2X5 – Duplicate and Matrix Spike for Tritium were analyzed on sample# B1N2R9 (SDG# 20070779). Laboratory Control Sample recovery was slightly less than established laboratory limits

All other QC controls are within the established limits.

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



Scot L. Fitzgerald
WSCF Analytical Laboratory Manager



Pauline D. Mix
WSCF Client Services

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-07-446

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 55 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

GPAP
Richland, WA 99352

Attention: H. Hampton
~~DL Stewart~~ K6-96

Analytical:

S. Fitzgerald 7/9/07

Client Services:

P.D. Mier 7/9/2007

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

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Report#: WSCF20070896
Report Date: 6-jul-2007
Report WGPP/ver. 5.2
GPAP

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20070896

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
31978	2	32362	36450	BLANK		Anions by Ion Chromatography
31978	12	32362	36450	BLANK		Anions by Ion Chromatography
31978	3	32362	36450	LCS		Anions by Ion Chromatography
31978	5	32362	36450	DUP	W07P000956	Anions by Ion Chromatography
31978	6	32362	36450	MS	W07P000956	Anions by Ion Chromatography
31978	7	32362	36450	MSD	W07P000956	Anions by Ion Chromatography
31978	4	32362	36450	SAMPLE	W07P000956	Anions by Ion Chromatography
31978	7	32362	36450	SPK-RPD	W07P000956	Anions by Ion Chromatography
31978	8	32362	36450	SAMPLE	W07P000958	Anions by Ion Chromatography
31978	9	32362	36450	SAMPLE	W07P000961	Anions by Ion Chromatography
31978	10	32362	36450	SAMPLE	W07P000962	Anions by Ion Chromatography
31978	11	32362	36450	SAMPLE	W07P000968	Anions by Ion Chromatography
31979	2	32363	36451	BLANK		Anions by Ion Chromatography
31979	11	32363	36451	BLANK		Anions by Ion Chromatography
31979	3	32363	36451	LCS		Anions by Ion Chromatography
31979	5	32363	36451	DUP	W07P000969	Anions by Ion Chromatography
31979	6	32363	36451	MS	W07P000969	Anions by Ion Chromatography
31979	7	32363	36451	MSD	W07P000969	Anions by Ion Chromatography
31979	4	32363	36451	SAMPLE	W07P000969	Anions by Ion Chromatography
31979	7	32363	36451	SPK-RPD	W07P000969	Anions by Ion Chromatography
31979	8	32363	36451	SAMPLE	W07P000970	Anions by Ion Chromatography
31979	9	32363	36451	SAMPLE	W07P000971	Anions by Ion Chromatography
31979	10	32363	36451	SAMPLE	W07P000972	Anions by Ion Chromatography
32033	2	32414	36501	BLANK		Anions by Ion Chromatography
32033	9	32414	36501	BLANK		Anions by Ion Chromatography
32033	3	32414	36501	LCS		Anions by Ion Chromatography
32033	5	32414	36501	DUP	W07P000971	Anions by Ion Chromatography
32033	6	32414	36501	MS	W07P000971	Anions by Ion Chromatography
32033	7	32414	36501	MSD	W07P000971	Anions by Ion Chromatography
31979	9	32414	36501	SAMPLE	W07P000971	Anions by Ion Chromatography
32033	7	32414	36501	SPK-RPD	W07P000971	Anions by Ion Chromatography
31979	10	32414	36501	SAMPLE	W07P000972	Anions by Ion Chromatography
32050	1	32431	36511	BLANK		ICP-200.8 MS All possible meta
32050	2	32431	36511	LCS		ICP-200.8 MS All possible meta
32050	4	32431	36511	MS	W07P000872	ICP-200.8 MS All possible meta
32050	5	32431	36511	MSD	W07P000872	ICP-200.8 MS All possible meta
32050	5	32431	36511	SPK-RPD	W07P000872	ICP-200.8 MS All possible meta
32050	10	32431	36511	SAMPLE	W07P000972	ICP-200.8 MS All possible meta
32090	1	32471	36870	BLANK		ICP Metals Analysis, Grd H20 P
32090	2	32471	36870	LCS		ICP Metals Analysis, Grd H20 P
32090	4	32471	36870	MS	W07P000955	ICP Metals Analysis, Grd H20 P
32090	5	32471	36870	MSD	W07P000955	ICP Metals Analysis, Grd H20 P
32090	3	32471	36870	SAMPLE	W07P000955	ICP Metals Analysis, Grd H20 P
32090	5	32471	36870	SPK-RPD	W07P000955	ICP Metals Analysis, Grd H20 P
32090	6	32471	36870	SAMPLE	W07P000957	ICP Metals Analysis, Grd H20 P
32090	7	32471	36870	SAMPLE	W07P000959	ICP Metals Analysis, Grd H20 P
32090	8	32471	36870	SAMPLE	W07P000960	ICP Metals Analysis, Grd H20 P
32090	9	32471	36870	SAMPLE	W07P000964	ICP Metals Analysis, Grd H20 P

32090	10	32471	36870	SAMPLE	W07P000965	ICP Metals Analysis, Grd H20 P
32090	11	32471	36870	SAMPLE	W07P000966	ICP Metals Analysis, Grd H20 P
32090	12	32471	36870	SAMPLE	W07P000967	ICP Metals Analysis, Grd H20 P

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20070896

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			36903	BLANK		VOA Ground Water Protection
			36903	LCS		VOA Ground Water Protection
			36903	MS	W07P000956	VOA Ground Water Protection
			36903	MSD	W07P000956	VOA Ground Water Protection
			36903	SAMPLE	W07P000956	VOA Ground Water Protection
			36903	SPK-RPD	W07P000956	VOA Ground Water Protection
			36903	SURR	W07P000956	VOA Ground Water Protection
			36903	SAMPLE	W07P000963	VOA Ground Water Protection
			36903	SURR	W07P000963	VOA Ground Water Protection

W13q Worklist/Batch/QC Report for Group# WSCF20070896

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
32060	1	32442	36543	BLANK		Tritium by Liq Sct column prep
32060	4	32442	36543	LCS		Tritium by Liq Sct column prep
32060	3	32442	36543	DUP	W07P000894	Tritium by Liq Sct column prep
32060	2	32442	36543	MS	W07P000894	Tritium by Liq Sct column prep
32060	10	32442	36543	SAMPLE	W07P000956	Tritium by Liq Sct column prep
32060	11	32442	36543	SAMPLE	W07P000958	Tritium by Liq Sct column prep
32060	12	32442	36543	SAMPLE	W07P000961	Tritium by Liq Sct column prep
32060	13	32442	36543	SAMPLE	W07P000962	Tritium by Liq Sct column prep
32060	14	32442	36543	SAMPLE	W07P000968	Tritium by Liq Sct column prep
32060	15	32442	36543	SAMPLE	W07P000969	Tritium by Liq Sct column prep
32127	1	32508	36613	BLANK		Tritium by Liq Sct column prep
32127	4	32508	36613	LCS		Tritium by Liq Sct column prep
32127	3	32508	36613	DUP	W07P000970	Tritium by Liq Sct column prep
32127	2	32508	36613	MS	W07P000970	Tritium by Liq Sct column prep
32127	5	32508	36613	SAMPLE	W07P000970	Tritium by Liq Sct column prep
32127	6	32508	36613	SAMPLE	W07P000971	Tritium by Liq Sct column prep
32127	7	32508	36613	SAMPLE	W07P000972	Tritium by Liq Sct column prep
32314	1	32700	36787	BLANK		TC99 by Liquid Scin.
32314	4	32700	36787	LCS		TC99 by Liquid Scin.
32314	3	32700	36787	DUP	W07P000956	TC99 by Liquid Scin.
32314	2	32700	36787	MS	W07P000956	TC99 by Liquid Scin.
32314	5	32700	36787	SAMPLE	W07P000956	TC99 by Liquid Scin.

