

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

FLUOR

Memorandum

M4W41-SLF-08-535

To: H. Hampt E6-35 Date: May 15, 2008

From: S. L. Fitzgerald, Manager *by William J. Baird*
WSCF Analytical Lab

cc: w/Attachments
T. F. Dale S3-30 J. E. Trechter S3-30
H. K. Meznarich S3-30 S. J. Trent E6-35
P. D. Mix S3-30 File/LB

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20080683 – SAF NUMBER F08-070

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 WSCF20080683:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Analytical Results (Attachment 3)
- Sample Receipt Information (Attachment 4)
- Sample Record Sheet (Attachment 5)

SLF/grf

Attachments 5

M4W41-SLF-08-535

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20080683
Data Deliverable Date: 15-may-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F08-070	B1TNP8	W08GR00837	SOIL
	B1TNR0	W08GR00836	SOIL

M4W41-SLF-08-535

ATTACHMENT 2

NARRATIVE

Consisting of 5 pages
Including cover page

Introduction

Three S&GRP samples were received at the WSCF Laboratory on April 1, 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. Analysis of the high concentration VOA sample and the associated Methanol Blank (B1TNP9) were not required.

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. Additionally, a copy of the sample record sheet is 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 11 through 13, for a complete listing of approved analytical methods.

Inorganic Comments

Ammonia – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 19 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TN41 (SDG# 20080591, SAF# F08-070).
- Sample result was D flagged (dilution).
- Matrix Spike and Matrix Spike Duplicate recoveries were less than established laboratory limits. Sample result was N flagged.

All other QC controls are within the established limits.

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 20 through 21 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# BITN41 (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.

Cyanide – 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 GRP Letter of Instruction. See page 22 for QC details. Analytical Note(s):

All QC controls are within the established limits.

ICP-AES Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 23 through 24 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# BITN41 (SDG# 20080591, SAF# F08-070).
- Lithium - Due to possible Calcium interface, the spectrum was manually checked and calculated. Sample result was E flagged (estimate).
- Aluminum, Iron and Sodium sample results exceeded spiking levels by a factor of 4. Spike recoveries are not valid. Check and high standards were analyzed to ensure sample result linearity because the sample results were greater than the calibration standard.
- No Lithium present in LCS.

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 25 through 28 for QC details. Analytical Note(s):

- Barium and Manganese – Spike recoveries biased low. Sample results were N flagged.
- Antimony, Lead and Thallium – Laboratory Control Sample recoveries were less than established limits. Lead result was E flagged.

All other QC controls are within the established limits.

Organic Comments

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

Alcohol/Glycols - The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 35 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# BITNP6 (SDG# 20080639, SAF# F08-070).

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 36 through 41 for QC details. Analytical Note(s):

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

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 42 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# BITFC0 (SDG# 20080715, SAF# F08-066).

All 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 43 through 45 for QC details. Analytical Note(s):

- Analysis of the high concentration VOA sample and the associated Methanol Blank (BITNP9) were not required.

All QC controls are within the established limits.

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 49 through 54 for QC details. Analytical Note(s):

- Strontium-85 (tracer) – Blank recovery exceeded established laboratory limits due to low sample activities. 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.

for William J. Baird
Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

John E. Trechter
John E. Trechter
WSCF Client Services

M4W41-SLF-08-535

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 46 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for
Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: *William A. Baird WABaird 5/15/2008*
Client Services: *CWTr P.D. Mix 5/15/2008*

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#: WSCF20080683
Report Date: 14-may-2008
Report WGPP/ver. 5.2
Groundwater Remediation Program

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-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY EPA-600/4-86-024 300.7 Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical HEIS 300.7_CATIONS_IC Determination of Ammonium by Ion Chromatography
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE HEIS 6010_METALS_ICP Inductively Coupled Plasma-Atomic Emission Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE EPA-600/R-94-111 200.8 DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLASMA 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 Residual, 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
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDDISTILLATION 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/plmnc/as-dol>.

Report Date: 14-may-2008
Report #: WSCF20080683
Report WGPPM/5.2

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 Organic 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 Nonhalogenated Organics Using GC/FID EPA SW-846 8015B

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

Report Date: 14-may-2008
Report#: WSCF20080683
Report: WGGPPM/5.2

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_GM Rontium 89/90
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP HEIS PUIISO_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 Emmission 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>.

Report Date: 14-may-2008
Report #: WSCF20080683
Report WGPPM/5.2

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20080683

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W08GR00836	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	14	36280	40566	SAMPLE	W08GR00836	Anions by Ion Chromatography
35886	3	36301	40569	BLANK		Ammonia (N) by IC
35886	12	36301	40569	BLANK		Ammonia (N) by IC
35886	2	36301	40569	LCS		Ammonia (N) by IC
35886	5	36301	40569	DUP	W08GR00694	Ammonia (N) by IC
35886	6	36301	40569	MS	W08GR00694	Ammonia (N) by IC
35886	7	36301	40569	MSD	W08GR00694	Ammonia (N) by IC
35886	7	36301	40569	SPK-RPD	W08GR00694	Ammonia (N) by IC
35886	11	36301	40569	SAMPLE	W08GR00836	Ammonia (N) by IC
35906	1	36325	40618	BLANK		ICP Metals Analysis, Grd H20 P
35906	2	36325	40618	LCS		ICP Metals Analysis, Grd H20 P
35906	4	36325	40618	MS	W08GR00694	ICP Metals Analysis, Grd H20 P
35906	5	36325	40618	MSD	W08GR00694	ICP Metals Analysis, Grd H20 P
35906	5	36325	40618	SPK-RPD	W08GR00694	ICP Metals Analysis, Grd H20 P
35906	12	36325	40618	SAMPLE	W08GR00836	ICP Metals Analysis, Grd H20 P
35972	14	36388	40646	BLANK		Cyanide by Midi/Spectrophotom
35972	15	36388	40646	LCS		Cyanide by Midi/Spectrophotom
35972	17	36388	40646	MS	W08GR00836	Cyanide by Midi/Spectrophotom
35972	18	36388	40646	MSD	W08GR00836	Cyanide by Midi/Spectrophotom
35972	16	36388	40646	SAMPLE	W08GR00836	Cyanide by Midi/Spectrophotom
35972	18	36388	40646	SPK-RPD	W08GR00836	Cyanide by Midi/Spectrophotom
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	3	36411	40675	SAMPLE	W08GR00836	ICP-200.8 MS All possible meta
35995	5	36411	40675	SPK-RPD	W08GR00836	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

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20080683

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			40713	BLANK		NWTPH-D TPH Diesel Range (Wa)
			40713	LCS		NWTPH-D TPH Diesel Range (Wa)
			40713	SAMPLE	W08GR00836	NWTPH-D TPH Diesel Range (Wa)
			40713	SURR	W08GR00836	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	SPK-RPD	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	SAMPLE	W08GR00836	SW-846 8270C Semi-Vols
			40725	SPK-RPD	W08GR00836	SW-846 8270C Semi-Vols
			40725	SURR	W08GR00836	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	SAMPLE	W08GR00837	VOA Ground Water Protection
			40828	SPK-RPD	W08GR00837	VOA Ground Water Protection
			40828	SURR	W08GR00837	VOA Ground Water Protection
36263	1	36679	41002	BLANK		Alcohols, Glycols - 8015
36263	2	36679	41002	LCS		Alcohols, Glycols - 8015
36263	4	36679	41002	DUP	W08GR00752	Alcohols, Glycols - 8015
36263	5	36679	41002	MS	W08GR00752	Alcohols, Glycols - 8015
36263	6	36679	41002	MSD	W08GR00752	Alcohols, Glycols - 8015
36263	6	36679	41002	SPK-RPD	W08GR00752	Alcohols, Glycols - 8015
36263	7	36679	41002	SAMPLE	W08GR00836	Alcohols, Glycols - 8015

