

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

# FLUOR

---

## Memorandum

---

M4W41-SLF-08-822

To: H. Hampt E6-35 Date: August 13, 2008

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



cc: w/Attachments

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

Subject: P&D w/REPLACEMENT PAGES FOR SAMPLE DELIVERY GROUP WSCF20080801 –  
 SAF NUMBER F08-043

Reference: (1) Memo, SL Fitzgerald to H Hampt, Additional Sample Analyses (6010) for SDG  
 WSCF20080801 (M4W41-SLF-08-712), dated July 18, 2008

(2) Memo, SL Fitzgerald to H Hampt, Final Results for SDG WSCF20080801 (M4W41-SLF-  
 08-614), dated June 9, 2008

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

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

Errant pages of the case Narrative have been corrected and the following is included in this submittal for  
 sample delivery group WSCF20080801:

- Analytical Results (Replacement pages 6 and 7 of 108)
- Copy of P&D for SDG WSCF20080801

If you have any questions, don't hesitate to call on Andy Kopriva, telephone 373-1613, for assistance.

SLF/grf

Attachments  
 As listed

M4W41-SLF-08-614

ATTACHMENT 1

**COVER SHEET**

Consisting of 2 pages  
Including cover page

# WSCF SAF NUMBER CROSS REFERENCE

---

Group#: WSCF20080801  
Data Deliverable Date: 29-may-2008  
Data Deliverable: Cover Sheet

---

SAF#	Sample ID	WSCF#	Matrix
F08-043	B1TDF2	W08GR01033	SOIL
	B1TV13	W08GR01048	SOIL
	B1TV15	W08GR01036	SOIL
	B1TV17	W08GR01049	SOIL
	B1TV19	W08GR01037	SOIL
	B1V2L3	W08GR01050	SOIL
	B1V2L5	W08GR01038	SOIL

---

M4W41-SLF-08-614

ATTACHMENT 2

**NARRATIVE**

Consisting of 5 pages  
Including cover page

## **Introduction**

Twelve (12) S&GRP samples were received at the WSCF Laboratory on April 15, 2008. Seven of the twelve samples were analyzed at the WSCF Laboratory. Summary of sample disposition is offered below:

- B1TDF2, B1TV15, B1TV19, B1V2L5, B1TV13, B1TV17 and B1V2L3 – With the exception of conductivity testing, samples were successfully analyzed at the WSCF Laboratory 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;
- B1TDF1 (Methanol Blank) and B1TDF0 (VOA) - Samples were sent to the 222-S Laboratory for analysis. WSCF was not able to analyze these samples due to high sample radioactivity (Category IV); and.
- B1TV14, B1TV18 and B1V2L4 – Analyses of these Methanol Blank samples and their associated high concentration VOA samples were not required.

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A copy of Issue Resolution Form #08-048, documenting cancellation of conductivity testing (specific conductance) is included as Attachment 3. A Data Summary Report (Attachment 4) 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 5. Additionally, copies of the sample record sheets are included as Attachment 6.

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 18 through 20, for a complete listing of approved analytical methods.

## **Inorganic Comments**

**Anions** – Hold time requirements for this analysis were met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 49 through 50 for QC details. Analytical Note(s):

- Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1V261 (SDG# 20080786, SAF# F08-046).

- Samples were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit were B flagged.

All QC controls are within the established limits.

**Conductivity** – Copy of IRF # 08-048, documenting cancellation of analysis is included as Attachment 3.

**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 51 through 56 for QC details. Analytical Note(s):

- Missed Hold Time – Regulatory hold time for Mercury was not not met. Samples were collected in the field on March 11, 12, 26, and 31, delivered to the WSCF Laboratory on April 15, and analyzed on May 7, 2008 after the regulatory hold time had expired.
- Matrix Spikes and Matrix Spike Duplicates were analyzed on samples B1V261 (SDG# 20080786, SAF# F08-046), B1TTM7 (SDG# 20080787, SAF# F07-026), and B1TFN9 (SDG# 20080882, SAF# F08-031).
- B1TFN9 - Selenium contamination detected in the Blank was evaluated and affected sample results were C flagged.

All other QC controls are within the established limits.

**pH** – Duplicate QC was analyzed with this delivery group per the GRP Letter of Instruction. See page 57 for QC details. Analytical Note(s):

- Duplicate QC was analyzed on sample# B1TFF2 (SDG# 20080847, SAF# F08-066).

All QC controls are within the established limits.

### **Organic Comments**

*Sample results were not corrected for moisture due to radiological content, and are therefore reported on an “as-received” basis.*

**PCB** – The hold time requirement for this analysis was not met. See comment below. 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 73 through 74 for QC details. Analytical Note(s):

- Missed Hold Time – Regulatory hold time was not met. Samples were collected in the field on March 11, 12, 26, and 31, delivered to the WSCF Laboratory on April 15, and prepared for analysis on April 30, 2008 after the regulatory hold time had expired.

All QC controls are within the established limits.

**Semi-VOA** – The hold time requirement for this analysis was not met. See comment below. 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 75 through 79 for QC details. Analytical Note(s):

- Missed Hold Time – Regulatory hold time was not met. Samples were collected in the field on March 11, 12, 26, and 31, delivered to the WSCF Laboratory on April 15, and prepared for analysis on April 30, 2008 after the regulatory hold time had expired.

All QC controls are within the established limits.

**TPHD-WA** – The hold time requirement for this analysis was not met. See comment below. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 80 through 81 for QC details. Analytical Note(s):

- Missed Hold Time – Regulatory hold time was not met. Samples were collected in the field on March 11, 12, 26, and 31, delivered to the WSCF Laboratory on April 15, and prepared for analysis on April 30, 2008 after the regulatory hold time had expired.
- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TFC6 (SDG# 20080813, SAF# F08-066).

All QC controls are within the established limits.

**VOA** – The hold time requirement for this analysis was not 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 82 through 85 for QC details. Analytical Note(s):

- Missed Hold Time – Regulatory hold time was not met. Samples were collected in the field on March 11, 12, 26, and 31, delivered to the WSCF Laboratory on April 15, and analyzed on April 30, 2008 after the regulatory hold time had expired.
- Sample results that were less than the lowest calibration standard, however greater than the method detection limit were J flagged.
- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1TFF0 (SDG# 20080847, SAF# F08-066).

All QC controls are within the established limits.

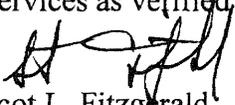
### Radiochemistry Comments

**Rad Chem** – There are no hold times associated with WSCF’s radiochemical methods. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 31 through 42 for QC details. Analytical Note(s):

- GEA – Duplicates were analyzed on samples B1TFC3 (SDG# 20080797, SAF# F08-066) and B1TV15 of this SDG. Radium-226 (B1TFC3) Duplicate Relative Percent Difference (RPD) exceeded established laboratory limits. No flags issued.
- Americium-241 and 243 (tracer) – Duplicates were analyzed on samples B1TFC6 (SDG# 20080813, SAF# F08-066) and B1TFF2 (SDG# 20080847, SAF# F08-066). Americium-241(B1TFC6) RPD exceeded established laboratory limits. No flags issued.
- Neptunium-237 – Duplicate, Matrix Spike and Matrix Spike Duplicate were analyzed on samples B1TNR0 (SDG# 20080683, SAF# F08-070) and B1TV15 of this SDG. Additional Matrix Spikes were performed on samples B1TFC3 (SDG# 20080797, SAF# F08-066); B1TFD2 (SDG# 20080830, SAF# F08-066); and, B1TDF2, B1TV19 and B1V2L5 of this SDG.
- Plutonium-238, 239/240 and 242 (tracer) – Duplicates were analyzed on samples B1TFC6 (SDG# 20080813, SAF# F08-066) and B1TFF2 (SDG# 20080847, SAF# F08-066). Plutonium-238 and 239/240 (B1TFC6) RPDs exceeded established laboratory limits. No flags issued.
- Strontium-89/90 and 85 (tracer) – Duplicates were analyzed on samples B1TTN1 (SDG# 20080783, SAF# F07-026) and B1TV15 of this SDG.
- Uranium-233/234, 235, 238 and 232 (tracer) – Duplicates were analyzed on samples B1TFF2 (SDG# 20080847, SAF# F08-066) and B1TFC6 (SDG# 20080813, SAF# F08-066) of this SDG. Uranium-233/234 and 235 (B1TFF2) RPDs exceeded established laboratory limits. Additionally, Uranium-235 (B1TFC6) RPD exceeded established laboratory limits. No flags issued.

All other QC controls are within the established limits.

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

  
Scot L. Fitzgerald  
WSCF Analytical Laboratory Manager

  
Pauline D. Mix  
WSCF Client Services

**Problems and Discrepancies**

SDG WSCF20080801

WSCF

1. In the case narrative for ICP-MS Metals and VOA it is reported that the hold times for this analysis was met. However missed hold times were reported for each set of analyses. Please correct the case narrative to reflect the data being reported and re-submit this SDG in hardcopy format.

**WSCF Response**

Hard copy corrected and replacement pages issued to client

M4W41-SLF-08-614

ATTACHMENT 3

**ISSUE RESOLUTION FORM**

Consisting of 2 pages  
Including cover page

### ISSUE RESOLUTION FORM

**PNNL TRACKING NUMBER:** 08-048

Date : SAF No. see below (soil matrix)

SDG: see below

LOGIN No.:

TEST: Conductivity (COND)

Sample No.(s)	<b>B1V2L5 (W08GR01038)</b>	<b>WSCF20080801</b>	<b>F08-043</b>
	<b>B1TFD2 (W08GR01066)</b>	<b>WSCF20080830</b>	<b>F08-066</b>
	<b>B1TFF2 (W08GR01075)</b>	<b>WSCF20080847</b>	<b>F08-066</b>
	<b>B1TFF5 (W08GR01078)</b>	<b>WSCF20080847</b>	<b>F08-066</b>
	<b>B1TFD9 (W08GR01079)</b>	<b>WSCF20080847</b>	<b>F08-066</b>
	<b>B1TFF8 (W08GR01080)</b>	<b>WSCF20080847</b>	<b>F08-066</b>
	<b>B1TFH1 (W08GR01082)</b>	<b>WSCF20080847</b>	<b>F08-066</b>
	<b>B1VB30 (W08GR01097)</b>	<b>WSCF20080850</b>	<b>F08-043</b>

Submitted By: PD Mix

Submitted To: H Hampt

Phone No. 372-1488

Phone No. 376-4319

Fax No. 372-0456

Fax No

#### ISSUE

Although conductivity has been requested for the GRP samples identified above; the WSCF Laboratory is not able to perform Conductivity testing on soil samples at this time.

