RECEIVED DECEMBER 10, 2007

Fluor Hanford
WSCF Analytical Lab
P.O. Box 1000
Richland, WA 99352
Telephone 373-7495
Telefax 372-0456

FLUOR

Memorandum

M4W41-SLF-07-957

To:	H. Hampt	E6-35	Date:	December 6, 2007
From:	S. L. Fitzgerald, Manager WSCF Analytical Lab			
cc:	w/Attachments			
	T. F. Dale	S3-30	S. J. Trent	E6-35
	H. K. Meznarich	S3-30	D. D. Wright	S3-30
	P. D. Mix	S3-30	File/LB	
	J. E. Trechter	S3-30		

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071829 – SAF NUMBER F07-070

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 WSCF20071829:

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

SLF/grf

Attachments 4

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071829
Data Deliverable Date: 29-nov-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F07-070	B1PMP3	W07GR02626	WATER

M4W41-SLF-07-957

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

One groundwater sample was received at the WSCF Laboratory on October 15, 2007 Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

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

Inorganic Comments

Anions – Holding time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 19 through 20 for QC details. All QC controls are within the established limits.

Cyanide – The holding time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 21 for QC details. All QC controls are within the established limits.

Hexavalent Chromium – The holding time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 22 for QC details. All QC controls are within the established limits.

ICP-AES Metals – The holding 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 23 for QC details. 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 pages 24 through 26 for QC details.

- Chromium, Zinc and Selenium Prep Blank above the MDL, resulting in a "C" flag for Zinc and Selenium. Chromium result was below the MDL, no flag.

All other QC controls are within the established limits.

Tc-99 by ICP-MS - 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 27 for QC details.

- Matrix Spike and Matrix Spike Duplicate analyzed on samples # BIPW41 and B1PW42 (SDG 20071746, SAF F07-045)

Organic Comments

Alcohol/Glycols - The holding time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 33 for QC details. All QC controls are within the established limits.

TPHD-WA – The holding time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank, and Laboratory Control Sample were analyzed with this delivery group. See page 34 for QC details.

- Surrogate Spike Relative Percent Difference exceeded the administrative acceptance levels but the MS and MSD results were within acceptable limits.

All QC controls are within the established limits.

Semi-VOA – The holding 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 GPP Letter of Instruction. See pages 35 through 37 for QC details.

- Difficulties encountered during sample prep resulted in the following: seven of ten samples in the analytical group had the surrogate recovery of 2-fluorobiphenyl below the low control limit; the MSD was allowed to go to dryness resulting in the failure of 12 out of 17 compound recoveries to be above the low limit; the MSD results have not been reported, instead an LCS and LCS duplicate were analyzed to show method precision; the LCS also had low surrogate recoveries for 2-fluorobiphenyl as well as 1,4-dichlorobenzene and 1,2,4-trichlorobenzene. These failures are being investigated.

All other QC controls are within the established limits.

VOA – The holding 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 38 through 40 for QC details.

- Matrix Spike and Matrix Spike Duplicate analyzed on samples # BIPLC3 (SDG 20071823, SAF F07-030)

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no holding times associated with WSCF's radiochemical methods.

A Sample Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group, in addition to Matrix Spikes for Neptunium, Technetium and Tritium. See page 45 through 53 for QC details.

- Am-241 LCS and Sample Duplicate recoveries below acceptance levels, however recoveries were only slightly out so results were accepted.
- U-238 RPD recovery is below acceptable limit; however, results are low level.
- Tc-99 Matrix Spike recovery is low, however the spike concentration is too far below the sample concentration to be used.
- Tc-99 Sample Duplicate and Matrix Spike analyzed on sample # B1R0H9 (SDG 20071812, SAF F07-045).
- Gross alpha/beta Sample Duplicate analyzed on sample # B1R2K5 (SDG 20071872).
- Np-237 Matrix Spike analyzed on sample # B1R106 (SDG 20071850), B1PMH3 (SDG20071883) and B1PMH7 (SDG 20071935), all from SAF F07-067

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

John E. Trechter
WSCF Client Services

M4W41-SLF-07-957

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 47 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald 12/6/07

Client Services: John Trechter 12/6/07

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

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Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20071829
Report Date: 4-dec-2007
Report WGPP/ver. 5.2
Groundwater Remediation Program

w13qlog v4.2 04-dec-2007 16:22:48

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20071829

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33734	2	34134	38285	BLANK		Anions by Ion Chromatography
33734	8	34134	38285	BLANK		Anions by Ion Chromatography
33734	3	34134	38285	LCS		Anions by Ion Chromatography
33734	5	34134	38285	DUP	W07GR02626	Anions by Ion Chromatography
33734	6	34134	38285	MS	W07GR02626	Anions by Ion Chromatography
33734	7	34134	38285	MSD	W07GR02626	Anions by Ion Chromatography
33734	4	34134	38285	SAMPLE	W07GR02626	Anions by Ion Chromatography
33734	7	34134	38285	SPK-RPD	W07GR02626	Anions by Ion Chromatography
33694	2	34092	38293	BLANK		Hexavalent chromium
33694	8	34092	38293	BLANK		Hexavalent chromium
33694	3	34092	38293	LCS		Hexavalent chromium
33694	5	34092	38293	DUP	W07GR02626	Hexavalent chromium
33694	6	34092	38293	MS	W07GR02626	Hexavalent chromium
33694	7	34092	38293	MSD	W07GR02626	Hexavalent chromium
33694	4	34092	38293	SAMPLE	W07GR02626	Hexavalent chromium
33694	7	34092	38293	SPK-RPD	W07GR02626	Hexavalent chromium
33813	1	34215	38410	BLANK		ICP Metals Analysis, Grd H20 P
33813	2	34215	38410	LCS		ICP Metals Analysis, Grd H20 P
33813	13	34215	38410	MS	W07GR02626	ICP Metals Analysis, Grd H20 P
33813	14	34215	38410	MSD	W07GR02626	ICP Metals Analysis, Grd H20 P
33813	12	34215	38410	SAMPLE	W07GR02626	ICP Metals Analysis, Grd H20 P
33813	14	34215	38410	SPK-RPD	W07GR02626	ICP Metals Analysis, Grd H20 P
33855	1	34255	38412	BLANK		Cyanide by Midi/Spectrophotom
33855	2	34255	38412	LCS		Cyanide by Midi/Spectrophotom
33855	7	34255	38412	MS	W07GR02626	Cyanide by Midi/Spectrophotom
33855	8	34255	38412	MSD	W07GR02626	Cyanide by Midi/Spectrophotom
33855	6	34255	38412	SAMPLE	W07GR02626	Cyanide by Midi/Spectrophotom
33855	8	34255	38412	SPK-RPD	W07GR02626	Cyanide by Midi/Spectrophotom
33910	1	34312	38458	BLANK		TC99 screen by ICP-200.8 MS
33910	2	34312	38458	LCS		TC99 screen by ICP-200.8 MS
33910	4	34312	38458	MS	W07GR02535	TC99 screen by ICP-200.8 MS
33910	5	34312	38458	MSD	W07GR02535	TC99 screen by ICP-200.8 MS
33910	5	34312	38458	SPK-RPD	W07GR02535	TC99 screen by ICP-200.8 MS
33910	7	34312	38458	MS	W07GR02536	TC99 screen by ICP-200.8 MS
33910	8	34312	38458	MSD	W07GR02536	TC99 screen by ICP-200.8 MS
33910	8	34312	38458	SPK-RPD	W07GR02536	TC99 screen by ICP-200.8 MS
33910	20	34312	38458	SAMPLE	W07GR02626	TC99 screen by ICP-200.8 MS
34031	1	34433	38593	BLANK		ICP-200.8 MS All possible meta
34031	2	34433	38593	LCS		ICP-200.8 MS All possible meta
34031	4	34433	38593	MS	W07GR02626	ICP-200.8 MS All possible meta
34031	5	34433	38593	MSD	W07GR02626	ICP-200.8 MS All possible meta
34031	3	34433	38593	SAMPLE	W07GR02626	ICP-200.8 MS All possible meta
34031	5	34433	38593	SPK-RPD	W07GR02626	ICP-200.8 MS All possible meta

w13qlog v4.2 04-dec-2007 16:22:48

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071829

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			38408	BLANK		SW-846 8270C Semi-Vols
			38408	LCS		SW-846 8270C Semi-Vols
			38408	LCS-DUP		SW-846 8270C Semi-Vols
			38408	MS	W07GR02626	SW-846 8270C Semi-Vols
			38408	SAMPLE	W07GR02626	SW-846 8270C Semi-Vols
			38408	SURR	W07GR02626	SW-846 8270C Semi-Vols
			38480	BLANK		NWTPH-D TPH Diesel Range (Wa)
			38480	LCS		NWTPH-D TPH Diesel Range (Wa)
			38480	MS	W07GR02626	NWTPH-D TPH Diesel Range (Wa)
			38480	MSD	W07GR02626	NWTPH-D TPH Diesel Range (Wa)
			38480	SAMPLE	W07GR02626	NWTPH-D TPH Diesel Range (Wa)
			38480	SPK-RPD	W07GR02626	NWTPH-D TPH Diesel Range (Wa)
			38480	SURR	W07GR02626	NWTPH-D TPH Diesel Range (Wa)
			38791	BLANK		VOA Ground Water Protection
			38791	LCS		VOA Ground Water Protection
			38791	MS	W07GR02618	VOA Ground Water Protection
			38791	MSD	W07GR02618	VOA Ground Water Protection
			38791	SPK-RPD	W07GR02618	VOA Ground Water Protection
			38791	SAMPLE	W07GR02626	VOA Ground Water Protection
			38791	SURR	W07GR02626	VOA Ground Water Protection
34282	1	34681	38884	BLANK		Alcohols, Glycols - 8015
34282	2	34681	38884	LCS		Alcohols, Glycols - 8015
34282	4	34681	38884	DUP	W07GR02626	Alcohols, Glycols - 8015
34282	5	34681	38884	MS	W07GR02626	Alcohols, Glycols - 8015
34282	6	34681	38884	MSD	W07GR02626	Alcohols, Glycols - 8015
34282	3	34681	38884	SAMPLE	W07GR02626	Alcohols, Glycols - 8015
34282	6	34681	38884	SPK-RPD	W07GR02626	Alcohols, Glycols - 8015

