REV. 1

RECEIVED JULY 18, 2008

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FLUOR

Memorandum

M4W41-SLF-08-709

To: H. Hampt E6-35 Date: July 17, 2008

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

Karla Stanfill for SLF

cc: w/Attachments

T. F. Dale	S3-30	J. E. Trechter	S3-30
A. J. Kopriva	S3-30	S. J. Trent	E6-35
H. K. Meznarich	S3-30	File/LB	
P. D. Mix	S3-30		

Subject: ADDITIONAL SAMPLE ANALYSES (6010) FOR SAMPLE DELIVERY GROUP WSCF20080715 – SAF NUMBER F08-066

Reference:
(1) Memo, SL Fitzgerald to H Hampt, Final Results for SDG WSCF20080715 (M4W41-SLF-08-544), dated May 20, 2008

(2) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(3) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality Assurance Plan

Compliant to your request for additional metals, Antimony, Manganese and Thallium data have been included in this submittal for sample delivery group WSCF20080715:

- Analytical Results (Replacement pages 16, 19, 20, 21, 22 and 22a of 58)

If you have any questions, don't hesitate to call on Pauline Mix, telephone 372-1488, for assistance.

SLF/grf

Attachments
As listed

REVISED 7-18-08

M4W41-SLF-08-544

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20080715
Data Deliverable Date: 19-may-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F08-066	B1TFB8	W08GR00914	SOIL
	B1TFC0	W08GR00913	SOIL

M4W41-SLF-08-544

ATTACHMENT 2

NARRATIVE

Consisting of 4 pages
Including cover page

Introduction

Three S&GRP samples were received at the WSCF Laboratory on April 3, 2008. Two of the samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter. The high concentration VOA sample and corresponding Methanol Blank (B1TFB9) were not required. Additionally, conductivity was not performed on sample# B1TFC0).

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. A copy of the sample record sheet is also included as Attachment 5.

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

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* pages 13 through 15, for a complete listing of approved analytical methods.

Inorganic Comments

Anions – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 17 through 18 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TN41 (SDG# 20080591, SAF# F08-070).
- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.

All QC controls are within the established limits.

Conductivity – WSCF Laboratory does not perform specific conductance testing on solid matrix samples.

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 19 through 22 for QC details. Analytical Note(s):

- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1TNR0 (SDG# 20080683, SAF# F08-070) and B1TDD9 (SDG# 20080746, SAF# F08-043).

- B1TNR0 Batch QC

  - Barium – Matrix Spike Duplicate recovery was less than established laboratory limits. Sample result was N flagged.

- B1TDD9 Batch QC

  - Silver – Matrix Spike and Matrix Spike Duplicate recoveries were less than established laboratory limits. Sample result was N flagged. Additionally, the Laboratory Control Sample (LCS) recovery was slightly less than established laboratory limits. Sample result was also E flagged.

  - Lead – LCS recovery was slightly less than established laboratory limits. Sample result was E flagged.

All other QC controls are within the established limits.

pH – A Duplicate was analyzed with this delivery group per the GRP Letter of Instruction. See page 23 for QC details.

All QC controls are within the established limits.

Organic Comments

All results are moisture corrected and reported on a dry weight basis.

PCB – 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 30 through 31 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TTD4 (SDG# 20080650, SAF# F08-088).

All QC controls are within the established limits.

Semi-VOA – 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 GPP Letter of Instruction. See pages 32 through 35 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TNR0 (SDG# 20080683, SAF# F08-070).

All QC controls are within the established limits.

TPHD-WA – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See page 36 for QC details.

All QC controls are within the established limits.

VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample, were analyzed with this delivery group per the GRP Letter of Instruction. See pages 37 through 39 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TNP8 (SDG# 20080683, SAF# F08-070.
- The high concentration VOA sample and corresponding Methanol Blank (B1TFB9) were not required.

All QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 43 through 48 for QC details. Analytical Note(s):

- GEA – Cesium-137 Duplicate Relative Percent Difference (RPD) exceeded established laboratory limits due to low sample activity. No flag issued.

All other QC controls are within the established limits.

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

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-544

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 42 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald 5/20/08

Client Services: P.D. Mix 5/20/2008

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

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

Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20080715
Report Date: 20-may-2008
Report WGPP/ver. 5.2
Groundwater Remediation Program

w13qlog v4.2 20-may-2008 12:58:35

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20080715

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W08GR00913	Percent Solids
35875	2	36280	40566	BLANK		Anions by Ion Chromatography
35875	17	36280	40566	BLANK		Anions by Ion Chromatography
35875	3	36280	40566	LCS		Anions by Ion Chromatography
35875	5	36280	40566	DUP	W08GR00694	Anions by Ion Chromatography
35875	6	36280	40566	MS	W08GR00694	Anions by Ion Chromatography
35875	7	36280	40566	MSD	W08GR00694	Anions by Ion Chromatography
35875	7	36280	40566	SPK-RPD	W08GR00694	Anions by Ion Chromatography
35875	15	36280	40566	SAMPLE	W08GR00913	Anions by Ion Chromatography
			40606	DUP	W08GR00913	pH Soil and Waste Measurement
			40606	SAMPLE	W08GR00913	pH Soil and Waste Measurement
35995	1	36411	40675	BLANK		ICP-200.8 MS All possible meta
35995	2	36411	40675	LCS		ICP-200.8 MS All possible meta
35995	4	36411	40675	MS	W08GR00836	ICP-200.8 MS All possible meta
35995	5	36411	40675	MSD	W08GR00836	ICP-200.8 MS All possible meta
35995	5	36411	40675	SPK-RPD	W08GR00836	ICP-200.8 MS All possible meta
35995	9	36411	40675	SAMPLE	W08GR00913	ICP-200.8 MS All possible meta
35995	7	36411	40675	MS	W08GR00954	ICP-200.8 MS All possible meta
35995	8	36411	40675	MSD	W08GR00954	ICP-200.8 MS All possible meta
35995	8	36411	40675	SPK-RPD	W08GR00954	ICP-200.8 MS All possible meta

w13qlog v4.2 20-may-2008 12:58:35

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20080715

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			40705	BLANK		PCBs complete list
			40705	LCS		PCBs complete list
			40705	MS	W08GR00781	PCBs complete list
			40705	MSD	W08GR00781	PCBs complete list
			40705	SPK-RPD	W08GR00781	PCBs complete list
			40705	SAMPLE	W08GR00913	PCBs complete list
			40705	SURR	W08GR00913	PCBs complete list
			40713	BLANK		NWTPH-D TPH Diesel Range (Wa)
			40713	LCS		NWTPH-D TPH Diesel Range (Wa)
			40713	MS	W08GR00913	NWTPH-D TPH Diesel Range (Wa)
			40713	MSD	W08GR00913	NWTPH-D TPH Diesel Range (Wa)
			40713	SAMPLE	W08GR00913	NWTPH-D TPH Diesel Range (Wa)
			40713	SPK-RPD	W08GR00913	NWTPH-D TPH Diesel Range (Wa)
			40713	SURR	W08GR00913	NWTPH-D TPH Diesel Range (Wa)
			40725	BLANK		SW-846 8270C Semi-Vols
			40725	LCS		SW-846 8270C Semi-Vols
			40725	MS	W08GR00836	SW-846 8270C Semi-Vols
			40725	MSD	W08GR00836	SW-846 8270C Semi-Vols
			40725	SPK-RPD	W08GR00836	SW-846 8270C Semi-Vols
			40725	SAMPLE	W08GR00913	SW-846 8270C Semi-Vols
			40725	SURR	W08GR00913	SW-846 8270C Semi-Vols
			40828	BLANK		VOA Ground Water Protection
			40828	LCS		VOA Ground Water Protection
			40828	MS	W08GR00837	VOA Ground Water Protection
			40828	MSD	W08GR00837	VOA Ground Water Protection
			40828	SPK-RPD	W08GR00837	VOA Ground Water Protection
			40828	SAMPLE	W08GR00914	VOA Ground Water Protection
			40828	SURR	W08GR00914	VOA Ground Water Protection