WSCF

METHOD REFERENCES REPORT

Department: Inorganic

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

LA-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-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>.

Report Date: 6-jul-2007
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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>.

Report Date: 6-jul-2007
Report#: WSCF20070896
Report WGPPM/5.2

Page 1

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 Scintillation
HEIS BETA_LSC	A/B Liquid Scintillation
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>.

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Report WGPPM/5.2

Page 2

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-038

Sample # W07P000955

Client ID: B1MN44

STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	CD	85.5	ug/L			2.00	18		07/02/07
Magnesium	7439-95-4	LA-505-411	D	1.57e+04	ug/L			2.00	12		07/02/07
Manganese	7439-96-5	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Nickel	7440-02-0	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Potassium	7440-09-7	LA-505-411	D	9.58e+03	ug/L			2.00	90		07/02/07
Silver	7440-22-4	LA-505-411	DU	< 10.0	ug/L			2.00	10		07/02/07
Sodium	7440-23-5	LA-505-411	D	3.72e+04	ug/L			2.00	54		07/02/07
Antimony	7440-36-0	LA-505-411	DU	< 64.0	ug/L			2.00	64		07/02/07
Barium	7440-39-3	LA-505-411	D	3.42e+03	ug/L			2.00	8.0		07/02/07
Cadmium	7440-43-9	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Chromium	7440-47-3	LA-505-411	CD	24.3	ug/L			2.00	8.0		07/02/07
Cobalt	7440-48-4	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Copper	7440-50-8	LA-505-411	D	10.3	ug/L			2.00	8.0		07/02/07
Vanadium	7440-62-2	LA-505-411	D	36.3	ug/L			2.00	14		07/02/07
Zinc	7440-66-6	LA-505-411	DN	2.84e+03	ug/L			2.00	8.0		07/02/07
Calcium	7440-70-2	LA-505-411	D	5.28e+04	ug/L			2.00	68		07/02/07
Strontium	7440-24-6	LA-505-411	D	222	ug/L			2.00	8.0		07/02/07
Beryllium	7440-41-7	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-038

Sample # W07P000956

Client ID: B1MN45 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

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		0.320	mg/L			1.00	6.5e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	11.8	mg/L			10.00	0.16		05/25/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 7.20e-03	mg/L			1.00	7.2e-03		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	12.2	mg/L			10.00	0.029		05/25/07
Sulfate	14808-79-8	LA-533-410		30.0	mg/L			1.00	0.055		05/25/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000957

Client ID: B1N2X9 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	CD	111	ug/L			2.00	18		07/02/07
Magnesium	7439-95-4	LA-505-411	D	1.99e+04	ug/L			2.00	12		07/02/07
Manganese	7439-96-5	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Nickel	7440-02-0	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Potassium	7440-09-7	LA-505-411	D	1.01e+04	ug/L			2.00	90		07/02/07
Silver	7440-22-4	LA-505-411	DU	< 10.0	ug/L			2.00	10		07/02/07
Sodium	7440-23-5	LA-505-411	D	3.94e+04	ug/L			2.00	54		07/02/07
Antimony	7440-36-0	LA-505-411	DU	< 64.0	ug/L			2.00	64		07/02/07
Barium	7440-39-3	LA-505-411	D	3.36e+03	ug/L			2.00	8.0		07/02/07
Cadmium	7440-43-9	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Chromium	7440-47-3	LA-505-411	CD	20.8	ug/L			2.00	8.0		07/02/07
Cobalt	7440-48-4	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Copper	7440-50-8	LA-505-411	D	11.7	ug/L			2.00	8.0		07/02/07
Vanadium	7440-62-2	LA-505-411	D	27.5	ug/L			2.00	14		07/02/07
Zinc	7440-66-6	LA-505-411	DN	2.77e+03	ug/L			2.00	8.0		07/02/07
Calcium	7440-70-2	LA-505-411	D	6.89e+04	ug/L			2.00	68		07/02/07
Strontium	7440-24-6	LA-505-411	D	284	ug/L			2.00	8.0		07/02/07
Beryllium	7440-41-7	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000958

Client ID: B1N2Y0 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

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		0.310	mg/L			1.00	6.5e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	17.0	mg/L			10.00	0.16		05/25/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 7.20e-03	mg/L			1.00	7.2e-03		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	22.2	mg/L			10.00	0.029		05/25/07
Sulfate	14808-79-8	LA-533-410	D	41.2	mg/L			10.00	0.55		05/25/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000959

Client ID: B1N333 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	CD	88.0	ug/L			2.00	18		07/02/07
Magnesium	7439-95-4	LA-505-411	D	1.64e+04	ug/L			2.00	12		07/02/07
Manganese	7439-96-5	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Nickel	7440-02-0	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Potassium	7440-09-7	LA-505-411	D	1.01e+04	ug/L			2.00	90		07/02/07
Silver	7440-22-4	LA-505-411	DU	< 10.0	ug/L			2.00	10		07/02/07
Sodium	7440-23-5	LA-505-411	D	4.24e+04	ug/L			2.00	54		07/02/07
Antimony	7440-36-0	LA-505-411	DU	< 64.0	ug/L			2.00	64		07/02/07
Barium	7440-39-3	LA-505-411	D	3.41e+03	ug/L			2.00	8.0		07/02/07
Cadmium	7440-43-9	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Chromium	7440-47-3	LA-505-411	CD	17.3	ug/L			2.00	8.0		07/02/07
Cobalt	7440-48-4	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Copper	7440-50-8	LA-505-411	D	11.2	ug/L			2.00	8.0		07/02/07
Vanadium	7440-62-2	LA-505-411	D	25.7	ug/L			2.00	14		07/02/07
Zinc	7440-66-6	LA-505-411	DN	2.95e+03	ug/L			2.00	8.0		07/02/07
Calcium	7440-70-2	LA-505-411	D	5.84e+04	ug/L			2.00	68		07/02/07
Strontium	7440-24-6	LA-505-411	D	262	ug/L			2.00	8.0		07/02/07
Beryllium	7440-41-7	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000961

Client ID: B1N334

STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

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		0.360	mg/L			1.00	6.5e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	14.3	mg/L			10.00	0.16		05/25/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 7.20e-03	mg/L			1.00	7.2e-03		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	22.3	mg/L			10.00	0.029		05/25/07
Sulfate	14808-79-8	LA-533-410		31.0	mg/L			1.00	0.055		05/25/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000962

Client ID: B1N339 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

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		0.346	mg/L			1.00	6.5e-03		05/25/07
Chloride	16887-00-6	LA-533-410		7.39	mg/L			1.00	0.016		05/25/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 7.20e-03	mg/L			1.00	7.2e-03		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	24.1	mg/L			10.00	0.029		05/25/07
Sulfate	14808-79-8	LA-533-410		19.2	mg/L			1.00	0.055		05/25/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96
SAF Number: I07-044
Sample # W07P000964
Client ID: B1N2V4