w13qlog v4.2 04-dec-2007 16:22:48

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20071829

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
33738	1	34138	38345	BLANK		Strontium 89/90
33738	2	34138	38345	LCS		Strontium 89/90
33738	3	34138	38345	DUP	W07GR02626	Strontium 89/90
33738	4	34138	38345	SAMPLE	W07GR02626	Strontium 89/90
33738	5	34138	38345	SURR	W07GR02626	Strontium 89/90
33717	1	34117	38348	BLANK		Gamma Energy Analysis-grd H2O
33717	2	34117	38348	LCS		Gamma Energy Analysis-grd H2O
33717	3	34117	38348	DUP	W07GR02626	Gamma Energy Analysis-grd H2O
33717	4	34117	38348	SAMPLE	W07GR02626	Gamma Energy Analysis-grd H2O
33952	1	34355	38599	BLANK		Uranium Isotopics by AEA
33952	2	34355	38599	LCS		Uranium Isotopics by AEA
33952	3	34355	38599	DUP	W07GR02626	Uranium Isotopics by AEA
33952	6	34355	38599	SAMPLE	W07GR02626	Uranium Isotopics by AEA
33952	7	34355	38599	SURR	W07GR02626	Uranium Isotopics by AEA
34027	1	34429	38641	BLANK		Gross Alpha/Gross Beta (AB32)
34027	2	34429	38641	LCS		Gross Alpha/Gross Beta (AB32)
34027	6	34429	38641	SAMPLE	W07GR02626	Gross Alpha/Gross Beta (AB32)
34027	3	34429	38641	DUP	W07P002677	Gross Alpha/Gross Beta (AB32)
33799	1	34200	38733	BLANK		TC99 by Liquid Scin.
33799	2	34200	38733	LCS		TC99 by Liquid Scin.
33799	4	34200	38733	DUP	W07GR02604	TC99 by Liquid Scin.
33799	3	34200	38733	MS	W07GR02604	TC99 by Liquid Scin.
33799	7	34200	38733	SAMPLE	W07GR02626	TC99 by Liquid Scin.
33957	1	34363	38734	BLANK		Americium by AEA
33957	2	34363	38734	LCS		Americium by AEA
33957	3	34363	38734	DUP	W07GR02626	Americium by AEA
33957	6	34363	38734	SAMPLE	W07GR02626	Americium by AEA
33957	7	34363	38734	SURR	W07GR02626	Americium by AEA
33925	1	34325	38738	BLANK		Tritium by Liq Sct column prep
33925	2	34325	38738	LCS		Tritium by Liq Sct column prep
33925	4	34325	38738	DUP	W07GR02626	Tritium by Liq Sct column prep
33925	3	34325	38738	MS	W07GR02626	Tritium by Liq Sct column prep
33925	5	34325	38738	SAMPLE	W07GR02626	Tritium by Liq Sct column prep
34019	1	34421	38739	BLANK		Neptunium by AEA
34019	2	34421	38739	LCS		Neptunium by AEA
34019	3	34421	38739	DUP	W07GR02626	Neptunium by AEA
34019	8	34421	38739	MS	W07GR02626	Neptunium by AEA
34019	6	34421	38739	MSD	W07GR02626	Neptunium by AEA
34019	7	34421	38739	SAMPLE	W07GR02626	Neptunium by AEA
34019	8	34421	38739	SPK-RPD	W07GR02626	Neptunium by AEA
34019	10	34421	38739	MS	W07GR02648	Neptunium by AEA
34019	5	34421	38739	MS	W07GR02696	Neptunium by AEA
34019	12	34421	38739	MS	W07GR02790	Neptunium by AEA
34153	1	34554	38777	BLANK		Plutonium Isotopics by AEA

34153	2	34554	38777	LCS		Plutonium Isotopics by AEA
34153	3	34554	38777	DUP	W07GR02626	Plutonium Isotopics by AEA
34153	4	34554	38777	SAMPLE	W07GR02626	Plutonium Isotopics by AEA
34153	5	34554	38777	SURR	W07GR02626	Plutonium Isotopics by AEA

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-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300.0	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
	HEIS 300.0_ANIONS_IC	Determination of Inorganic Anions by Ion Chromatography
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
	HEIS 335.2_CYANIDE	Cyanide, Total

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

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

LA-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8260B	VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
	HEIS 8260_VOA_GCMS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
LA-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
	HEIS 8270_SVOA_GCMS	Semivolatile Orgamoc Compounds By Gas Chromatography/Mass Spectrometry (GC/MS)
LA-523-493	NWTPH-Diesel and/or Gasoline	
	HEIS WTPH_DIESEL (HEIS)	Total Petroleum Hydrocarbons in Diesel
	WDOE TPHD	Total Petroleum Hydrocarbons in Diesel
Organics	Organics - Alcohols, Glycols	
	EPA SW-846 8015B	Nonhalogenated Organics Using GC/FID

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_GP	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
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP	
	HEIS PUISO_IE_PRECIP_AEA	Plutonium by Alpha Energy Analysis
	HEIS RAISO_AEA	Radium-226
LA-508-481	LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE	
	HEIS GAMMA_GS	Gamma Emmision Spectrometry

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-070
Sample # W07GR02626
Client ID: B1PMP3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071829
Department: Inorganic
Sampled: 10/15/07
Received: 10/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography											
Chloride	16887-00-6	LA-533-410	B	0.0386	mg/L			1.00	0.030		10/16/07
Nitrogen in Nitrite	NO2-N	LA-533-410	U	< 0.0100	mg/L			1.00	0.010		10/16/07
Nitrogen in Nitrate	NO3-N	LA-533-410	U	< 5.00e-03	mg/L			1.00	5.0e-03		10/16/07
Phosphate (P) by IC	PO4-P	LA-533-410	U	< 0.0400	mg/L			1.00	0.040		10/16/07
Sulfate	14808-79-8	LA-533-410	U	< 0.0700	mg/L			1.00	0.070		10/16/07
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 4.00	ug/L			1.00	4.0		10/24/07
Hexavalent Chromium											
Hexavalent Chromium	18540-29-9	LA-265-403	U	< 2.00e-03	mg/L			1.00	2.0e-03		10/15/07
ICP Metals Analysis, Grd H20 P Prep											**10/23/07**
ICP Metals Analysis, Grd H20 P											
Beryllium	7440-41-7	LA-505-411	U	< 4.00	ug/L			1.00	4.0		10/24/07
Boron	7440-42-8	LA-505-411	U	< 8.00	ug/L			1.00	8.0		10/24/07
ICP-200.8 MS All possible meta Prep											**11/07/07**
ICP-200.8 MS All possible meta											
Nickel	7440-02-0	LA-505-412	U	< 0.200	ug/L			1.00	0.200		11/07/07
Silver	7440-22-4	LA-505-412	U	< 0.100	ug/L			1.00	0.100		11/07/07
Antimony	7440-36-0	LA-505-412		0.323	ug/L			1.00	0.300		11/07/07
Barium	7440-39-3	LA-505-412	U	< 0.200	ug/L			1.00	0.200		11/07/07
Cadmium	7440-43-9	LA-505-412	U	< 0.100	ug/L			1.00	0.100		11/07/07
Chromium	7440-47-3	LA-505-412	U	< 0.500	ug/L			1.00	0.500		11/07/07
Copper	7440-50-8	LA-505-412		0.138	ug/L			1.00	0.100		11/07/07
Vanadium	7440-62-2	LA-505-412	U	< 0.200	ug/L			1.00	0.200		11/07/07
Zinc	7440-66-6	LA-505-412	C	1.45	ug/L			1.00	0.800		11/07/07

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-070
Sample # W07GR02626
Client ID: B1PMP3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071829
Department: Inorganic
Sampled: 10/15/07
Received: 10/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Lead	7439-92-1	LA-505-412	U	< 0.100	ug/L			1.00	0.100		11/07/07
Mercury	7439-97-6	LA-505-412		0.0694	ug/L			1.00	0.0500		11/07/07
Uranium	7440-61-1	LA-505-412	U	< 0.0500	ug/L			1.00	0.0500		11/07/07
Arsenic	7440-38-2	LA-505-412	U	< 0.400	ug/L			1.00	0.400		11/07/07
Selenium	7782-49-2	LA-505-412	C	0.707	ug/L			1.00	0.300		11/07/07
Thallium	7440-28-0	LA-505-412	U	< 0.100	ug/L			1.00	0.100		11/07/07
Strontium	7440-24-6	LA-505-412		0.110	ug/L			1.00	0.100		11/07/07
TC99 screen by ICP-200.8 MS Prep											**10/25/07**
TC99 screen by ICP-200.8 MS											
Technetium-99	14133-76-7	LA-505-412	U	< 1.00e-03	ug/L			1.00	1.0e-03		10/29/07