w13qlog v4.2 20-may-2008 12:58:35

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20080715

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
35921	1	36336	40755	BLANK		Strontium 89/90
35921	2	36336	40755	LCS		Strontium 89/90
35921	3	36336	40755	DUP	W08GR00913	Strontium 89/90
35921	4	36336	40755	SAMPLE	W08GR00913	Strontium 89/90
35921	5	36336	40755	SURR	W08GR00913	Strontium 89/90
36065	1	36480	40781	BLANK		Plutonium Isotopics by AEA
36065	2	36480	40781	LCS		Plutonium Isotopics by AEA
36065	3	36480	40781	DUP	W08GR00913	Plutonium Isotopics by AEA
36065	4	36480	40781	SAMPLE	W08GR00913	Plutonium Isotopics by AEA
36065	5	36480	40781	SURR	W08GR00913	Plutonium Isotopics by AEA
36066	1	36481	40783	BLANK		Americium by AEA
36066	2	36481	40783	LCS		Americium by AEA
36066	3	36481	40783	DUP	W08GR00913	Americium by AEA
36066	4	36481	40783	SAMPLE	W08GR00913	Americium by AEA
36066	5	36481	40783	SURR	W08GR00913	Americium by AEA
36064	1	36479	40784	BLANK		Uranium Isotopics by AEA
36064	2	36479	40784	LCS		Uranium Isotopics by AEA
36064	3	36479	40784	DUP	W08GR00913	Uranium Isotopics by AEA
36064	4	36479	40784	SAMPLE	W08GR00913	Uranium Isotopics by AEA
36064	5	36479	40784	SURR	W08GR00913	Uranium Isotopics by AEA
36275	1	36691	41030	BLANK		Neptunium by AEA
36275	2	36691	41030	LCS		Neptunium by AEA
36275	3	36691	41030	DUP	W08GR00913	Neptunium by AEA
36275	5	36691	41030	MS	W08GR00913	Neptunium by AEA
36275	6	36691	41030	MSD	W08GR00913	Neptunium by AEA
36275	4	36691	41030	SAMPLE	W08GR00913	Neptunium by AEA
36275	6	36691	41030	SPK-RPD	W08GR00913	Neptunium by AEA
36275	8	36691	41030	MS	W08GR00937	Neptunium by AEA
36275	10	36691	41030	MS	W08GR00954	Neptunium by AEA
35870	1	36276	41130	BLANK		Gamma Energy Analysis-grd H2O
35870	2	36276	41130	LCS		Gamma Energy Analysis-grd H2O
35870	3	36276	41130	DUP	W08GR00913	Gamma Energy Analysis-grd H2O
35870	4	36276	41130	SAMPLE	W08GR00913	Gamma Energy Analysis-grd H2O

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-212-411 Determination of Soil pH Measurement

EPA SW-846 9045D	SOIL AND WASTE pH
HEIS 150.1_PH	pH

LA-505-412 LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY

EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
HEIS 200.8_METALS_ICPMS	Inductively Coupled Plasma - Mass Spectrometry
HEIS RADISOTOPES_ICPMS	Radioisotopes by ICP/MS

LA-519-412 LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C

EPA-600/4-79-020 160.1	Resisual, Filterable
EPA-600/4-79-020 160.3	RESIDUE, TOTAL
HEIS 160.1_TDS	Residual, Filterable
Standard Methods 2540B	Total Solids Dried at 103-105 C

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

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

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

WSCF
METHOD REFERENCES REPORT

Department: Organic

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

LA-523-427 LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY

EPA SW-846 3510C	SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION
EPA SW-846 3545	PRESSURIZED FLUID EXTRACTION (PFE)
EPA SW-846 3665A	SULFURIC ACID/PERMANGANATE CLEANUP
EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
EPA SW-846 8082A	POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY
HEIS 8082_PCB_GC	Polychlorinated Biphenyls (PCBs) by Gas Chromatography

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

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

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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

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

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

LA-508-471 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: F08-066
Sample # W08GR00913
Client ID: B1TFC0 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20080715
Department: Inorganic
Sampled: 04/03/08
Received: 04/03/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											**04/07/08**
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.294	mg/kg			49.00	0.29		04/07/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.490	mg/kg			49.00	0.49		04/07/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	1.37	mg/kg			49.00	0.24		04/07/08
Sulfate	14808-79-8	LA-533-410	DU	< 3.43	mg/kg			49.00	3.4		04/07/08
ICP-200.8 MS All possible meta Prep											**04/09/08**
ICP-200.8 MS All possible meta											
Manganese	7439-96-5	LA-505-412		310	mg/kg			1.00	0.100		04/11/08
Nickel	7440-02-0	LA-505-412		8.51	mg/kg			1.00	0.200		04/11/08
Silver	7440-22-4	LA-505-412	EN	0.270	mg/kg			1.00	0.0999		04/11/08
Antimony	7440-36-0	LA-505-412	U	< 0.300	mg/kg			1.00	0.300		04/11/08
Barium	7440-39-3	LA-505-412	N	72.9	mg/kg			1.00	0.200		04/11/08
Beryllium	7440-41-7	LA-505-412		0.260	mg/kg			1.00	0.0500		04/11/08
Cadmium	7440-43-9	LA-505-412		0.130	mg/kg			1.00	0.0999		04/11/08
Chromium	7440-47-3	LA-505-412		6.94	mg/kg			1.00	0.500		04/11/08
Cobalt	7440-48-4	LA-505-412		6.37	mg/kg			1.00	0.0500		04/11/08
Copper	7440-50-8	LA-505-412		9.98	mg/kg			1.00	0.0999		04/11/08
Zinc	7440-66-6	LA-505-412		31.6	mg/kg			1.00	0.800		04/11/08
Lead	7439-92-1	LA-505-412	E	3.74	mg/kg			1.00	0.0999		04/11/08
Mercury	7439-97-6	LA-505-412		0.0500	mg/kg			1.00	0.0500		04/11/08
Arsenic	7440-38-2	LA-505-412		3.09	mg/kg			1.00	0.400		04/11/08
Selenium	7782-49-2	LA-505-412	U	< 0.300	mg/kg			1.00	0.300		04/11/08
Thallium	7440-28-0	LA-505-412	U	< 0.300	mg/kg			1.00	0.100		04/11/08
Total solids											

PRL P.D. Mix 7/17/2008

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)
E - Analyte is an estimate, has potentially larger errors(inorg)
U - Analyzed for but not detected above limiting criteria(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.(org)

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

REVISED 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080715
Matrix: SOLID
Test: Anions by Ion Chromatography

Sample Date: 03/19/08
Receive Date:03/20/08

Lab ID: W08GR00694

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Fluoride	16984-48-8	<0.3		RPD			n/a	20.000	U	04/07/08
DUP	Nitrogen in Nitrite	NO2-N	<0.5		RPD			n/a	20.000	U	04/07/08
DUP	Nitrogen in Nitrate	NO3-N	3.388		RPD			15.779	20.000		04/07/08
DUP	Sulfate	14808-79-8	14.0456		RPD			17.102	20.000		04/07/08
MS	Fluoride	16984-48-8	0.483634	97.115	% Recov	75.000	125.000				04/07/08
MS	Nitrogen in Nitrite	NO2-N	0.485538	97.694	% Recov	75.000	125.000				04/07/08
MS	Nitrogen in Nitrate	NO3-N	0.453794	100.843	% Recov	75.000	125.000				04/07/08
MS	Sulfate	14808-79-8	1.925564	97.251	% Recov	75.000	125.000				04/07/08
MSD	Fluoride	16984-48-8	0.479034	96.192	% Recov	75.000	125.000				04/07/08
MSD	Nitrogen in Nitrite	NO2-N	0.470814	94.731	% Recov	75.000	125.000				04/07/08
MSD	Nitrogen in Nitrate	NO3-N	0.449032	99.785	% Recov	75.000	125.000				04/07/08
MSD	Sulfate	14808-79-8	1.912654	96.599	% Recov	75.000	125.000				04/07/08
SPK-RPD	Fluoride	16984-48-8	96.192		RPD			0.955	20.000		04/07/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	94.731		RPD			3.080	20.000		04/07/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	99.785		RPD			1.055	20.000		04/07/08
SPK-RPD	Sulfate	14808-79-8	96.599		RPD			0.673	20.000		04/07/08

BATCH QC

BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	04/07/08
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	04/07/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	04/07/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	04/07/08
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	04/07/08
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	04/07/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	04/07/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	04/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080715
Matrix: SOLID
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
LCS	Fluoride	16984-48-8	104.9652	105.387	% Recov	80.000	120.000				04/07/08
LCS	Nitrogen in Nitrite	NO2-N	99.9855	100.589	% Recov	80.000	120.000				04/07/08
LCS	Nitrogen in Nitrate	NO3-N	92.3455	102.492	% Recov	80.000	120.000				04/07/08
LCS	Sulfate	14808-79-8	388.7195	98.161	% Recov	80.000	120.000				04/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080715
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