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20080683

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
35788	1	36194	40681	BLANK		Gamma Energy Analysis-grd H2O
35788	2	36194	40681	LCS		Gamma Energy Analysis-grd H2O
35788	3	36194	40681	DUP	W08GR00836	Gamma Energy Analysis-grd H2O
35788	4	36194	40681	SAMPLE	W08GR00836	Gamma Energy Analysis-grd H2O
36005	1	36420	40703	BLANK		Uranium Isotopics by AEA
36005	2	36420	40703	LCS		Uranium Isotopics by AEA
36005	3	36420	40703	DUP	W08GR00836	Uranium Isotopics by AEA
36005	4	36420	40703	SAMPLE	W08GR00836	Uranium Isotopics by AEA
36005	5	36420	40703	SURR	W08GR00836	Uranium Isotopics by AEA
35861	1	36267	40754	BLANK		Strontium 89/90
35861	2	36267	40754	LCS		Strontium 89/90
35861	3	36267	40754	DUP	W08GR00694	Strontium 89/90
35861	8	36267	40754	SAMPLE	W08GR00836	Strontium 89/90
35861	9	36267	40754	SURR	W08GR00836	Strontium 89/90
36021	1	36436	40785	BLANK		Plutonium Isotopics by AEA
36021	2	36436	40785	LCS		Plutonium Isotopics by AEA
36021	3	36436	40785	DUP	W08GR00836	Plutonium Isotopics by AEA
36021	4	36436	40785	SAMPLE	W08GR00836	Plutonium Isotopics by AEA
36021	5	36436	40785	SURR	W08GR00836	Plutonium Isotopics by AEA
36022	1	36437	40786	BLANK		Americium by AEA
36022	2	36437	40786	LCS		Americium by AEA
36022	3	36437	40786	DUP	W08GR00836	Americium by AEA
36022	4	36437	40786	SAMPLE	W08GR00836	Americium by AEA
36022	5	36437	40786	SURR	W08GR00836	Americium by AEA
36240	1	36655	41014	BLANK		Neptunium by AEA
36240	2	36655	41014	LCS		Neptunium by AEA
36240	3	36655	41014	DUP	W08GR00836	Neptunium by AEA
36240	5	36655	41014	MS	W08GR00836	Neptunium by AEA
36240	6	36655	41014	MSD	W08GR00836	Neptunium by AEA
36240	4	36655	41014	SAMPLE	W08GR00836	Neptunium by AEA
36240	6	36655	41014	SPK-RPD	W08GR00836	Neptunium by AEA
36240	8	36655	41014	MS	W08GR01029	Neptunium by AEA
36240	10	36655	41014	MS	W08GR01033	Neptunium by AEA
36240	12	36655	41014	MS	W08GR01038	Neptunium by AEA

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample # W08GR00836
Client ID: B1TNRO

TRENT
WSCF

Group #: WSCF20080683
Department: Inorganic
Sampled: 04/01/08
Received: 04/01/08

Matrix: SOIL

Test Performed **CAS #** **Method** **RQ** **Result** **Unit** **TP Err** **Unit** **DF** **MDL** **PQL** **Analysis Date**

Anions by Ion Chromatography Prep
Anions by Ion Chromatography

Fluoride	16984-48-8	LA-533-410	DU	< 0.300	mg/kg			50.00	0.30		04/07/08
Chloride	16887-00-6	LA-533-410	BD	3.62	mg/kg			50.00	1.5		04/07/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.500	mg/kg			50.00	0.50		04/07/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	27.7	mg/kg			50.00	0.25		04/07/08
Phosphate (P) by IC	PO4-P	LA-533-410	DU	< 2.00	mg/kg			50.00	2.0		04/07/08
Sulfate	14808-79-8	LA-533-410	BD	40.4	mg/kg			50.00	3.5		04/07/08

Cyanide

Cyanide	57-12-5	LA-695-402	U	< 0.200	mg/kg			1.00	0.20		04/10/08
---------	---------	------------	---	---------	-------	--	--	------	------	--	----------

ICP Metals Analysis, Grd H2O P Prep

ICP Metals Analysis, Grd H2O P

Aluminum	7429-90-5	LA-505-411		6.08e+03	mg/kg			99.33	3.0		04/09/08
Iron	7439-89-6	LA-505-411		1.88e+04	mg/kg			99.33	0.89		04/09/08
Nickel	7440-02-0	LA-505-411		13.4	mg/kg			99.33	0.40		04/09/08
Silver	7440-22-4	LA-505-411	U	< 0.497	mg/kg			99.33	0.50		04/09/08
Sodium	7440-23-5	LA-505-411		238	mg/kg			99.33	2.7		04/09/08
Copper	7440-50-8	LA-505-411		14.5	mg/kg			99.33	0.40		04/09/08
Lithium	7439-93-2	LA-505-411	E	6.90	mg/kg			99.33	0.40		04/09/08
Boron	7440-42-8	LA-505-411	U	< 0.795	mg/kg			99.33	0.79		04/09/08

ICP-200.8 MS All possible meta Prep

ICP-200.8 MS All possible meta

Manganese	7439-96-5	LA-505-412	N	235	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	106	mg/kg			1.00	0.200		04/11/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated;

Report WGPP/ver. 5.2

Groundwater Remediation Program

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

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

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

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

E - Analyte is an estimate, has potentially larger errors.(inorg)

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

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

+ - Indicates more than six qualifier symbols

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample # W08GR00836
Client ID: BITNRO

Group #: WSCF20080683
Department: Inorganic
Sampled: 04/01/08
Received: 04/01/08

TRENT
WSCF

Matrix: SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Beryllium	7440-41-7	LA-505-412		0.220	mg/kg			1.00	0.0500		04/11/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0999	mg/kg			1.00	0.0999		04/11/08
Chromium	7440-47-3	LA-505-412		9.57	mg/kg			1.00	0.500		04/11/08
Cobalt	7440-48-4	LA-505-412		5.98	mg/kg			1.00	0.0500		04/11/08
Vanadium	7440-62-2	LA-505-412		28.9	mg/kg			1.00	0.200		04/11/08
Zinc	7440-66-6	LA-505-412		31.2	mg/kg			1.00	0.799		04/11/08
Lead	7439-92-1	LA-505-412	E	4.45	mg/kg			1.00	0.0999		04/11/08
Mercury	7439-97-6	LA-505-412	U	< 0.0500	mg/kg			1.00	0.0500		04/11/08
Uranium	7440-61-1	LA-505-412		0.430	mg/kg			1.00	0.0500		04/11/08
Arsenic	7440-38-2	LA-505-412		4.09	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	< 0.0999	mg/kg			1.00	0.0999		04/11/08
Strontium	7440-24-6	LA-505-412		31.2	mg/kg			1.00	0.0999		04/11/08
Nitrogen in ammonium Prep											04/07/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	DNU	< 0.200	mg/kg			50.00	0.20		04/07/08
Total solids											
Total solids	TS	LA-519-412		95.5	Percent			1.00	0.0		04/14/08

MDL = Minimum Detection Limit B - The analyte < the RDL but > = the IDL/MDL (inorg)
RQ = Result Qualifier E - Analyte is an estimate, has potentially larger errors (inorg)
TP Err = Total Propagated Error N - Spike sample recovery is outside control limits (inorg)
DF = Dilution Factor U - Analyzed for but not detected above limiting criteria (inorg)

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

Report WGPP/ver. 5.2

Groundwater Remediation Program

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683
 Matrix: SOLID
 Test: Ammonia (N) by IC

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00694											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Ammonia (N) by IC	7664-41-7	<0.2		RPD			n/a	20.000	U	04/07/08
MS	Ammonia (N) by IC	7664-41-7	0.187458	37.492	% Recov	75.000	125.000		*		04/07/08
MSD	Ammonia (N) by IC	7664-41-7	0.185434	37.087	% Recov	75.000	125.000		*		04/07/08
SPK-RPD	Ammonia (N) by IC	7664-41-7	37.087		RPD			1.086	20.000		04/07/08
BATCH QC											
BLANK	Ammonia (N) by IC	7664-41-7	<4e-3	n/a	mg/L	0.000	0.002			U	04/07/08
BLANK	Ammonia (N) by IC	7664-41-7	<4e-3	n/a	mg/L	0.000	0.002			U	04/07/08
LCS	Ammonia (N) by IC	7664-41-7	90.7239	90.724	% Recov	80.000	120.000				04/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683

Matrix: SOLID

Test: Anions by Ion Chromatography

Sample Date: 03/19/08

Receive Date: 03/20/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Chloride	16887-00-6	2.3368		RPD			3.253	20.000		04/07/08
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	Phosphate (P) by IC	PO4-P	<2		RPD			n/a	20.000	U	04/07/08
DUP	Sulfate	14808-79-8	14.0456		RPD			17.102	20.000		04/07/08
MS	Chloride	16887-00-6	0.955116	95.512	% Recov	75.000	125.000				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	Phosphate (P) by IC	PO4-P	0.919476	95.085	% 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	Chloride	16887-00-6	0.94428	94.428	% 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	Phosphate (P) by IC	PO4-P	0.925338	95.692	% 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	Chloride	16887-00-6	94.428		RPD			1.141	20.000		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	Phosphate (P) by IC	PO4-P	95.692		RPD			0.636	20.000		04/07/08
SPK-RPD	Sulfate	14808-79-8	96.599		RPD			0.673	20.000		04/07/08