#### PROPOSED RESOLUTION

Proposed resolution is to cancel requests for conductivity on GRP soil samples submitted to the WSCF Laboratory.

#### GRP COMMENTS

Accept proposed resolution.

Heidi Hampt 4/29/08

Signature and Date

M4W41-SLF-08-614

ATTACHMENT 4

**ANALYTICAL RESULTS**

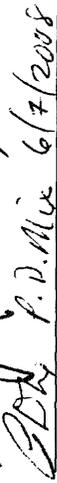
Consisting of 75 pages  
Including cover page

**WSCF**  
**ANALYTICAL RESULTS REPORT**

for  
**Groundwater Remediation Program**

**Richland, WA 99354**

**Attention: Steve Trent**

Analytical:  S. Fitzgerald 6/9/08  
Client Services:  P.D. Mix 6/7/2008

*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#: WSCF20080801  
Report Date: 5-jun-2008  
Report WGPP/ver. 5.2  
*Groundwater Remediation Program*

Department: Inorganic

## W13q Worklist/Batch/QC Report for Group# WSCF20080801

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36149	2	36566	40890	BLANK		Anions by Ion Chromatography
36149	17	36566	40890	BLANK		Anions by Ion Chromatography
36149	3	36566	40890	LCS		Anions by Ion Chromatography
36149	5	36566	40890	DUP	W08GR01020	Anions by Ion Chromatography
36149	6	36566	40890	MS	W08GR01020	Anions by Ion Chromatography
36149	7	36566	40890	MSD	W08GR01020	Anions by Ion Chromatography
36149	7	36566	40890	SPK-RPD	W08GR01020	Anions by Ion Chromatography
36149	10	36566	40890	SAMPLE	W08GR01033	Anions by Ion Chromatography
36149	11	36566	40890	SAMPLE	W08GR01036	Anions by Ion Chromatography
36149	12	36566	40890	SAMPLE	W08GR01037	Anions by Ion Chromatography
36149	13	36566	40890	SAMPLE	W08GR01038	Anions by Ion Chromatography
36177	1	36594	40927	BLANK		ICP-200.8 MS All possible meta
36177	2	36594	40927	LCS		ICP-200.8 MS All possible meta
36177	4	36594	40927	MS	W08GR01020	ICP-200.8 MS All possible meta
36177	5	36594	40927	MSD	W08GR01020	ICP-200.8 MS All possible meta
36177	5	36594	40927	SPK-RPD	W08GR01020	ICP-200.8 MS All possible meta
36177	7	36594	40927	MS	W08GR01023	ICP-200.8 MS All possible meta
36177	8	36594	40927	MSD	W08GR01023	ICP-200.8 MS All possible meta
36177	8	36594	40927	SPK-RPD	W08GR01023	ICP-200.8 MS All possible meta
36177	11	36594	40927	SAMPLE	W08GR01036	ICP-200.8 MS All possible meta
36177	12	36594	40927	SAMPLE	W08GR01037	ICP-200.8 MS All possible meta
36230	1	36646	40981	BLANK		ICP-200.8 MS All possible meta
36230	2	36646	40981	LCS		ICP-200.8 MS All possible meta
36230	9	36646	40981	SAMPLE	W08GR01033	ICP-200.8 MS All possible meta
36230	10	36646	40981	SAMPLE	W08GR01038	ICP-200.8 MS All possible meta
36230	4	36646	40981	MS	W08GR01131	ICP-200.8 MS All possible meta
36230	5	36646	40981	MSD	W08GR01131	ICP-200.8 MS All possible meta
36230	5	36646	40981	SPK-RPD	W08GR01131	ICP-200.8 MS All possible meta
			40998	SAMPLE	W08GR01038	pH Soil and Waste Measurement
			40998	DUP	W08GR01075	pH Soil and Waste Measurement

Department: Organic

## W13q Worklist/Batch/QC Report for Group# WSCF20080801

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			40959	BLANK		NWTPH-D TPH Diesel Range (Wa)
			40959	LCS		NWTPH-D TPH Diesel Range (Wa)
			40959	SAMPLE	W08GR01033	NWTPH-D TPH Diesel Range (Wa)
			40959	SURR	W08GR01033	NWTPH-D TPH Diesel Range (Wa)
			40959	SAMPLE	W08GR01036	NWTPH-D TPH Diesel Range (Wa)
			40959	SURR	W08GR01036	NWTPH-D TPH Diesel Range (Wa)
			40959	SAMPLE	W08GR01037	NWTPH-D TPH Diesel Range (Wa)
			40959	SURR	W08GR01037	NWTPH-D TPH Diesel Range (Wa)
			40959	SAMPLE	W08GR01038	NWTPH-D TPH Diesel Range (Wa)
			40959	SURR	W08GR01038	NWTPH-D TPH Diesel Range (Wa)
			40959	MS	W08GR01053	NWTPH-D TPH Diesel Range (Wa)
			40959	MSD	W08GR01053	NWTPH-D TPH Diesel Range (Wa)
			40959	SPK-RPD	W08GR01053	NWTPH-D TPH Diesel Range (Wa)
			40961	BLANK		PCBs complete list
			40961	LCS		PCBs complete list
			40961	MS	W08GR01033	PCBs complete list
			40961	MSD	W08GR01033	PCBs complete list
			40961	SAMPLE	W08GR01033	PCBs complete list
			40961	SPK-RPD	W08GR01033	PCBs complete list
			40961	SURR	W08GR01033	PCBs complete list
			40961	SAMPLE	W08GR01036	PCBs complete list
			40961	SURR	W08GR01036	PCBs complete list
			40961	SAMPLE	W08GR01037	PCBs complete list
			40961	SURR	W08GR01037	PCBs complete list
			40961	SAMPLE	W08GR01038	PCBs complete list
			40961	SURR	W08GR01038	PCBs complete list
			40965	BLANK		SW-846 8270C Semi-Vols
			40965	LCS		SW-846 8270C Semi-Vols
			40965	SAMPLE	W08GR01033	SW-846 8270C Semi-Vols
			40965	SURR	W08GR01033	SW-846 8270C Semi-Vols
			40965	SAMPLE	W08GR01036	SW-846 8270C Semi-Vols
			40965	SURR	W08GR01036	SW-846 8270C Semi-Vols
			40965	SAMPLE	W08GR01037	SW-846 8270C Semi-Vols
			40965	SURR	W08GR01037	SW-846 8270C Semi-Vols
			40965	MS	W08GR01038	SW-846 8270C Semi-Vols
			40965	MSD	W08GR01038	SW-846 8270C Semi-Vols
			40965	SAMPLE	W08GR01038	SW-846 8270C Semi-Vols
			40965	SPK-RPD	W08GR01038	SW-846 8270C Semi-Vols
			40965	SURR	W08GR01038	SW-846 8270C Semi-Vols
			41214	BLANK		VOA Ground Water Protection
			41214	LCS		VOA Ground Water Protection
			41214	SAMPLE	W08GR01048	VOA Ground Water Protection
			41214	SURR	W08GR01048	VOA Ground Water Protection
			41214	SAMPLE	W08GR01049	VOA Ground Water Protection
			41214	SURR	W08GR01049	VOA Ground Water Protection
			41214	SAMPLE	W08GR01050	VOA Ground Water Protection
			41214	SURR	W08GR01050	VOA Ground Water Protection
			41214	MS	W08GR01076	VOA Ground Water Protection
			41214	MSD	W08GR01076	VOA Ground Water Protection



Department: Radiochemistry

## W13q Worklist/Batch/QC Report for Group# WSCF20080801

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36024	1	36439	40779	BLANK		Gamma Energy Analysis-grd H2O
36024	2	36439	40779	LCS		Gamma Energy Analysis-grd H2O
36024	3	36439	40779	DUP	W08GR01029	Gamma Energy Analysis-grd H2O
36024	5	36439	40779	SAMPLE	W08GR01033	Gamma Energy Analysis-grd H2O
36024	6	36439	40779	SAMPLE	W08GR01038	Gamma Energy Analysis-grd H2O
36109	1	36525	40931	BLANK		Strontium 89/90
36109	2	36525	40931	LCS		Strontium 89/90
36109	3	36525	40931	DUP	W08GR01017	Strontium 89/90
36109	14	36525	40931	SAMPLE	W08GR01033	Strontium 89/90
36109	15	36525	40931	SURR	W08GR01033	Strontium 89/90
36109	16	36525	40931	SAMPLE	W08GR01038	Strontium 89/90
36109	17	36525	40931	SURR	W08GR01038	Strontium 89/90
36166	1	36583	40950	BLANK		Gamma Energy Analysis-grd H2O
36166	2	36583	40950	LCS		Gamma Energy Analysis-grd H2O
36166	3	36583	40950	DUP	W08GR01036	Gamma Energy Analysis-grd H2O
36166	4	36583	40950	SAMPLE	W08GR01036	Gamma Energy Analysis-grd H2O
36166	5	36583	40950	SAMPLE	W08GR01037	Gamma Energy Analysis-grd H2O
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	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	9	36655	41014	SAMPLE	W08GR01033	Neptunium by AEA
36240	12	36655	41014	MS	W08GR01038	Neptunium by AEA
36240	11	36655	41014	SAMPLE	W08GR01038	Neptunium by AEA
36188	1	36605	41105	BLANK		Strontium 89/90
36188	2	36605	41105	LCS		Strontium 89/90
36188	3	36605	41105	DUP	W08GR01036	Strontium 89/90
36188	4	36605	41105	SAMPLE	W08GR01036	Strontium 89/90
36188	5	36605	41105	SURR	W08GR01036	Strontium 89/90
36188	6	36605	41105	SAMPLE	W08GR01037	Strontium 89/90
36188	7	36605	41105	SURR	W08GR01037	Strontium 89/90
36383	1	36798	41156	BLANK		Uranium Isotopics by AEA
36383	2	36798	41156	LCS		Uranium Isotopics by AEA
36383	4	36798	41156	SAMPLE	W08GR01036	Uranium Isotopics by AEA
36383	5	36798	41156	SURR	W08GR01036	Uranium Isotopics by AEA
36383	6	36798	41156	SAMPLE	W08GR01037	Uranium Isotopics by AEA
36383	7	36798	41156	SURR	W08GR01037	Uranium Isotopics by AEA
36383	3	36798	41156	DUP	W08GR01075	Uranium Isotopics by AEA
36198	1	36614	41178	BLANK		Uranium Isotopics by AEA
36198	2	36614	41178	LCS		Uranium Isotopics by AEA
36198	6	36614	41178	SAMPLE	W08GR01033	Uranium Isotopics by AEA
36198	7	36614	41178	SURR	W08GR01033	Uranium Isotopics by AEA