Sample Date: 04/01/08
Receive Date:04/01/08

Lab ID: W08GR00836
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	Arsenic	7440-38-2	183.51	91.755	% Recov	70.000	130.000				04/11/08
MS	Barium	7440-39-3	147	73.500	% Recov	70.000	130.000				04/11/08
MS	Beryllium	7440-41-7	178.98	89.490	% Recov	70.000	130.000				04/11/08
MS	Cadmium	7440-43-9	188.3	94.150	% Recov	70.000	130.000				04/11/08
MS	Cobalt	7440-48-4	178.12	89.060	% Recov	70.000	130.000				04/11/08
MS	Chromium	7440-47-3	190.83	95.415	% Recov	70.000	130.000				04/11/08
MS	Mercury	7439-97-6	1.91	95.500	% Recov	70.000	130.000				04/11/08
MS	Manganese	7439-96-5	187.8	93.900	% Recov	70.000	130.000				04/11/08
MS	Lead	7439-92-1	182.75	91.375	% Recov	70.000	130.000				04/11/08
MS	Antimony	7440-36-0	155.7	77.850	% Recov	70.000	130.000				04/11/08
MS	Selenium	7782-49-2	184.4	92.200	% Recov	70.000	130.000				04/11/08
MS	Thallium	7440-28-0	174.8	87.400	% Recov	70.000	130.000				04/11/08
MS	Zinc	7440-66-6	178.99	89.495	% Recov	70.000	130.000				04/11/08
MSD	Arsenic	7440-38-2	177.81	88.905	% Recov	70.000	130.000				04/11/08
MSD	Barium	7440-39-3	135.4	67.700	% Recov	70.000	130.000			*	04/11/08
MSD	Beryllium	7440-41-7	175.28	87.640	% Recov	70.000	130.000				04/11/08
MSD	Cadmium	7440-43-9	184.2	92.100	% Recov	70.000	130.000				04/11/08
MSD	Cobalt	7440-48-4	172.72	86.360	% Recov	70.000	130.000				04/11/08
MSD	Chromium	7440-47-3	183.23	91.615	% Recov	70.000	130.000				04/11/08
MSD	Mercury	7439-97-6	1.91	95.500	% Recov	70.000	130.000				04/11/08
MSD	Manganese	7439-96-5	128.8	64.400	% Recov	70.000	130.000			*	04/11/08
MSD	Lead	7439-92-1	178.65	89.325	% Recov	70.000	130.000				04/11/08
MSD	Antimony	7440-36-0	159.4	79.700	% Recov	70.000	130.000				04/11/08
MSD	Selenium	7782-49-2	182.3	91.150	% Recov	70.000	130.000				04/11/08
MSD	Thallium	7440-28-0	171.1	85.550	% Recov	70.000	130.000				04/11/08
MSD	Zinc	7440-66-6	171.99	85.995	% Recov	70.000	130.000				04/11/08

REVISED 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080715
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

Sample Date: 04/01/08
Receive Date:04/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Arsenic	7440-38-2	88.905		RPD			3.155	20.000		04/11/08
SPK-RPD	Barium	7440-39-3	67.700		RPD			8.215	20.000		04/11/08
SPK-RPD	Beryllium	7440-41-7	87.640		RPD			2.089	20.000		04/11/08
SPK-RPD	Cadmium	7440-43-9	92.100		RPD			2.201	20.000		04/11/08
SPK-RPD	Cobalt	7440-48-4	86.360		RPD			3.078	20.000		04/11/08
SPK-RPD	Chromium	7440-47-3	91.615		RPD			4.064	20.000		04/11/08
SPK-RPD	Mercury	7439-97-6	95.500		RPD			0.000	20.000		04/11/08
SPK-RPD	Manganese	7439-96-5	64.400		RPD			37.271	20.000	*	04/11/08
SPK-RPD	Lead	7439-92-1	89.325		RPD			2.269	20.000		04/11/08
SPK-RPD	Antimony	7440-36-0	79.700		RPD			2.348	20.000		04/11/08
SPK-RPD	Selenium	7782-49-2	91.150		RPD			1.145	20.000		04/11/08
SPK-RPD	Thallium	7440-28-0	85.550		RPD			2.139	20.000		04/11/08
SPK-RPD	Zinc	7440-66-6	85.995		RPD			3.989	20.000		04/11/08

Lab ID: W08GR00954
BATCH QC ASSOCIATED WITH SAMPLE

MS	Silver	7440-22-4	104.09	52.045	% Recov	70.000	130.000			*	04/11/08
MS	Arsenic	7440-38-2	174.4	87.200	% Recov	70.000	130.000				04/11/08
MS	Barium	7440-39-3	181.28	90.640	% Recov	70.000	130.000				04/11/08
MS	Beryllium	7440-41-7	175.55	87.775	% Recov	70.000	130.000				04/11/08
MS	Cadmium	7440-43-9	183.4	91.700	% Recov	70.000	130.000				04/11/08
MS	Cobalt	7440-48-4	176	88.000	% Recov	70.000	130.000				04/11/08
MS	Chromium	7440-47-3	184.9	92.450	% Recov	70.000	130.000				04/11/08
MS	Copper	7440-50-8	173.33	86.665	% Recov	70.000	130.000				04/11/08
MS	Mercury	7439-97-6	1.86	93.000	% Recov	70.000	130.000				04/11/08
MS	Manganese	7439-96-5	194	97.000	% Recov	70.000	130.000				04/11/08
MS	Nickel	7440-02-0	176.28	88.140	% Recov	70.000	130.000				04/11/08
MS	Lead	7439-92-1	181.41	90.705	% Recov	70.000	130.000				04/11/08
MS	Antimony	7440-36-0	139	69.500	% Recov	70.000	130.000			*	04/11/08
MS	Selenium	7782-49-2	175.5	87.750	% Recov	70.000	130.000				04/11/08

REVISED 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080715
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

Sample Date: 03/19/08
Receive Date:04/08/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Thallium	7440-28-0	172	86.000	% Recov	70.000	130.000				04/11/08
MS	Zinc	7440-66-6	175.53	87.765	% Recov	70.000	130.000				04/11/08
MSD	Silver	7440-22-4	127.49	63.745	% Recov	70.000	130.000			•	04/11/08
MSD	Arsenic	7440-38-2	179.2	89.600	% Recov	70.000	130.000				04/11/08
MSD	Barium	7440-39-3	190.08	95.040	% Recov	70.000	130.000				04/11/08
MSD	Beryllium	7440-41-7	178.95	89.475	% Recov	70.000	130.000				04/11/08
MSD	Cadmium	7440-43-9	187.5	93.750	% Recov	70.000	130.000				04/11/08
MSD	Cobalt	7440-48-4	177	88.500	% Recov	70.000	130.000				04/11/08
MSD	Chromium	7440-47-3	187.6	93.800	% Recov	70.000	130.000				04/11/08
MSD	Copper	7440-50-8	173.93	86.965	% Recov	70.000	130.000				04/11/08
MSD	Mercury	7439-97-6	1.98	99.000	% Recov	70.000	130.000				04/11/08
MSD	Manganese	7439-96-5	157	78.500	% Recov	70.000	130.000				04/11/08
MSD	Nickel	7440-02-0	176.48	88.240	% Recov	70.000	130.000				04/11/08
MSD	Lead	7439-92-1	185.11	92.555	% Recov	70.000	130.000				04/11/08
MSD	Antimony	7440-36-0	143.7	71.850	% Recov	70.000	130.000				04/11/08
MSD	Selenium	7782-49-2	179	89.500	% Recov	70.000	130.000				04/11/08
MSD	Thallium	7440-28-0	176	88.000	% Recov	75.000	125.000				04/11/08
MSD	Zinc	7440-66-6	181.23	90.615	% Recov	70.000	130.000				04/11/08
SPK-RPD	Silver	7440-22-4	63.745		RPD			20.209	20.000 •		04/11/08
SPK-RPD	Arsenic	7440-38-2	89.600		RPD			2.715	20.000		04/11/08
SPK-RPD	Barium	7440-39-3	95.040		RPD			4.739	20.000		04/11/08
SPK-RPD	Beryllium	7440-41-7	89.475		RPD			1.918	20.000		04/11/08
SPK-RPD	Cadmium	7440-43-9	93.750		RPD			2.211	20.000		04/11/08
SPK-RPD	Cobalt	7440-48-4	86.360		RPD			3.078	20.000		04/11/08
SPK-RPD	Chromium	7440-47-3	93.800		RPD			1.450	20.000		04/11/08
SPK-RPD	Copper	7440-50-8	86.965		RPD			0.346	20.000		04/11/08
SPK-RPD	Mercury	7439-97-6	99.000		RPD			6.250	20.000		04/11/08
SPK-RPD	Manganese	7439-96-5	?		RPD			n/a	20.000		04/11/08
SPK-RPD	Nickel	7440-02-0	88.240		RPD			0.113	20.000		04/11/08
SPK-RPD	Lead	7439-92-1	92.555		RPD			2.019	20.000		04/11/08

REVISED 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080715
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