Lab ID: W08GR00694
 BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683

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
BATCH QC											
BLANK	Chloride	16887-00-6	< 3e-2	n/a	mg/L	0.000	0.030		0.030	U	04/07/08
BLANK	Chloride	16887-00-6	< 3e-2	n/a	mg/L	0.000	0.030		0.030	U	04/07/08
BLANK	Fluoride	16984-48-8	< 6e-3	n/a	mg/L	0.000	0.030		0.030	U	04/07/08
BLANK	Fluoride	16984-48-8	< 6e-3	n/a	mg/L	0.000	0.030		0.030	U	04/07/08
BLANK	Nitrogen in Nitrite	NO2-N	< 1e-2	n/a	mg/L	0.000	0.020		0.020	U	04/07/08
BLANK	Nitrogen in Nitrite	NO2-N	< 1e-2	n/a	mg/L	0.000	0.020		0.020	U	04/07/08
BLANK	Nitrogen in Nitrate	NO3-N	< 5e-3	n/a	mg/L	0.000	0.040		0.040	U	04/07/08
BLANK	Nitrogen in Nitrate	NO3-N	< 5e-3	n/a	mg/L	0.000	0.040		0.040	U	04/07/08
BLANK	Phosphate (P) by IC	PO4-P	< 4e-2	n/a	mg/L	0.000	0.200		0.200	U	04/07/08
BLANK	Phosphate (P) by IC	PO4-P	< 4e-2	n/a	mg/L	0.000	0.200		0.200	U	04/07/08
BLANK	Sulfate	14808-79-8	< 7e-2	n/a	mg/L	0.000	0.200		0.200	U	04/07/08
BLANK	Sulfate	14808-79-8	< 7e-2	n/a	mg/L	0.000	0.200		0.200	U	04/07/08
LCS	Chloride	16887-00-6	197.9609	98.488	% Recov	80.000	120.000		120.000		04/07/08
LCS	Fluoride	16984-48-8	104.9652	105.387	% Recov	80.000	120.000		120.000		04/07/08
LCS	Nitrogen in Nitrite	NO2-N	99.9855	100.589	% Recov	80.000	120.000		120.000		04/07/08
LCS	Nitrogen in Nitrate	NO3-N	92.3455	102.492	% Recov	80.000	120.000		120.000		04/07/08
LCS	Phosphate (P) by IC	PO4-P	197.7525	102.251	% Recov	80.000	120.000		120.000		04/07/08
LCS	Sulfate	14808-79-8	388.7195	98.161	% Recov	80.000	120.000		120.000		04/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683

Matrix: SOLID

Test: Cyanide by Midi/Spectrophotom

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
Lab ID: W08GR00836											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	1.79	89.950	% Recov	75.000	125.000				04/10/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	1.90	95.477	% Recov	75.000	125.000				04/10/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	95.477		RPD			5.961	20.000		04/10/08
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	04/10/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	47.8	95.600	% Recov	85.000	115.000				04/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683

Matrix: SOLID

Test: ICP Metals Analysis, Grd H20 P

Sample Date: 03/19/08

Receive Date: 03/20/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Silver	7440-22-4	188.2	95.533	% Recov	75.000	125.000				04/09/08
MS	Aluminum	7429-90-5	1951	990.355	% Recov	75.000	125.000			*	04/09/08
MS	Boron	7440-42-8	186.9	94.873	% Recov	75.000	125.000				04/09/08
MS	Copper	7440-50-8	198.016	100.516	% Recov	75.000	125.000				04/09/08
MS	Iron	7439-89-6	740	375.635	% Recov	75.000	125.000			*	04/09/08
MS	Lithium	7439-93-2	78.88	80.081	% Recov	70.000	130.000				04/09/08
MS	Sodium	7440-23-5	264	134.010	% Recov	75.000	125.000			*	04/09/08
MS	Nickel	7440-02-0	183.64	93.218	% Recov	75.000	125.000				04/09/08
MSD	Silver	7440-22-4	188.6	94.774	% Recov	75.000	125.000				04/09/08
MSD	Aluminum	7429-90-5	1284	645.226	% Recov	75.000	125.000			*	04/09/08
MSD	Boron	7440-42-8	189.2	95.075	% Recov	75.000	125.000				04/09/08
MSD	Copper	7440-50-8	198.216	99.606	% Recov	75.000	125.000				04/09/08
MSD	Iron	7439-89-6	1450	728.643	% Recov	75.000	125.000			*	04/09/08
MSD	Lithium	7439-93-2	89	89.447	% Recov	75.000	125.000				04/09/08
MSD	Sodium	7440-23-5	242	121.608	% Recov	75.000	125.000				04/09/08
MSD	Nickel	7440-02-0	190.64	95.799	% Recov	75.000	125.000				04/09/08
SPK-RPD	Silver	7440-22-4	94.774		RPD			0.798	20.000		04/09/08
SPK-RPD	Aluminum	7429-90-5	645.226		RPD			42.203	20.000 *		04/09/08
SPK-RPD	Boron	7440-42-8	95.075		RPD			0.213	20.000		04/09/08
SPK-RPD	Copper	7440-50-8	99.606		RPD			0.909	20.000		04/09/08
SPK-RPD	Iron	7439-89-6	728.643		RPD			63.935	20.000 *		04/09/08
SPK-RPD	Lithium	7439-93-2	89.447		RPD			11.050	20.000		04/09/08
SPK-RPD	Sodium	7440-23-5	121.608		RPD			9.704	20.000		04/09/08
SPK-RPD	Nickel	7440-02-0	95.799		RPD			2.731	20.000		04/09/08

Lab ID: W08GR00694
 BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080683

Matrix: SOLID

Test: ICP Metals Analysis, Grd H20 P

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Silver	7440-22-4	< 5e-3	n/a	ug/mL					U	04/09/08
BLANK	Aluminum	7429-90-5	< 3e-2	n/a	ug/mL					U	04/09/08
BLANK	Boron	7440-42-8	< 8e-3	n/a	ug/mL					U	04/09/08
BLANK	Copper	7440-50-8	< 4e-3	n/a	ug/mL					U	04/09/08
BLANK	Iron	7439-89-6	< 9e-3	n/a	ug/mL					U	04/09/08
BLANK	Lithium	7439-93-2	< 4e-3	n/a	ug/mL					U	04/09/08
BLANK	Sodium	7440-23-5	< 2.7e-2	n/a	ug/mL					U	04/09/08
BLANK	Nickel	7440-02-0	< 4e-3	n/a	ug/mL					U	04/09/08
LCS	Silver	7440-22-4	100.4	99.406	% Recov	45.000	155.000				04/09/08
LCS	Aluminum	7429-90-5	7636	92.446	% Recov	44.000	157.000				04/09/08
LCS	Boron	7440-42-8	110	95.652	% Recov	45.000	156.000				04/09/08
LCS	Copper	7440-50-8	64.65	94.380	% Recov	80.000	120.000				04/09/08
LCS	Iron	7439-89-6	14930	111.418	% Recov	47.000	152.000				04/09/08
LCS	Lithium	7439-93-2	< 0.39928	n/a	% Recov	80.000	120.000			U	04/09/08
LCS	Sodium	7440-23-5	513.8	87.381	% Recov	51.000	149.000				04/09/08
LCS	Nickel	7440-02-0	53.95	97.032	% Recov	74.000	121.000				04/09/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683

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
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	Strontium	7440-24-6	182.99	91.495	% 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	Uranium	7440-61-1	186.57	93.285	% Recov	70.000	130.000				04/11/08
MS	Vanadium	7440-62-2	185.47	92.735	% 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

Lab ID: W08GR00836
 BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683
 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
MSD	Selenium	7782-49-2	182.3	91.150	% Recov	70.000	130.000				04/11/08
MSD	Strontium	7440-24-6	174.69	87.345	% 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	Uranium	7440-61-1	182.27	91.135	% Recov	70.000	130.000				04/11/08
MSD	Vanadium	7440-62-2	174.97	87.485	% 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
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	Strontium	7440-24-6	87.345		RPD			4.641	20.000		04/11/08
SPK-RPD	Thallium	7440-28-0	85.550		RPD			2.139	20.000		04/11/08
SPK-RPD	Uranium	7440-61-1	91.135		RPD			2.332	20.000		04/11/08
SPK-RPD	Vanadium	7440-62-2	87.485		RPD			5.826	20.000		04/11/08
SPK-RPD	Zinc	7440-66-6	85.995		RPD			3.989	20.000		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	Chromium	7440-47-3	184.9	92.450	% Recov	70.000	130.000				04/11/08