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)
J - Analyte < lowest calibration but > = MDL.(org)
U - Analyzed for but not detected above limiting criteria.(org)

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
Matrix: WATER
Test: Anions by Ion Chromatography

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	4.06e-2		RPD			5.051	20.000		10/16/07
DUP	Nitrogen in Nitrite	NO2-N	<1e-2		RPD			n/a	20.000	U	10/16/07
DUP	Nitrogen in Nitrate	NO3-N	<5e-3		RPD			n/a	20.000	U	10/16/07
DUP	Phosphate (P) by IC	PO4-P	<4e-2		RPD			n/a	20.000	U	10/16/07
DUP	Sulfate	14808-79-8	<7e-2		RPD			n/a	20.000	U	10/16/07
MS	Chloride	16887-00-6	0.951	96.061	% Recov	75.000	125.000				10/16/07
MS	Nitrogen in Nitrite	NO2-N	0.4826	96.908	% Recov	75.000	125.000				10/16/07
MS	Nitrogen in Nitrate	NO3-N	0.4423	98.071	% Recov	75.000	125.000				10/16/07
MS	Phosphate (P) by IC	PO4-P	0.87	91.195	% Recov	75.000	125.000				10/16/07
MS	Sulfate	14808-79-8	1.8901	95.460	% Recov	75.000	125.000				10/16/07
MSD	Chloride	16887-00-6	0.9594	96.909	% Recov	75.000	125.000				10/16/07
MSD	Nitrogen in Nitrite	NO2-N	0.4801	96.406	% Recov	75.000	125.000				10/16/07
MSD	Nitrogen in Nitrate	NO3-N	0.4472	99.157	% Recov	75.000	125.000				10/16/07
MSD	Phosphate (P) by IC	PO4-P	0.8926	93.564	% Recov	75.000	125.000				10/16/07
MSD	Sulfate	14808-79-8	1.8539	93.631	% Recov	75.000	125.000				10/16/07
SPK-RPD	Chloride	16887-00-6	96.909		RPD			0.879	20.000		10/16/07
SPK-RPD	Nitrogen in Nitrite	NO2-N	96.406		RPD			0.519	20.000		10/16/07
SPK-RPD	Nitrogen in Nitrate	NO3-N	99.157		RPD			1.101	20.000		10/16/07
SPK-RPD	Phosphate (P) by IC	PO4-P	93.564		RPD			2.564	20.000		10/16/07
SPK-RPD	Sulfate	14808-79-8	93.631		RPD			1.935	20.000		10/16/07
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/16/07
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	10/16/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/16/07
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	10/16/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
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 Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/16/07
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	10/16/07
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	10/16/07
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	10/16/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/16/07
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	10/16/07
LCS	Chloride	16887-00-6	199.3769	99.688	% Recov	80.000	120.000				10/16/07
LCS	Nitrogen in Nitrite	NO2-N	100.2781	100.278	% Recov	80.000	120.000				10/16/07
LCS	Nitrogen in Nitrate	NO3-N	92.0725	100.957	% Recov	80.000	120.000				10/16/07
LCS	Phosphate (P) by IC	PO4-P	195.7566	101.534	% Recov	80.000	120.000				10/16/07
LCS	Sulfate	14808-79-8	388.5239	97.131	% Recov	80.000	120.000				10/16/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
Matrix: WATER
Test: Cyanide by Midi/Spectrophotom

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	37.5	95.908	% Recov	75.000	125.000				10/24/07
MSD	Cyanide by Midi/Spectrophotom	57-12-5	39.9	102.046	% Recov	75.000	125.000				10/24/07
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	102.046		RPD			6.201	20.000		10/24/07
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	10/24/07
LCS	Cyanide by Midi/Spectrophotom	57-12-5	48.3	98.773	% Recov	85.000	115.000				10/24/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
Matrix: WATER
Test: Hexavalent chromium

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Hexavalent chromium	18540-29-9	<0.002		RPD			n/a	15.000	U	10/15/07
MS	Hexavalent chromium	18540-29-9	0.0519	98.295	% Recov	85.000	115.000				10/15/07
MSD	Hexavalent chromium	18540-29-9	0.0519	98.295	% Recov	85.000	115.000				10/15/07
SPK-RPD	Hexavalent chromium	18540-29-9	98.295		RPD			0.000	20.000		10/12/07
BATCH QC											
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	10/15/07
BLANK	Hexavalent chromium	18540-29-9	<0.002	n/a	mg/L	0.000	2.000			U	10/15/07
LCS	Hexavalent chromium	18540-29-9	0.0493	99.195	% Recov	80.000	120.000				10/15/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
Matrix: WATER
Test: ICP Metals Analysis, Grd H20 P

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Boron	7440-42-8	963.8	96.380	% Recov	70.000	130.000				10/24/07
MS	Beryllium	7440-41-7	518.8	103.760	% Recov	75.000	125.000				10/24/07
MSD	Boron	7440-42-8	951.9	95.190	% Recov	75.000	125.000				10/24/07
MSD	Beryllium	7440-41-7	512.8	102.560	% Recov	75.000	125.000				10/24/07
SPK-RPD	Boron	7440-42-8	95.190		RPD			1.242	20.000		10/24/07
SPK-RPD	Beryllium	7440-41-7	102.560		RPD			1.163	20.000		10/24/07
BATCH QC											
BLANK	Boron	7440-42-8	<8	n/a	ug/L					U	10/24/07
BLANK	Beryllium	7440-41-7	<4	n/a	ug/L					U	10/24/07
LCS	Boron	7440-42-8	982.1	98.210	% Recov	80.000	120.000				10/24/07
LCS	Beryllium	7440-41-7	508.5	101.700	% Recov	80.000	120.000				10/24/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 10/15/07
Receive Date:10/15/07

Lab ID: W07GR02626
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	40.27	100.675	% Recov	70.000	130.000				11/07/07
MS	Arsenic	7440-38-2	36.62	91.550	% Recov	70.000	130.000				11/07/07
MS	Barium	7440-39-3	38.3	95.750	% Recov	70.000	130.000				11/07/07
MS	Cadmium	7440-43-9	37.5	93.750	% Recov	70.000	130.000				11/07/07
MS	Chromium	7440-47-3	39.44	98.600	% Recov	70.000	130.000				11/07/07
MS	Copper	7440-50-8	38.0516	95.129	% Recov	70.000	130.000				11/07/07
MS	Mercury	7439-97-6	2.10257	105.129	% Recov	70.000	130.000				11/07/07
MS	Nickel	7440-02-0	38.29	95.725	% Recov	70.000	130.000				11/07/07
MS	Lead	7439-92-1	39.31	98.275	% Recov	70.000	130.000				11/07/07
MS	Antimony	7440-36-0	44.7773	111.943	% Recov	70.000	130.000				11/07/07
MS	Selenium	7782-49-2	34.9826	87.456	% Recov	70.000	130.000				11/07/07
MS	Strontium	7440-24-6	39.8795	99.699	% Recov	70.000	130.000				11/07/07
MS	Thallium	7440-28-0	38.03	95.075	% Recov	70.000	130.000				11/07/07
MS	Uranium	7440-61-1	40.13	100.325	% Recov	70.000	130.000				11/07/07
MS	Vanadium	7440-62-2	39.66	99.150	% Recov	70.000	130.000				11/07/07
MS	Zinc	7440-66-6	35.834	89.585	% Recov	70.000	130.000				11/07/07
MSD	Silver	7440-22-4	39.72	99.300	% Recov	70.000	130.000				11/07/07
MSD	Arsenic	7440-38-2	36.36	90.900	% Recov	70.000	130.000				11/07/07
MSD	Barium	7440-39-3	37.8	94.500	% Recov	70.000	130.000				11/07/07
MSD	Cadmium	7440-43-9	37.71	94.275	% Recov	70.000	130.000				11/07/07
MSD	Chromium	7440-47-3	39.53	98.825	% Recov	70.000	130.000				11/07/07
MSD	Copper	7440-50-8	38.3716	95.929	% Recov	70.000	130.000				11/07/07
MSD	Mercury	7439-97-6	2.09657	104.828	% Recov	70.000	130.000				11/07/07
MSD	Nickel	7440-02-0	38.59	96.475	% Recov	70.000	130.000				11/07/07
MSD	Lead	7439-92-1	39.04	97.600	% Recov	70.000	130.000				11/07/07
MSD	Antimony	7440-36-0	44.3673	110.918	% Recov	70.000	130.000				11/07/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
Matrix: WATER
Test: ICP-200.8 MS All possible meta