Sample Date: 03/19/08
Receive Date:04/08/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Antimony	7440-36-0	79.700		RPD			2.348	20.000		04/11/08
SPK-RPD	Selenium	7782-49-2	89.500		RPD			1.975	20.000		04/11/08
SPK-RPD	Thallium	7440-28-0	88		RPD			2.299	20.000		04/11/08
SPK-RPD	Zinc	7440-66-6	90.615		RPD			3.195	20.000		04/11/08
BATCH QC											
BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	04/11/08
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	04/11/08
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L					U	04/11/08
BLANK	Beryllium	7440-41-7	<5e-2	n/a	ug/L					U	04/11/08
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	04/11/08
BLANK	Cobalt	7440-48-4	<5e-2	n/a	ug/L					U	04/11/08
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	04/11/08
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L					U	04/11/08
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	04/11/08
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	04/11/08
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	04/11/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	04/11/08
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	04/11/08
BLANK	Selenium	7782-49-2	<0.3	n/a	ug/L					U	04/11/08
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L					U	04/11/08
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	04/11/08
LCS	Silver	7440-22-4	91.7	90.792	% Recov	98.000	134.000				04/11/08
LCS	Arsenic	7440-38-2	127.9	96.894	% Recov	75.000	134.000				04/11/08
LCS	Barium	7440-39-3	286	89.655	% Recov	87.000	121.000				04/11/08
LCS	Beryllium	7440-41-7	80.88	90.369	% Recov	70.000	153.000				04/11/08
LCS	Cadmium	7440-43-9	63.18	95.008	% Recov	95.000	124.000				04/11/08
LCS	Cobalt	7440-48-4	71.31	97.551	% Recov	88.000	119.000				04/11/08
LCS	Chromium	7440-47-3	66.5	91.221	% Recov	77.000	125.000				04/11/08
LCS	Copper	7440-50-8	66.86	97.606	% Recov	84.000	122.000				04/11/08

REVISED 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080715
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Mercury	7439-97-6	7.48	90.338	% Recov	71.000	132.000				04/11/08
LCS	Manganese	7439-96-5	435.3	96.093	% Recov	83.000	118.000				04/11/08
LCS	Nickel	7440-02-0	56.43	101.493	% Recov	90.000	121.000				04/11/08
LCS	Lead	7439-92-1	117.9	90.692	% Recov	92.000	123.000			•	04/11/08
LCS	Antimony	7440-36-0	61.26	67.916	% Recov	114.000	260.000			•	04/11/08
LCS	Selenium	7782-49-2	162.8	101.118	% Recov	52.000	157.000				04/11/08
LCS	Thallium	7440-28-0	119.5	89.850	% Recov	92.000	123.000			•	04/11/08
LCS	Zinc	7440-66-6	183.8	103.842	% Recov	85.000	130.000				04/11/08

REVISED 7-18-08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080715
Matrix: SOLID
Test: pH Soil and Waste Measurement

Sample Date: 04/03/08
Receive Date:04/03/08

Lab ID: W08GR00913
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	pH Soil and Waste Measurement	PH	8.76		RPD			0.683	3.000		04/07/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-066

Group #: WSCF20080715
Department: Inorganic

ample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Silver and Lead LCS below statistical limits but within 10% of assigned value. "E" flags Silver MS and MSD recoveries 52% and 64%. "N" flag Two associated samples in batch spiked; one had low barium recover, other was within limits; N-flag for Ba Organics: All results are moisture corrected and reported on a dry weight basis. cgc W08GR00913/Cs137 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. 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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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR00913
Client ID: B1TFC0 GPP TRENT WSCF **Matrix:** SOIL

Group #: WSCF20080715
Department: Organic
Sampled: 04/03/08
Received: 04/03/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
NWTPH-D TPH Diesel Range (Wa) Prep											**04/14/08**
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 3.30e+03	ug/kg			1.00	3.3e+03		04/16/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 3.30e+03	ug/kg			1.00	3.3e+03		04/16/08
PCBs complete list Prep											**04/14/08**
PCBs complete list											
Aroclor-1016	12674-11-2	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
Aroclor-1221	11104-28-2	LA-523-427	U	< 21.0	ug/kg			1.00	21		04/16/08
Aroclor-1232	11141-16-5	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
Aroclor-1242	53469-21-9	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
Aroclor-1248	12672-29-6	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
Aroclor-1254	11097-69-1	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
Aroclor-1260	11096-82-5	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
Aroclor-1262	37324-23-5	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
Aroclor-1268	11100-14-4	LA-523-427	U	< 11.0	ug/kg			1.00	11		04/16/08
SW-846 8270C Semi-Vols Prep											**04/14/08**
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 220	ug/kg			1.00	2.2e+02		04/16/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 260	ug/kg			1.00	2.6e+02		04/16/08
Phenol	108-95-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Pyrene	129-00-0	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
E - Analyte is an estimate, has potentially larger errors(inorg)
U - Analyzed for but not detected above limiting criteria(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.(org)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR00913
Client ID: B1TFC0 GPP TRENT WSCF

Matrix: SOIL

Group #: WSCF20080715
Department: Organic
Sampled: 04/03/08
Received: 04/03/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Acenaphthene	83-32-9	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 220	ug/kg			1.00	2.2e+02		04/16/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
1,2,4-Trimethylbenzene	95-63-6	LA-523-456	U	< 190	ug/kg			1.00	1.9e+02		04/16/08

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
E - Analyte is an estimate, has potentially larger errors(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

D - Analyte was identified at a secondary dilution factor(inorg)
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR00914
Client ID: B1TFB8 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20080715
Department: Organic
Sampled: 04/03/08
Received: 04/03/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Benzene	71-43-2	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Toluene	108-88-3	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Styrene	100-42-5	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
2-Hexanone	591-78-6	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Acetone	67-64-1	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Chloroform	67-66-3	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Bromomethane	74-83-9	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Chloromethane	74-87-3	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Chloroethane	75-00-3	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08

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

B - The analyte < the RDL but >= the IDL/MDL (inorg)
E - Analyte is an estimate, has potentially larger errors(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR00914
Client ID: B1TFB8 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20080715
Department: Organic
Sampled: 04/03/08
Received: 04/03/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Bromoform	75-25-2	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
2-Butanone	78-93-3	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Hexane	110-54-3	LA-523-455	U	< 1.40	ug/kg			1.00	1.4		04/09/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.80	ug/kg			1.00	2.8		04/09/08
Acetonitrile	75-05-8	LA-523-455	U	< 2.80	ug/kg			1.00	2.8		04/09/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
E - Analyte is an estimate, has potentially larger errors(inorg)
U - Analyzed for but not detected above limiting criteria(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.(org)

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F08-066 :F08-066

Group #: WSCF20080715
Department: Organic

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
V08GR00913	B1TFC0	GPP	TRENT	SW-846 8270C Semi-Vols	SMP 13.558 Di-n-butylphthalate	84-74-2	13.55848		3.2e+02	ug/kg

RQ=Result Qualifier

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
Test: PCBs complete list

Sample Date: 03/25/08
Receive Date:03/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00781											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Aroclor-1260	11096-82-5	224.76	109.000	% Recov	75.000	125.000				04/16/08
MS	Decachlorobiphenyl	2051-24-3	393.05	95.700	% Recov	50.000	150.000				04/16/08
MS	Tetrachloro-m-xylene	877-09-8	380.18	92.600	% Recov	50.000	150.000				04/16/08
MSD	Aroclor-1260	11096-82-5	212.25	104.000	% Recov	75.000	125.000				04/16/08
MSD	Decachlorobiphenyl	2051-24-3	380.81	93.400	% Recov	50.000	150.000				04/16/08
MSD	Tetrachloro-m-xylene	877-09-8	369.98	90.800	% Recov	50.000	150.000				04/16/08
SPK-RPD	Aroclor-1260	11096-82-5	104.000		RPD			4.695	25.000		04/16/08
SPK-RPD	Decachlorobiphenyl	2051-24-3	93.400		RPD			2.433	20.000		04/16/08
SPK-RPD	Tetrachloro-m-xylene	877-09-8	90.800		RPD			1.963	20.000		04/16/08
Lab ID: W08GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Decachlorobiphenyl	2051-24-3	410.72	96.400	% Recov	50.000	150.000				04/16/08
SURR	Tetrachloro-m-xylene	877-09-8	385.56	90.500	% Recov	50.000	150.000				04/16/08
BATCH QC											
BLANK	Aroclor-1016	12674-11-2	< 10	n/a	UGKG					U	04/16/08
BLANK	Aroclor-1221	11104-28-2	< 20	n/a	ug/Kg					U	04/16/08
BLANK	Aroclor-1232	11141-16-5	< 10	n/a	ug/Kg					U	04/16/08
BLANK	Aroclor-1242	53469-21-9	< 10	n/a	ug/Kg					U	04/16/08
BLANK	Aroclor-1248	12672-29-6	< 10	n/a	ug/Kg					U	04/16/08
BLANK	Aroclor-1254	11097-69-1	< 10	n/a	ug/Kg					U	04/16/08
BLANK	Aroclor-1260	11096-82-5	< 10	n/a	ug/Kg					U	04/16/08
BLANK	Aroclor-1262	37324-23-5	< 10	n/a	ug/Kg					U	04/16/08
BLANK	Aroclor-1268	11100-14-4	< 10	n/a	ug/Kg					U	04/16/08
BLANK	Decachlorobiphenyl	2051-24-3	377.31	94.300	% Recov	50.000	150.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080715
Matrix: SOLID
Test: PCBs complete list