Lab ID: W08GR00954
 BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683

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	Mercury	7439-97-6	1.86	93.000	% 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	Selenium	7782-49-2	175.5	87.750	% 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	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	Chromium	7440-47-3	187.6	93.800	% 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	Lead	7439-92-1	185.11	92.555	% 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	Zinc	7440-66-6	181.23	90.615	% Recov	70.000	130.000				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	Chromium	7440-47-3	93.800		RPD			1.450	20.000		04/11/08
SPK-RPD	Mercury	7439-97-6	99.000		RPD			6.250	20.000		04/11/08
SPK-RPD	Lead	7439-92-1	92.555		RPD			2.019	20.000		04/11/08
SPK-RPD	Selenium	7782-49-2	89.500		RPD			1.975	20.000		04/11/08
SPK-RPD	Zinc	7440-66-6	90.615		RPD			3.195	20.000		04/11/08
BATCH QC											
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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080683

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
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	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	Strontium	7440-24-6	<0.1	n/a	ug/L					U	04/11/08
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L					U	04/11/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	04/11/08
BLANK	Vanadium	7440-62-2	<0.2	n/a	ug/L					U	04/11/08
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	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	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	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	Strontium	7440-24-6	47.86	87.978	% Recov	68.000	123.000				04/11/08
LCS	Thallium	7440-28-0	119.5	89.850	% Recov	92.000	123.000		*		04/11/08
LCS	Uranium	7440-61-1	368.5	92.125	% Recov	81.000	125.000				04/11/08
LCS	Vanadium	7440-62-2	72.19	86.976	% Recov	81.000	122.000				04/11/08
LCS	Zinc	7440-66-6	183.8	103.842	% Recov	85.000	130.000				04/11/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number: F08-070
Group #: WSCF20080683
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-AES: No lithium present in the LCS. Aluminum, iron, and sodium sample results exceed spiking level by a factor of 4 (spike recoveries are not valid). Check and high standards used to ensure aluminum and iron linearity because sample results are greater than the calibration standard.</p> <p>Silver, boron, and lithium have correction equation interferences that make them negative. Silver and boron have no detectable peaks. Lithium does and the estimated value is 6.9 ppm.</p> <p>ICP-MS: Antimony, Thallium, and Lead LCS below statistical limits but within 10% of assigned value. Antimony and Thallium results well below the MDL so are not affected. "E" flag on Lead.</p> <p>Manganese and Barium MSD recoveries low. MS recoveries good. "N" flags.</p> <p>Organics: All results are corrected for moisture and reported on a dry weight basis. cgc</p>

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

TESTDATA - Test Data Entry

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample # W08GR00836
Client ID: BITNR0

Group #: WSCF20080683
Department: Organic
Sampled: 04/01/08
Received: 04/01/08

TRENT
WSCF
Matrix: SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Alcohols, Glycols - 8015 Prep											
Alcohols, Glycols - 8015											
Diethyl ether	60-29-7	Organics	U	< 5.00e+03	ug/kg			1.00	5.0e+03		04/09/08
Ethylene glycol	107-21-1	Organics	U	< 5.00e+03	ug/kg			1.00	5.0e+03		04/09/08
NWTPH-D TPH Diesel Range (Wa) Prep											
NWTPH-D TPH Diesel Range (Wa)											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 3.10e+03	ug/kg			1.00	3.1e+03		04/16/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 3.10e+03	ug/kg			1.00	3.1e+03		04/16/08
SW-846 8270C Semi-Vols Prep											
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 210	ug/kg			1.00	2.1e+02		04/16/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 250	ug/kg			1.00	2.5e+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
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	< 210	ug/kg			1.00	2.1e+02		04/16/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
4-Nitroaniline	100-01-6	LA-523-456	U	< 210	ug/kg			1.00	2.1e+02		04/16/08
4-Bromophenylphenyl ether	101-55-3	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2,4-Dimethylphenol	105-67-9	LA-523-456	U	< 230	ug/kg			1.00	2.3e+02		04/16/08
4-Chloroaniline	106-47-8	LA-523-456	U	< 310	ug/kg			1.00	3.1e+02		04/16/08

MDL = Minimum Detection Limit B - The analyte < the RDL but > = the IDL/MDL (inorg)
RQ = Result Qualifier E - Analyte is an estimate, has potentially larger errors (inorg)
TP Err = Total Propagated Error N - Spike sample recovery is outside control limits (inorg)
DF = Dilution Factor U - Analyzed for but not detected above limiting criteria (inorg)

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

Report WGPP/ver. 5.2
Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample # W08GR00836
Client ID: BITNRO

Group #: WSCF20080683
Department: Organic
Sampled: 04/01/08
Received: 04/01/08

TRENT
WSCF
Matrix: SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Bis(2-chloro-1-methylethyl)eth	108-60-1	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Bis(2-chloroethyl) ether	111-44-4	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Bis(2-Chloroethoxy)methane	111-91-1	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Bis(2-ethylhexyl) phthalate	117-81-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Di-n-octylphthalate	117-84-0	LA-523-456	U	< 210	ug/kg			1.00	2.1e+02		04/16/08
Hexachlorobenzene	118-74-1	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Anthracene	120-12-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2,4-Dichlorophenol	120-83-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Dimethyl phthalate	131-11-3	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Dibenzofuran	132-64-9	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Benzo(ghi)perylene	191-24-2	LA-523-456	U	< 230	ug/kg			1.00	2.3e+02		04/16/08
Indeno(1,2,3-cd)pyrene	193-39-5	LA-523-456	U	< 250	ug/kg			1.00	2.5e+02		04/16/08
Benzo(b)fluoranthene	205-99-2	LA-523-456	U	< 180	ug/kg			1.00	1.8e+02		04/16/08
Fluoranthene	206-44-0	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Benzo(k)fluoranthene	207-08-9	LA-523-456	U	< 180	ug/kg			1.00	1.8e+02		04/16/08
Acenaphthylene	208-96-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Chrysene	218-01-9	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Benzo(a)pyrene	50-32-8	LA-523-456	U	< 210	ug/kg			1.00	2.1e+02		04/16/08
2,4-Dinitrophenol	51-28-5	LA-523-456	U	< 630	ug/kg			1.00	6.3e+02		04/16/08
Dibenz(a,h)anthracene	53-70-3	LA-523-456	U	< 270	ug/kg			1.00	2.7e+02		04/16/08
4,6-Dinitro-2-methylphenol	534-52-1	LA-523-456	U	< 230	ug/kg			1.00	2.3e+02		04/16/08
1,3-Dichlorobenzene	541-73-1	LA-523-456	U	< 270	ug/kg			1.00	2.7e+02		04/16/08
Benzo(a)anthracene	56-55-3	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2,6-Dinitrotoluene	606-20-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
4-Chlorophenylphenyl ether	7005-72-3	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08

MDL = Minimum Detection Limit B - The analyte < the RDL but > = the IDL/MDL (inorg)
RQ = Result Qualifier E - Analyte is an estimate, has potentially larger errors(inorg)
TP Err = Total Propagated Error N - Spike sample recovery is outside control limits.(inorg)
DF = Dilution Factor U - Analyzed for but not detected above limiting criteria.(org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols
 D - Analyte was identified at a secondary dilution factor(inorg)
 J - Analyte < lowest calibration but > = MDL.(org)
 U - Analyzed for but not detected above limiting criteria(inorg)

Report WGPP/ver. 5.2
Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample #: W08GR00836
Client ID: BITNRO

Group #: WSCF20080683
Department: Organic
Sampled: 04/01/08
Received: 04/01/08

Matrix: SOIL

TRENT
WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Hexachlorocyclopentadiene	77-47-4	LA-523-456	U	< 170	ug/kg			1.00	1.7e+02		04/16/08
Isophorone	78-59-1	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Diethylphthalate	84-66-2	LA-523-456	U	< 220	ug/kg			1.00	2.2e+02		04/16/08
Di-n-butylphthalate	84-74-2	LA-523-456	J	170	ug/kg			1.00	1.5e+02		04/16/08
Phenanthrene	85-01-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Butylbenzylphthalate	85-68-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
N-Nitrosodiphenylamine	86-30-6	LA-523-456	U	< 170	ug/kg			1.00	1.7e+02		04/16/08
Fluorene	86-73-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Carbazole	86-74-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Hexachlorobutadiene	87-68-3	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2-Nitroaniline	88-74-4	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2-Nitrophenol	88-75-5	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Naphthalene	91-20-3	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2-Methylnaphthalene	91-57-6	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
2-Chloronaphthalene	91-58-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
3,3'-Dichlorobenzidine	91-94-1	LA-523-456	U	< 270	ug/kg			1.00	2.7e+02		04/16/08
2-Methylphenol (cresol, o-)	95-48-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
1,2-Dichlorobenzene	95-50-1	LA-523-456	U	< 250	ug/kg			1.00	2.5e+02		04/16/08
2,4,5-Trichlorophenol	95-95-4	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Nitrobenzene	98-95-3	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
3-Nitroaniline	99-09-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
3 & 4 Methylphenol Total	65794-96-9	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		04/16/08
Hexachloroethane	67-72-1	LA-523-456	U	< 240	ug/kg			1.00	2.4e+02		04/16/08
2,4,6-Trichlorophenol	88-06-2	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