36198	8	36614	41178	SAMPLE	W08GR01038	Uranium Isotopics by AEA
36198	9	36614	41178	SURR	W08GR01038	Uranium Isotopics by AEA
36198	3	36614	41178	DUP	W08GR01053	Uranium Isotopics by AEA
36316	1	36732	41180	BLANK		Plutonium Isotopics by AEA
36316	2	36732	41180	LCS		Plutonium Isotopics by AEA
36316	6	36732	41180	SAMPLE	W08GR01033	Plutonium Isotopics by AEA
36316	7	36732	41180	SURR	W08GR01033	Plutonium Isotopics by AEA
36316	8	36732	41180	SAMPLE	W08GR01038	Plutonium Isotopics by AEA
36316	9	36732	41180	SURR	W08GR01038	Plutonium Isotopics by AEA
36316	3	36732	41180	DUP	W08GR01053	Plutonium Isotopics by AEA
36402	1	36817	41203	BLANK		Neptunium by AEA
36402	2	36817	41203	LCS		Neptunium by AEA
36402	3	36817	41203	DUP	W08GR01036	Neptunium by AEA
36402	5	36817	41203	MS	W08GR01036	Neptunium by AEA
36402	6	36817	41203	MSD	W08GR01036	Neptunium by AEA
36402	4	36817	41203	SAMPLE	W08GR01036	Neptunium by AEA
36402	6	36817	41203	SPK-RPD	W08GR01036	Neptunium by AEA
36402	8	36817	41203	MS	W08GR01037	Neptunium by AEA
36402	7	36817	41203	SAMPLE	W08GR01037	Neptunium by AEA
36402	10	36817	41203	MS	W08GR01066	Neptunium by AEA
36317	1	36733	41206	BLANK		Americium by AEA
36317	2	36733	41206	LCS		Americium by AEA
36317	6	36733	41206	SAMPLE	W08GR01033	Americium by AEA
36317	7	36733	41206	SURR	W08GR01033	Americium by AEA
36317	8	36733	41206	SAMPLE	W08GR01038	Americium by AEA
36317	9	36733	41206	SURR	W08GR01038	Americium by AEA
36317	3	36733	41206	DUP	W08GR01053	Americium by AEA
36381	1	36796	41226	BLANK		Plutonium Isotopics by AEA
36381	2	36796	41226	LCS		Plutonium Isotopics by AEA
36381	4	36796	41226	SAMPLE	W08GR01036	Plutonium Isotopics by AEA
36381	5	36796	41226	SURR	W08GR01036	Plutonium Isotopics by AEA
36381	6	36796	41226	SAMPLE	W08GR01037	Plutonium Isotopics by AEA
36381	7	36796	41226	SURR	W08GR01037	Plutonium Isotopics by AEA
36381	3	36796	41226	DUP	W08GR01075	Plutonium Isotopics by AEA
36553	1	36985	41332	BLANK		Americium by AEA
36553	2	36985	41332	LCS		Americium by AEA
36553	10	36985	41332	SAMPLE	W08GR01036	Americium by AEA
36553	11	36985	41332	SURR	W08GR01036	Americium by AEA
36553	12	36985	41332	SAMPLE	W08GR01037	Americium by AEA
36553	13	36985	41332	SURR	W08GR01037	Americium by AEA
36553	3	36985	41332	DUP	W08GR01075	Americium by AEA

# WSCF METHOD REFERENCES REPORT

Department: Inorganic

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

<b>LA-212-411</b>	Determination of Soil pH Measurement EPA SW-846 9045D SOIL AND WASTE pH HEIS 150.1_PH pH
<b>LA-505-412</b>	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY EPA-600/R-94-111 200.8 DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY HEIS 200.8_METALS_ICPMS Inductively Coupled Plasma - Mass Spectrometry HEIS RADISOTOPES_ICPMS Radioisotopes by ICP/MS
<b>LA-533-410</b>	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY EPA-600/R-94-111 300.0 DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY HEIS 300.0_ANIONS_IC Determination of Inorganic Anions by Ion Chromatography

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

Report Date: 5-jun-2008  
Report#: WSCF20080801  
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.

<b>LA-523-427</b>	<b>LA-523-427: POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY</b> EPA SW-846 3510C EPA SW-846 3545 EPA SW-846 3665A EPA SW-846 8000B EPA SW-846 8082A HEIS 8082_PCB_GC	SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION PRESSURIZED FLUID EXTRACTION (PFE) SULFURIC ACID/PERMANGANATE CLEANUP DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS POLYCHLORINATED BIPHENYLS (PCBs) BY GAS CHROMATOGRAPHY Polychlorinated Biphenyls (PCBs) by Gas Chromatography
<b>LA-523-455</b>	<b>LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846</b> EPA SW-846 8000B EPA SW-846 8260B HEIS 8260_VOA_GCMS	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
<b>LA-523-456</b>	<b>LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C</b> EPA SW-846 8000B EPA SW-846 8270C HEIS 8270_SVOA_GCMS	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS) Semivolatile Organoc Compounds By Gas Chromatography/Mass Spectrometry (GC/MS)
<b>LA-523-493</b>	<b>NWTPH-Diesel and/or Gasoline</b> HEIS WTPH_DIESEL (HEIS) WDOE TPHD	Total Petroleum Hydrocarbons in Diesel Total Petroleum Hydrocarbons in Diesel

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

# WSCF METHOD REFERENCES REPORT

Department: Radiochemistry

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

<b>LA-508-415</b>	<b>LA-508-415: OPERATION OF THE PROTEAN 2-INCH ALPHA/BETA COUNTING SYSTEM FOR GROSS</b> <b>HEIS ALPHA_GPC</b> GROSS ALPHA GPC <b>HEIS BETA_GPC</b> GROSS BETA GPC <b>HEIS SRTOT_SEP_PRECIP_GPC</b> Protactinium 89/90
<b>LA-508-471</b>	<b>LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP</b> <b>HEIS PUIISO_IE_PRECIP_AEA</b> Plutonium by Alpha Energy Analysis <b>HEIS RAISO_AEA</b> Radium-226
<b>LA-508-481</b>	<b>LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE</b> <b>HEIS GAMMA_GS</b> Gamma Emission 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-doi>.

Report Date: 5-jun-2008  
Report#: WSCF20080801  
Report WGPPM/5.2

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01033  
**Client ID:** BITDF2 GPP WSCF TREN  
**Group #:** WSCF20080801  
**Department:** Radiochemistry  
**Sampled:** 03/31/08  
**Received:** 04/15/08

**Matrix:** SOIL

**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	0.620	pCi/g	+ -0.477	pCi/g	1.00	0.62	0.62	05/16/08
Am-243 tracer by AEA	AM243	LA-508-471		100	pCi/g			1.00	0.44	0.44	05/16/08

**Gamma Energy Analysis-grd H2O**

Cobalt-60	10198-40-0	LA-508-481	U	3.00e-04	pCi/g	+ -3.00e-03	pCi/g	1.00	0.013	0.013	04/23/08
Cesium-137	10045-97-3	LA-508-481	U	-6.46e-03	pCi/g	+ -9.15e-03	pCi/g	1.00	0.013	0.013	04/23/08
Europium-152	14683-23-9	LA-508-481	U	1.76e-03	pCi/g	+ -0.0176	pCi/g	1.00	0.040	0.040	04/23/08
Europium-154	15585-10-1	LA-508-481	U	-0.0277	pCi/g	+ -0.0277	pCi/g	1.00	0.042	0.042	04/23/08
Europium-155	14391-16-3	LA-508-481	U	0.0271	pCi/g	+ -0.0459	pCi/g	1.00	0.076	0.076	04/23/08
Niobium-94	14681-63-1	LA-508-481	U	4.15e-03	pCi/g	+ -8.12e-03	pCi/g	1.00	0.013	0.013	04/23/08
Radium-226	13982-63-3	LA-508-481		0.481	pCi/g	+ -0.0839	pCi/g	1.00	0.026	0.026	04/23/08
Radium-228	15262-20-1	LA-508-481		0.561	pCi/g	+ -0.114	pCi/g	1.00	0.042	0.042	04/23/08

**Neptunium by AEA**

Neptunium-237	13994-20-2	LA-508-471	U	-4.70e-03	pCi/g	+ -0.0470	pCi/g	1.00	0.056	0.056	05/08/08
---------------	------------	------------	---	-----------	-------	-----------	-------	------	-------	-------	----------

**Plutonium Isotopics by AEA**

Plutonium-238	13981-16-3	LA-508-471	U	-0.320	pCi/g	+ -0.646	pCi/g	1.00	1.2	1.2	05/16/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.180	pCi/g	+ -0.288	pCi/g	1.00	0.49	0.49	05/16/08
Pu-242 tracer by AEA	PU242	LA-508-471		150	pCi/g			1.00	0.59	0.59	05/16/08

**Strontium 89/90**

Strontium-89/90	SR-RAD	LA-508-415		23.0	pCi/g	+ -2.99	pCi/g	1.00	0.41	0.41	05/05/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		91.5	Percent			1.00	0.0	0.0	05/05/08

**Uranium Isotopics by AEA**

Uranium-233/234	U-233/234	LA-508-471		0.190	pCi/g	+ -0.0779	pCi/g	1.00	0.033	0.033	05/06/08
Uranium-235	15117-96-1	LA-508-471		0.0200	pCi/g	+ -0.0206	pCi/g	1.00	0.013	0.013	05/06/08
Uranium-238	U-238	LA-508-471		0.160	pCi/g	+ -0.0672	pCi/g	1.00	0.012	0.012	05/06/08

**MDL = Minimum Detection Limit**

**RQ = Result Qualifier**

**TP Err = Total Propagated Error**

**NDF = Dilution Factor**

\* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

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

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

U - Analyzed for but not detected above limiting criteria.