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Tetrachloro-m-xylene	877-09-8	366.85	91.700	% Recov	50.000	150.000				04/16/08
LCS	Aroclor-1260	11096-82-5	209.40	105.000	% Recov	70.000	130.000				04/16/08
LCS	Decachlorobiphenyl	2051-24-3	375.54	93.900	% Recov	50.000	150.000				04/16/08
LCS	Tetrachloro-m-xylene	877-09-8	369.73	92.400	% Recov	50.000	150.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
Test: SW-846 8270C Semi-Vols

Sample Date: 04/01/08
Receive Date:04/01/08

Lab ID: W08GR00836
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,2,4-Trichlorobenzene	120-82-1	4158.4	99.700	% Recov	75.000	121.000				04/16/08
MS	1,4-Dichlorobenzene	106-46-7	4128.6	98.900	% Recov	68.000	121.000				04/16/08
MS	2,4-Dinitrotoluene	121-14-2	3682.8	88.300	% Recov	66.000	113.000				04/16/08
MS	2-Fluorophenol(Surr)	367-12-4	4417.8	106.000	% Recov	72.000	120.000				04/16/08
MS	Acenaphthene	83-32-9	4055.9	97.200	% Recov	69.000	125.000				04/16/08
MS	4-Chloro-3-methylphenol	59-50-7	6136.3	98.000	% Recov	68.000	116.000				04/16/08
MS	2-Chlorophenol	95-57-8	6281.0	100.000	% Recov	65.000	124.000				04/16/08
MS	N-Nitrosodi-n-dipropylamine	621-64-7	4328.0	104.000	% Recov	69.000	127.000				04/16/08
MS	2-Fluorobiphenyl(Surr)	321-60-8	4446.8	107.000	% Recov	66.000	122.000				04/16/08
MS	Phenol	108-95-2	6353.6	102.000	% Recov	71.000	122.000				04/16/08
MS	Nitrobenzene-d5(Surr)	4165-60-0	4346.6	104.000	% Recov	63.000	125.000				04/16/08
MS	4-Nitrophenol	100-02-7	5404.0	86.300	% Recov	55.000	113.000				04/16/08
MS	Pentachlorophenol	87-86-5	5980.6	95.500	% Recov	50.000	113.000				04/16/08
MS	Phenol-d5(Surr)	4165-62-2	4376.2	105.000	% Recov	66.000	124.000				04/16/08
MS	Pyrene	129-00-0	4275.5	102.000	% Recov	67.000	125.000				04/16/08
MS	2,4,6-Tribromophenol(Surr)	118-79-6	4148.3	99.400	% Recov	49.000	120.000				04/16/08
MS	Terphenyl-d14(Surr)	98904-43-9	4433.4	106.000	% Recov	58.000	128.000				04/16/08
MSD	1,2,4-Trichlorobenzene	120-82-1	4318.0	103.000	% Recov	75.000	121.000				04/16/08
MSD	1,4-Dichlorobenzene	106-46-7	4248.8	102.000	% Recov	68.000	121.000				04/16/08
MSD	2,4-Dinitrotoluene	121-14-2	3734.5	89.400	% Recov	66.000	113.000				04/16/08
MSD	2-Fluorophenol(Surr)	367-12-4	4196.6	100.000	% Recov	72.000	120.000				04/16/08
MSD	Acenaphthene	83-32-9	4165.4	99.700	% Recov	69.000	125.000				04/16/08
MSD	4-Chloro-3-methylphenol	59-50-7	6400.3	102.000	% Recov	68.000	116.000				04/16/08
MSD	2-Chlorophenol	95-57-8	6295.5	100.000	% Recov	65.000	124.000				04/16/08
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	4304.5	103.000	% Recov	69.000	127.000				04/16/08
MSD	2-Fluorobiphenyl(Surr)	321-60-8	4166.2	99.700	% Recov	66.000	122.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
Test: SW-846 8270C Semi-Vols

Sample Date: 04/01/08
Receive Date:04/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Phenol	108-95-2	6431.0	103.000	% Recov	71.000	122.000				04/16/08
MSD	Nitrobenzene-d5(Surr)	4165-60-0	4080.4	97.700	% Recov	63.000	125.000				04/16/08
MSD	4-Nitrophenol	100-02-7	5418.2	86.500	% Recov	55.000	113.000				04/16/08
MSD	Pentachlorophenol	87-86-5	6235.9	99.500	% Recov	50.000	113.000				04/16/08
MSD	Phenol-d5(Surr)	4165-62-2	4155.4	99.500	% Recov	66.000	124.000				04/16/08
MSD	Pyrene	129-00-0	4514.9	108.000	% Recov	67.000	125.000				04/16/08
MSD	2,4,6-Tribromophenol(Surr)	118-79-6	3971.3	95.100	% Recov	49.000	120.000				04/16/08
MSD	Terphenyl-d14(Surr)	98904-43-9	4441.6	106.000	% Recov	58.000	128.000				04/16/08
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	103.000		RPD			3.256	20.000		04/16/08
SPK-RPD	1,4-Dichlorobenzene	106-46-7	102.000		RPD			3.086	20.000		04/16/08
SPK-RPD	2,4-Dinitrotoluene	121-14-2	89.400		RPD			1.238	20.000		04/16/08
SPK-RPD	2-Fluorophenol(Surr)	367-12-4	100.000		RPD			5.825	20.000		04/16/08
SPK-RPD	Acenaphthene	83-32-9	99.700		RPD			2.539	20.000		04/16/08
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	102.000		RPD			4.000	20.000		04/16/08
SPK-RPD	2-Chlorophenol	95-57-8	100.000		RPD			0.000	20.000		04/16/08
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	103.000		RPD			0.966	20.000		04/16/08
SPK-RPD	2-Fluorobiphenyl(Surr)	321-60-8	99.700		RPD			7.063	20.000		04/16/08
SPK-RPD	Phenol	108-95-2	103.000		RPD			0.976	20.000		04/16/08
SPK-RPD	Nitrobenzene-d5(Surr)	4165-60-0	97.700		RPD			6.247	20.000		04/16/08
SPK-RPD	4-Nitrophenol	100-02-7	86.500		RPD			0.231	20.000		04/16/08
SPK-RPD	Pentachlorophenol	87-86-5	99.500		RPD			4.103	20.000		04/16/08
SPK-RPD	Phenol-d5(Surr)	4165-62-2	99.500		RPD			5.379	20.000		04/16/08
SPK-RPD	Pyrene	129-00-0	108.000		RPD			5.714	20.000		04/16/08
SPK-RPD	2,4,6-Tribromophenol(Surr)	118-79-6	95.100		RPD			4.422	20.000		04/16/08
SPK-RPD	Terphenyl-d14(Surr)	98904-43-9	106.000		RPD			0.000	20.000		04/16/08

Lab ID: W08GR00913
BATCH QC ASSOCIATED WITH SAMPLE

SURR	2-Fluorophenol(Surr)	367-12-4	4398.6	102.000	% Recov	72.000	120.000				04/16/08
SURR	2-Fluorobiphenyl(Surr)	321-60-8	4344.9	101.000	% Recov	66.000	122.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
Test: SW-846 8270C Semi-Vols

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	Nitrobenzene-d5(Surr)	4165-60-0	4390.9	102.000	% Recov	63.000	125.000				04/16/08
SURR	Phenol-d5(Surr)	4165-62-2	4315.2	99.900	% Recov	66.000	124.000				04/16/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	3988.4	92.400	% Recov	49.000	120.000				04/16/08
SURR	Terphenyl-d14(Surr)	98904-43-9	4653.0	108.000	% Recov	58.000	128.000				04/16/08