**STEWART
WSCF**

Matrix: WATER

Group #: WSCF20070896
Department: Inorganic
Sampled: 05/24/07
Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	CD	52.8	ug/L			2.00	18		07/02/07
Magnesium	7439-95-4	LA-505-411	D	2.13e+04	ug/L			2.00	12		07/02/07
Manganese	7439-96-5	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Nickel	7440-02-0	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Potassium	7440-09-7	LA-505-411	D	9.17e+03	ug/L			2.00	90		07/02/07
Silver	7440-22-4	LA-505-411	DU	< 10.0	ug/L			2.00	10		07/02/07
Sodium	7440-23-5	LA-505-411	D	3.02e+04	ug/L			2.00	54		07/02/07
Antimony	7440-36-0	LA-505-411	DU	< 64.0	ug/L			2.00	64		07/02/07
Barium	7440-39-3	LA-505-411	D	3.32e+03	ug/L			2.00	8.0		07/02/07
Cadmium	7440-43-9	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Chromium	7440-47-3	LA-505-411	CD	27.3	ug/L			2.00	8.0		07/02/07
Cobalt	7440-48-4	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Copper	7440-50-8	LA-505-411	D	11.2	ug/L			2.00	8.0		07/02/07
Vanadium	7440-62-2	LA-505-411	DU	< 14.0	ug/L			2.00	14		07/02/07
Zinc	7440-66-6	LA-505-411	DN	1.72e+03	ug/L			2.00	8.0		07/02/07
Calcium	7440-70-2	LA-505-411	D	6.48e+04	ug/L			2.00	68		07/02/07
Strontium	7440-24-6	LA-505-411	D	325	ug/L			2.00	8.0		07/02/07
Beryllium	7440-41-7	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000965

Client ID: B1N2X4

STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	CD	94.3	ug/L			2.00	18		07/02/07
Magnesium	7439-95-4	LA-505-411	D	1.69e+04	ug/L			2.00	12		07/02/07
Manganese	7439-96-5	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Nickel	7440-02-0	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Potassium	7440-09-7	LA-505-411	D	9.42e+03	ug/L			2.00	90		07/02/07
Silver	7440-22-4	LA-505-411	DU	< 10.0	ug/L			2.00	10		07/02/07
Sodium	7440-23-5	LA-505-411	D	3.84e+04	ug/L			2.00	54		07/02/07
Antimony	7440-36-0	LA-505-411	DU	< 64.0	ug/L			2.00	64		07/02/07
Barium	7440-39-3	LA-505-411	D	3.13e+03	ug/L			2.00	8.0		07/02/07
Cadmium	7440-43-9	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Chromium	7440-47-3	LA-505-411	CD	22.1	ug/L			2.00	8.0		07/02/07
Cobalt	7440-48-4	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Copper	7440-50-8	LA-505-411	D	13.1	ug/L			2.00	8.0		07/02/07
Vanadium	7440-62-2	LA-505-411	DU	< 14.0	ug/L			2.00	14		07/02/07
Zinc	7440-66-6	LA-505-411	DN	2.63e+03	ug/L			2.00	8.0		07/02/07
Calcium	7440-70-2	LA-505-411	D	5.81e+04	ug/L			2.00	68		07/02/07
Strontium	7440-24-6	LA-505-411	D	272	ug/L			2.00	8.0		07/02/07
Beryllium	7440-41-7	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000966

Client ID: B1N2Y4

STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H20 P Prep											
ICP Metals Analysis, Grd H20 P											
Iron	7439-89-6	LA-505-411	CD	77.3	ug/L			2.00	18		07/02/07
Magnesium	7439-95-4	LA-505-411	D	1.82e+04	ug/L			2.00	12		07/02/07
Manganese	7439-96-5	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Nickel	7440-02-0	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Potassium	7440-09-7	LA-505-411	D	8.61e+03	ug/L			2.00	90		07/02/07
Silver	7440-22-4	LA-505-411	DU	< 10.0	ug/L			2.00	10		07/02/07
Sodium	7440-23-5	LA-505-411	D	3.42e+04	ug/L			2.00	54		07/02/07
Antimony	7440-36-0	LA-505-411	DU	< 64.0	ug/L			2.00	64		07/02/07
Barium	7440-39-3	LA-505-411	D	3.23e+03	ug/L			2.00	8.0		07/02/07
Cadmium	7440-43-9	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Chromium	7440-47-3	LA-505-411	CD	12.1	ug/L			2.00	8.0		07/02/07
Cobalt	7440-48-4	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Copper	7440-50-8	LA-505-411	D	12.9	ug/L			2.00	8.0		07/02/07
Vanadium	7440-62-2	LA-505-411	D	24.3	ug/L			2.00	14		07/02/07
Zinc	7440-66-6	LA-505-411	DN	1.64e+03	ug/L			2.00	8.0		07/02/07
Calcium	7440-70-2	LA-505-411	D	6.07e+04	ug/L			2.00	68		07/02/07
Strontium	7440-24-6	LA-505-411	D	270	ug/L			2.00	8.0		07/02/07
Beryllium	7440-41-7	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96
SAF Number: I07-044
Sample # W07P000967
Client ID: B1N328

STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896
Department: Inorganic
Sampled: 05/24/07
Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
ICP Metals Analysis, Grd H2O P Prep											
ICP Metals Analysis, Grd H2O P											
Iron	7439-89-6	LA-505-411	CD	94.9	ug/L			2.00	18		07/02/07
Magnesium	7439-95-4	LA-505-411	D	1.72e+04	ug/L			2.00	12		07/02/07
Manganese	7439-96-5	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Nickel	7440-02-0	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Potassium	7440-09-7	LA-505-411	D	9.78e+03	ug/L			2.00	90		07/02/07
Silver	7440-22-4	LA-505-411	DU	< 10.0	ug/L			2.00	10		07/02/07
Sodium	7440-23-5	LA-505-411	D	4.43e+04	ug/L			2.00	54		07/02/07
Antimony	7440-36-0	LA-505-411	DU	< 64.0	ug/L			2.00	64		07/02/07
Barium	7440-39-3	LA-505-411	D	3.11e+03	ug/L			2.00	8.0		07/02/07
Cadmium	7440-43-9	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Chromium	7440-47-3	LA-505-411	CD	9.50	ug/L			2.00	8.0		07/02/07
Cobalt	7440-48-4	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07
Copper	7440-50-8	LA-505-411	D	11.0	ug/L			2.00	8.0		07/02/07
Vanadium	7440-62-2	LA-505-411	D	31.3	ug/L			2.00	14		07/02/07
Zinc	7440-66-6	LA-505-411	DN	2.59e+03	ug/L			2.00	8.0		07/02/07
Calcium	7440-70-2	LA-505-411	D	5.94e+04	ug/L			2.00	68		07/02/07
Strontium	7440-24-6	LA-505-411	D	259	ug/L			2.00	8.0		07/02/07
Beryllium	7440-41-7	LA-505-411	DU	< 8.00	ug/L			2.00	8.0		07/02/07

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000968

Client ID: B1N2V5 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

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		0.290	mg/L			1.00	6.5e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	37.1	mg/L			10.00	0.16		05/25/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 7.20e-03	mg/L			1.00	7.2e-03		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	6.81	mg/L			10.00	0.029		05/25/07
Sulfate	14808-79-8	LA-533-410	D	62.0	mg/L			10.00	0.55		05/25/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample #: W07P000969