X - Other flags/notes described in the comments/narrative(inorg)

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

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

U - Analyzed for but not detected above limiting criteria(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:** F08-043  
**Sample #:** W08GR01033  
**Client ID:** BITDF2 GPP WSCF  
**Group #:** WSCF20080801  
**Department:** Radiochemistry  
**Sampled:** 03/31/08  
**Received:** 04/15/08

**Test Performed:** U232  
**Method:** LA-508-471  
**Result:** 10.0 pCi/g  
**TP Err:** Unit  
**DF:** 1.00  
**MDL:** 0.054  
**PQL:** Analysis Date 05/06/08

**TRENT**      **Matrix:** SOIL

**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  
 B - The analyte < the RDL but > = the IDL/MDL (inorg)  
 D - Analyte was identified at a secondary dilution factor(inorg)  
 U - Analyzed for but not detected above limiting criteria(inorg)  
 U - Analyzed for but not detected above limiting criteria.(org)  
 C - The Analyte was found in the Associated Blank.(inorg)  
 J - Analyte < lowest calibration but > = MDL.(org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative(inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01036  
**Client ID:** BITV15

**Group #:** WSCF20080801  
**Department:** Radiochemistry  
**Sampled:** 03/11/08  
**Received:** 04/15/08

**GPP:** TRENT  
**WSCF:** SOIL  
**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Americium by AEA</b>											
Americium-241	14596-10-2	LA-508-471	U	0.410	pCi/g	+ -2.96	pCi/g	1.00	5.8		06/04/08
Am-243 tracer by AEA	AM243	LA-508-471		980	pCi/g			1.00	1.1		06/04/08
<b>Gamma Energy Analysis-grd H2O</b>											
Cobalt-60	10198-40-0	LA-508-481	U	0.593	pCi/g	+ -1.81	pCi/g	1.00	3.4		05/02/08
Cesium-137	10045-97-3	LA-508-481	U	1.15	pCi/g	+ -1.98	pCi/g	1.00	3.6		05/02/08
Europium-152	14683-23-9	LA-508-481	U	4.22	pCi/g	+ -5.68	pCi/g	1.00	9.8		05/02/08
Europium-154	15585-10-1	LA-508-481	U	1.93	pCi/g	+ -4.92	pCi/g	1.00	9.2		05/02/08
Europium-155	14391-16-3	LA-508-481	U	17.2	pCi/g	+ -11.5	pCi/g	1.00	19		05/02/08
Niobium-94	14681-63-1	LA-508-481	U	0.802	pCi/g	+ -2.12	pCi/g	1.00	3.2		05/02/08
Radium-226	13982-63-3	LA-508-481	U	2.46	pCi/g	+ -4.81	pCi/g	1.00	8.2		05/02/08
Radium-228	15262-20-1	LA-508-481	U	0.588	pCi/g	+ -5.88	pCi/g	1.00	12		05/02/08
<b>Neptunium by AEA</b>											
Neptunium-237	13994-20-2	LA-508-471	U	0.300	pCi/g	+ -0.315	pCi/g	1.00	0.45		05/21/08
<b>Plutonium Isotopes by AEA</b>											
Plutonium-238	13981-16-3	LA-508-471	U	0.474	pCi/g	+ -4.74	pCi/g	1.00	14		05/20/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.470	pCi/g	+ -2.11	pCi/g	1.00	4.4		05/20/08
Pu-242 tracer by AEA	PU242	LA-508-471		1.50e+03	pCi/g			1.00	5.1		05/20/08
<b>Strontium 89/90</b>											
Strontium-89/90	SR-RAD	LA-508-415		9.70e+03	pCi/g	+ -1.16e+03	pCi/g	1.00	5.3		05/05/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		99.5	Percent			1.00	0.0		05/05/08
<b>Uranium Isotopes by AEA</b>											
Uranium-233/234	U-233/234	LA-508-471		5.20	pCi/g	+ -3.69	pCi/g	1.00	4.0		05/20/08
Uranium-235	15117-96-1	LA-508-471		1.90	pCi/g	+ -1.96	pCi/g	1.00	1.3		05/20/08
Uranium-238	U-238	LA-508-471	U	2.60	pCi/g	+ -2.55	pCi/g	1.00	3.2		05/20/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (inorg)  
**PDF = 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

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01036  
**Client ID:** B1TV15 GPP  
WSCF

**Group #:** WSCF20080801  
**Department:** Radiochemistry  
**Sampled:** 03/11/08  
**Received:** 04/15/08

**Test Performed:** U232  
**CAS #:** LA-508-471  
**Method:** TREN  
**Matrix:** SOIL  
**TP Err:** Unit  
**DF:** 1.00  
**MDL:** 5.2  
**PQL:** MDL  
**Analysis Date:** 05/20/08

**Result:** 1.00e+03 pCi/g  
**RQ:** Unit  
**DF:** 1.00  
**MDL:** 5.2  
**PQL:** MDL  
**Analysis Date:** 05/20/08

**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

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01037  
**Client ID:** BITV19

**Group #:** WSCF20080801  
**Department:** Radiochemistry  
**Sampled:** 03/12/08  
**Received:** 04/15/08

**GPP** WSCF  
**TRENT**  
**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Americium by AEA</b>											
Americium-241	14596-10-2	LA-508-471	U	-5.90	pCi/g	+ -6.90	pCi/g	1.00	13		06/04/08
Am-243 tracer by AEA	AM243	LA-508-471		950	pCi/g			1.00	5.6		06/04/08
<b>Gamma Energy Analysis-grd H2O</b>											
Cobalt-60	10198-40-0	LA-508-481	U	-0.0659	pCi/g	+ -0.659	pCi/g	1.00	2.7		05/02/08
Cesium-137	10045-97-3	LA-508-481	U	0.925	pCi/g	+ -1.66	pCi/g	1.00	3.0		05/02/08
Europium-152	14683-23-9	LA-508-481	U	1.67	pCi/g	+ -4.42	pCi/g	1.00	7.8		05/02/08
Europium-154	15585-10-1	LA-508-481	U	2.13	pCi/g	+ -4.00	pCi/g	1.00	7.6		05/02/08
Europium-155	14391-16-3	LA-508-481	U	7.93	pCi/g	+ -7.70	pCi/g	1.00	14		05/02/08
Niobium-94	14681-63-1	LA-508-481	U	-0.306	pCi/g	+ -1.47	pCi/g	1.00	2.5		05/02/08
Radium-226	13982-63-3	LA-508-481	U	-2.06	pCi/g	+ -3.90	pCi/g	1.00	6.4		05/02/08
Radium-228	15262-20-1	LA-508-481	U	-0.108	pCi/g	+ -1.08	pCi/g	1.00	10		05/02/08
<b>Neptunium by AEA</b>											
Neptunium-237	13994-20-2	LA-508-471	U	0.210	pCi/g	+ -0.252	pCi/g	1.00	0.39		05/21/08
<b>Plutonium Isotopics by AEA</b>											
Plutonium-238	13981-16-3	LA-508-471	U	4.90	pCi/g	+ -7.69	pCi/g	1.00	13		05/20/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	3.60	pCi/g	+ -3.49	pCi/g	1.00	4.8		05/20/08
Pu-242 tracer by AEA	PU242	LA-508-471		1.50e+03	pCi/g			1.00	4.1		05/20/08
<b>Strontium 89/90</b>											
Strontium-89/90	SR-RAD	LA-508-415		6.00e+03	pCi/g	+ -720	pCi/g	1.00	5.1		05/05/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		101	Percent			1.00	0.0		05/05/08
<b>Uranium Isotopics by AEA</b>											
Uranium-233/234	U-233/234	LA-508-471		7.90	pCi/g	+ -4.74	pCi/g	1.00	4.3		05/20/08
Uranium-235	15117-96-1	LA-508-471		2.00	pCi/g	+ -2.06	pCi/g	1.00	1.4		05/20/08
Uranium-238	U-238	LA-508-471		4.60	pCi/g	+ -3.40	pCi/g	1.00	3.4		05/20/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                D - Analyte was identified at a secondary dilution factor(inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria(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

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative(inorg)

**Report WGPP/ver. 5.2**  
**Groundwater Remediation Program**

# WSCF ANALYTICAL RESULTS REPORT

<b>Attention:</b> Steve Trent	<b>Group #:</b> WSCF20080801	
<b>SAF Number:</b> F08-043	<b>Department:</b> Radiochemistry	
<b>Sample #</b> W08GR01037	<b>Sampled:</b> 03/12/08	
<b>Client ID:</b> BITV19	<b>Received:</b> 04/15/08	
		<b>Analysis Date</b> 05/20/08

<b>Test Performed</b> U232	<b>Method</b> LA-508-471	<b>DF</b> 1.00
<b>Tracer</b> U-232	<b>Result</b> 980	<b>MDL</b> 5.6
<b>Matrix:</b> SOIL	<b>Unit</b> pCi/g	<b>PQL</b>
<b>TP Err</b>	<b>Unit</b>	