BATCH QC

BLANK	1,2,4-Trimethylbenzene	95-63-6	< 180	n/a	ug/Kg					U	04/16/08
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 140	n/a	ug/Kg					U	04/16/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 240	n/a	ug/Kg					U	04/16/08
BLANK	2,4-Dinitrotoluene	121-14-2	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2-Fluorophenol(Surr)	367-12-4	3630.6	90.800	% Recov	72.000	120.000				04/16/08
BLANK	Acenaphthene	83-32-9	< 140	n/a	ug/Kg					U	04/16/08
BLANK	4-Chloro-3-methylphenol	59-50-7	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2-Chlorophenol	95-57-8	< 140	n/a	ug/Kg					U	04/16/08
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2-Fluorobiphenyl(Surr)	321-60-8	3790.0	94.800	% Recov	66.000	122.000				04/16/08
BLANK	Phenol	108-95-2	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Nitrobenzene-d5(Surr)	4165-60-0	3733.6	93.300	% Recov	63.000	125.000				04/16/08
BLANK	4-Nitrophenol	100-02-7	< 200	n/a	ug/Kg					U	04/16/08
BLANK	Pentachlorophenol	87-86-5	< 200	n/a	ug/Kg					U	04/16/08
BLANK	Phenol-d5(Surr)	4165-62-2	3729.0	93.200	% Recov	66.000	124.000				04/16/08
BLANK	Pyrene	129-00-0	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Tributyl phosphate	126-73-8	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	3295.7	82.400	% Recov	49.000	120.000				04/16/08
BLANK	Terphenyl-d14(Surr)	98904-43-9	3702.1	92.600	% Recov	58.000	128.000				04/16/08
LCS	1,2,4-Trichlorobenzene	120-82-1	3765.9	94.100	% Recov	76.000	118.000				04/16/08
LCS	1,4-Dichlorobenzene	106-46-7	3731.4	93.300	% Recov	68.000	121.000				04/16/08
LCS	2,4-Dinitrotoluene	121-14-2	3283.3	82.100	% Recov	68.000	112.000				04/16/08
LCS	2-Fluorophenol(Surr)	367-12-4	3571.8	89.300	% Recov	50.000	110.000				04/16/08
LCS	Acenaphthene	83-32-9	3518.0	88.000	% Recov	75.000	121.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080715
Matrix: SOLID
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	4-Chloro-3-methylphenol	59-50-7	5328.5	88.800	% Recov	68.000	117.000				04/16/08
LCS	2-Chlorophenol	95-57-8	5385.4	89.800	% Recov	84.000	114.000				04/16/08
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	3746.0	93.700	% Recov	76.000	119.000				04/16/08
LCS	2-Fluorobiphenyl(Surr)	321-60-8	3517.3	87.900	% Recov	58.000	109.000				04/16/08
LCS	Phenol	108-95-2	5464.6	91.100	% Recov	80.000	113.000				04/16/08
LCS	Nitrobenzene-d5(Surr)	4165-60-0	3550.1	88.800	% Recov	60.000	118.000				04/16/08
LCS	4-Nitrophenol	100-02-7	4859.1	81.000	% Recov	42.000	123.000				04/16/08
LCS	Pentachlorophenol	87-86-5	5128.0	85.500	% Recov	55.000	120.000				04/16/08
LCS	Phenol-d5(Surr)	4165-62-2	3502.9	87.600	% Recov	59.000	116.000				04/16/08
LCS	Pyrene	129-00-0	3719.5	93.000	% Recov	67.000	122.000				04/16/08
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	3247.9	81.200	% Recov	60.000	120.000				04/16/08
LCS	Terphenyl-d14(Surr)	98904-43-9	3584.1	89.600	% Recov	60.000	120.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	ortho-Terphenyl Surr	84-15-1	22735	105.000	% Recov	70.000	130.000				04/16/08
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	121940	113.000	% Recov	75.000	125.000				04/16/08
MSD	ortho-Terphenyl Surr	84-15-1	20881	96.200	% Recov	70.000	130.000				04/16/08
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	114370	105.000	% Recov	75.000	125.000				04/16/08
SPK-RPD	ortho-Terphenyl Surr	84-15-1	96.200		RPD			8.748	20.000		04/16/08
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	105.000		RPD			7.339	20.000		04/16/08
SURR	ortho-Terphenyl Surr	84-15-1	19216	88.600	% Recov	70.000	130.000				04/16/08
BATCH QC											
BLANK	Kerosene	TPHKEROSENE	< 3000	n/a	ug/Kg					U	04/16/08
BLANK	ortho-Terphenyl Surr	84-15-1	18403	92.000	% Recov	70.000	130.000				04/16/08
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 3000	n/a	ug/Kg					U	04/16/08
LCS	ortho-Terphenyl Surr	84-15-1	20045	100.000	% Recov	70.000	130.000				04/16/08
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	103430	103.000	% Recov	80.000	120.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
Test: VOA Ground Water Protection

Sample Date: 04/01/08
Receive Date:04/01/08

Lab ID: W08GR00837
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	1,1-Dichloroethene	75-35-4	21.130	82.300	% Recov	63.000	117.000				04/09/08
MS	Benzene	71-43-2	25.400	99.000	% Recov	75.000	129.000				04/09/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	47.630	92.800	% Recov	75.000	125.000				04/09/08
MS	Chlorobenzene	108-90-7	28.180	110.000	% Recov	79.000	119.000				04/09/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.750	111.000	% Recov	75.000	125.000				04/09/08
MS	Toluene-d8(Surr)	2037-26-5	50.450	98.300	% Recov	75.000	125.000				04/09/08
MS	Toluene	108-88-3	26.750	104.000	% Recov	76.000	120.000				04/09/08
MS	Trichloroethene	79-01-6	20.620	80.300	% Recov	73.000	123.000				04/09/08
MSD	1,1-Dichloroethene	75-35-4	20.830	87.500	% Recov	63.000	117.000				04/09/08
MSD	Benzene	71-43-2	25.050	105.000	% Recov	75.000	129.000				04/09/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	43.270	90.900	% Recov	75.000	125.000				04/09/08
MSD	Chlorobenzene	108-90-7	26.890	113.000	% Recov	79.000	119.000				04/09/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.700	107.000	% Recov	75.000	125.000				04/09/08
MSD	Toluene-d8(Surr)	2037-26-5	48.510	102.000	% Recov	75.000	125.000				04/09/08
MSD	Toluene	108-88-3	26.340	111.000	% Recov	76.000	120.000				04/09/08
MSD	Trichloroethene	79-01-6	22.820	95.900	% Recov	73.000	123.000				04/09/08
SPK-RPD	1,1-Dichloroethene	75-35-4	87.500		RPD			6.125	20.000		04/09/08
SPK-RPD	Benzene	71-43-2	105.000		RPD			5.882	20.000		04/09/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	90.900		RPD			2.069	20.000		04/09/08
SPK-RPD	Chlorobenzene	108-90-7	113.000		RPD			2.691	20.000		04/09/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	107.000		RPD			3.670	20.000		04/09/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	102.000		RPD			3.694	20.000		04/09/08
SPK-RPD	Toluene	108-88-3	111.000		RPD			6.512	20.000		04/09/08
SPK-RPD	Trichloroethene	79-01-6	95.900		RPD			17.707	20.000		04/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
Test: VOA Ground Water Protection

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00914											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	65.760	94.400	% Recov	75.000	125.000				04/09/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	75.080	108.000	% Recov	75.000	125.000				04/09/08
SURR	Toluene-d8(Surr)	2037-26-5	70.740	102.000	% Recov	80.000	126.000				04/09/08
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	48.200	96.400	% Recov	75.000	125.000				04/09/08
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.720	103.000	% Recov	75.000	125.000				04/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080715
Matrix: SOLID
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	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Hexane	110-54-3	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/Kg					U	04/09/08
BLANK	Toluene-d8(Surr)	2037-26-5	48.980	98.000	% Recov	80.000	126.000				04/09/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/Kg					U	04/09/08
LCS	1,1-Dichloroethene	75-35-4	23.480	93.900	% Recov	75.000	125.000				04/09/08
LCS	Benzene	71-43-2	25.290	101.000	% Recov	75.000	125.000				04/09/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	46.910	93.800	% Recov	75.000	125.000				04/09/08
LCS	Chlorobenzene	108-90-7	27.020	108.000	% Recov	75.000	125.000				04/09/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.980	106.000	% Recov	75.000	125.000				04/09/08
LCS	Toluene-d8(Surr)	2037-26-5	48.750	97.500	% Recov	80.000	126.000				04/09/08
LCS	Toluene	108-88-3	26.170	105.000	% Recov	75.000	125.000				04/09/08
LCS	Trichloroethene	79-01-6	21.500	86.000	% Recov	75.000	125.000				04/09/08

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR00913
Client ID: B1TFC0 GPP TRENT WSCF **Matrix:** SOIL

Group #: WSCF20080715
Department: Radiochemistry
Sampled: 04/03/08
Received: 04/03/08