Client ID: B1N2X5 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Inorganic

Sampled: 05/24/07

Received: 05/24/07

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		0.266	mg/L			1.00	4.6e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	16.3	mg/L			10.00	0.32		05/25/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	22.3	mg/L			10.00	0.048		05/25/07
Sulfate	14808-79-8	LA-533-410	D	29.1	mg/L			10.00	0.68		05/25/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

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WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96
SAF Number: I07-044
Sample # W07P000970
Client ID: B1N2Y5

STEWART
 WSCF

Matrix: WATER

Group #: WSCF20070896
Department: Inorganic
Sampled: 05/24/07
Received: 05/24/07

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		0.383	mg/L			1.00	4.6e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	20.0	mg/L			10.00	0.32		05/25/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	23.0	mg/L			10.00	0.048		05/25/07
Sulfate	14808-79-8	LA-533-410	D	33.3	mg/L			10.00	0.68		05/25/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96
SAF Number: I07-044
Sample # W07P000971
Client ID: B1N329

STEWART
 WSCF

Matrix: WATER

Group #: WSCF20070896
Department: Inorganic
Sampled: 05/24/07
Received: 05/24/07

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		0.415	mg/L			1.00	4.6e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	13.9	mg/L			10.00	0.32		05/29/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	D	29.5	mg/L			10.00	0.048		05/29/07
Sulfate	14808-79-8	LA-533-410	D	27.7	mg/L			10.00	0.68		05/29/07

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96
SAF Number: I07-044
Sample # W07P000972
Client ID: B1N364

STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896
Department: Inorganic
Sampled: 05/24/07
Received: 05/24/07

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		0.242	mg/L			1.00	4.6e-03		05/25/07
Chloride	16887-00-6	LA-533-410	D	60.5	mg/L			10.00	0.32		05/29/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0130	mg/L			1.00	0.013		05/25/07
Nitrogen in Nitrate	NO3-N	LA-533-410	DX	45.5	mg/L			10.00	0.048		05/29/07
Sulfate	14808-79-8	LA-533-410	D	58.4	mg/L			10.00	0.68		05/29/07
ICP-200.8 MS All possible meta Prep											06/04/07
ICP-200.8 MS All possible meta											
Uranium	7440-61-1	LA-505-412		2.11	ug/L			1.00	0.0500		06/05/07

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

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

SDG Number: WSCF20070896
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 05/24/07
 Receive Date: 05/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000956											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	11.8412		RPD			0.240	20.000		05/25/07
DUP	Fluoride	16984-48-8	0.2946		RPD			8.390	20.000		05/25/07
DUP	Nitrogen in Nitrite	NO2-N	<7.2e-3		RPD			n/a	20.000	U	05/25/07
DUP	Nitrogen in Nitrate	NO3-N	12.0589		RPD			1.162	20.000		05/25/07
DUP	Sulfate	14808-79-8	29.9151		RPD			0.179	20.000		05/25/07
MS	Chloride	16887-00-6	0.94425	95.379	% Recov	75.000	125.000				05/25/07
MS	Fluoride	16984-48-8	0.5172	103.028	% Recov	75.000	125.000				05/25/07
MS	Nitrogen in Nitrite	NO2-N	0.5168	104.828	% Recov	75.000	125.000				05/25/07
MS	Nitrogen in Nitrate	NO3-N	0.39668	87.956	% Recov	75.000	125.000				05/25/07
MS	Sulfate	14808-79-8	1.9102	96.475	% Recov	75.000	125.000				05/25/07
MSD	Chloride	16887-00-6	0.94997	95.957	% Recov	75.000	125.000				05/25/07
MSD	Fluoride	16984-48-8	0.5336	106.295	% Recov	75.000	125.000				05/25/07
MSD	Nitrogen in Nitrite	NO2-N	0.4772	96.795	% Recov	75.000	125.000				05/25/07
MSD	Nitrogen in Nitrate	NO3-N	0.41302	91.579	% Recov	75.000	125.000				05/25/07
MSD	Sulfate	14808-79-8	1.8549	93.682	% Recov	75.000	125.000				05/25/07
SPK-RPD	Chloride	16887-00-6	95.957		RPD			0.604	20.000		05/25/07
SPK-RPD	Fluoride	16984-48-8	106.295		RPD			3.121	20.000		05/25/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	96.795		RPD			7.968	20.000		05/25/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	91.579		RPD			4.036	20.000		05/25/07
SPK-RPD	Sulfate	14808-79-8	93.682		RPD			2.938	20.000		05/25/07
BATCH QC											
BLANK	Chloride	16887-00-6	<1.6e-2	n/a	mg/L	0.000	0.030			U	05/25/07
BLANK	Chloride	16887-00-6	<1.6e-2	n/a	mg/L	0.000	0.030			U	05/25/07
BLANK	Fluoride	16984-48-8	<6.5e-3	n/a	mg/L	0.000	0.030			U	05/25/07
BLANK	Fluoride	16984-48-8	<6.5e-3	n/a	mg/L	0.000	0.030			U	05/25/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 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	<7.2e-3	n/a	mg/L	0.000	0.020			U	05/25/07
BLANK	Nitrogen in Nitrite	NO2-N	<7.2e-3	n/a	mg/L	0.000	0.020			U	05/25/07
BLANK	Nitrogen in Nitrate	NO3-N	<2.9e-3	n/a	mg/L	0.000	0.040			U	05/25/07
BLANK	Nitrogen in Nitrate	NO3-N	<2.9e-3	n/a	mg/L	0.000	0.040			U	05/25/07
BLANK	Sulfate	14808-79-8	<5.5e-2	n/a	mg/L	0.000	0.200			U	05/25/07
BLANK	Sulfate	14808-79-8	<5.5e-2	n/a	mg/L	0.000	0.200			U	05/25/07
LCS	Chloride	16887-00-6	198.3642	99.182	% Recov	80.000	120.000				05/25/07
LCS	Fluoride	16984-48-8	106.8927	105.834	% Recov	80.000	120.000				05/25/07
LCS	Nitrogen in Nitrite	NO2-N	97.3534	97.744	% Recov	80.000	120.000				05/25/07
LCS	Nitrogen in Nitrate	NO3-N	91.326	100.138	% Recov	80.000	120.000				05/25/07
LCS	Sulfate	14808-79-8	393.2757	98.319	% Recov	80.000	120.000				05/25/07

Lab ID: W07P000969
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	16.3532		RPD			0.263	20.000		05/25/07
DUP	Fluoride	16984-48-8	0.27		RPD			1.305	20.000		05/25/07
DUP	Nitrogen in Nitrite	NO2-N	<1.3e-2		RPD			n/a	20.000	U	05/25/07
DUP	Nitrogen in Nitrate	NO3-N	22.293		RPD			0.103	20.000		05/25/07
DUP	Sulfate	14808-79-8	28.8504		RPD			0.923	20.000		05/25/07
MS	Chloride	16887-00-6	1.00682	101.699	% Recov	75.000	125.000				05/25/07
MS	Fluoride	16984-48-8	0.5232	104.223	% Recov	75.000	125.000				05/25/07
MS	Nitrogen in Nitrite	NO2-N	0.5213	105.740	% Recov	75.000	125.000				05/25/07
MS	Nitrogen in Nitrate	NO3-N	0.45693	101.315	% Recov	75.000	125.000				05/25/07
MS	Sulfate	14808-79-8	1.99009	100.510	% Recov	75.000	125.000				05/25/07
MSD	Chloride	16887-00-6	1.00747	101.765	% Recov	75.000	125.000				05/25/07
MSD	Fluoride	16984-48-8	0.5107	101.733	% Recov	75.000	125.000				05/25/07
MSD	Nitrogen in Nitrite	NO2-N	0.5221	105.903	% Recov	75.000	125.000				05/25/07
MSD	Nitrogen in Nitrate	NO3-N	0.45451	100.778	% Recov	75.000	125.000				05/25/07
MSD	Sulfate	14808-79-8	2.0124	101.636	% Recov	75.000	125.000				05/25/07
SPK-RPD	Chloride	16887-00-6	101.765		RPD			0.065	20.000		05/25/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 05/24/07
 Receive Date: 05/24/07