**Attention:** Steve Trent  
**SAF Number:**F08-043  
**Sample #** W08GR01037  
**Client ID:** BITV19

**GPP** WSCF  
**TRENT**  
**Matrix:** SOIL

**CAS #** U232  
**Method** LA-508-471  
**RQ**  
**Result** 980  
**Unit** pCi/g  
**TP Err**  
**Unit**

**DF** 1.00  
**MDL** 5.6  
**PQL**  
**Analysis Date** 05/20/08

**MDL = Minimum Detection Limit** B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier** D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error** U - Analyzed for but not detected above limiting criteria (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

**Report WGPP/ver. 5.2**  
**Groundwater Remediation Program**

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01038  
**Client ID:** BIV2L5 GPP WSCF

**Group #:** WSCF20080801  
**Department:** Radiochemistry  
**Sampled:** 03/26/08  
**Received:** 04/15/08

**Matrix:** SOIL

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

**Americium by AEA**

Americium-241	14596-10-2	LA-508-471		0.600	pCi/g	+0.372	pCi/g	1.00	0.37		05/16/08
Am-243 tracer by AEA	AM243	LA-508-471		94.0	pCi/g			1.00	0.37		05/16/08

**Gamma Energy Analysis-grd H2O**

Cobalt-60	10198-40-0	LA-508-481	U	-2.16e-03	pCi/g	+6.24e-03	pCi/g	1.00	0.011		04/23/08
Cesium-137	10045-97-3	LA-508-481	U	-6.50e-03	pCi/g	+8.14e-03	pCi/g	1.00	0.012		04/23/08
Europium-152	14683-23-9	LA-508-481	U	1.27e-03	pCi/g	+0.0127	pCi/g	1.00	0.042		04/23/08
Europium-154	15585-10-1	LA-508-481	U	-8.10e-04	pCi/g	+8.10e-03	pCi/g	1.00	0.036		04/23/08
Europium-155	14391-16-3	LA-508-481	U	0.0415	pCi/g	+0.0580	pCi/g	1.00	0.095		04/23/08
Niobium-94	14681-63-1	LA-508-481	U	4.20e-03	pCi/g	+7.65e-03	pCi/g	1.00	0.012		04/23/08
Radium-226	13982-63-3	LA-508-481		0.527	pCi/g	+0.0865	pCi/g	1.00	0.023		04/23/08
Radium-228	15262-20-1	LA-508-481		0.564	pCi/g	+0.101	pCi/g	1.00	0.036		04/23/08

**Neptunium by AEA**

Neptunium-237	13994-20-2	LA-508-471		0.0820	pCi/g	+0.0410	pCi/g	1.00	0.038		05/08/08
---------------	------------	------------	--	--------	-------	---------	-------	------	-------	--	----------

**Plutonium Isotopes by AEA**

Plutonium-238	13981-16-3	LA-508-471	U	-0.650	pCi/g	+0.748	pCi/g	1.00	1.5		05/16/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.140	pCi/g	+0.249	pCi/g	1.00	0.43		05/16/08
Pu-242 tracer by AEA	PU242	LA-508-471		150	pCi/g			1.00	0.34		05/16/08

**Strontium 89/90**

Strontium-89/90	SR-RAD	LA-508-415		65.0	pCi/g	+7.80	pCi/g	1.00	0.38		05/05/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		93.0	Percent			1.00	0.0		05/05/08

**Uranium Isotopes by AEA**

Uranium-233/234	U-233/234	LA-508-471		0.590	pCi/g	+0.183	pCi/g	1.00	0.038		05/06/08
Uranium-235	15117-96-1	LA-508-471		0.0180	pCi/g	+0.0185	pCi/g	1.00	0.012		05/06/08
Uranium-238	U-238	LA-508-471		0.430	pCi/g	+0.142	pCi/g	1.00	0.030		05/06/08

**MDL = Minimum Detection Limit**

**RQ = Result Qualifier**

**TP Err = Total Propagated Error**

**RDF = Dilution Factor**

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

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

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

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

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

+ - Indicates more than six qualifier symbols

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

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

U - Analyzed for but not detected above limiting criteria.

X - Other flags/notes described in the comments/narrative (inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01038  
**Client ID:** B1V2L5 GPP  
WSCF

**Group #:** WSCF20080801  
**Department:** Radiochemistry  
**Sampled:** 03/26/08  
**Received:** 04/15/08

<b>Test Performed</b>	U232	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
U-232 tracer by AEA			LA-508-471		9.70	pCi/g			1.00	0.044		05/06/08

**Matrix:** SOIL

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**            D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (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

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

# WSCF

## TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent  
 Project Number: F08-043 :F08-043

Group #: WSCF20080801  
 Department: Radiochemistry

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228		0.49	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228	Count Error	23	%
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212		0.43	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212	Count Error	30	%
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214		0.61	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214	Count Error	13	%
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	CS-134		0.026	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	CS-134	Count Error	43	%
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40		18	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40	Count Error	13	%
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212		0.66	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212	Count Error	11	%
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-214		0.94	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-214	Count Error	23	%
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208		0.19	pCi/g
W08GR01033	B1TDF2	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208	Count Error	17	%
W08GR01037	B1TV19	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40		73	pCi/g
W08GR01037	B1TV19	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40	Count Error	39	%
W08GR01038	B1V2L5	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228		0.53	pCi/g
W08GR01038	B1V2L5	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228	Count Error	23	%
W08GR01038	B1V2L5	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212		0.40	pCi/g
W08GR01038	B1V2L5	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212	Count Error	28	%
W08GR01038	B1V2L5	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214		0.66	pCi/g
W08GR01038	B1V2L5	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214	Count Error	12	%
W08GR01038	B1V2L5	GPP	TRENT	Gamma Energy Analysis-grd H2O	CS-134		0.028	pCi/g

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

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

29 Groundwater Remediation Program

of 108

Report Date: 5-jun-2008

Page 2

WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent  
 Project Number F08-043

Group #: WSCF20080801  
 Department: Radiochemistry

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	CS-134 Count Error				34	%
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	K-40				13	pCi/g
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	PB-212				0.63	pCi/g
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	PB-212 Count Error				11	%
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	PB-214				0.84	pCi/g
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	PB-214 Count Error				26	%
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	TH-234				0.86	pCi/g
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	TH-234 Count Error				41	%
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	TL-208				0.17	pCi/g
W08GR01038	B1V2L5	Gamma Energy Analysis-grd H2O	TL-208 Count Error				17	%

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

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

Groundwater Remediation Program

Report Date: 5-jun-2008

Page 3

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801

Matrix: SOLID

Test: Gamma Energy Analysis-grd H2O

Sample Date: 04/03/08

Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01029</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Cobalt-60	10198-40-0	U.3.014e-6		RPD			n/a	20.000		04/22/08
DUP	Cesium-137	10045-97-3	3.75		RPD			1.018	20.000		04/22/08
DUP	Europium-152	14683-23-9	U.2.055e-3		RPD			n/a	20.000		04/22/08
DUP	Europium-154	15585-10-1	U-1.344e-2		RPD			n/a	20.000		04/22/08
DUP	Europium-155	14391-16-3	U.4.223e-3		RPD			n/a	20.000		04/22/08
DUP	Niobium-94	14681-63-1	U1.324e-3		RPD			n/a	20.000		04/22/08
DUP	Radium-226	13982-63-3	0.3968		RPD			43.224	20.000 *		04/22/08
DUP	Radium-228	15262-20-1	0.5421		RPD			3.682	20.000		04/22/08
<b>BATCH QC</b>											
BLANK	Cobalt-60	10198-40-0	U-7.399e-4	n/a	pCi/g	-10.000	1000.000				04/17/08
BLANK	Cesium-137	10045-97-3	U-8.091e-4	n/a	pCi/g	-10.000	1000.000				04/17/08
BLANK	Europium-152	14683-23-9	U-4.002e-3	n/a	pCi/g	-10.000	1000.000				04/17/08
BLANK	Europium-154	15585-10-1	U.2.865e-3	n/a	pCi/g	-10.000	1000.000				04/17/08
BLANK	Europium-155	14391-16-3	U1.598e-3	n/a	pCi/g	-10.000	1000.000				04/17/08
BLANK	Niobium-94	14681-63-1	U6.043e-4	n/a	pCi/g	-10.000	1000.000				04/17/08
BLANK	Radium-226	13982-63-3	4.2e-2	0.042	pCi/g	-10.000	1000.000				04/17/08
BLANK	Radium-228	15262-20-1	4.947e-2	0.049	pCi/g	-10.000	1000.000				04/17/08
LCS	Cobalt-60	10198-40-0	10490	105.533	% Recov	80.000	120.000				04/23/08
LCS	Cesium-137	10045-97-3	6331	104.818	% Recov	80.000	120.000				04/23/08
<b>Lab ID: W08GR01036</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Cobalt-60	10198-40-0	U1.277		RPD			n/a	20.000		05/02/08
DUP	Cesium-137	10045-97-3	U0.7428		RPD			n/a	20.000		05/02/08
DUP	Europium-152	14683-23-9	U-2.867		RPD			n/a	20.000		05/02/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801

Matrix: SOLID

Test: Gamma Energy Analysis-grd H2O

Sample Date: 03/11/08

Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	Europium-154	15585-10-1	U3.22		RPD			n/a	20.000		05/02/08
DUP	Europium-155	14391-16-3	U0.9608		RPD			n/a	20.000		05/02/08
DUP	Niobium-94	14681-63-1	U-0.7178		RPD			n/a	20.000		05/02/08
DUP	Radium-226	13982-63-3	U1.562		RPD			n/a	20.000		05/02/08
DUP	Radium-228	15262-20-1	U-6.608		RPD			n/a	20.000		05/02/08
<b>BATCH QC</b>											
BLANK	Cobalt-60	10198-40-0	U4.928e-3	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Cesium-137	10045-97-3	U2.82e-3	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Europium-152	14683-23-9	U-3.039e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Europium-154	15585-10-1	U-9.85e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Europium-155	14391-16-3	U0.1019	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Niobium-94	14681-63-1	U2.433e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Radium-226	13982-63-3	U0.1861	n/a	pCi/g	-10.000	1000.000				05/02/08
BLANK	Radium-228	15262-20-1	U4.876e-2	n/a	pCi/g	-10.000	1000.000				05/02/08
LCS	Cobalt-60	10198-40-0	10400	104.628	% Recov	80.000	120.000				05/02/08
LCS	Cesium-137	10045-97-3	6203	102.699	% Recov	80.000	120.000				05/02/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Americium by AEA