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Selenium	7782-49-2	34.6726	86.682	% Recov	70.000	130.000				11/07/07
MSD	Strontium	7440-24-6	39.7395	99.349	% Recov	70.000	130.000				11/07/07
MSD	Thallium	7440-28-0	37.98	94.950	% Recov	70.000	130.000				11/07/07
MSD	Uranium	7440-61-1	39.58	98.950	% Recov	70.000	130.000				11/07/07
MSD	Vanadium	7440-62-2	39.74	99.350	% Recov	70.000	130.000				11/07/07
MSD	Zinc	7440-66-6	36.444	91.110	% Recov	70.000	130.000				11/07/07
SPK-RPD	Silver	7440-22-4	99.300		RPD			1.375	20.000		11/07/07
SPK-RPD	Arsenic	7440-38-2	90.900		RPD			0.713	20.000		11/07/07
SPK-RPD	Barium	7440-39-3	94.500		RPD			1.314	20.000		11/07/07
SPK-RPD	Cadmium	7440-43-9	94.275		RPD			0.558	20.000		11/07/07
SPK-RPD	Chromium	7440-47-3	98.825		RPD			0.228	20.000		11/07/07
SPK-RPD	Copper	7440-50-8	95.929		RPD			0.837	20.000		11/07/07
SPK-RPD	Mercury	7439-97-6	104.828		RPD			0.287	20.000		11/07/07
SPK-RPD	Nickel	7440-02-0	96.475		RPD			0.780	20.000		11/07/07
SPK-RPD	Lead	7439-92-1	97.600		RPD			0.689	20.000		11/07/07
SPK-RPD	Antimony	7440-36-0	110.918		RPD			0.920	20.000		11/07/07
SPK-RPD	Selenium	7782-49-2	86.682		RPD			0.889	20.000		11/07/07
SPK-RPD	Strontium	7440-24-6	99.349		RPD			0.352	20.000		11/07/07
SPK-RPD	Thallium	7440-28-0	94.950		RPD			0.132	20.000		11/07/07
SPK-RPD	Uranium	7440-61-1	98.950		RPD			1.380	20.000		11/07/07
SPK-RPD	Vanadium	7440-62-2	99.350		RPD			0.202	20.000		11/07/07
SPK-RPD	Zinc	7440-66-6	91.110		RPD			1.688	20.000		11/07/07

BATCH QC

BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	11/07/07
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	11/07/07
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L					U	11/07/07
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	11/07/07
BLANK	Chromium	7440-47-3	0.7216	0.722	ug/L						11/07/07
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L					U	11/07/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
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
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	11/07/07
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	11/07/07
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	11/07/07
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	11/07/07
BLANK	Selenium	7782-49-2	0.3373	0.337	ug/L						11/07/07
BLANK	Strontium	7440-24-6	<0.1	n/a	ug/L					U	11/07/07
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L					U	11/07/07
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	11/07/07
BLANK	Vanadium	7440-62-2	<0.2	n/a	ug/L					U	11/07/07
BLANK	Zinc	7440-66-6	0.9988	0.999	ug/L						11/07/07
LCS	Silver	7440-22-4	39.87	99.675	% Recov	85.000	115.000				11/07/07
LCS	Arsenic	7440-38-2	37.02	92.550	% Recov	85.000	115.000				11/07/07
LCS	Barium	7440-39-3	38.42	96.050	% Recov	85.000	115.000				11/07/07
LCS	Cadmium	7440-43-9	37.6	94.000	% Recov	85.000	115.000				11/07/07
LCS	Chromium	7440-47-3	40.3	100.750	% Recov	85.000	115.000				11/07/07
LCS	Copper	7440-50-8	38.14	95.350	% Recov	85.000	115.000				11/07/07
LCS	Mercury	7439-97-6	2.174	108.700	% Recov	85.000	115.000				11/07/07
LCS	Nickel	7440-02-0	37.95	94.875	% Recov	85.000	115.000				11/07/07
LCS	Lead	7439-92-1	38.94	97.350	% Recov	85.000	115.000				11/07/07
LCS	Antimony	7440-36-0	44.87	112.175	% Recov	85.000	115.000				11/07/07
LCS	Selenium	7782-49-2	35.21	88.025	% Recov	85.000	115.000				11/07/07
LCS	Strontium	7440-24-6	40.1	100.250	% Recov	80.000	120.000				11/07/07
LCS	Thallium	7440-28-0	37.76	94.400	% Recov	85.000	115.000				11/07/07
LCS	Uranium	7440-61-1	39.95	99.875	% Recov	85.000	115.000				11/07/07
LCS	Vanadium	7440-62-2	39.78	99.450	% Recov	85.000	115.000				11/07/07
LCS	Zinc	7440-66-6	36.87	92.175	% Recov	85.000	115.000				11/07/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20071829
Matrix: WATER
Test: TC99 screen by ICP-200.8 MS

Sample Date: 10/01/07
Receive Date:10/01/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02535											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Technetium-99	14133-76-7	0.21584	107.920	% Recov	70.000	130.000				10/29/07
MSD	Technetium-99	14133-76-7	0.20084	100.420	% Recov	70.000	130.000				10/29/07
SPK-RPD	Technetium-99	14133-76-7	100.420		RPD			7.200	20.000		10/29/07
Lab ID: W07GR02536											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Technetium-99	14133-76-7	0.2183	109.150	% Recov	70.000	130.000				10/29/07
MSD	Technetium-99	14133-76-7	0.2214	110.700	% Recov	70.000	130.000				10/29/07
SPK-RPD	Technetium-99	14133-76-7	110.700		RPD			1.410	20.000		10/29/07
BATCH QC											
BLANK	Technetium-99	14133-76-7	<1e-3	n/a	ug/L					U	10/29/07
LCS	Technetium-99	14133-76-7	0.2136	106.800	% Recov	49.000	125.000				10/29/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-070

Group #: WSCF20071829
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		SVOA: This extraction batch had several problems. Seven of ten samples in this batch had recoveries of the surrogate, 2-Fluorobiphenol, less than the lower control limit. The matrix spike duplicate went dry during KD concentration and recoveries as expected were below control limits in 12 of 17 spiked compounds and surrogates. These results are not reported here. Instead, an LCS-duplicate was performed after the MSD failure to provide data for estimates of precision when compared with the LCS. The LCS itself had failures of 2-Fluorobiphenol as well as the chlorinated aromatic compounds, 1,4-Dichlorobenzene and 1,2,4-Trichlorobenzene. This is caused by incomplete extraction and has been traced to a water bath not heating up to temperature. This problem is being remedied but not before the extraction of these samples was performed. cgc TPHDiesel: The surrogate spike relative percent difference exceeded the 20% control limit because the surrogate recovery in the MS was lower than normal, but still well within control limits. cgc ICP-MS: Chromium, zinc, and selenium prep blank above the MDL. "C" flas on Zn and Se. Cr result below MDL, no flag

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-070
Sample # W07GR02626
Client ID: B1PMP3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071829
Department: Organic
Sampled: 10/15/07
Received: 10/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Alcohols, Glycols - 8015 Prep											**10/29/07**
Alcohols, Glycols - 8015											
Diethyl ether	60-29-7	Organics	U	< 5.00e+03	ug/L			1.00	5.0e+03		10/29/07
Ethylene glycol	107-21-1	Organics	U	< 5.00e+03	ug/L			1.00	5.0e+03		10/29/07
NWTPH-D TPH Diesel Range (Wa) Prep											**10/18/07**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 75.0	ug/L			1.00	75		10/31/07
Kerosene	TPHKEROSENE	LA-523-493	U	< 75.0	ug/L			1.00	75		10/31/07
SW-846 8270C Semi-Vols Prep											**10/16/07**
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 2.90	ug/L			1.00	2.9		10/22/07
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 1.60	ug/L			1.00	1.6		10/22/07
Phenol	108-95-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		10/22/07
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 2.00	ug/L			1.00	2.0		10/22/07
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 0.490	ug/L			1.00	0.49		10/22/07
Pyrene	129-00-0	LA-523-456	U	< 0.490	ug/L			1.00	0.49		10/22/07
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 0.490	ug/L			1.00	0.49		10/22/07
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 0.590	ug/L			1.00	0.59		10/22/07
Acenaphthene	83-32-9	LA-523-456	U	< 2.60	ug/L			1.00	2.6		10/22/07
Pentachlorophenol	87-86-5	LA-523-456	U	< 0.980	ug/L			1.00	0.98		10/22/07
2-Chlorophenol	95-57-8	LA-523-456	U	< 0.490	ug/L			1.00	0.49		10/22/07
Bis(2-ethylhexyl) phthalate	117-81-7	LA-523-456	J	1.20	ug/L			1.00	0.54		10/22/07
Naphthalene	91-20-3	LA-523-456	U	< 2.00	ug/L			1.00	2.0		10/22/07
3 & 4 Methylphenol Total	65794-96-9	LA-523-456	U	< 0.490	ug/L			1.00	0.49		10/22/07
Tributyl phosphate	126-73-8	LA-523-456	U	< 0.490	ug/L			1.00	0.49		10/22/07

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-070
Sample # W07GR02626
Client ID: B1PMP3 GRP WSCF TRENT

Matrix: WATER

Group #: WSCF20071829
Department: Organic
Sampled: 10/15/07
Received: 10/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total cresols	1319-77-3	LA-523-456	U	< 0.640	ug/L			1.00	0.64		10/22/07
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Styrene	100-42-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
2-Hexanone	591-78-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Bromomethane	74-83-9	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07