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)
 N - Spike sample recovery is outside control limits.(inorg)
 U - Analyzed for but not detected above limiting criteria.(inorg)

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

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

Report WGPP/ver. 5.2
 Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent **Group #:** WSCF20080683
SAF Number: F08-070 **Department:** Organic
Sample #: W08GR00837 **Sampled:** 04/01/08
Client ID: BITNP8 **Received:** 04/01/08
TRENT **Matrix:** SOIL
WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Styrene	100-42-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
2-Hexanone	591-78-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Bromomethane	74-83-9	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Chloromethane	74-87-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Chloroethane	75-00-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08

MDL = Minimum Detection Limit B - The analyte < the RDL but > = the IDL/MDL (inorg)
RQ = Result Qualifier E - Analyte is an estimate, has potentially larger errors(inorg)
TP Err = Total Propagated Error N - Spike sample recovery is outside control limits.(inorg)
DF = Dilution Factor U - Analyzed for but not detected above limiting criteria.(inorg)

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

Report WGPP/ver. 5.2
Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample # W08GR00837
Client ID: BITNP8

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20080683
Department: Organic
Sampled: 04/01/08
Received: 04/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
1-Butanol	71-36-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0e+02		04/09/08
Trichloromonofluoromethane	75-69-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/09/08

MDL = Minimum Detection Limit

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

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

Report WGPP/ver. 5.2

Groundwater Remediation Program

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

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080683
 Matrix: SOLID
 Test: Alcohols, Glycols - 8015

Sample Date: 03/27/08
 Receive Date: 03/27/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
Lab ID: W08GR00752												
BATCH QC ASSOCIATED WITH SAMPLE												
DUP	2-Bromoethanol	540-51-2	17300		RPD			1.719	25.000		04/09/08	
DUP	Diethyl ether	60-29-7	<5000		RPD			n/a	25.000	U	04/09/08	
DUP	Ethylene glycol	107-21-1	<5000		RPD			n/a	25.000	U	04/09/08	
MS	2-Bromoethanol	540-51-2	16700	94.886	% Recov	70.000	125.000				04/09/08	
MS	Diethyl ether	60-29-7	7000	98.592	% Recov	75.000	125.000				04/09/08	
MS	Ethylene glycol	107-21-1	8800	80.000	% Recov	75.000	125.000				04/09/08	
MSD	2-Bromoethanol	540-51-2	17300	98.295	% Recov	70.000	125.000				04/09/08	
MSD	Diethyl ether	60-29-7	6500	91.549	% Recov	75.000	125.000				04/09/08	
MSD	Ethylene glycol	107-21-1	10000	90.909	% Recov	75.000	125.000				04/09/08	
SPK-RPD	2-Bromoethanol	540-51-2	98.295		RPD			3.529	20.000		04/09/08	
SPK-RPD	Diethyl ether	60-29-7	91.549		RPD			7.408	20.000		04/09/08	
SPK-RPD	Ethylene glycol	107-21-1	90.909		RPD			12.766	20.000		04/09/08	
BATCH QC												
BLANK	2-Bromoethanol	540-51-2	18300	103.977	% Recov	75.000	125.000				04/09/08	
BLANK	Diethyl ether	60-29-7	<5000	n/a	ug/Kg	0.000	10.000			U	04/09/08	
BLANK	Ethylene glycol	107-21-1	<5000	n/a	ug/Kg	0.000	5.000			U	04/09/08	
LCS	2-Bromoethanol	540-51-2	17600	100.000	% Recov	70.000	130.000				04/09/08	
LCS	Diethyl ether	60-29-7	6800	95.775	% Recov	70.000	130.000				04/09/08	
LCS	Ethylene glycol	107-21-1	8400	76.364	% Recov	70.000	130.000				04/09/08	

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080683
 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
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

Lab ID: W08GR00836
 BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080683
 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
SURR	2-Fluorophenol(Surr)	367-12-4	4525.9	108.000	% Recov	72.000	120.000				04/16/08
SURR	2-Fluorobiphenyl(Surr)	321-60-8	4430.9	106.000	% Recov	66.000	122.000				04/16/08
SURR	Nitrobenzene-d5(Surr)	4165-60-0	4247.8	102.000	% Recov	63.000	125.000				04/16/08
SURR	Phenol-d5(Surr)	4165-62-2	4586.5	110.000	% Recov	66.000	124.000				04/16/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	3786.8	90.600	% Recov	49.000	120.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080683
 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
SURR	Terphenyl-d14(Surr)	98904-43-9	4722.0	113.000	% Recov	58.000	128.000				04/16/08
BATCH QC											
BLANK	1,2-Dichlorobenzene	95-50-1	< 240	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	1,3-Dichlorobenzene	541-73-1	< 260	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-Dichlorophenol	120-83-2	< 140	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	2,4,5-Trichlorophenol	95-95-4	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2,4,6-Trichlorophenol	88-06-2	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2,4-Dimethylphenol	105-67-9	< 220	n/a	ug/Kg					U	04/16/08
BLANK	2,6-Dinitrotoluene	606-20-2	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2-Chloronaphthalene	91-58-7	< 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			U	04/16/08
BLANK	2-Methylnaphthalene	91-57-6	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2-Nitroaniline	88-74-4	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2-Nitrophenol	88-75-5	< 140	n/a	ug/Kg					U	04/16/08
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 140	n/a	ug/Kg					U	04/16/08
BLANK	3-Nitroaniline	99-09-2	< 140	n/a	ug/Kg					U	04/16/08
BLANK	4,6-Dinitro-2-methylphenol	534-52-1	< 220	n/a	ug/Kg					U	04/16/08
BLANK	4-Bromophenylphenyl ether	101-55-3	< 140	n/a	ug/Kg					U	04/16/08
BLANK	4-Chlorophenylphenyl ether	7005-72-3	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Acenaphthene	83-32-9	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Acenaphthylene	208-96-8	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Anthracene	120-12-7	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Bis(2-chloroethyl) ether	111-44-4	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Benzo(a)anthracene	56-55-3	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Benzo(b)fluoranthene	205-99-2	< 170	n/a	ug/Kg					U	04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: **WSCF20080683**
 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
BLANK	Benzo(g,h,i)perylene	191-24-2	< 220	n/a	ug/Kg					U	04/16/08
BLANK	Benzo(a)pyrene	50-32-8	< 200	n/a	ug/Kg					U	04/16/08
BLANK	Bis(2-Chloroethoxy)methane	111-91-1	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Bis(2-chloro-1-methylethyl)eth	108-60-1	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Benzo(k)fluoranthene	207-08-9	< 170	n/a	ug/Kg					U	04/16/08
BLANK	Butylbenzylphthalate	85-68-7	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Carbazole	86-74-8	< 140	n/a	ug/Kg					U	04/16/08
BLANK	4-Chloroaniline	106-47-8	< 300	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	Chrysene	218-01-9	< 140	n/a	ug/Kg					U	04/16/08
BLANK	3,3'-Dichlorobenzidine	91-94-1	< 260	n/a	ug/Kg					U	04/16/08
BLANK	Dibenz(a,h)anthracene	53-70-3	< 260	n/a	ug/Kg					U	04/16/08
BLANK	Dibenzofuran	132-64-9	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Di-n-butylphthalate	84-74-2	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Diethylphthalate	84-66-2	< 210	n/a	ug/Kg					U	04/16/08
BLANK	Dimethyl phthalate	131-11-3	< 140	n/a	ug/Kg					U	04/16/08
BLANK	2,4-Dinitrophenol	51-28-5	< 600	n/a	ug/Kg					U	04/16/08
BLANK	Di-n-octylphthalate	117-84-0	< 200	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			U	04/16/08
BLANK	Fluorene	86-73-7	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Fluoranthene	206-44-0	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Hexachlorobenzene	118-74-1	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Hexachlorobutadiene	87-68-3	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Hexachlorocyclopentadiene	77-47-4	< 160	n/a	ug/Kg					U	04/16/08
BLANK	Hexachloroethane	67-72-1	< 230	n/a	ug/Kg					U	04/16/08
BLANK	Indeno(1,2,3-cd)pyrene	193-39-5	< 240	n/a	ug/Kg					U	04/16/08
BLANK	Isophorone	78-59-1	< 140	n/a	ug/Kg					U	04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080683
 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
BLANK	Phenol	108-95-2	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Naphthalene	91-20-3	< 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	Nitrobenzene	98-95-3	< 140	n/a	ug/Kg					U	04/16/08
BLANK	4-Nitrophenol	100-02-7	< 200	n/a	ug/Kg					U	04/16/08
BLANK	4-Nitroaniline	100-01-6	< 200	n/a	ug/Kg					U	04/16/08
BLANK	N-Nitrosodiphenylamine	86-30-6	< 160	n/a	ug/Kg					U	04/16/08
BLANK	Pentachlorophenol	87-86-5	< 200	n/a	ug/Kg					U	04/16/08
BLANK	Phenanthrene	85-01-8	< 140	n/a	ug/Kg					U	04/16/08
BLANK	Phenol-d5(Surr)	4165-62-2	3729.0	93.200	% Recov	66.000	124.000			U	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
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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080683
Matrix: SOLID
Test: SW-846 8270C Semi-Vols