Sample Date: 03/31/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01033</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Am-243 tracer by AEA	AM243	99.61	70.860	% Recov	30.000	105.000				05/16/08
<b>Lab ID: W08GR01038</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Am-243 tracer by AEA	AM243	94.38	88.170	% Recov	30.000	105.000				05/16/08
<b>Lab ID: W08GR01053</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Americium-241	14596-10-2	290		RPD			30.616	20.000 •		05/16/08
DUP	Am-243 tracer by AEA	AM243	384	66.020	% Recov	30.000	105.000				05/16/08
<b>BATCH QC</b>											
BLANK	Americium-241	14596-10-2	U0.55	n/a	pCi/g	-10.000	1000.000				05/16/08
BLANK	Am-243 tracer by AEA	AM243	99.81	77.530	% Recov	30.000	105.000				05/16/08
LCS	Americium-241	14596-10-2	12.18	102.785	% Recov	80.000	120.000				05/16/08
LCS	Am-243 tracer by AEA	AM243	11.17	79.030	% Recov	30.000	105.000				05/16/08
<b>Lab ID: W08GR01036</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Am-243 tracer by AEA	AM243	981	100.820	% Recov	30.000	105.000				06/04/08
<b>Lab ID: W08GR01037</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Am-243 tracer by AEA	AM243	953	100.590	% Recov	30.000	105.000				06/04/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Americium by AEA

Sample Date: 04/17/08  
 Receive Date: 04/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01075</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Americium-241	14596-10-2	U2e-2		RPD			n/a	20.000		06/04/08
DUP	Am-243 tracer by AEA	AM243	3.995	99.790	% Recov	30.000	105.000				06/04/08
<b>BATCH QC</b>											
BLANK	Americium-241	14596-10-2	U6.1e-3	n/a	pCi/g	-10.000	1000.000				06/04/08
BLANK	Am-243 tracer by AEA	AM243	4.003	79.940	% Recov	30.000	105.000				06/04/08
LCS	Americium-241	14596-10-2	13	109.705	% Recov	80.000	120.000				06/04/08
LCS	Am-243 tracer by AEA	AM243	11.11	87.630	% Recov	30.000	105.000				06/04/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 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	
<b>Lab ID: W08GR00836</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
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	
<b>Lab ID: W08GR01029</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
MS	Neptunium-237	13994-20-2	97.388	97.388	% Recov	75.000	125.000				05/08/08	
<b>Lab ID: W08GR01033</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
MS	Neptunium-237	13994-20-2	92.3	92.300	% Recov	75.000	125.000				05/08/08	
<b>Lab ID: W08GR01038</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
MS	Neptunium-237	13994-20-2	105.1	105.100	% Recov	75.000	125.000				05/08/08	
<b>BATCH QC</b>												
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	
<b>Lab ID: W08GR01036</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
DUP	Neptunium-237	13994-20-2	0.46		RPD			n/a	25.000		05/21/08	
MS	Neptunium-237	13994-20-2	96.6	96.600	% Recov	75.000	125.000				05/21/08	
MSD	Neptunium-237	13994-20-2	98.96	98.960	% Recov	75.000	125.000				05/21/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Neptunium by AEA

Sample Date: 03/11/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Neptunium-237	13994-20-2	98.960		% RPD			2.414	20.000		05/21/08
Lab ID: W08GR01037 BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	98.4	98.400	% Recov	75.000	125.000				05/21/08
Lab ID: W08GR01066 BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	106.12	106.120	% Recov	75.000	125.000				05/21/08
BATCH QC											
BLANK	Neptunium-237	13994-20-2	U-0.12	n/a	pCi/G	-10.000	1000.000				05/21/08
LCS	Neptunium-237	13994-20-2	11.99	94.076	% Recov	80.000	120.000				05/21/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Plutonium Isotopics by AEA

Sample Date: 03/31/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01033</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Pu-242 tracer by AEA	PU242	154.4	90.610	% Recov	30.000	105.000				05/16/08
<b>Lab ID: W08GR01038</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Pu-242 tracer by AEA	PU242	146.2	85.830	% Recov	30.000	105.000				05/16/08
<b>Lab ID: W08GR01053</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Plutonium-238	13981-16-3	27		RPD			34.783	20.000 *		05/16/08
DUP	Pu-239/240 by AEA	PU-239/240	1200		RPD			31.884	20.000 *		05/16/08
DUP	Pu-242 tracer by AEA	PU242	595	85.390	% Recov	30.000	105.000				05/16/08
<b>BATCH QC</b>											
BLANK	Plutonium-238	13981-16-3	U0.8	n/a	pCi/g	-10.000	1000.000				05/16/08
BLANK	Pu-239/240 by AEA	PU-239/240	U0.21	n/a	pCi/g	-10.000	1000.000				05/16/08
BLANK	Pu-242 tracer by AEA	PU242	154.7	72.970	% Recov	30.000	105.000				05/16/08
LCS	Pu-239/240 by AEA	PU-239/240	13.52	105.255	% Recov	80.000	120.000				05/16/08
LCS	Pu-242 tracer by AEA	PU242	17.3	80.890	% Recov	30.000	105.000				05/16/08
<b>Lab ID: W08GR01036</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Pu-242 tracer by AEA	PU242	1519	88.110	% Recov	30.000	105.000				05/20/08
<b>Lab ID: W08GR01037</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Pu-242 tracer by AEA	PU242	1475	83.790	% Recov	30.000	105.000				05/20/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Plutonium Isotopics by AEA

Sample Date: 03/12/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
<b>Lab ID: W08GR01075</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
DUP	Plutonium-238	13981-16-3	U3.4e-3		RPD			n/a	20.000		05/20/08	
DUP	Pu-239/240 by AEA	PU-239/240	3.9e-2		RPD			0.000	20.000		05/20/08	
DUP	Pu-242 tracer by AEA	PU242	6.184	91.650	% Recov	30.000	105.000				05/20/08	
<b>BATCH QC</b>												
BLANK	Plutonium-238	13981-16-3	U7.9e-3	n/a	pCi/g	-10.000	1000.000				05/20/08	
BLANK	Pu-239/240 by AEA	PU-239/240	U-2e-3	n/a	pCi/g	-10.000	1000.000				05/20/08	
BLANK	Pu-242 tracer by AEA	PU242	6.196	84.750	% Recov	30.000	105.000				05/20/08	
LCS	Pu-239/240 by AEA	PU-239/240	13.61	105.956	% Recov	80.000	120.000				05/20/08	
LCS	Pu-242 tracer by AEA	PU242	17.19	91.900	% Recov	30.000	105.000				05/20/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Strontium 89/90

Sample Date: 04/11/08  
 Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01017</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Sr-85 Tracer by Beta Counting	SR85	81.5	81.500	% Recov	30.000	105.000				05/05/08
DUP	Strontium-89/90	SR-RAD	1.0		RPD			n/a	20.000		05/05/08
<b>Lab ID: W08GR01033</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Sr-85 Tracer by Beta Counting	SR85	91.5	91.500	% Recov	30.000	105.000				05/05/08
<b>Lab ID: W08GR01038</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Sr-85 Tracer by Beta Counting	SR85	93.0	93.000	% Recov	30.000	105.000				05/05/08
<b>BATCH QC</b>											
BLANK	Sr-85 Tracer by Beta Counting	SR85	98.6	98.600	% Recov	30.000	105.000				05/05/08
BLANK	Strontium-89/90	10098-97-2	U-7.4E-01	n/a	pCi/g	-10.000	300.000				05/05/08
LCS	Sr-85 Tracer by Beta Counting	SR85	92.6	92.600	% Recov	30.000	105.000				05/05/08
LCS	Strontium-89/90	10098-97-2	70.0	101.244	% Recov	80.000	120.000				05/05/08
<b>Lab ID: W08GR01036</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Sr-85 Tracer by Beta Counting	SR85	98.1	98.100	% Recov	30.000	105.000				05/05/08
DUP	Strontium-89/90	SR-RAD	1.1E+04		RPD			12.560	20.000		05/05/08
SURR	Sr-85 Tracer by Beta Counting	SR85	99.5	99.500	% Recov	30.000	105.000				05/05/08
<b>Lab ID: W08GR01037</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Sr-85 Tracer by Beta Counting	SR85	101.0	101.000	% Recov	30.000	105.000				05/05/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Strontium 89/90

Sample Date: 03/12/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
<b>BATCH QC</b>												
BLANK	Sr-85 Tracer by Beta Counting	SR85	85.4	85.400	% Recov	30.000	105.000				05/05/08	
BLANK	Strontium-89/90	10098-97-2	U9.8E-01	n/a	pCi/g	-10.000	300.000				05/05/08	
LCS	Sr-85 Tracer by Beta Counting	SR85	84.4	84.400	% Recov	30.000	105.000				05/05/08	
LCS	Strontium-89/90	10098-97-2	73.0	104.100	% Recov	80.000	120.000				05/05/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Uranium Isotopics by AEA