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DF = Dilution Factor

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-070
Sample # W07GR02626
Client ID: B1PMP3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071829
Department: Organic
Sampled: 10/15/07
Received: 10/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Chloromethane	74-87-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Chloroethane	75-00-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		10/25/07
Trichloromonofluoromethane	75-69-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
n-Butylbenzene	104-51-8	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		10/25/07

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(inorg)

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F07-070 :F07-070

Group #: WSCF20071829
Department: Organic

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W07GR02626	B1PMP3	GRP	TRENT	SW-846 8270C Semi-Vols	SMP 15.079 Phenol, 4,4'-(1-methyl	80-05-7	15.07905	J	4.2	ug/L
W07GR02626	B1PMP3	GRP	TRENT	SW-846 8270C Semi-Vols	SMP 16.570 Unknown Amide	Unknown	16.57013	J	6.6	ug/L
W07GR02626	B1PMP3	GRP	TRENT	SW-846 8270C Semi-Vols	SMP 17.585 Di-n-octylphthalate	117-84-0	17.58556		0.66	ug/L

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
Matrix: WATER
Test: Alcohols, Glycols - 8015

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	2-Bromoethanol	540-51-2	34000		RPD			2.899	25.000		10/29/07
DUP	Diethyl ether	60-29-7	<5000		RPD			n/a	25.000	U	10/29/07
DUP	Ethylene glycol	107-21-1	<5000		RPD			n/a	25.000	U	10/29/07
MS	2-Bromoethanol	540-51-2	35000	100.000	% Recov	70.000	125.000				10/29/07
MS	Diethyl ether	60-29-7	14000	100.000	% Recov	75.000	125.000				10/29/07
MS	Ethylene glycol	107-21-1	20000	90.909	% Recov	75.000	125.000				10/29/07
MSD	2-Bromoethanol	540-51-2	35000	100.000	% Recov	70.000	125.000				10/29/07
MSD	Diethyl ether	60-29-7	15000	107.143	% Recov	75.000	125.000				10/29/07
MSD	Ethylene glycol	107-21-1	20000	90.909	% Recov	75.000	125.000				10/29/07
SPK-RPD	2-Bromoethanol	540-51-2	100.000		RPD			0.000	20.000		10/29/07
SPK-RPD	Diethyl ether	60-29-7	107.143		RPD			6.897	20.000		10/29/07
SPK-RPD	Ethylene glycol	107-21-1	90.909		RPD			0.000	20.000		10/29/07
BATCH QC											
BLANK	2-Bromoethanol	540-51-2	36000	102.857	% Recov	75.000	125.000				10/29/07
BLANK	Diethyl ether	60-29-7	<5000	n/a	ug/L	0.000	10.000			U	10/29/07
BLANK	Ethylene glycol	107-21-1	<5000	n/a	ug/L	0.000	5.000			U	10/29/07
LCS	2-Bromoethanol	540-51-2	34000	97.143	% Recov	70.000	130.000				10/29/07
LCS	Diethyl ether	60-29-7	13000	92.857	% Recov	70.000	130.000				10/29/07
LCS	Ethylene glycol	107-21-1	21000	95.455	% Recov	70.000	130.000				10/29/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
Matrix: WATER
Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl Surr	84-15-1	431.44	86.300	% Recov	70.000	130.000				10/31/07
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2221.8	88.900	% Recov	75.000	125.000				10/31/07
MSD	ortho-Terphenyl Surr	84-15-1	537.08	107.000	% Recov	70.000	130.000				10/31/07
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2555.2	102.000	% Recov	75.000	125.000				10/31/07
SPK-RPD	ortho-Terphenyl Surr	84-15-1	107.000		RPD			21.417	20.000 *		10/31/07
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	102.000		RPD			13.724	20.000		10/31/07
SURR	ortho-Terphenyl Surr	84-15-1	416.40	83.300	% Recov	70.000	130.000				10/31/07
BATCH QC											
BLANK	Kerosene	TPHKEROSENE	< 75	n/a	ug/L					U	10/31/07
BLANK	ortho-Terphenyl Surr	84-15-1	418.35	83.700	% Recov	70.000	130.000				10/31/07
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 75	n/a	ug/L					U	10/31/07
LCS	ortho-Terphenyl Surr	84-15-1	440.26	88.100	% Recov	70.000	130.000				10/31/07
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	2210.2	88.400	% Recov	80.000	120.000				10/31/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,2,4-Trichlorobenzene	120-82-1	13.234	66.200	% Recov	50.000	120.000				10/22/07
MS	1,4-Dichlorobenzene	106-46-7	12.694	63.500	% Recov	41.000	113.000				10/22/07
MS	2,4-Dinitrotoluene	121-14-2	15.323	76.600	% Recov	65.000	109.000				10/22/07
MS	2-Fluorophenol(Surr)	367-12-4	16.218	81.100	% Recov	50.000	110.000				10/22/07
MS	Acenaphthene	83-32-9	16.213	81.100	% Recov	62.000	112.000				10/22/07
MS	4-Chloro-3-methylphenol	59-50-7	25.204	84.000	% Recov	59.000	115.000				10/22/07
MS	2-Chlorophenol	95-57-8	24.948	83.200	% Recov	69.000	111.000				10/22/07
MS	N-Nitrosodi-n-dipropylamine	621-64-7	16.298	81.500	% Recov	69.000	115.000				10/22/07
MS	2-Fluorobiphenyl(Surr)	321-60-8	13.282	66.400	% Recov	58.000	109.000				10/22/07
MS	Phenol	108-95-2	25.268	84.200	% Recov	59.000	115.000				10/22/07
MS	Nitrobenzene-d5(Surr)	4165-60-0	16.797	84.000	% Recov	60.000	118.000				10/22/07
MS	4-Nitrophenol	100-02-7	22.065	73.600	% Recov	32.000	130.000				10/22/07
MS	Pentachlorophenol	87-86-5	23.440	78.100	% Recov	51.000	121.000				10/22/07
MS	Phenol-d5(Surr)	4165-62-2	16.742	83.700	% Recov	59.000	116.000				10/22/07
MS	Pyrene	129-00-0	17.827	89.100	% Recov	58.000	116.000				10/22/07
MS	2,4,6-Tribromophenol(Surr)	118-79-6	15.715	78.600	% Recov	60.000	120.000				10/22/07
MS	Terphenyl-d14(Surr)	98904-43-9	17.918	89.600	% Recov	60.000	120.000				10/22/07
SURR	2-Fluorophenol(Surr)	367-12-4	15.008	76.500	% Recov	50.000	110.000				10/22/07
SURR	2-Fluorobiphenyl(Surr)	321-60-8	9.1081	46.500	% Recov	58.000	109.000				10/22/07
SURR	Nitrobenzene-d5(Surr)	4165-60-0	15.379	78.400	% Recov	60.000	118.000				10/22/07
SURR	Phenol-d5(Surr)	4165-62-2	15.685	80.000	% Recov	59.000	116.000				10/22/07
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	13.389	68.300	% Recov	60.000	120.000				10/22/07
SURR	Terphenyl-d14(Surr)	98904-43-9	17.277	88.100	% Recov	60.000	120.000				10/22/07
BATCH QC											
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 2.0	n/a	ug/L					U	10/22/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	1,4-Dichlorobenzene	106-46-7	< 1.6	n/a	ug/L					U	10/22/07
BLANK	2,4-Dinitrotoluene	121-14-2	< 0.50	n/a	ug/L					U	10/22/07
BLANK	2-Fluorophenol(Surr)	367-12-4	16.189	80.900	% Recov	50.000	110.000				10/22/07
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 0.50	n/a	ug/L	0.000	5.000			U	10/22/07
BLANK	Acenaphthene	83-32-9	< 2.7	n/a	ug/L					U	10/22/07
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 0.55	n/a	ug/L					U	10/22/07
BLANK	4-Chloro-3-methylphenol	59-50-7	< 0.50	n/a	ug/L					U	10/22/07
BLANK	2-Chlorophenol	95-57-8	< 0.50	n/a	ug/L					U	10/22/07
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 0.60	n/a	ug/L					U	10/22/07
BLANK	2-Fluorobiphenyl(Surr)	321-60-8	9.9347	49.700	% Recov	58.000	109.000		•		10/22/07
BLANK	Phenol	108-95-2	< 0.50	n/a	ug/L					U	10/22/07
BLANK	Naphthalene	91-20-3	< 2.0	n/a	ug/L					U	10/22/07
BLANK	Nitrobenzene-d5(Surr)	4165-60-0	16.165	80.800	% Recov	60.000	118.000				10/22/07
BLANK	4-Nitrophenol	100-02-7	< 3.0	n/a	ug/L					U	10/22/07
BLANK	Pentachlorophenol	87-86-5	< 1.0	n/a	ug/L					U	10/22/07
BLANK	Phenol-d5(Surr)	4165-62-2	17.032	85.200	% Recov	59.000	116.000				10/22/07
BLANK	Pyrene	129-00-0	< 0.50	n/a	ug/L					U	10/22/07
BLANK	Tributyl phosphate	126-73-8	< 0.50	n/a	ug/L					U	10/22/07
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	12.934	64.700	% Recov	60.000	120.000				10/22/07
BLANK	Terphenyl-d14(Surr)	98904-43-9	16.779	83.900	% Recov	60.000	120.000				10/22/07
LCS	1,2,4-Trichlorobenzene	120-82-1	7.9558	39.800	% Recov	46.000	107.000		•		10/22/07
LCS	1,4-Dichlorobenzene	106-46-7	6.7217	33.600	% Recov	42.000	111.000		•		10/22/07
LCS	2,4-Dinitrotoluene	121-14-2	13.299	66.500	% Recov	59.000	106.000				10/22/07
LCS	2-Fluorophenol(Surr)	367-12-4	13.764	68.800	% Recov	50.000	110.000				10/22/07
LCS	Acenaphthene	83-32-9	12.954	64.800	% Recov	61.000	116.000				10/22/07
LCS	4-Chloro-3-methylphenol	59-50-7	21.741	72.500	% Recov	61.000	106.000				10/22/07
LCS	2-Chlorophenol	95-57-8	21.257	70.900	% Recov	66.000	106.000				10/22/07
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	14.201	71.000	% Recov	71.000	114.000				10/22/07
LCS	2-Fluorobiphenyl(Surr)	321-60-8	10.336	51.700	% Recov	58.000	109.000		•		10/22/07
LCS	Phenol	108-95-2	21.931	73.100	% Recov	67.000	105.000				10/22/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
Matrix: WATER
Test: SW-846 8270C Semi-Vols