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	U	1.90e-03	pCi/g	+-1.90e-03	pCi/g	1.00	0.055		04/23/08
Am-243 tracer by AEA	AM243	LA-508-471		3.90	pCi/g			1.00	0.027		04/23/08
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	-8.01e-04	pCi/g	+-6.68e-03	pCi/g	1.00	0.012		05/19/08
Cesium-137	10045-97-3	LA-508-481		0.0157	pCi/g	+-0.0104	pCi/g	1.00	0.012		05/19/08
Europium-152	14683-23-9	LA-508-481	U	-9.43e-03	pCi/g	+-0.0233	pCi/g	1.00	0.036		05/19/08
Europium-154	15585-10-1	LA-508-481	U	2.42e-03	pCi/g	+-0.0242	pCi/g	1.00	0.039		05/19/08
Europium-155	14391-16-3	LA-508-481	U	0.0654	pCi/g	+-0.0475	pCi/g	1.00	0.051		05/19/08
Niobium-94	14681-63-1	LA-508-481	U	-1.59e-04	pCi/g	+-1.59e-03	pCi/g	1.00	0.011		05/19/08
Radium-226	13982-63-3	LA-508-481		0.738	pCi/g	+-0.118	pCi/g	1.00	0.023		05/19/08
Radium-228	15262-20-1	LA-508-481		0.694	pCi/g	+-0.123	pCi/g	1.00	0.039		05/19/08
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471	U	8.20e-03	pCi/g	+-0.0201	pCi/g	1.00	0.038		05/12/08
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	-6.20e-03	pCi/g	+-9.36e-03	pCi/g	1.00	0.025		04/23/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	-2.10e-03	pCi/g	+-9.41e-03	pCi/g	1.00	0.022		04/23/08
Pu-242 tracer by AEA	PU242	LA-508-471		6.00	pCi/g			1.00	0.015		04/23/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-0.730	pCi/g	+-0.861	pCi/g	1.00	0.37		04/09/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		97.6	Percent			1.00	0.0		04/09/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.130	pCi/g	+-0.0455	pCi/g	1.00	0.013		04/23/08
Uranium-235	15117-96-1	LA-508-471		0.0110	pCi/g	+-9.46e-03	pCi/g	1.00	5.2e-03		04/23/08
Uranium-238	U-238	LA-508-471		0.120	pCi/g	+-0.0432	pCi/g	1.00	0.013		04/23/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
E - Analyte is an estimate, has potentially larger errors(inorg)
U - Analyzed for but not detected above limiting criteria(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.(org)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-066
Sample # W08GR00913
Client ID: B1TFC0 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20080715
Department: Radiochemistry
Sampled: 04/03/08
Received: 04/03/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
U-232 tracer by AEA	U232	LA-508-471		4.00	pCi/g			1.00	0.028		04/23/08

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

B - The analyte < the RDL but > = the IDL/MDL (inorg)
E - Analyte is an estimate, has potentially larger errors(inorg)
U - Analyzed for but not detected above limiting criteria(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.(org)

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

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F08-066 :F08-066

Group #: WSCF20080715
Department: Radiochemistry

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.56	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				23	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212				0.49	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				22	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.83	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				12	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	CS-134				0.035	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	CS-134 Count Error				40	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				14	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212				0.83	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				10	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-214				1.1	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error				20	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	SN-126				0.17	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error				20	%
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.24	pCi/g
V08GR00913	B1TFC0	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				15	%

RQ=Result Qualifier

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080715
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U-1.963e-3		RPD			n/a	20.000		05/20/08
DUP	Cesium-137	10045-97-3	2.378e-2		RPD			40.749	20.000 •		05/20/08
DUP	Europium-152	14683-23-9	U-4.133e-3		RPD			n/a	20.000		05/20/08
DUP	Europium-154	15585-10-1	U-3.862e-2		RPD			n/a	20.000		05/20/08
DUP	Europium-155	14391-16-3	U6.699e-2		RPD			n/a	20.000		05/20/08
DUP	Niobium-94	14681-63-1	U6.104e-3		RPD			n/a	20.000		05/20/08
DUP	Radium-226	13982-63-3	0.6364		RPD			14.839	20.000		05/20/08
DUP	Radium-228	15262-20-1	0.7227		RPD			4.080	20.000		05/20/08
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U-1.615e-3	n/a	pCi/g	-10.000	1000.000				05/19/08
BLANK	Cesium-137	10045-97-3	U-1.104e-3	n/a	pCi/g	-10.000	1000.000				05/19/08
BLANK	Europium-152	14683-23-9	U1.708e-2	n/a	pCi/g	-10.000	1000.000				05/19/08
BLANK	Europium-154	15585-10-1	U-7.105e-3	n/a	pCi/g	-10.000	1000.000				05/19/08
BLANK	Europium-155	14391-16-3	U3.878e-3	n/a	pCi/g	-10.000	1000.000				05/19/08
BLANK	Niobium-94	14681-63-1	U3.561e-3	n/a	pCi/g	-10.000	1000.000				05/19/08
BLANK	Radium-226	13982-63-3	8.648e-2	0.086	pCi/g	-10.000	1000.000				05/19/08
BLANK	Radium-228	15262-20-1	U4.386e-2	n/a	pCi/g	-10.000	1000.000				05/19/08
LCS	Cobalt-60	10198-40-0	10080	101.408	% Recov	80.000	120.000				05/19/08
LCS	Cesium-137	10045-97-3	6459	106.937	% Recov	80.000	120.000				05/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080715
Matrix: SOLID
Test: Americium by AEA

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	U1e-2		RPD			n/a	20.000		04/23/08
DUP	Am-243 tracer by AEA	AM243	3.938	89.380	% Recov	30.000	105.000				04/23/08
SURR	Am-243 tracer by AEA	AM243	3.892	85.500	% Recov	30.000	105.000				04/23/08
BATCH QC											
BLANK	Americium-241	14596-10-2	U-1.1e-2	n/a	pCi/g	-10.000	1000.000				04/23/08
BLANK	Am-243 tracer by AEA	AM243	4.024	73.110	% Recov	30.000	105.000				04/23/08
LCS	Americium-241	14596-10-2	11.2	94.515	% Recov	80.000	120.000				04/23/08
LCS	Am-243 tracer by AEA	AM243	11.17	81.690	% Recov	30.000	105.000				04/23/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080715
Matrix: SOLID
Test: Neptunium by AEA

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Neptunium-237	13994-20-2	U4.1e-3		RPD			n/a	25.000		05/12/08
MS	Neptunium-237	13994-20-2	102.3	102.300	% Recov	75.000	125.000				05/12/08
MSD	Neptunium-237	13994-20-2	100.2	100.200	% Recov	75.000	125.000				05/12/08
SPK-RPD	Neptunium-237	13994-20-2	100.200		% RPD			2.074	20.000		05/12/08
Lab ID: W08GR00937											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	97.9	97.900	% Recov	75.000	125.000				05/12/08
Lab ID: W08GR00954											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	93.4	93.400	% Recov	75.000	125.000				05/12/08
BATCH QC											
BLANK	Neptunium-237	13994-20-2	U-1.3e-2	n/a	pCi/G	-10.000	1000.000				05/12/08
LCS	Neptunium-237	13994-20-2	13.02	102.158	% Recov	80.000	120.000				05/12/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080715
Matrix: SOLID
Test: Plutonium Isotopics by AEA

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U1.1e-2		RPD			n/a	20.000		04/23/08
DUP	Pu-239/240 by AEA	PU-239/240	U1.9e-3		RPD			n/a	20.000		04/23/08
DUP	Pu-242 tracer by AEA	PU242	6.102	84.770	% Recov	30.000	105.000				04/23/08
SURR	Pu-242 tracer by AEA	PU242	6.031	81.900	% Recov	30.000	105.000				04/23/08
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U2.2e-3	n/a	pCi/g	-10.000	1000.000				04/23/08
BLANK	Pu-239/240 by AEA	PU-239/240	U6.6e-3	n/a	pCi/g	-10.000	1000.000				04/23/08
BLANK	Pu-242 tracer by AEA	PU242	6.236	77.080	% Recov	30.000	105.000				04/23/08
LCS	Pu-239/240 by AEA	PU-239/240	12.87	100.195	% Recov	80.000	120.000				04/23/08
LCS	Pu-242 tracer by AEA	PU242	17.3	87.020	% Recov	30.000	105.000				04/23/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080715
Matrix: SOLID
Test: Strontium 89/90

Sample Date: 04/03/08
Receive Date:04/03/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	88.3	88.300	% Recov	30.000	105.000				04/09/08
DUP	Strontium-89/90	SR-RAD	U-1.6		RPD			n/a	20.000		04/09/08
SURR	Sr-85 Tracer by Beta Counting	SR85	97.6	97.600	% Recov	30.000	105.000				04/09/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	95.4	95.400	% Recov	30.000	105.000				04/09/08
BLANK	Strontium-89/90	10098-97-2	U-4.0E-01	n/a	pCi/g	-10.000	300.000				04/09/08
LCS	Sr-85 Tracer by Beta Counting	SR85	96.1	96.100	% Recov	30.000	105.000				04/09/08
LCS	Strontium-89/90	10098-97-2	72.1	102.712	% Recov	80.000	120.000				04/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20080715
Matrix: SOLID
Test: Uranium Isotopics by AEA