Sample Date: 03/11/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01036</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	U-232 tracer by AEA	U232	1008	95.990	% Recov	30.000	105.000				05/20/08
<b>Lab ID: W08GR01037</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	U-232 tracer by AEA	U232	979.4	91.380	% Recov	30.000	105.000				05/20/08
<b>Lab ID: W08GR01075</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	U-232 tracer by AEA	U232	4.105	91.700	% Recov	30.000	105.000				05/20/08
DUP	Uranium-233/234	U-233/234	1.1		RPD			23.350	20.000 *		05/20/08
DUP	Uranium-235	15117-96-1	0.1		RPD			56.410	20.000 *		05/20/08
DUP	Uranium-238	U-238	0.9		RPD			16.867	20.000		05/20/08
<b>BATCH QC</b>											
BLANK	U-232 tracer by AEA	U232	4.113	83.880	% Recov	30.000	105.000				05/20/08
BLANK	Uranium-233/234	13966-29-5	2.5e-2	0.025	pCi/g	-10.000	1000.000				05/20/08
BLANK	Uranium-235	15117-96-1	1.1e-2	0.011	pCi/g	-10.000	1000.000				05/20/08
BLANK	Uranium-238	24678-82-8	9.7e-3	0.010	pCi/g	-10.000	1000.000				05/20/08
LCS	U-232 tracer by AEA	U232	11.41	78.920	% Recov	30.000	105.000				05/20/08
LCS	Uranium-233/234	13966-29-5	n/a	n/a	% Recov	75.000	125.000				05/20/08
LCS	Uranium-235	15117-96-1	n/a	n/a	% Recov	75.000	125.000				05/20/08
LCS	Uranium-238	24678-82-8	20.08	105.935	% Recov	80.000	120.000				05/20/08
<b>Lab ID: W08GR01033</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	U-232 tracer by AEA	U232	10.25	91.140	% Recov	30.000	105.000				05/06/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: Uranium Isotopics by AEA

Sample Date: 03/31/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01038</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	U-232 tracer by AEA	U232	9.707	100.960	% Recov	30.000	105.000				05/06/08
<b>Lab ID: W08GR01053</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	U-232 tracer by AEA	U232	9.874	101.520	% Recov	30.000	105.000				05/06/08
DUP	Uranium-233/234	U-233/234	1.7		RPD			6.061	20.000		05/06/08
DUP	Uranium-235	15117-96-1	0.13		RPD			20.690	20.000 *		05/06/08
DUP	Uranium-238	U-238	1.2		RPD			8.696	20.000		05/06/08
<b>BATCH QC</b>											
BLANK	U-232 tracer by AEA	U232	10.35	79.410	% Recov	30.000	105.000				05/06/08
BLANK	Uranium-233/234	13966-29-5	U3.6e-2	n/a	pCi/g	-10.000	1000.000				05/06/08
BLANK	Uranium-235	15117-96-1	2.2e-2	0.022	pCi/g	-10.000	1000.000				05/06/08
BLANK	Uranium-238	24678-82-8	5.1e-2	0.051	pCi/g	-10.000	1000.000				05/06/08
LCS	U-232 tracer by AEA	U232	11.49	84.860	% Recov	30.000	105.000				05/06/08
LCS	Uranium-233/234	13966-29-5	N/A	n/a	% Recov	75.000	125.000				05/06/08
LCS	Uranium-235	15117-96-1	N/A	n/a	% Recov	75.000	125.000				05/06/08
LCS	Uranium-238	24678-82-8	19.2	101.293	% Recov	80.000	120.000				05/06/08

# WSCF ANALYTICAL COMMENT REPORT

**Attention:** Steve Trent  
**Project Number** F08-043

**Group #:** WSCF20080801  
**Department:** Radiochemistry

**Sample #**   **Client ID**   **Lab Area**   **Test**

VALGROUP

**Comment**

Ra226 batch duplicate is flagged for poor RPD due to the inhomogeneity of the sample. Imh

U-234/5 is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. Imh

U-235 duplicate is flagged for poor RPD due to the inhomogeneity of the sample. Imh

Organics: All samples except B1TV15 & B1TV19 are corrected for moisture and reported on a dry weight basis. The previous two samples are CAT IV radiological samples and are reported on an as received basis with no moisture correction. Some samples were received past holding time.

Pu238 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. Imh

Pu239 duplicate is flagged for poor RPD due to the inhomogeneity of the sample. Imh

Am-241 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level

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

TESTDATA - Test Data Entry

43 of 108 This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

# WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent  
Project Number F08-043

Group #: WSCF20080801  
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
----------	-----------	----------	------	---------

samples. lmh

ORGANICS: Concentrations reported on an "as received" basis,  
not corrected for moisture due to radiological content. gar  
VOA: Sample holding time exceeded. gar

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

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

44 of 108  
wgppc/5.2 Report #: WSCF20080801 Report Date: 5-jun-2008

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01033  
**Client ID:** BITDF2  
**GPP:** WSCF  
**TRENT:** SOIL  
**Matrix:** SOIL  
**Group #:** WSCF20080801  
**Department:** Inorganic  
**Sampled:** 03/31/08  
**Received:** 04/15/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Anions by Ion Chromatography Prep</b>											
<b>Anions by Ion Chromatography</b>											
Fluoride	16984-48-8	LA-533-410	DU	<	0.300		mg/kg	50.00	0.30		04/30/08
Chloride	16887-00-6	LA-533-410	BD		0.752		mg/kg	50.00	0.030		04/30/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	<	0.500		mg/kg	50.00	0.50		04/30/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD		0.566		mg/kg	50.00	0.25		04/30/08
Sulfate	14808-79-8	LA-533-410	DU	<	3.50		mg/kg	50.00	3.5		04/30/08
<b>ICP-200.8 MS All possible meta Prep</b>											
<b>ICP-200.8 MS All possible meta</b>											
Manganese	7439-96-5	LA-505-412		244	mg/kg			0.97	0.100		05/07/08
Nickel	7440-02-0	LA-505-412		8.12	mg/kg			0.97	0.195		05/07/08
Silver	7440-22-4	LA-505-412	U	<	0.0973		mg/kg	0.97	0.0973		05/07/08
Antimony	7440-36-0	LA-505-412	U	<	0.300		mg/kg	0.97	0.300		05/07/08
Barium	7440-39-3	LA-505-412		166	mg/kg			0.97	0.195		05/07/08
Beryllium	7440-41-7	LA-505-412		0.320	mg/kg			0.97	0.0486		05/07/08
Cadmium	7440-43-9	LA-505-412	U	<	0.0973		mg/kg	0.97	0.0973		05/07/08
Chromium	7440-47-3	LA-505-412		9.71	mg/kg			0.97	0.486		05/07/08
Cobalt	7440-48-4	LA-505-412		4.96	mg/kg			0.97	0.0500		05/07/08
Copper	7440-50-8	LA-505-412		10.5	mg/kg			0.97	0.0973		05/07/08
Zinc	7440-66-6	LA-505-412		43.4	mg/kg			0.97	0.778		05/07/08
Lead	7439-92-1	LA-505-412		4.44	mg/kg			0.97	0.0973		05/07/08
Mercury	7439-97-6	LA-505-412	U	<	0.0486		mg/kg	0.97	0.0486		05/07/08
Arsenic	7440-38-2	LA-505-412		2.94	mg/kg			0.97	0.389		05/07/08
Selenium	7782-49-2	LA-505-412	C	0.370	mg/kg			0.97	0.292		05/07/08
Thallium	7440-28-0	LA-505-412		0.132	mg/kg			0.97	0.100		05/07/08

A. Kopriva 7/17/08

**MDL = Minimum Detection Limit** B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier** D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error** U - Analyzed for but not detected above limiting criteria (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

**45 of 108**  
 Report WGPP/ver. 5.2  
 Groundwater Remediation Program

**REVISED**  
 7-18-08

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01036  
**Client ID:** BITV15  
**Group #:** WSCF20080801  
**Department:** Inorganic  
**Sampled:** 03/11/08  
**Received:** 04/15/08

**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Anions by Ion Chromatography</b>											
<b>Anions by Ion Chromatography</b>											
Fluoride	16984-48-8	LA-533-410	DU	<	0.288	mg/kg		48.00	0.29		04/30/08
Chloride	16887-00-6	LA-533-410	BD		0.932	mg/kg		48.00	0.030		04/30/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	<	0.480	mg/kg		48.00	0.48		04/30/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD		1.02	mg/kg		48.00	0.24		04/30/08
Sulfate	14808-79-8	LA-533-410	BD		3.44	mg/kg		48.00	3.4		04/30/08
<b>ICP-200.8 MS All possible meta Prep</b>											
<b>ICP-200.8 MS All possible meta</b>											
Manganese	7439-96-5	LA-505-412			303	mg/kg		0.86	0.100		05/01/08
Nickel	7440-02-0	LA-505-412			6.20	mg/kg		0.86	0.172		05/01/08
Silver	7440-22-4	LA-505-412	U	<	0.0859	mg/kg		0.86	0.0859		05/01/08
Antimony	7440-36-0	LA-505-412			0.300	mg/kg		0.86	0.258		05/01/08
Barium	7440-39-3	LA-505-412	X		103	mg/kg		0.86	0.172		05/01/08
Beryllium	7440-41-7	LA-505-412			0.300	mg/kg		0.86	0.0430		05/01/08
Cadmium	7440-43-9	LA-505-412	U	<	0.0859	mg/kg		0.86	0.0859		05/01/08
Chromium	7440-47-3	LA-505-412			5.04	mg/kg		0.86	0.430		05/01/08
Cobalt	7440-48-4	LA-505-412			7.99	mg/kg		0.86	0.0500		05/01/08
Copper	7440-50-8	LA-505-412			12.1	mg/kg		0.86	0.0859		05/01/08
Zinc	7440-66-6	LA-505-412			36.1	mg/kg		0.86	0.687		05/01/08
Lead	7439-92-1	LA-505-412			3.16	mg/kg		0.86	0.0859		05/01/08
Mercury	7439-97-6	LA-505-412	U	<	0.0430	mg/kg		0.86	0.0430		05/01/08
Arsenic	7440-38-2	LA-505-412			1.58	mg/kg		0.86	0.344		05/01/08
Selenium	7782-49-2	LA-505-412			0.440	mg/kg		0.86	0.258		05/01/08
Thallium	7440-28-0	LA-505-412			0.180	mg/kg		0.86	0.0860		05/01/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**    D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (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