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Nitrobenzene-d5(Surr)	4165-60-0	14.328	71.600	% Recov	60.000	118.000				10/22/07
LCS	4-Nitrophenol	100-02-7	19.442	64.800	% Recov	32.000	118.000				10/22/07
LCS	Pentachlorophenol	87-86-5	21.111	70.400	% Recov	62.000	114.000				10/22/07
LCS	Phenol-d5(Surr)	4165-62-2	14.723	73.600	% Recov	59.000	116.000				10/22/07
LCS	Pyrene	129-00-0	16.565	82.800	% Recov	66.000	118.000				10/22/07
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	13.201	66.000	% Recov	60.000	120.000				10/22/07
LCS	Terphenyl-d14(Surr)	98904-43-9	17.286	86.400	% Recov	60.000	120.000				10/22/07
LCS-DUP	1,2,4-Trichlorobenzene	120-82-1	13.398	67.000	% Recov	46.000	107.000				10/23/07
LCS-DUP	1,4-Dichlorobenzene	106-46-7	12.379	61.900	% Recov	42.000	111.000				10/23/07
LCS-DUP	2,4-Dinitrotoluene	121-14-2	15.496	77.500	% Recov	59.000	106.000				10/23/07
LCS-DUP	2-Fluorophenol(Surr)	367-12-4	16.589	82.900	% Recov	50.000	110.000				10/23/07
LCS-DUP	Acenaphthene	83-32-9	16.580	82.900	% Recov	61.000	116.000				10/23/07
LCS-DUP	4-Chloro-3-methylphenol	59-50-7	25.932	86.400	% Recov	61.000	106.000				10/23/07
LCS-DUP	2-Chlorophenol	95-57-8	24.828	82.800	% Recov	66.000	106.000				10/23/07
LCS-DUP	N-Nitrosodi-n-dipropylamine	621-64-7	16.974	84.900	% Recov	71.000	114.000				10/23/07
LCS-DUP	2-Fluorobiphenyl(Surr)	321-60-8	13.666	68.300	% Recov	58.000	109.000				10/23/07
LCS-DUP	Phenol	108-95-2	25.399	84.700	% Recov	67.000	105.000				10/23/07
LCS-DUP	Nitrobenzene-d5(Surr)	4165-60-0	16.869	84.300	% Recov	60.000	118.000				10/23/07
LCS-DUP	4-Nitrophenol	100-02-7	21.378	71.300	% Recov	32.000	118.000				10/23/07
LCS-DUP	Pentachlorophenol	87-86-5	23.887	79.600	% Recov	62.000	114.000				10/23/07
LCS-DUP	Phenol-d5(Surr)	4165-62-2	16.916	84.600	% Recov	59.000	116.000				10/23/07
LCS-DUP	Pyrene	129-00-0	16.932	84.700	% Recov	66.000	118.000				10/23/07
LCS-DUP	2,4,6-Tribromophenol(Surr)	118-79-6	15.176	75.900	% Recov	60.000	120.000				10/23/07
LCS-DUP	Terphenyl-d14(Surr)	98904-43-9	16.695	83.500	% Recov	60.000	120.000				10/23/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 10/12/07
Receive Date: 10/12/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02618											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	20.800	83.200	% Recov	63.000	117.000				10/25/07
MS	Benzene	71-43-2	26.330	105.000	% Recov	75.000	129.000				10/25/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	45.820	91.600	% Recov	75.000	125.000				10/25/07
MS	Chlorobenzene	108-90-7	27.560	110.000	% Recov	79.000	119.000				10/25/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.170	88.300	% Recov	75.000	125.000				10/25/07
MS	Toluene-d8(Surr)	2037-26-5	46.270	92.500	% Recov	75.000	125.000				10/25/07
MS	Toluene	108-88-3	26.080	104.000	% Recov	76.000	120.000				10/25/07
MS	Trichloroethene	79-01-6	23.640	94.600	% Recov	73.000	123.000				10/25/07
MSD	1,1-Dichloroethene	75-35-4	20.360	81.400	% Recov	63.000	117.000				10/25/07
MSD	Benzene	71-43-2	25.840	103.000	% Recov	75.000	129.000				10/25/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	45.460	90.900	% Recov	75.000	125.000				10/25/07
MSD	Chlorobenzene	108-90-7	27.650	111.000	% Recov	79.000	119.000				10/25/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.920	87.800	% Recov	75.000	125.000				10/25/07
MSD	Toluene-d8(Surr)	2037-26-5	46.190	92.400	% Recov	75.000	125.000				10/25/07
MSD	Toluene	108-88-3	26.020	104.000	% Recov	76.000	120.000				10/25/07
MSD	Trichloroethene	79-01-6	23.250	93.000	% Recov	73.000	123.000				10/25/07
SPK-RPD	1,1-Dichloroethene	75-35-4	81.400		RPD			2.187	20.000		10/25/07
SPK-RPD	Benzene	71-43-2	103.000		RPD			1.923	20.000		10/25/07
SPK-RPD	Chlorobenzene	108-90-7	111.000		RPD			0.905	20.000		10/25/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	87.800		RPD			0.568	20.000		10/25/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	92.400		RPD			0.108	20.000		10/25/07
SPK-RPD	Toluene	108-88-3	104.000		RPD			0.000	20.000		10/25/07
SPK-RPD	Trichloroethene	79-01-6	93.000		RPD			1.706	20.000		10/25/07

Lab ID: W07GR02626
BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
Matrix: WATER
Test: VOA Ground Water Protection

Sample Date: 10/15/07
Receive Date:10/15/07

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	44.760	89.500	% Recov	75.000	125.000				10/25/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	42.630	85.300	% Recov	75.000	125.000				10/25/07
SURR	Toluene-d8(Surr)	2037-26-5	47.330	94.700	% Recov	75.000	125.000				10/25/07

BATCH QC

BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/L	0.000	5.000			U	10/25/07
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	10/25/07
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/L					U	10/25/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	10/25/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	45.540	91.100	% Recov	75.000	125.000				10/25/07
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/L					U	10/25/07
BLANK	n-Butylbenzene	104-51-8	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	10/25/07
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	10/25/07
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	43.940	87.900	% Recov	75.000	125.000				10/25/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071829
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	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	10/25/07
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/L					U	10/25/07
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	10/25/07
BLANK	Toluene-d8(Surr)	2037-26-5	46.690	93.400	% Recov	75.000	125.000				10/25/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	10/25/07
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Trichloromonofluoromethane	75-69-4	< 1.0	n/a	ug/L	0.000	5.000			U	10/25/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L					U	10/25/07
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	10/25/07
LCS	1,1-Dichloroethene	75-35-4	19.220	76.900	% Recov	75.000	125.000				10/26/07
LCS	Benzene	71-43-2	27.880	112.000	% Recov	75.000	125.000				10/26/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	43.860	87.700	% Recov	75.000	125.000				10/26/07
LCS	Chlorobenzene	108-90-7	28.290	113.000	% Recov	75.000	125.000				10/26/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	44.580	89.200	% Recov	75.000	125.000				10/26/07
LCS	Toluene-d8(Surr)	2037-26-5	47.400	94.800	% Recov	75.000	125.000				10/26/07
LCS	Toluene	108-88-3	27.330	109.000	% Recov	75.000	125.000				10/26/07
LCS	Trichloroethene	79-01-6	22.060	88.200	% Recov	75.000	125.000				10/26/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-070

Group #: WSCF20071829
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		SVOA: This extraction batch had several problems. Seven of ten samples in this batch had recoveries of the surrogate, 2-Fluorobiphenol, less than the lower control limit. The matrix spike duplicate went dry during KD concentration and recoveries as expected were below control limits in 12 of 17 spiked compounds and surrogates. These results are not reported here. Instead, an LCS-duplicate was performed after the MSD failure to provide data for estimates of precision when compared with the LCS. The LCS itself had failures of 2-Fluorobiphenol as well as the chlorinated aromatic compounds, 1,4-Dichlorobenzene and 1,2,4-Trichlorobenzene. This is caused by incomplete extraction and has been traced to a water bath not heating up to temperature. This problem is being remedied but not before the extraction of these samples was performed. cgc TPHDiesel: The surrogate spike relative percent difference exceeded the 20% control limit because the surrogate recovery in the MS was lower than normal, but still well within control limits. cgc ICP-MS: Chromium, zinc, and selenium prep blank above the MDL. "C" flas on Zn and Se. Cr result below MDL, no flag