Sample Date: 04/03/08
Receive Date:04/03/08

Lab ID: W08GR00913

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	U-232 tracer by AEA	U232	4.052	92.190	% Recov	30.000	105.000				04/23/08
DUP	Uranium-233/234	U-233/234	0.13		RPD			0.000	20.000		04/23/08
DUP	Uranium-235	15117-96-1	1.2e-2		RPD			8.696	20.000		04/23/08
DUP	Uranium-238	U-238	0.12		RPD			0.000	20.000		04/23/08
SURR	U-232 tracer by AEA	U232	4.005	90.360	% Recov	30.000	105.000				04/23/08

BATCH QC

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	U-232 tracer by AEA	U232	4.141	70.020	% Recov	30.000	105.000				04/23/08
BLANK	Uranium-233/234	13966-29-5	3.3e-2	0.033	pCi/g	-10.000	1000.000				04/23/08
BLANK	Uranium-235	15117-96-1	U1e-2	n/a	pCi/g	-10.000	1000.000				04/23/08
BLANK	Uranium-238	24678-82-8	9.3e-3	0.009	pCi/g	-10.000	1000.000				04/23/08
LCS	U-232 tracer by AEA	U232	11.49	78.890	% Recov	30.000	105.000				04/23/08
LCS	Uranium-233/234	13966-29-5	n/a	n/a	% Recov	75.000	125.000				04/23/08
LCS	Uranium-235	15117-96-1	n/a	n/a	% Recov	75.000	125.000				04/23/08
LCS	Uranium-238	24678-82-8	21	110.789	% Recov	80.000	120.000				04/23/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-066

Group #: WSCF20080715
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Silver and Lead LCS below statistical limits but within 10% of assigned value. "E" flags Silver MS and MSD recoveries 52% and 64%. "N" flag Two associated samples in batch spiked; one had low barium recover, other was within limits; N-flag for Ba Organics: All results are moisture corrected and reported on a dry weight basis. cgc W08GR00913/Cs137 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. 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-08-544

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 7 pages
Including cover page

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

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 123210/ES20
Group#: 20080715
Project#: F08-066
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 04/03/08. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08GR00913	B1TFC0	GPP @2008 @GEA-GPP PERSOLID @AEA-30 @IC-30 PH-30 @AEA-31 @PCBGPP @AEA-32 @SR89_90 @AEA-33 @SVOCGPP @TPHD	TRENT Solid, or handle as if solid	04/03/08
W08GR00914	B1TFB8	GPP @VOA-GPP	TRENT Solid, or handle as if solid	04/03/08
W08GR00915	B1TFB9	GPP	TRENT Solid, or handle as if solid	04/03/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@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
@IC-30	Anions by Ion Chromatography
@PCBGPP	PCBs complete list
@SR89_90	Strontium 89/90
@SVOCGPP	SW-846 8270C Semi-Vols
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
PERSOLID	Percent Solids
PH-30	pH Soil and Waste Measurement

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-066-012 PAGE 1 OF 2

COLLECTOR NCO Sampler Connelly Rosanne	**COMPANY CONTACT** TRENT, SJ	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8N	**DATA TURNAROUND**
SAMPLING LOCATION C6174, I-001	**PROJECT DESIGNATION** 216-S-6 Crib Sampling - Soil		**SAF NO.** F08-066	**AIR QUALITY** ☐	**45 Days / 45 Days**
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH** 3.5'	**COA** 123210ES20	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1TF99

PRESERVATION	Cool <-7C and >-20C	MEOH/Cool~4 C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	5	3
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1TFB8 W08G120914	SOIL	4-3-08	1030	✓	✓

LOT# 6215060

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	SIGN/ PRINT NAMES RECEIVED BY/STORED IN	DATE/TIME
L.J. Rosane Larry Rosane	4-3-8/1130	TA Fnazin Texas Inst	4-3-8 1130
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

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

A-6003-618(01/06)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-066-012

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8N	DATA TURNAROUND
NCO Sampler	TRENT, SJ	373-5869	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	☐	**45 Days / 45 Days**
C6174, I-001	216-S-6 Crib Sampling - Soil		F08-066			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
			123210ES20	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

** Analytical batch QC must be run on a sample associated with this SAF.
** All VOA samples will be collected using EPA Method 5035A.
** VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.
** The laboratory is to use one of the low level VOA bottles for moisture content determination.
** VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be include as part of the sample ID reported in the final data packages.
(1)VOA - 5035/8260 (LOW LEVEL); VOA - 5035/8260 (LOW LEVEL) - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran}
(2)VOA - 5035/8260 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran}

COLLECTOR NCO Sampler Connelly Rosanelli	**COMPANY CONTACT** TRENT, SJ	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8N	**DATA TURNAROUND** 45 Days / 45 Days
SAMPLING LOCATION C6174, I-001	**PROJECT DESIGNATION** 216-S-6 Crib Sampling - Soil		**SAF NO.** F08-066	**AIR QUALITY** ☐	
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH** 3.5'	**COA** 123210ES20	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1TF99

PRESERVATION	Cool~4C
TYPE OF CONTAINER	aGs*
NO. OF CONTAINER(S)	1
VOLUME	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1TFB9 W08620915	SOIL	4-3-08	1030	✓

LOT # 615060

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
L.J. Rosanelli Larry Rosanelli	4-3-8/1130	TAFRAZI Tella Fizie	4-3-8 1130

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

** Analytical batch QC must be run on a sample associated with this SAF.
** All VOA samples will be collected using EPA Method 5035A.
(1)VOA - 5035/8260 (TCL); VOA - 5035/8260 - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran}

ICED

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

A-6003-618(01/06)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

5111

F08-066-014

COLLECTOR NCO Sampler Connally Rosado	**COMPANY CONTACT** TRENT, SJ	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8N	**DATA TURNAROUND**
SAMPLING LOCATION C6174, I-001	**PROJECT DESIGNATION** 216-S-6 Crib Sampling - Soil		**SAF NO.** F08-066	**AIR QUALITY** ☐	45 Days / 45 Days
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH** 3.5'	**COA** 123210ES20	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

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

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1TF99

20080715

PRESERVATION	Cool~4C	Cool~4C	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None							
TYPE OF CONTAINER	G/P	aG	aG	aG	G/P	G/P	Square Bottle - Poly							
NO. OF CONTAINER(S)	1	1	1	1	1	1	1							
VOLUME	120mL	120mL	120mL	120mL	120mL	120mL	500mL							
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	PCBs ~~8082;~~	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS	SEE ITEM (6) IN SPECIAL INSTRUCTIONS							
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**											
31TFC0	SOIL	4-3-08	1030	✓	✓	✓	✓	✓	✓	✓				

Lot# 024875

CHAIN OF POSSESSION		**SIGN/ PRINT NAMES**	
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
Larry Rosado	3-4-08/1130	TA FRAZIER James Frazier	4-3-8 1130
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

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

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-066-014

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8N	DATA TURNAROUND
NCO Sampler Connelly, Roshane	TRENT, SJ	373-5869	WIDRIG, DL		
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY** ☐	**45 Days / 45 Days**
C6174, I-001	216-S-6 Crib Sampling - Soil		F08-066		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
			123210ES20	GOVERNMENT VEHICLE	
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
Waste Sampling & Characterization	N/A		N/A		

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

** .Analytical batch QC must be run on a sample associated with this SAF.
(1)Conductivity - 9050 {Specific Conductance} pH (Soil) - 9045 {pH Measurement}
(2)Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
(3)TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
(4)ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium} 200.8_H6 - ICPMS;
(5)IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
(6)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94, Radium-228} Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}

M4W41-SLF-08-544

ATTACHMENT 5

SAMPLE RECORD SHEET

Consisting of 2 pages
Including cover page

Well # C6174 Sample Time 1030
I-001 Depth 3.5' - 6.0' bgs

SAMPLE RECORD SHEET

Sample Number	Sample Suffix[1]	Empty Weight[2] (g)	Weight with Sample[3] (g)	Weight of Sample[4] (g)	Methanol Added (g)	Methanol Added (mL)	Weight of Methanol and Sample
B1TF38	K	31.0	35.0	4.0	---	---	---
↓	L	31.1	35.7	4.6	---	---	---
	M	31.1	35.6	4.5	---	---	---
	N	31.1	35.5	4.4	---	---	---
→	P	31.2	35.1	3.9	---	---	---
B1TFB9		29.6	29.6	0	4.3	5	33.9
B1TF38	W	29.9	34.7	4.8	3.9	5	38.6
↓	X	29.8	36.0	6.2	4.8	6	40.8
→	Y	30.2	35.3	5.1	4.0	5	39.3

[1]Sample suffix of L, K, M, N and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7C and -20C.
Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

[2]Empty weight is to include all labels, stickers, bags, and anything else that will be associated with the bottle when it is weighed with the sample.
[3]Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.
[4]Sample weight is the vial with sample minus the vial empty

Fisher Methanol used