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units % Recov	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Terphenyl-d14(Surr)	98904-43-9	3584.1	89.600		60.000	120.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080683

Matrix: SOLID

Test: NWTPH-D TPH Diesel Range (Wa)

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
Lab ID: W08GR00836											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	ortho-Terphenyl Surr	84-15-1	20082	96.400	% Recov	70.000	130.000				04/16/08
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
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: **WSCF20080683**

Matrix: **SOLID**

Test: **VOA Ground Water Protection**

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
MS	1,1-Dichloroethene	75-35-4	21.130	82.300	% Recov	63.000	117.000		20.000		04/09/08
MS	Benzene	71-43-2	25.400	99.000	% Recov	75.000	129.000		20.000		04/09/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	47.630	92.800	% Recov	75.000	125.000		20.000		04/09/08
MS	Chlorobenzene	108-90-7	28.180	110.000	% Recov	79.000	119.000		20.000		04/09/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.750	111.000	% Recov	75.000	125.000		20.000		04/09/08
MS	Toluene-d8(Surr)	2037-26-5	50.450	98.300	% Recov	75.000	125.000		20.000		04/09/08
MS	Toluene	108-88-3	26.750	104.000	% Recov	76.000	120.000		20.000		04/09/08
MS	Trichloroethene	79-01-6	20.620	80.300	% Recov	73.000	123.000		20.000		04/09/08
MSD	1,1-Dichloroethene	75-35-4	20.830	87.500	% Recov	63.000	117.000		20.000		04/09/08
MSD	Benzene	71-43-2	25.050	105.000	% Recov	75.000	129.000		20.000		04/09/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	43.270	90.900	% Recov	75.000	125.000		20.000		04/09/08
MSD	Chlorobenzene	108-90-7	26.890	113.000	% Recov	79.000	119.000		20.000		04/09/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.700	107.000	% Recov	75.000	125.000		20.000		04/09/08
MSD	Toluene-d8(Surr)	2037-26-5	48.510	102.000	% Recov	75.000	125.000		20.000		04/09/08
MSD	Toluene	108-88-3	26.340	111.000	% Recov	76.000	120.000		20.000		04/09/08
MSD	Trichloroethene	79-01-6	22.820	95.900	% Recov	73.000	123.000		20.000		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
SURR	4-Bromofluorobenzene(Surr)	460-00-4	48.220	93.900	% Recov	75.000	125.000				04/09/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	56.020	109.000	% Recov	75.000	125.000				04/09/08

Lab ID: **W08GR00837**
BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: **WSCF20080683**
 Matrix: **SOLID**
 Test: **VOA Ground Water Protection**

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
SURR	Toluene-d8(Surr)	2037-26-5	51.160	99.700	% 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	1-Butanol	71-36-3	< 100	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-1,2-Dichloroethylene	156-59-2	< 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
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/Kg					U	04/09/08
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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080683
 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	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	Toluene-d8(Surr)	2037-26-5	48.980	98.000	% Recov	80.000	126.000			U	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	Trichloromonofluoromethane	75-69-4	< 1.0	n/a	ug/Kg					U	04/09/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/Kg	0.000	5.000			U	04/09/08
BLANK	Trichloroethene	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			U	04/09/08
LCS	Benzene	71-43-2	25.290	101.000	% Recov	75.000	125.000			U	04/09/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	46.910	93.800	% Recov	75.000	125.000			U	04/09/08
LCS	Chlorobenzene	108-90-7	27.020	108.000	% Recov	75.000	125.000			U	04/09/08
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.980	106.000	% Recov	75.000	125.000			U	04/09/08
LCS	Toluene-d8(Surr)	2037-26-5	48.750	97.500	% Recov	80.000	126.000			U	04/09/08
LCS	Toluene	108-88-3	26.170	105.000	% Recov	75.000	125.000			U	04/09/08
LCS	Trichloroethene	79-01-6	21.500	86.000	% Recov	75.000	125.000			U	04/09/08

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample #: W08GR00836
Client ID: B1TNR0

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20080683
Department: Radiochemistry
Sampled: 04/01/08
Received: 04/01/08

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	0.0300	pCi/g	+0.0261	pCi/g	1.00	0.038		04/16/08
Am-243 tracer by AEA	AM243	LA-508-471		3.80	pCi/g			1.00	0.020		04/16/08
Gamma Energy Analysis-grd H2O											
Antimony-125	14234-35-6	LA-508-481	U	-5.96e-03	pCi/g	+0.0162	pCi/g	1.00	0.027		04/03/08
Cobalt-60	10198-40-0	LA-508-481	U	0.0100	pCi/g	+5.18e-03	pCi/g	1.00	0.010		04/03/08
Cesium-137	10045-97-3	LA-508-481	U	-3.48e-03	pCi/g	+6.29e-03	pCi/g	1.00	0.010		04/03/08
Europium-152	14683-23-9	LA-508-481	U	0.0166	pCi/g	+0.0233	pCi/g	1.00	0.031		04/03/08
Europium-154	15585-10-1	LA-508-481	U	8.74e-03	pCi/g	+0.0208	pCi/g	1.00	0.031		04/03/08
Europium-155	14391-16-3	LA-508-481	U	0.0271	pCi/g	+0.0306	pCi/g	1.00	0.051		04/03/08
Radium-226	13982-63-3	LA-508-481	U	0.416	pCi/g	+0.0734	pCi/g	1.00	0.019		04/03/08
Radium-228	15262-20-1	LA-508-481	U	0.495	pCi/g	+0.0904	pCi/g	1.00	0.032		04/03/08
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471	U	4.00e-03	pCi/g	+0.0180	pCi/g	1.00	0.037		05/08/08
Plutonium Isotopes by AEA											
Plutonium-238	13981-16-3	LA-508-471		0.0290	pCi/g	+0.0186	pCi/g	1.00	0.018		04/16/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	1.90e-03	pCi/g	+3.84e-03	pCi/g	1.00	5.2e-03		04/16/08
Pu-242 tracer by AEA	PU242	LA-508-471		5.90	pCi/g			1.00	0.018		04/16/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-1.30	pCi/g	+1.30	pCi/g	1.00	0.38		04/07/08
SR-85 Tracer by Beta Counting	SR85	LA-508-415		96.6	Percent			1.00	0.0		04/07/08
Uranium Isotopes by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.140	pCi/g	+0.0490	pCi/g	1.00	5.4e-03		04/15/08
Uranium-235	15117-96-1	LA-508-471	U	6.50e-03	pCi/g	+0.0116	pCi/g	1.00	0.020		04/15/08
Uranium-238	U-238	LA-508-471		0.120	pCi/g	+0.0444	pCi/g	1.00	0.018		04/15/08

MDL = Minimum Detection Limit B - The analyte < the RDL but > = the IDL/MDL (inorg)
RQ = Result Qualifier E - Analyte is an estimate, has potentially larger errors (inorg)
TP Err = Total Propagated Error N - Spike sample recovery is outside control limits (inorg)
DF = Dilution Factor U - Analyzed for but not detected above limiting criteria (inorg)