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	101.733		RPD			2.418	20.000		05/25/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	105.903		RPD			0.154	20.000		05/25/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	100.778		RPD			0.531	20.000		05/25/07
SPK-RPD	Sulfate	14808-79-8	101.636		RPD			1.114	20.000		05/25/07

BATCH QC

BLANK	Chloride	16887-00-6	<3.2e-2	n/a	mg/L	0.000	0.030			U	05/25/07
BLANK	Chloride	16887-00-6	<3.2e-2	n/a	mg/L	0.000	0.030			U	05/25/07
BLANK	Fluoride	16984-48-8	<4.6e-3	n/a	mg/L	0.000	0.030			U	05/25/07
BLANK	Fluoride	16984-48-8	<4.6e-3	n/a	mg/L	0.000	0.030			U	05/25/07
BLANK	Nitrogen in Nitrite	NO2-N	<1.3e-2	n/a	mg/L	0.000	0.020			U	05/25/07
BLANK	Nitrogen in Nitrite	NO2-N	<1.3e-2	n/a	mg/L	0.000	0.020			U	05/25/07
BLANK	Nitrogen in Nitrate	NO3-N	<4.8e-3	n/a	mg/L	0.000	0.040			U	05/25/07
BLANK	Nitrogen in Nitrate	NO3-N	<4.8e-3	n/a	mg/L	0.000	0.040			U	05/25/07
BLANK	Sulfate	14808-79-8	<6.8e-2	n/a	mg/L	0.000	0.200			U	05/25/07
BLANK	Sulfate	14808-79-8	<6.8e-2	n/a	mg/L	0.000	0.200			U	05/25/07
LCS	Chloride	16887-00-6	202.9098	101.455	% Recov	80.000	120.000				05/25/07
LCS	Fluoride	16984-48-8	107.1173	106.057	% Recov	80.000	120.000				05/25/07
LCS	Nitrogen in Nitrite	NO2-N	101.1061	101.512	% Recov	80.000	120.000				05/25/07
LCS	Nitrogen in Nitrate	NO3-N	94.1793	103.267	% Recov	80.000	120.000				05/25/07
LCS	Sulfate	14808-79-8	397.7819	99.445	% Recov	80.000	120.000				05/25/07

Lab ID: W07P000971

BATCH QC ASSOCIATED WITH SAMPLE

DUP	Chloride	16887-00-6	13.8479		RPD			0.166	20.000		05/29/07
DUP	Nitrogen in Nitrate	NO3-N	29.5517		RPD			0.216	20.000		05/29/07
DUP	Sulfate	14808-79-8	27.75		RPD			0.071	20.000		05/29/07
MS	Chloride	16887-00-6	0.96438	97.412	% Recov	75.000	125.000				05/29/07
MS	Nitrogen in Nitrate	NO3-N	0.34975	77.550	% Recov	75.000	125.000				05/29/07
MS	Sulfate	14808-79-8	1.91479	96.707	% Recov	75.000	125.000				05/29/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: Anions by Ion Chromatography

Sample Date: 05/24/07
 Receive Date: 05/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Chloride	16887-00-6	1.0075	101.768	% Recov	75.000	125.000				05/29/07
MSD	Nitrogen in Nitrate	NO3-N	0.41435	91.874	% Recov	75.000	125.000				05/29/07
MSD	Sulfate	14808-79-8	1.98353	100.178	% Recov	75.000	125.000				05/29/07
SPK-RPD	Chloride	16887-00-6	101.768		RPD			4.374	20.000		05/29/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	91.874		RPD			16.909	20.000		05/29/07
SPK-RPD	Sulfate	14808-79-8	100.178		RPD			3.526	20.000		05/29/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3.2e-2	n/a	mg/L	0.000	0.030			U	05/29/07
BLANK	Chloride	16887-00-6	<3.2e-2	n/a	mg/L	0.000	0.030			U	05/29/07
BLANK	Nitrogen in Nitrate	NO3-N	<4.8e-3	n/a	mg/L	0.000	0.040			U	05/29/07
BLANK	Nitrogen in Nitrate	NO3-N	<4.8e-3	n/a	mg/L	0.000	0.040			U	05/29/07
BLANK	Sulfate	14808-79-8	<6.8e-2	n/a	mg/L	0.000	0.200			U	05/29/07
BLANK	Sulfate	14808-79-8	<6.8e-2	n/a	mg/L	0.000	0.200			U	05/29/07
LCS	Chloride	16887-00-6	203.1334	101.567	% Recov	80.000	120.000				05/29/07
LCS	Nitrogen in Nitrate	NO3-N	95.198	104.384	% Recov	80.000	120.000				05/29/07
LCS	Sulfate	14808-79-8	403.1693	100.792	% Recov	80.000	120.000				05/29/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H20 P

Sample Date: 05/24/07
 Receive Date: 05/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000955											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Silver	7440-22-4	971.6	97.160	% Recov	75.000	125.000				07/02/07
MS	Barium	7440-39-3	139	27.800	% Recov	75.000	125.000				07/02/07
MS	Beryllium	7440-41-7	522.5	104.500	% Recov	75.000	125.000				07/02/07
MS	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				07/02/07
MS	Cadmium	7440-43-9	982.7	98.270	% Recov	75.000	125.000				07/02/07
MS	Cobalt	7440-48-4	1004	100.400	% Recov	75.000	125.000				07/02/07
MS	Chromium	7440-47-3	990.7	99.070	% Recov	75.000	125.000				07/02/07
MS	Copper	7440-50-8	995.7	99.570	% Recov	75.000	125.000				07/02/07
MS	Iron	7439-89-6	1027.5	102.750	% Recov	75.000	125.000				07/02/07
MS	Potassium	7440-09-7	8543	85.430	% Recov	75.000	125.000				07/02/07
MS	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				07/02/07
MS	Manganese	7439-96-5	1001	100.100	% Recov	75.000	125.000				07/02/07
MS	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				07/02/07
MS	Nickel	7440-02-0	984.3	98.430	% Recov	75.000	125.000				07/02/07
MS	Antimony	7440-36-0	1042	104.200	% Recov	75.000	125.000				07/02/07
MS	Strontium	7440-24-6	537.3	107.460	% Recov	75.000	125.000				07/02/07
MS	Vanadium	7440-62-2	1010.7	101.070	% Recov	75.000	125.000				07/02/07
MS	Zinc	7440-66-6	151	15.100	% Recov	75.000	125.000				07/02/07
MSD	Silver	7440-22-4	959.3	95.930	% Recov	75.000	125.000				07/02/07
MSD	Barium	7440-39-3	444	88.800	% Recov	75.000	125.000				07/02/07
MSD	Beryllium	7440-41-7	515	103.000	% Recov	75.000	125.000				07/02/07
MSD	Calcium	7440-70-2	NA	n/a	% Recov	75.000	125.000				07/02/07
MSD	Cadmium	7440-43-9	969.1	96.910	% Recov	75.000	125.000				07/02/07
MSD	Cobalt	7440-48-4	986.9	98.690	% Recov	75.000	125.000				07/02/07
MSD	Chromium	7440-47-3	988.7	98.870	% Recov	75.000	125.000				07/02/07
MSD	Copper	7440-50-8	993.7	99.370	% Recov	75.000	125.000				07/02/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H20 P