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-070
Sample # W07GR02626
Client ID: B1PMP3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071829
Department: Radiochemistry
Sampled: 10/15/07
Received: 10/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471		0.300	pCi/L	+-0.108	pCi/L	1.00	0.092		11/06/07
Am-243 tracer by AEA	AM243	LA-508-471		10.0	pCi/L			1.00	0.052		11/06/07
Gamma Energy Analysis-grd H2O											
Antimony-125	14234-35-6	LA-508-481	U	-9.40	pCi/L	+-13.7	pCi/L	1.00	22		10/16/07
Cobalt-60	10198-40-0	LA-508-481	U	-4.77	pCi/L	+-5.49	pCi/L	1.00	8.7		10/16/07
Cesium-137	10045-97-3	LA-508-481	U	2.24	pCi/L	+-5.12	pCi/L	1.00	9.1		10/16/07
Europium-152	14683-23-9	LA-508-481	U	-6.41	pCi/L	+-14.0	pCi/L	1.00	24		10/16/07
Europium-154	15585-10-1	LA-508-481	U	7.22	pCi/L	+-14.5	pCi/L	1.00	26		10/16/07
Europium-155	14391-16-3	LA-508-481	U	-7.44	pCi/L	+-14.6	pCi/L	1.00	25		10/16/07
Gross Alpha/Gross Beta (AB32)											
Gross alpha	12587-46-1	LA-508-415	U	0.300	pCi/L	+-0.447	pCi/L	1.00	0.74		11/07/07
Gross beta	12587-47-2	LA-508-415	U	0.0770	pCi/L	+-0.770	pCi/L	1.00	1.6		11/07/07
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471	U	8.70e-03	pCi/L	+-0.0174	pCi/L	1.00	0.032		11/07/07
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.0190	pCi/L	+-0.0906	pCi/L	1.00	0.16		11/16/07
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.0190	pCi/L	+-0.0287	pCi/L	1.00	0.046		11/16/07
Pu-242 tracer by AEA	PU242	LA-508-471		16.0	pCi/L			1.00	0.068		11/16/07
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	0.800	pCi/L	+-2.34	pCi/L	1.00	0.92		10/17/07
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		86.4	Percent			1.00	0.0		10/17/07
TC99 by Liquid Scin.											
Technetium-99	14133-76-7	LA-508-421	U	-3.30	pCi/L	+-3.30	pCi/L	1.00	4.4		11/01/07
Tritium by Liq Sct column prep											

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

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

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F07-070
Sample # W07GR02626
Client ID: B1PMP3 GRP WSCF TRENT **Matrix:** WATER

Group #: WSCF20071829
Department: Radiochemistry
Sampled: 10/15/07
Received: 10/15/07

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Tritium	10028-17-8	LA-508-421	U	110	pCi/L	+-112	pCi/L	1.00	2.2e+02		11/09/07
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.0560	pCi/L	+-0.0375	pCi/L	1.00	0.035		11/06/07
Uranium-235	15117-96-1	LA-508-471	U	0.0100	pCi/L	+-0.0246	pCi/L	1.00	0.048		11/06/07
Uranium-238	U-238	LA-508-471		0.0190	pCi/L	+-0.0196	pCi/L	1.00	0.013		11/06/07
U-232 tracer by AEA	U232	LA-508-471		10.0	pCi/L			1.00	0.078		11/06/07

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

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

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F07-070 :F07-070

Group #: WSCF20071829
Department: Radiochemistry

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W07GR02626	B1PMP3	GRP	TRENT	Gamma Energy Analysis-grd H2O	RA-226				73	pCi/L
W07GR02626	B1PMP3	GRP	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error				34	%

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: Americium by AEA

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	0.23		RPD			26.415	20.000	*	11/06/07
DUP	Am-243 tracer by AEA	AM243	9.988	78.540	% Recov	30.000	105.000				11/06/07
SURR	Am-243 tracer by AEA	AM243	9.988	79.050	% Recov	30.000	105.000				11/06/07
BATCH QC											
BLANK	Americium-241	14596-10-2	0.34	0.340	pCi/L	-10.000	1000.000				11/06/07
BLANK	Am-243 tracer by AEA	AM243	9.988	80.100	% Recov	30.000	105.000				11/06/07
LCS	Americium-241	14596-10-2	9.283	78.338	% Recov	80.000	120.000			*	11/06/07
LCS	Am-243 tracer by AEA	AM243	11.09	98.890	% Recov	30.000	105.000				11/06/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: Gamma Energy Analysis-grd H2O

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U5.291		RPD			n/a	20.000		10/17/07
DUP	Cesium-137	10045-97-3	U-5.515		RPD			n/a	20.000		10/17/07
DUP	Europium-152	14683-23-9	U8.387		RPD			n/a	20.000		10/17/07
DUP	Europium-154	15585-10-1	U5.825		RPD			n/a	20.000		10/17/07
DUP	Europium-155	14391-16-3	U0.8982		RPD			n/a	20.000		10/17/07
DUP	Antimony-125	14234-35-6	U5.594		RPD			n/a	20.000		10/17/07
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U5.129	n/a	pCi/L	-10.000	1000.000				10/18/07
BLANK	Cesium-137	10045-97-3	U1.248	n/a	pCi/L	-10.000	1000.000				10/18/07
BLANK	Europium-152	14683-23-9	U-14.56	n/a	pCi/L	-10.000	1000.000				10/18/07
BLANK	Europium-154	15585-10-1	U-25.12	n/a	pCi/L	-10.000	1000.000				10/18/07
BLANK	Europium-155	14391-16-3	U-19.28	n/a	pCi/L	-10.000	1000.000				10/18/07
BLANK	Antimony-125	14234-35-6	U2.823	n/a	pCi/L	-10.000	1000.000				10/18/07
LCS	Cobalt-60	10198-40-0	10120	101.811	% Recov	80.000	120.000				10/17/07
LCS	Cesium-137	10045-97-3	6307	104.421	% Recov	80.000	120.000				10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: Gross Alpha/Gross Beta (AB32)

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07P002677											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Gross alpha	12587-46-1	9.6		RPD			13.592	20.000		11/07/07
DUP	Gross beta	12587-47-2	3.6E+03		RPD			15.385	20.000		11/07/07
BATCH QC											
BLANK	Gross alpha	12587-46-1	9.4E-01	0.940	pCi/L	-10.000	10.000				11/07/07
BLANK	Gross beta	12587-47-2	U1.0E-01	n/a	pCi/L	-10.000	10.000				11/07/07
LCS	Gross alpha	12587-46-1	39.0	100.671	% Recov	80.000	120.000				11/07/07
LCS	Gross beta	12587-47-2	126	112.299	% Recov	80.000	120.000				11/07/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: Neptunium by AEA

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Neptunium-237	13994-20-2	U1.3e-2		RPD			n/a	20.000		11/07/07
MS	Neptunium-237	13994-20-2	93.4	93.400	% Recov	75.000	125.000				11/07/07
MSD	Neptunium-237	13994-20-2	95.1	101.820	% Recov	75.000	125.000				11/07/07
SPK-RPD	Neptunium-237	13994-20-2	95.100		% RPD			1.804	20.000		11/07/07
Lab ID: W07GR02648											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	93.5	93.500	% Recov	75.000	125.000				11/07/07
Lab ID: W07GR02696											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	95.9	100.000	% Recov	75.000	125.000				11/07/07
Lab ID: W07GR02790											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	97.3	97.300	% Recov	75.000	125.000				11/07/07
BATCH QC											
BLANK	Neptunium-237	13994-20-2	U-1.2e-2	n/a	% Recov	-10.000	1000.000				11/07/07
LCS	Neptunium-237	13994-20-2	12.9	101.216	% Recov	80.000	120.000				11/07/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: Plutonium Isotopics by AEA

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U-1.7e-2		RPD			n/a	20.000		11/16/07
DUP	Pu-239/240 by AEA	PU-239/240	5.1e-2		RPD			n/a	20.000		11/16/07
DUP	Pu-242 tracer by AEA	PU242	15.6	76.830	% Recov	30.000	105.000				11/16/07
SURR	Pu-242 tracer by AEA	PU242	15.6	65.160	% Recov	30.000	105.000				11/16/07
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U2.1e-2	n/a	pCi/L	-10.000	1000.000				11/16/07
BLANK	Pu-239/240 by AEA	PU-239/240	U7e-3	n/a	pCi/L	-10.000	1000.000				11/16/07
BLANK	Pu-242 tracer by AEA	PU242	15.6	55.850	% Recov	30.000	105.000				11/16/07
LCS	Pu-239/240 by AEA	PU-239/240	13.17	102.530	% Recov	80.000	120.000				11/16/07
LCS	Pu-242 tracer by AEA	PU242	17.32	75.260	% Recov	30.000	105.000				11/16/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: Strontium 89/90

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	55.7	55.700	% Recov	30.000	105.000				10/17/07
DUP	Strontium-89/90	SR-RAD	2.2		RPD			n/a	20.000		10/17/07
SURR	Sr-85 Tracer by Beta Counting	SR85	86.4	86.400	% Recov	30.000	105.000				10/17/07
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	88	88.000	% Recov	30.000	105.000				10/17/07
BLANK	Strontium-89/90	10098-97-2	U7.7E-01	n/a	pCi/L	-10.000	100.000				10/17/07
LCS	Sr-85 Tracer by Beta Counting	SR85	100.7	100.700	% Recov	30.000	105.000				10/17/07
LCS	Strontium-89/90	10098-97-2	169	101.380	% Recov	80.000	120.000				10/17/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: TC99 by Liquid Scin.