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

Report WQPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-070
Sample # W08GR00836
Client ID: BITNR0

Group #: WSCF20080683
Department: Radiochemistry
Sampled: 04/01/08
Received: 04/01/08

TRENT
WSCF

Matrix: SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
U-232 tracer by AEA	U232	LA-508-471		3.90	pCi/g			1.00	0.015		04/15/08

MDL = Minimum Detection Limit B - The analyte < the RDL but > = the IDL/MDL (inorg)
RQ = Result Qualifier E - Analyte is an estimate, has potentially larger errors (inorg)
TP Err = Total Propagated Error N - Spike sample recovery is outside control limits. (inorg)
DF = Dilution Factor U - Analyzed for but not detected above limiting criteria. (org)

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols
 D - Analyte was identified at a secondary dilution factor (inorg)
 J - Analyte < lowest calibration but > = MDL. (org)
 U - Analyzed for but not detected above limiting criteria (inorg)

Report WGGP/ver. 5.2

Groundwater Remediation Program

WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Group #: WSCF20080683
 Department: Radiochemistry

Attention: Steve Trent
 Project Number F08-070 : F08-070

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	AC-228				0.42	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	AC-228 Count Error				22	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	Bi-212				0.37	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	Bi-212 Count Error				28	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	Bi-214				0.53	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	Bi-214 Count Error				13	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	CS-134				0.028	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	CS-134 Count Error				42	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	K-40				14	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	PB-212				0.59	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	PB-212 Count Error				10	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	PB-214				0.81	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	PB-214 Count Error				22	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	SN-126				0.078	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	SN-126 Count Error				36	%
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	TL-208				0.16	pCi/g
W08GR00836	B1TNRO	Gamma Energy Analysis-grd H2O	TL-208 Count Error				16	%

RQ=Result Qualifier

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080683

Matrix: SOLID

Test: Gamma Energy Analysis-grd H2O

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
Lab ID: W08GR00836											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U7.709e-3		RPD			n/a	20.000		04/07/08
DUP	Cesium-137	10045-97-3	U-1.125e-3		RPD			n/a	20.000		04/07/08
DUP	Europium-152	14683-23-9	U-1.401e-2		RPD			n/a	20.000		04/07/08
DUP	Europium-154	15585-10-1	U1.45e-3		RPD			n/a	20.000		04/07/08
DUP	Europium-155	14391-16-3	U-1.655e-2		RPD			n/a	20.000		04/07/08
DUP	Radium-226	13982-63-3	0.4159		RPD			0.000	20.000		04/07/08
DUP	Radium-228	15262-20-1	0.5455		RPD			9.727	20.000		04/07/08
DUP	Antimony-125	14234-35-6	U7.953e-3		RPD			n/a	20.000		04/07/08
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U-2.341e-3	n/a	pCi/g	-10.000	1000.000				04/03/08
BLANK	Cesium-137	10045-97-3	U-5.002e-4	n/a	pCi/g	-10.000	1000.000				04/03/08
BLANK	Europium-152	14683-23-9	U7.263e-3	n/a	pCi/g	-10.000	1000.000				04/03/08
BLANK	Europium-154	15585-10-1	U3.06e-3	n/a	pCi/g	-10.000	1000.000				04/03/08
BLANK	Europium-155	14391-16-3	U-4.576e-3	n/a	pCi/g	-10.000	1000.000				04/03/08
BLANK	Radium-226	13982-63-3	7.918e-2	0.079	pCi/g	-10.000	1000.000				04/03/08
BLANK	Radium-228	15262-20-1	3.793e-2	0.038	pCi/g	-10.000	1000.000				04/03/08
BLANK	Antimony-125	14234-35-6	U-3.183e-3	n/a	pCi/g	-10.000	1000.000				04/03/08
LCS	Cobalt-60	10198-40-0	10660	107.243	% Recov	80.000	120.000				04/08/08
LCS	Cesium-137	10045-97-3	6265	103.725	% Recov	80.000	120.000				04/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080683
 Matrix: SOLID
 Test: Americium by AEA

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
Lab ID: W08GR00836											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	U-1e-2		RPD			n/a	20.000		04/16/08
DUP	Am-243 tracer by AEA	AM243	3.825	94.990	% Recov	30.000	105.000				04/16/08
SURR	Am-243 tracer by AEA	AM243	3.833	89.640	% Recov	30.000	105.000				04/16/08
BATCH QC											
BLANK	Americium-241	14596-10-2	U7.8e-3	n/a	pCi/g	-10.000	1000.000				04/16/08
BLANK	Am-243 tracer by AEA	AM243	4.024	90.670	% Recov	30.000	105.000				04/16/08
LCS	Americium-241	14596-10-2	11.25	94.937	% Recov	80.000	120.000				04/16/08
LCS	Am-243 tracer by AEA	AM243	11.17	91.090	% Recov	30.000	105.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080683
 Matrix: SOLID
 Test: Neptunium by AEA

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	
Lab ID: W08GR00836												
BATCH QC ASSOCIATED WITH SAMPLE												
DUP	Neptunium-237	13994-20-2	U4.8e-3		RPD			n/a	25.000		05/08/08	
MS	Neptunium-237	13994-20-2	97.67	97.670	% Recov	75.000	125.000				05/08/08	
MSD	Neptunium-237	13994-20-2	88.4	88.400	% Recov	75.000	125.000				05/08/08	
SPK-RPD	Neptunium-237	13994-20-2	88.400		% RPD			9.964	20.000		05/08/08	
Lab ID: W08GR01029												
BATCH QC ASSOCIATED WITH SAMPLE												
MS	Neptunium-237	13994-20-2	97.388	97.388	% Recov	75.000	125.000				05/08/08	
Lab ID: W08GR01033												
BATCH QC ASSOCIATED WITH SAMPLE												
MS	Neptunium-237	13994-20-2	92.3	92.300	% Recov	75.000	125.000				05/08/08	
Lab ID: W08GR01038												
BATCH QC ASSOCIATED WITH SAMPLE												
MS	Neptunium-237	13994-20-2	105.1	105.100	% Recov	75.000	125.000				05/08/08	
BATCH QC												
BLANK	Neptunium-237	13994-20-2	U8.2e-3	n/a	pCi/G	-10.000	1000.000				05/08/08	
LCS	Neptunium-237	13994-20-2	11.96	93.841	% Recov	80.000	120.000				05/08/08	

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080683
 Matrix: SOLID
 Test: Plutonium Isotopics by AEA

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
Lab ID: W08GR00836											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U2e-3		RPD			n/a	20.000		04/16/08
DUP	Pu-239/240 by AEA	PU-239/240	6.1e-2		RPD			n/a	20.000		04/16/08
DUP	Pu-242 tracer by AEA	PU242	5.928	80.900	% Recov	30.000	105.000				04/16/08
SURR	Pu-242 tracer by AEA	PU242	5.939	80.300	% Recov	30.000	105.000				04/16/08
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U-3.5e-2	n/a	pCi/g	-10.000	1000.000				04/16/08
BLANK	Pu-239/240 by AEA	PU-239/240	U8.1e-3	n/a	pCi/g	-10.000	1000.000				04/16/08
BLANK	Pu-242 tracer by AEA	PU242	6.236	87.930	% Recov	30.000	105.000				04/16/08
LCS	Pu-239/240 by AEA	PU-239/240	12.79	99.572	% Recov	80.000	120.000				04/16/08
LCS	Pu-242 tracer by AEA	PU242	17.3	89.390	% Recov	30.000	105.000				04/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080683
 Matrix: SOLID
 Test: Strontium 89/90

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR00694											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	96.2	96.200	% Recov	30.000	105.000				04/07/08
DUP	Strontium-89/90	SR-RAD	U1.5E-02		RPD			n/a	20.000		04/07/08
Lab ID: W08GR00836											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	96.6	96.600	% Recov	30.000	105.000				04/07/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	132	132.000	% Recov	30.000	105.000			*	04/07/08
BLANK	Strontium-89/90	10098-97-2	U-2.8E-01	n/a	pCi/g	-10.000	300.000				04/07/08
LCS	Sr-85 Tracer by Beta Counting	SR85	91.5	91.500	% Recov	30.000	105.000				04/07/08
LCS	Strontium-89/90	10098-97-2	74.5	106.239	% Recov	80.000	120.000				04/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080683
 Matrix: SOLID
 Test: Uranium Isotopics by AEA