Sample Date: 05/24/07
 Receive Date: 05/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Iron	7439-89-6	1012.5	101.250	% Recov	75.000	125.000				07/02/07
MSD	Potassium	7440-09-7	8733	87.330	% Recov	75.000	125.000				07/02/07
MSD	Magnesium	7439-95-4	NA	n/a	% Recov	75.000	125.000				07/02/07
MSD	Manganese	7439-96-5	983.1	98.310	% Recov	75.000	125.000				07/02/07
MSD	Sodium	7440-23-5	NA	n/a	% Recov	75.000	125.000				07/02/07
MSD	Nickel	7440-02-0	968.1	96.810	% Recov	75.000	125.000				07/02/07
MSD	Antimony	7440-36-0	1050	105.000	% Recov	75.000	125.000				07/02/07
MSD	Strontium	7440-24-6	536.5	107.300	% Recov	75.000	125.000				07/02/07
MSD	Vanadium	7440-62-2	996.7	99.670	% Recov	75.000	125.000				07/02/07
MSD	Zinc	7440-66-6	-43	-4.300	% Recov	75.000	125.000				07/02/07
SPK-RPD	Silver	7440-22-4	95.930		RPD			1.274	20.000		07/02/07
SPK-RPD	Barium	7440-39-3	88.800		RPD			104.631	20.000	*	07/02/07
SPK-RPD	Beryllium	7440-41-7	103.000		RPD			1.446	20.000		07/02/07
SPK-RPD	Calcium	7440-70-2			RPD			n/a	20.000		07/02/07
SPK-RPD	Cadmium	7440-43-9	96.910		RPD			1.394	20.000		07/02/07
SPK-RPD	Cobalt	7440-48-4	98.690		RPD			1.718	20.000		07/02/07
SPK-RPD	Chromium	7440-47-3	98.870		RPD			0.202	20.000		07/02/07
SPK-RPD	Copper	7440-50-8	99.370		RPD			0.201	20.000		07/02/07
SPK-RPD	Iron	7439-89-6	101.250		RPD			1.471	20.000		07/02/07
SPK-RPD	Potassium	7440-09-7	87.330		RPD			2.200	20.000		07/02/07
SPK-RPD	Magnesium	7439-95-4			RPD			n/a	20.000		07/02/07
SPK-RPD	Manganese	7439-96-5	98.310		RPD			1.804	20.000		07/02/07
SPK-RPD	Sodium	7440-23-5			RPD			n/a	20.000		07/02/07
SPK-RPD	Nickel	7440-02-0	96.810		RPD			1.659	20.000		07/02/07
SPK-RPD	Antimony	7440-36-0	105.000		RPD			0.765	20.000		07/02/07
SPK-RPD	Strontium	7440-24-6	107.300		RPD			0.149	20.000		07/02/07
SPK-RPD	Vanadium	7440-62-2	99.670		RPD			1.395	20.000		07/02/07
SPK-RPD	Zinc	7440-66-6	-4.300		RPD			359.259	20.000	*	07/02/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H20 P

Sample Date:
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	<5	n/a	ug/L					U	07/02/07
BLANK	Barium	7440-39-3	<4	n/a	ug/L					U	07/02/07
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	07/02/07
BLANK	Calcium	7440-70-2	122	122.000	ug/L						07/02/07
BLANK	Cadmium	7440-43-9	<4	n/a	ug/L					U	07/02/07
BLANK	Cobalt	7440-48-4	<4	n/a	ug/L					U	07/02/07
BLANK	Chromium	7440-47-3	4.8	4.800	ug/L						07/02/07
BLANK	Copper	7440-50-8	<4	n/a	ug/L					U	07/02/07
BLANK	Iron	7439-89-6	22.3	22.300	ug/L						07/02/07
BLANK	Potassium	7440-09-7	<45	n/a	ug/L					U	07/02/07
BLANK	Magnesium	7439-95-4	9.8	9.800	ug/L						07/02/07
BLANK	Manganese	7439-96-5	<4	n/a	ug/L					U	07/02/07
BLANK	Sodium	7440-23-5	<27	n/a	ug/L					U	07/02/07
BLANK	Nickel	7440-02-0	<4	n/a	ug/L					U	07/02/07
BLANK	Antimony	7440-36-0	<32	n/a	ug/L					U	07/02/07
BLANK	Strontium	7440-24-6	<4	n/a	ug/L					U	07/02/07
BLANK	Vanadium	7440-62-2	<7	n/a	ug/L					U	07/02/07
BLANK	Zinc	7440-66-6	<4	n/a	ug/L					U	07/02/07
LCS	Silver	7440-22-4	982.3	98.230	% Recov	80.000	120.000				07/02/07
LCS	Barium	7440-39-3	508.5	101.700	% Recov	80.000	120.000				07/02/07
LCS	Beryllium	7440-41-7	528.1	105.620	% Recov	80.000	120.000				07/02/07
LCS	Calcium	7440-70-2	1077	107.700	% Recov	80.000	120.000				07/02/07
LCS	Cadmium	7440-43-9	1009	100.900	% Recov	80.000	120.000				07/02/07
LCS	Cobalt	7440-48-4	1019	101.900	% Recov	80.000	120.000				07/02/07
LCS	Chromium	7440-47-3	1026	102.600	% Recov	80.000	120.000				07/02/07
LCS	Copper	7440-50-8	1014	101.400	% Recov	80.000	120.000				07/02/07
LCS	Iron	7439-89-6	1049	104.900	% Recov	80.000	120.000				07/02/07
LCS	Potassium	7440-09-7	9641	96.410	% Recov	80.000	120.000				07/02/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: ICP Metals Analysis, Grd H2O 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	991.4	99.140	% Recov	80.000	120.000				07/02/07
LCS	Manganese	7439-96-5	1014	101.400	% Recov	80.000	120.000				07/02/07
LCS	Sodium	7440-23-5	973.9	97.390	% Recov	80.000	120.000				07/02/07
LCS	Nickel	7440-02-0	997.5	99.750	% Recov	80.000	120.000				07/02/07
LCS	Antimony	7440-36-0	1043	104.300	% Recov	80.000	120.000				07/02/07
LCS	Strontium	7440-24-6	518.1	103.620	% Recov	80.000	120.000				07/02/07
LCS	Vanadium	7440-62-2	1025	102.500	% Recov	80.000	120.000				07/02/07
LCS	Zinc	7440-66-8	1025	102.500	% Recov	80.000	120.000				07/02/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: ICP-200.8 MS All possible meta