Sample Date: 10/11/07
Receive Date: 10/11/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02604											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Technetium-99	14133-76-7	2.1E+03		RPD			4.651	20.000		11/01/07
MS	Technetium-99	14133-76-7	24.2	28.764	% Recov	75.000	125.000				11/01/07
BATCH QC											
BLANK	Technetium-99	14133-76-7	U-3.2	n/a	pCi/L	-10.000	10.000				11/01/07
LCS	Technetium-99	14133-76-7	214.6	105.871	% Recov	80.000	120.000				11/01/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20071829
Matrix: WATER
Test: Tritium by Liq Sct column prep

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Tritium	10028-17-8	U4.3E+01		RPD			n/a	20.000		11/09/07
MS	Tritium	10028-17-8	19690.0	93.870	% Recov	75.000	125.000				11/09/07
BATCH QC											
BLANK	Tritium	10028-17-8	U4.2E+01	n/a	pCi/L	-10.000	1000.000				11/09/07
LCS	Tritium	10028-17-8	2350.0	92.498	% Recov	80.000	120.000				11/09/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20071829
Matrix: WATER
Test: Uranium Isotopics by AEA

Sample Date: 10/15/07
Receive Date:10/15/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02626											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	U-232 tracer by AEA	U232	10.4	79.840	% Recov	30.000	105.000				11/06/07
DUP	Uranium-233/234	U-233/234	5.5e-2		RPD			1.802	20.000		11/06/07
DUP	Uranium-235	15117-96-1	1.8e-2		RPD			n/a	20.000		11/06/07
DUP	Uranium-238	U-238	3.3e-2		RPD			53.846	20.000	*	11/06/07
SURR	U-232 tracer by AEA	U232	10.4	87.460	% Recov	30.000	105.000				11/06/07
BATCH QC											
BLANK	U-232 tracer by AEA	U232	10.4	89.520	% Recov	30.000	105.000				11/06/07
BLANK	Uranium-233/234	13966-29-5	6.6e-2	0.066	pCi/L	-10.000	1000.000				11/06/07
BLANK	Uranium-235	15117-96-1	U4.7e-03	n/a	pCi/L	-10.000	1000.000				11/06/07
BLANK	Uranium-238	24678-82-8	U2.4e-2	n/a	pCi/L	-10.000	1000.000				11/06/07
LCS	U-232 tracer by AEA	U232	11.53	87.120	% Recov	30.000	105.000				11/05/07
LCS	Uranium-233/234	13966-29-5	n/a	n/a	% Recov	75.000	125.000				11/05/07
LCS	Uranium-238	24678-82-8	20.49	108.098	% Recov	80.000	120.000				11/05/07

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F07-070

Group #: WSCF20071829
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
				W07GR02626/U-238 is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. lmh
				Tc99 matrix spike is flagged for a low recovery. The spike activity is too small compared to the Tc-99 activity in the sample to get a reasonable matrix spike recovery. lmh
				W07GR02696/LCS & Dup Am-241 are flagged for a low recovery. Since the LCS recovery and duplicate are only slightly out range, this batch has been approved. lmh

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-07-957

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 5 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
11/29/07
VTS

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 123262/ES10
Group#: 20071829
Project#: F07-070
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 10/15/07. 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
W07GR02626	B1PMP3	GRP	TRENT Water					10/15/0
		@2008	@8015GPP	@AB-32	@AEA-30	@AEA-31		
		@AEA-32	@AEA-33	@GEA-GPP	@GPP6010	@H3-33	@IC-	
		@SR89_90	@SVOCGPP	@TC99-30	@TC99-MS	@TPHD-WA	@VOA	
		CN-02	CR+6					

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@8015GPP	Alcohols, Glycols - 8015
@AB-32	Gross Alpha/Gross Beta (AB32)
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@AEA-32	Uranium Isotopics by AEA
@AEA-33	Neptunium by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@GPP6010	ICP Metals Analysis, Grd H20 P
@H3-33	Tritium by Liq Sct column prep
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
@SVOCGPP	SW-846 8270C Semi-Vols
@TC99-30	TC99 by Liquid Scin.
@TC99-MS	TC99 screen by ICP-200.8 MS
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
CN-02	Cyanide by Midi/Spectrophotom
CR+6	Hexavalent chromium

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	DATA TURNAROUND
NCO Sampler	Trent, SJ	373-5869	TRENT, SJ	7N	45 Days / 45 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.	AIR QUALITY
C5852, EB - I-17	200-BP-5 OU Characterization for O Well - QC	F07-070	

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
	HNF-N-575-2	123262ES10	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

SPECIAL HANDLING AND/OR STORAGE

20071829

PRESERVATION	HNO3 to pH <2(ULTREX)	HCl or H2SO4 to pH <2/Cool~4C	Cool~4C	Cool~4C	HCl to pH <2/Cool~4C	HNO3 to pH <2	Cool~4C	NaOH to pH >= 12/Cool~4C	Cool~4C	HNO3 to pH <2
TYPE OF CONTAINER	Nalgene	aGs*	aGs*	aG	aG	P	aG	G/P	P	P
NO. OF CONTAINER(S)	1	4	3	4	3	1	1	1	1	1
VOLUME	500mL	40mL	40mL	1000mL	1000mL	500mL	500mL	250mL	~~120mL~~ 125 ml 125 ml 10/15/07	500mL
SAMPLE ANALYSIS	Tc-99 by ICPMS (Technetium-99)	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	Cyanide (Total) - 335.2;	SEE ITEM (6) IN SPECIAL INSTRUCTIONS	SEE ITEM (7) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME										
B1PMP3 W07G02426	WATER	10/15/07	0740	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
				023852	718304	610500	026698		023517	023915	421860	023852	

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
D. Parcher	10/15/07 10:20	Victor Jones	10/15/07 10:20
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

ICED
Initial
Date

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

COLLECTOR NCO Sampler	**COMPANY CONTACT** Trent, SJ	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** TRENT, SJ	**PRICE CODE** 7N	**DATA TURNAROUND** 45 Days
SAMPLING LOCATION C5852, EB - I-17	**PROJECT DESIGNATION** 200-BP-5 OU Characterization for O Well - QC		**SAF NO.** F07-070	**AIR QUALITY**	
ICE CHEST NO.	**FIELD LOGBOOK NO.** HNF-N-575-2	**COA** 123262ES10	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE		
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

(1)VOA - 8260B (TCL); VOA - 8260B (Add-On) {1-Butanol, Trichloromonofluoromethane, cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}
(2)Alcohols, Glycols, & Ketones - 8015 {Diethyl ether, Ethylene glycol}
(3)Semi-VOA - 8270B (TCL) {Bis(2-ethylhexyl) phthalate, Naphthalene, Pentachlorophenol, Phenol, Pyrene} Semi-VOA - 8270B (Add-On) {3+4 Methylphenol (cresol, m+p), Tributyl phosphate}
(4)TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
(5)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Copper, Nickel, Silver, Vanadium, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Lead, Selenium, Strontium, Thallium, Uranium} ICP Metals - 6010B (Add-On) {Beryllium, Boron} 200.8_HG - ICPMS;
(6)IC Anions - 300.0 {Chloride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}
(7)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Gamma Spec - Add-on {Antimony-125}

ICED
Initial
Date

A-6003-618(01/06)

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	7N	DATA TURNAROUND
NCO Sampler	Trent, SJ	373-5869	TRENT, SJ			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**		45 Days / 45 Days
C5852, EB - 1-17	200-BP-5 OU Characterization for O Well - QC		F07-070			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**COA**	**METHOD OF SHIPMENT**			
		123262ES10	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

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	HNO3 to pH <2	HNO3 to pH <2	HNO3 to pH<2	HNO3 to pH <2	HNO3 to pH <2	HCl to pH <2	HNO3 to pH <2	None
TYPE OF CONTAINER	P	P	G/P	G/P	G/P	G/P	G/P	G
NO. OF CONTAINER(S)	1	1	1	1	1	2	1	1
VOLUME	1000mL	1000mL	1000mL	1000mL	1L	1L	1000mL	250mL
SAMPLE ANALYSIS	Gross Alpha; Gross Beta;	Isotopic Plutonium;	Isotopic Uranium;	Neptunium-237;	Strontium-89,90 -- Total Sr;	Technetium-99;	Americium-241;	Tritium - H3;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME								
B1PMP3	WATER	10/15/07	0740	✓	✓	✓	✓	✓	✓	✓	✓

023710 022959 027119

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
Jerry D. Parker	10/15/07 10:20	Victor Sims	10/15/07 10:20	
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	

VICED
Initial
Date

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