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
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	U-232 tracer by AEA	U232	3.936	85.160	% Recov	30.000	105.000				04/15/08
DUP	Uranium-233/234	U-233/234	0.13		RPD			7.407	20.000		04/15/08
DUP	Uranium-235	15117-96-1	U1.5e-2		RPD			n/a	20.000		04/15/08
DUP	Uranium-238	U-238	0.12		RPD			0.000	20.000		04/15/08
SURR	U-232 tracer by AEA	U232	3.944	80.290	% Recov	30.000	105.000				04/15/08
BATCH QC											
BLANK	U-232 tracer by AEA	U232	4.141	77.630	% Recov	30.000	105.000				04/15/08
BLANK	Uranium-233/234	13966-29-5	3.4e-2	0.034	pCi/g	-10.000	1000.000				04/15/08
BLANK	Uranium-235	15117-96-1	U2.5e-3	n/a	pCi/g	-10.000	1000.000				04/15/08
BLANK	Uranium-238	24678-82-8	6.8e-3	0.007	pCi/g	-10.000	1000.000				04/15/08
LCS	U-232 tracer by AEA	U232	11.49	76.680	% Recov	30.000	105.000				04/15/08
LCS	Uranium-233/234	13966-29-5	N/A	n/a	% Recov	75.000	125.000				04/15/08
LCS	Uranium-235	15117-96-1	N/A	n/a	% Recov	75.000	125.000				04/15/08
LCS	Uranium-238	24678-82-8	18.52	97.703	% Recov	80.000	120.000				04/15/08

M4W41-SLF-08-535

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#: 123163/ES20
 Group#: 20080683
 Project#: F08-070
 Proj Mgr: Steve Trent E6-35
 Phone: 373-5869

The following samples were received from you on 04/01/08. 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
W08GR00836	B1TNR0	TRENT @2008 @8015GPP @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @GPP6010 @IC-30 @SR89_90 @SVOC @TPHD-WA CN-02 NH4-IC PERSOLID	Solid, or handle as if solid	04/01/08
W08GR00837	B1TNP8	TRENT @VOA-GPP	Solid, or handle as if solid	04/01/08
W08GR00839	B1TNP9	TRENT	Solid, or handle as if solid	04/01/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@8015GPP	Alcohols, Glycols - 8015
@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 H2O P
@IC-30	Anions by Ion Chromatography
@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
CN-02	Cyanide by Midi/Spectrophotom
NH4-IC	Ammonia (N) by IC
PERSOLID	Percent Solids

Fluor Hanford Inc.		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST		F08-070-025	PAGE 2 OF 2
COLLECTOR NCO SAMPLER	COMPANY CONTACT TRENT, STEVE	TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C5857, I-098	PROJECT DESIGNATION 200-TW-1 OU Characterization for Well 299-E33-342 - Soil	SAF NO. F08-070	SAF NO. F08-070	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 123163ES20	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

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
 (1)ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Manganese, Vanadium, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium, Strontium, Thallium, Uranium} ICP Metals - 6010B (TAL) {Aluminum, Copper, Iron, Nickel, Silver, Sodium} ICP Metals - 6010B (Add-On) {Boron, Lithium} 200.8_HG - ICPMS; Cations (IC) - 300.7 {Nitrogen in ammonium}
 (2)Alcohols, Glycols, & Ketones - 8015 {Diethyl ether, Ethylene glycol}
 (3)Semi-VOA - 8270B (TCL); Semi-VOA - 8270B (Add-On) {3+4 Methylphenol (cresol, m+p), Tributyl phosphate}
 (4)TPH-Diesel/Kerosene Range - WTPH-D {Total petroleum hydrocarbons - kerosene range}
 (5)Cyanide (Total) - 335.2; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}
 (6)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Radium-226} Gamma Spec - Add-on {Antimony-125, Radium-228} Isotopic/Plutonium; Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr, Americium-241;

Fluor Hanford Inc.
 1000 S. Broadway
 Hanford, CA 93230

F08-070-023

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COMPANY CONTACT
 TRENT, STEVE

COLLECTOR
 NCO SAMPLER

PRICE CODE 8N
 AIR QUALITY
 DATA TURNAROUND
 45 Days / 45 Days

PROJECT COORDINATOR
 WIDRIG, DL

TELEPHONE NO.
 373-5869

METHOD OF SHIPMENT
 GOVERNMENT VEHICLE

SAF NO.
 F08-070

PROJECT DESIGNATION
 200-TW-1 OU Characterization for Well 299-E33-342 - Soil

PROJECT LOGBOOK NO.
 HNF N. 48-1

SAMPLING LOCATION
 C5857, I-098

ACTUAL SAMPLE DEPTH
 192.3

COA
 123163ES20

FIELD LOGBOOK NO.
 HNF N. 48-1

OFFSITE PROPERTY NO.
 N/A

ICE CHEST NO.
 192.3

BILL OF LADING/AIR BILL NO.
 N/A

ACTUAL SAMPLE DEPTH
 192.3

OFFSITE PROPERTY NO.
 N/A

SHIPPED TO
 Waste Sampling & Characterization

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
A=Air DL=Drum L=Liquid DS=Drum S=Solid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	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)	Cool=4C aGs*	aGs*	3	40mL	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
		Cool<-7C and >-20C		5	40mL	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1TNP8 837	SOIL	APR 11 2008	0820

SPECIAL HANDLING AND/OR STORAGE
 Radioactive Tie To B1TNP7

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	RECEIVED BY/STORED IN	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM		T A Frazier	4/11/08 1055		
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RECEIVED BY					
LABORATORY SECTION					
FINAL SAMPLE DISPOSITION					

SPECIAL INSTRUCTIONS
 SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F08-070-023	PAGE 2 OF 2
COLLECTOR	COAST INDUSTRIES	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	DATA TURNAROUND
NCO SAMPLER		TRENT, STEVE	373-5869	WIDRIG, DL	8N	45 Days / 45 Days
SAMPLING LOCATION		PROJECT DESIGNATION		SAF NO.	AIR QUALITY	
CS857, I-098		200-TW-1 OU Characterization for Well 299-E33-342 - Soil		F08-070	<input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA	METHOD OF SHIPMENT	
				123163E520	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 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) {1-Butanol, Trichloromonofluoromethane, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene}
 (2)VOA - 5035/8260 (LOW LEVEL); VOA - 5035/8260 (LOW LEVEL) - (Add-On) {1-Butanol, Trichloromonofluoromethane, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene}

Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F08-070-024	PAGE 1 OF 1
COLLECTOR NCO SAMPLER	COMPANY CONTACT TRENT, STEVE	TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C5857, I-098	PROJECT DESIGNATION 200-TW-1 OU Characterization for Well 299-E33-342 - Soil	FIELD LOGBOOK NO. ANF A. 488.1 1912	SAF NO. F08-070	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE
ICE CHEST NO.	ACTUAL SAMPLE DEPTH 187.8 - 192.3	OFFSITE PROPERTY NO. N/A	COA 123163ES20	BILL OF LADING/AIR BILL NO. N/A	
SHIPPED TO Waste Sampling & Characterization	PRESERVATION Cool-to-4C	TYPE OF CONTAINER 30G*	NO. OF CONTAINER(S) 1	VOLUME 40mL	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation 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 BITNP7	SAMPLE NO. BITNP9 839	MATRIX* SOIL	SAMPLE DATE SAMPLE TIME APR 0 12008 0820 ✓
CHAIN OF POSSESSION	RECEIVED BY/REMOVED FROM <i>[Signature]</i>	DATE/TIME APR 0 12008 1035	RECEIVED BY/STORED IN T A Frazier	DATE/TIME APR 0 12008 1035	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) (1-Butanol, Trichloromonofluoromethane, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene)
RELIQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELIQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELIQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELIQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELIQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELIQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE	ICED		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

M4W41-SLF-08-535

ATTACHMENT 5

SAMPLE RECORD SHEET

Consisting of 2 pages
Including cover page

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
BITNP8	K	31.0	33.1	2.1	---	---	---
BITNP8	L	31.0	35.8	4.8	---	---	---
BITNP8	M	31.3	36.2	5.1	---	---	---
BITNP8	N	31.1	36.2	5.1	---	---	---
BITNP8	P	31.6	37.1	5.5	---	---	---
BITNP9					4.1	5	34.0
BITNP8	W	29.9	34.3	4.4	3.6	4.5	37.9
BITNP8	X	30.0	34.8	4.8	4.0	5	38.8
BITNP8	Y	30.0	34.8	4.8	4.0	5	38.8

¹Sample 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.

²Empty 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.

³Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

⁴Sample weight is the vial with sample minus the vial empty