Sample Date: 05/03/07
 Receive Date: 05/03/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000872											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Uranium	7440-61-1	39.36	98.400	% Recov	70.000	130.000				06/05/07
MSD	Uranium	7440-61-1	38.96	97.400	% Recov	70.000	130.000				06/05/07
SPK-RPD	Uranium	7440-61-1	97.400		RPD			1.021	20.000		06/05/07
BATCH QC											
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	08/05/07
LCS	Uranium	7440-61-1	39.14	97.850	% Recov	85.000	115.000				08/05/07

WSCF ANALYTICAL COMMENT REPORT

Attention: DL Stewart K6-96

Group #: WSCF20070896
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ANIONS: Samples W07P000971 and W07P000972 required re-analysis at a 10 dilution for chloride, nitrate-N and sulfate. As a result, the 48 hour hold-time for nitrate-N was missed for these two samples.</p> <p>W07P000972 re-analysis for nitrate-N still slightly out of calibration range by approximately 0.5 ppm. SDB 6/5/07</p> <p>W07P000956,958,961-962,968,969/H-3 LCS recovery is low. Since all the other QC checks came out fine, this batch has been approved. lmh</p> <p>ICP-AES: High chromium, iron, magnesium, and calcium; "C" flag if applicable.</p> <p>Magnesium, sodium, and calcium sample results beyond effective spike range (spike results marked "NA").</p> <p>Check and high standards used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard.</p> <p>Low barium MS recovery; no flag since all other QC is acceptable.</p> <p>Low zinc spike recoveries; "N" flag.</p>

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: DL Stewart K6-96

SAF Number: I07-038

Sample # W07P000956

Client ID: B1MN45

STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Organic

Sampled: 05/24/07

Received: 05/24/07

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		06/05/07
Trichloroethene	79-01-6	LA-523-455	J	1.50	ug/L			1.00	1.0		06/05/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Carbon tetrachloride	56-23-5	LA-523-455	B	1.30e +03	ug/L			1.00	20		06/07/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Chloroform	67-66-3	LA-523-455		6.20	ug/L			1.00	1.0		06/05/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e +02		06/05/07
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/L			1.00	2.0		06/05/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96
SAF Number: I07-038
Sample # W07P000956
Client ID: B1MN45

STEWART
 WSCF

Matrix: WATER

Group #: WSCF20070896
Department: Organic
Sampled: 05/24/07
Received: 05/24/07

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		06/05/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07

MDL=Minimum Detection Limit

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

C - The Analyte was found in the Associated Blank.(inorg)

RQ=Result Qualifier

D - Analyte was identified at a secondary dilution factor

D - Analyte was identified at a secondary dilution factor(inorg)

TP Err=Total Propagated Error

J - Analyte < lowest calibration but > = MDL.(org)

N - Spike sample recovery is outside control limits.(inorg)

DF=Dilution Factor

U - Analyzed for but not detected above limiting criteria(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: DL Stewart K6-96

SAF Number: S07-005

Sample # W07P000963

Client ID: B1N421 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Organic

Sampled: 05/24/07

Received: 05/24/07

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		06/05/07
1,4-Dichlorobenzene	106-46-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		06/05/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 05/24/07
 Receive Date: 05/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000956											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	24.040	96.200	% Recov	63.000	117.000				06/05/07
MS	Benzene	71-43-2	27.470	110.000	% Recov	75.000	129.000				06/05/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	46.340	92.700	% Recov	84.000	116.000				06/05/07
MS	Chlorobenzene	108-90-7	27.300	109.000	% Recov	79.000	119.000				06/05/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	49.350	98.700	% Recov	82.000	136.000				06/05/07
MS	Toluene-d8(Surr)	2037-26-5	49.590	99.200	% Recov	89.000	119.000				06/05/07
MS	Toluene	108-88-3	26.700	107.000	% Recov	76.000	120.000				06/05/07
MS	Trichloroethene	79-01-6	20.991	84.000	% Recov	73.000	123.000				06/05/07
MSD	1,1-Dichloroethene	75-35-4	23.770	95.100	% Recov	63.000	117.000				06/05/07
MSD	Benzene	71-43-2	26.520	106.000	% Recov	75.000	129.000				06/05/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	45.710	91.400	% Recov	84.000	116.000				06/05/07
MSD	Chlorobenzene	108-90-7	26.460	106.000	% Recov	79.000	119.000				06/05/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.650	101.000	% Recov	82.000	136.000				06/05/07
MSD	Toluene-d8(Surr)	2037-26-5	48.970	97.900	% Recov	89.000	119.000				06/05/07
MSD	Toluene	108-88-3	25.850	103.000	% Recov	76.000	120.000				06/05/07
MSD	Trichloroethene	79-01-6	20.931	83.700	% Recov	73.000	123.000				06/05/07
SPK-RPD	1,1-Dichloroethene	75-35-4	95.100		RPD			1.150	20.000		06/05/07
SPK-RPD	Benzene	71-43-2	106.000		RPD			3.704	20.000		06/05/07
SPK-RPD	Chlorobenzene	108-90-7	106.000		RPD			2.791	20.000		06/05/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	101.000		RPD			2.303	20.000		06/05/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	97.900		RPD			1.319	20.000		06/05/07
SPK-RPD	Toluene	108-88-3	103.000		RPD			3.810	20.000		06/05/07
SPK-RPD	Trichloroethene	79-01-6	83.700		RPD			0.358	20.000		06/05/07
SURR	4-Bromofluorobenzene(Surr)	460-00-4	45.990	92.000	% Recov	84.000	116.000				06/05/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.160	100.000	% Recov	82.000	136.000				06/05/07
SURR	Toluene-d8(Surr)	2037-26-5	49.690	99.400	% Recov	89.000	119.000				06/05/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20070896
 Matrix: WATER
 Test: VOA Ground Water Protection

Sample Date: 05/24/07
 Receive Date: 05/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000963											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	46.060	92.100	% Recov	84.000	116.000				06/05/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	48.890	97.800	% Recov	82.000	136.000				06/05/07
SURR	Toluene-d8(Surr)	2037-26-5	50.640	101.000	% Recov	89.000	119.000				06/05/07
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	06/05/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	06/05/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	06/05/07
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	06/05/07
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	06/05/07
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.0	n/a	ug/L					U	06/05/07
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	06/05/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	06/05/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	46.350	92.700	% Recov	84.000	116.000				06/05/07
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Carbon tetrachloride	56-23-5	1.2	1.200	ug/L						06/05/07
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	06/05/07
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	06/05/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	48.520	97.000	% Recov	82.000	136.000				06/05/07
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Ethyl cyanide	107-12-0	< 2.0	n/a	ug/L					U	06/05/07
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	06/05/07

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20070896
 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	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	06/05/07
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/L					U	06/05/07
BLANK	Toluene-d8(Surr)	2037-26-5	49.280	98.600	% Recov	89.000	119.000				06/05/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	06/05/07
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	06/05/07
LCS	1,1-Dichloroethene	75-35-4	23.520	94.100	% Recov	70.000	130.000				06/05/07
LCS	Benzene	71-43-2	27.150	109.000	% Recov	70.000	130.000				06/05/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	45.470	90.900	% Recov	84.000	116.000				06/05/07
LCS	Chlorobenzene	108-90-7	26.280	105.000	% Recov	70.000	130.000				06/05/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	47.780	95.600	% Recov	82.000	136.000				06/05/07
LCS	Toluene-d8(Surr)	2037-26-5	49.370	98.700	% Recov	89.000	119.000				06/05/07
LCS	Toluene	108-88-3	26.200	105.000	% Recov	70.000	130.000				06/05/07
LCS	Trichloroethene	79-01-6	20.470	81.900	% Recov	70.000	130.000				06/05/07

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-038

Sample # W07P000956

Client ID: B1MN45 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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		13.0	pCi/L	+ -5.20	pCi/L	1.00	6.3		06/22/07
Tritium by Liq Sct column prep											
Tritium	10028-17-8	LA-508-421		520	pCi/L	+ -182	pCi/L	1.00	2.4e +02		05/30/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000958

Client ID: B1N2Y0 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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		740	pCi/L	+ -222	pCi/L	1.00	2.4e +02		05/30/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000961

Client ID: B1N334 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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		990	pCi/L	+ -297	pCi/L	1.00	2.4e +02		05/30/07

MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000962

Client ID: B1N339 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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	U	-310	pCi/L	+ -310	pCi/L	1.00	2.4e+02		05/30/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000968

Client ID: B1N2V5 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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	U	-250	pCi/L	+ -250	pCi/L	1.00	2.4e+02		05/30/07

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000969

Client ID: B1N2X5 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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		740	pCi/L	+ -222	pCi/L	1.00	2.4e +02		05/30/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF

ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000970

Client ID: B1N2Y5 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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		1.10e+03	pCi/L	+ -275	pCi/L	1.00	2.2e+02		06/07/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

C - The Analyte was found in the Associated Blank.(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: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000971

Client ID: B1N329 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
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Tritium by Liq Sct column prep

Tritium	10028-17-8	LA-508-421	U	160	pCi/L	+-120	pCi/L	1.00	2.2e+02		06/07/07
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MDL=Minimum Detection Limit

RQ=Result Qualifier

TP Err=Total Propagated Error

DF=Dilution Factor

* - Indicates results that have NOT been validated;

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

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

+ - Indicates more than six qualifier symbols

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

Report WGPP/ver. 5.2

GPAP

WSCF ANALYTICAL RESULTS REPORT

Attention: DL Stewart K6-96

SAF Number: I07-044

Sample # W07P000972

Client ID: B1N364 STEWART
WSCF

Matrix: WATER

Group #: WSCF20070896

Department: Radiochemistry

Sampled: 05/24/07

Received: 05/24/07

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		640	pCi/L	+ -198	pCi/L	1.00	2.2e+02		08/07/07

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)

D - Analyte was identified at a secondary dilution factor

J - Analyte < lowest calibration but > = MDL.(org)

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

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20070896
 Matrix: WATER
 Test: TC99 by Liquid Scin.

Sample Date: 05/24/07
 Receive Date: 05/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P000956											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Technetium-99	14133-76-7	13.4		RPD			0.749	20.000		06/22/07
MS	Technetium-99	14133-76-7	229.5	94.351	% Recov	75.000	125.000				06/22/07
BATCH QC											
BLANK	Technetium-99	14133-76-7	U-1.0E+01	n/a	pCi/L	-10.000	10.000				06/22/07
LCS	Technetium-99	14133-76-7	291.1	95.725	% Recov	80.000	120.000				06/22/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20070896
 Matrix: WATER
 Test: Tritium by Liq Sct column prep

Sample Date: 05/08/07
 Receive Date: 05/08/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
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Lab ID: W07P000894
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Tritium	10028-17-8	6.1E+03		RPD			3.333	20.000		05/30/07
MS	Tritium	10028-17-8	30190.0	88.495	% Recov	75.000	125.000				05/30/07

BATCH QC

BLANK	Tritium	10028-17-8	U-2.5e+02	n/a	pCi/L	-10.000	1000.000				05/30/07
LCS	Tritium	10028-17-8	1580.0	77.576	% Recov	80.000	120.000				05/30/07

Lab ID: W07P000970
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Tritium	10028-17-8	1.0E+03		RPD			9.524	20.000		06/07/07
MS	Tritium	10028-17-8	15020.0	87.442	% Recov	75.000	125.000				06/07/07

BATCH QC

BLANK	Tritium	10028-17-8	U-8.9E+01	n/a	pCi/L	-10.000	1000.000				06/07/07
LCS	Tritium	10028-17-8	1910.0	93.867	% Recov	80.000	120.000				06/07/07

WSCF ANALYTICAL COMMENT REPORT

Attention: DL Stewart K6-96

Group #: WSCF20070896
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ANIONS: Samples W07P000971 and W07P000972 required re-analysis at a 10 dilution for chloride, nitrate-N and sulfate. As a result, the 48 hour hold-time for nitrate-N was missed for these two samples.</p> <p>W07P000972 re-analysis for nitrate-N still slightly out of calibration range by approximately 0.5 ppm. SDB 6/5/07</p> <p>W07P000956,958,961-962,968,969/H-3 LCS recovery is low. Since all the other QC checks came out fine, this batch has been approved. lmh</p> <p>ICP-AES: High chromium, iron, magnesium, and calcium; "C" flag if applicable.</p> <p>Magnesium, sodium, and calcium sample results beyond effective spike range (spike results marked "NA").</p> <p>Check and high standards used to ensure magnesium, sodium, and calcium linearity because sample results are greater than the calibration standard.</p> <p>Low barium MS recovery; no flag since all other QC is acceptable.</p> <p>Low zinc spike recoveries; "N" flag.</p>

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample

VALTEST - Test Validation
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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M4W41-SLF-07-446

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 13 pages
Including cover page

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

File

07/09/07

td

ACKNOWLEDGMENT OF SAMPLES RECEIVED

GPAP

Richland, WA 99352
Attn: DL Stewart K6-96

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20070896

The following samples were received from you on 05/24/07. 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
W07P000955	B1MN44	STEWART @GPP6010	Water	05/24/07
W07P000956	B1MN45	STEWART @H3-33 @IC-30	Water	05/24/07
W07P000957	B1N2X9	STEWART @GPP6010	Water	05/24/07
W07P000958	B1N2Y0	STEWART @H3-33 @IC-30	Water	05/24/07
W07P000959	B1N333	STEWART @GPP6010	Water	05/24/07
W07P000960	B1N338	STEWART @GPP6010	Water	05/24/07
W07P000961	B1N334	STEWART @H3-33 @IC-30	Water	05/24/07
W07P000962	B1N339	STEWART @H3-33 @IC-30	Water	05/24/07
W07P000963	B1N421	STEWART @VOA-GPP	Water	05/24/07
W07P000964	B1N2V4	STEWART @GPP6010	Water	05/24/07
W07P000965	B1N2X4	STEWART @GPP6010	Water	05/24/07
W07P000966	B1N2Y4	STEWART @GPP6010	Water	05/24/07
W07P000967	B1N328	STEWART @GPP6010	Water	05/24/07
W07P000968	B1N2V5	STEWART @H3-33 @IC-30	Water	05/24/07
W07P000969	B1N2X5	STEWART @H3-33 @IC-30	Water	05/24/07

GPAP

Richland, WA 99352
Attn: DL Stewart K6-96

Customer Code: PNNL-GPP
PO#: 122543
Group#: 20070896

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W07P000970	B1N2Y5	STEWART @H3-33 @IC-30	Water	05/24/07
W07P000971	B1N329	STEWART @H3-33 @IC-30	Water	05/24/07
W07P000972	B1N364	STEWART @2008 @H3-33 @IC-30	Water	05/24/07

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@GPP6010	ICP Metals Analysis, Grd H2O 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