**REVISED**  
 R 7-18-08

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01037  
**Client ID:** BITV19

**Group #:** WSCF20080801  
**Department:** Inorganic  
**Sampled:** 03/12/08  
**Received:** 04/15/08

**GPP** WSCF  
**TRENT**  
**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Anions by Ion Chromatography Prep</b>											
<b>Anions by Ion Chromatography</b>											
Fluoride	16984-48-8	LA-533-410	DU	< 0.300	mg/kg			50.00	0.30		04/30/08
Chloride	16887-00-6	LA-533-410	BD	0.591	mg/kg			50.00	0.030		04/30/08
Nitrogen in Nitrite	N02-N	LA-533-410	DU	< 0.500	mg/kg			50.00	0.50		04/30/08
Nitrogen in Nitrate	N03-N	LA-533-410	BD	0.567	mg/kg			50.00	0.25		04/30/08
Sulfate	14808-79-8	LA-533-410	DU	< 3.50	mg/kg			50.00	3.5		04/30/08
<b>ICP-200.8 MS All possible meta Prep</b>											
<b>ICP-200.8 MS All possible meta</b>											
Manganese	7439-96-5	LA-505-412		360	mg/kg			0.87	0.100		05/01/08
Nickel	7440-02-0	LA-505-412		6.53	mg/kg			0.87	0.174		05/01/08
Silver	7440-22-4	LA-505-412	U	< 0.0871	mg/kg			0.87	0.0871		05/01/08
Antimony	7440-36-0	LA-505-412		0.300	mg/kg			0.87	0.261		05/01/08
Barium	7440-39-3	LA-505-412	X	98.7	mg/kg			0.87	0.174		05/01/08
Beryllium	7440-41-7	LA-505-412		0.320	mg/kg			0.87	0.0436		05/01/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0871	mg/kg			0.87	0.0871		05/01/08
Chromium	7440-47-3	LA-505-412		4.51	mg/kg			0.87	0.436		05/01/08
Cobalt	7440-48-4	LA-505-412		8.30	mg/kg			0.87	0.0500		05/01/08
Copper	7440-50-8	LA-505-412		12.3	mg/kg			0.87	0.0871		05/01/08
Zinc	7440-66-6	LA-505-412		38.2	mg/kg			0.87	0.697		05/01/08
Lead	7439-92-1	LA-505-412		3.46	mg/kg			0.87	0.0871		05/01/08
Mercury	7439-97-6	LA-505-412	U	< 0.0436	mg/kg			0.87	0.0436		05/01/08
Arsenic	7440-38-2	LA-505-412		1.68	mg/kg			0.87	0.349		05/01/08
Selenium	7782-49-2	LA-505-412		0.290	mg/kg			0.87	0.261		05/01/08
Thallium	7440-28-0	LA-505-412		0.174	mg/kg			0.87	0.0870		05/01/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**    D - Analyte was identified at a secondary dilution factor (inorg)

**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (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

**Report WGPP/ver. 5.2**

**Groundwater Remediation Program**

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

**REVISED**  
 R 7-18-08

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01038  
**Client ID:** B1V2L5  
**GPP WSCF:** TRENT  
**Matrix:** SOIL  
**Group #:** WSCF20080801  
**Department:** Inorganic  
**Sampled:** 03/26/08  
**Received:** 04/15/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Anions by Ion Chromatography Prep</b>											
<b>Anions by Ion Chromatography</b>											
Fluoride	16984-48-8	LA-533-410	DU	<	0.300		mg/kg	50.00	0.30		04/30/08
Chloride	16887-00-6	LA-533-410	BD	<	0.827		mg/kg	50.00	0.030		04/30/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	<	0.500		mg/kg	50.00	0.50		04/30/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	<	0.657		mg/kg	50.00	0.25		04/30/08
Sulfate	14808-79-8	LA-533-410	DU	<	3.50		mg/kg	50.00	3.5		04/30/08
<b>ICP-200.8 MS All possible meta Prep</b>											
<b>ICP-200.8 MS All possible meta</b>											
Manganese	7439-96-5	LA-505-412		492			mg/kg	0.97	0.100		05/07/08
Nickel	7440-02-0	LA-505-412		9.20			mg/kg	0.97	0.193		05/07/08
Silver	7440-22-4	LA-505-412	U	<	0.0967		mg/kg	0.97	0.0967		05/07/08
Antimony	7440-36-0	LA-505-412	J	<	0.300		mg/kg	0.97	0.300		05/07/08
Barium	7440-39-3	LA-505-412		163			mg/kg	0.97	0.193		05/07/08
Beryllium	7440-41-7	LA-505-412		0.440			mg/kg	0.97	0.0483		05/07/08
Cadmium	7440-43-9	LA-505-412	U	<	0.0967		mg/kg	0.97	0.0967		05/07/08
Chromium	7440-47-3	LA-505-412		6.74			mg/kg	0.97	0.483		05/07/08
Cobalt	7440-48-4	LA-505-412		11.2			mg/kg	0.97	0.0500		05/07/08
Copper	7440-50-8	LA-505-412		13.8			mg/kg	0.97	0.0967		05/07/08
Zinc	7440-66-6	LA-505-412		43.2			mg/kg	0.97	0.773		05/07/08
Lead	7439-92-1	LA-505-412		3.95			mg/kg	0.97	0.0967		05/07/08
Mercury	7439-97-6	LA-505-412	U	<	0.0483		mg/kg	0.97	0.0483		05/07/08
Arsenic	7440-38-2	LA-505-412		2.50			mg/kg	0.97	0.387		05/07/08
Selenium	7782-49-2	LA-505-412	C	0.700			mg/kg	0.97	0.290		05/07/08
Thallium	7440-28-0	LA-505-412		0.134			mg/kg	0.97	0.100		05/07/08

*A. Kopriva* 7/17/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**    D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (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

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

**REVISED**  
 R 7-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

Matrix: SOLID

Test: Anions by Ion Chromatography

Sample Date: 04/11/08

Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
<b>Lab ID: W08GR01020</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
DUP	Fluoride	16984-48-8	<0.294		RPD			n/a	20.000	U	04/30/08	
DUP	Nitrogen in Nitrite	NO2-N	<0.49		RPD			n/a	20.000	U	04/30/08	
DUP	Nitrogen in Nitrate	NO3-N	0.8625		RPD			14.964	20.000		04/30/08	
DUP	Sulfate	14808-79-8	74.0417		RPD			0.233	20.000		04/30/08	
MS	Fluoride	16984-48-8	0.45807	91.982	% Recov	75.000	125.000				04/30/08	
MS	Nitrogen in Nitrite	NO2-N	0.451126	90.770	% Recov	75.000	125.000				04/30/08	
MS	Nitrogen in Nitrate	NO3-N	0.447867	99.526	% Recov	75.000	125.000				04/30/08	
MS	Sulfate	14808-79-8	1.64835	83.250	% Recov	75.000	125.000				04/30/08	
MSD	Fluoride	16984-48-8	0.454836	91.333	% Recov	75.000	125.000				04/30/08	
MSD	Nitrogen in Nitrite	NO2-N	0.45113	90.771	% Recov	75.000	125.000				04/30/08	
MSD	Nitrogen in Nitrate	NO3-N	0.450613	100.136	% Recov	75.000	125.000				04/30/08	
MSD	Sulfate	14808-79-8	1.64534	83.098	% Recov	75.000	125.000				04/30/08	
SPK-RPD	Fluoride	16984-48-8	91.333		RPD			0.708	20.000		04/30/08	
SPK-RPD	Nitrogen in Nitrite	NO2-N	90.771		RPD			0.001	20.000		04/30/08	
SPK-RPD	Nitrogen in Nitrate	NO3-N	100.136		RPD			0.611	20.000		04/30/08	
SPK-RPD	Sulfate	14808-79-8	83.098		RPD			0.183	20.000		04/30/08	
<b>BATCH QC</b>												
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	04/30/08	
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	04/30/08	
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	04/30/08	
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	04/30/08	
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	04/30/08	
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	04/30/08	
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	04/30/08	
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	04/30/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

Matrix: SOLID

Test: Anions by Ion Chromatography

Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Fluoride	16984-48-8	105.3073	105.730	% Recov	80.000	120.000				04/30/08
LCS	Nitrogen in Nitrite	NO2-N	98.4199	99.014	% Recov	80.000	120.000				04/30/08
LCS	Nitrogen in Nitrate	NO3-N	92.8608	103.064	% Recov	80.000	120.000				04/30/08
LCS	Sulfate	14808-79-8	380.1465	95.997	% Recov	80.000	120.000				04/30/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

Matrix: SOLID

Test: ICP-200.8 MS All possible meta

Sample Date: 04/11/08

Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Silver	7440-22-4	190.8	95.400	% Recov	70.000	130.000		130.000		05/01/08
MS	Arsenic	7440-38-2	193.78	96.890	% Recov	70.000	130.000		130.000		05/01/08
MS	Barium	7440-39-3	233.79	116.895	% Recov	70.000	130.000		130.000		05/01/08
MS	Beryllium	7440-41-7	187.88	93.940	% Recov	70.000	130.000		130.000		05/01/08
MS	Cadmium	7440-43-9	191.4	95.700	% Recov	70.000	130.000		130.000		05/01/08
MS	Chromium	7440-47-3	190.9	95.450	% Recov	70.000	130.000		130.000		05/01/08
MS	Copper	7440-50-8	185.06	92.530	% Recov	70.000	130.000		130.000		05/01/08
MS	Mercury	7439-97-6	1.98	99.000	% Recov	70.000	130.000		130.000		05/01/08
MS	Nickel	7440-02-0	184.94	92.470	% Recov	70.000	130.000		130.000		05/01/08
MS	Lead	7439-92-1	195.21	97.605	% Recov	70.000	130.000		130.000		05/01/08
MS	Antimony	7440-36-0	186.8	93.400	% Recov	70.000	130.000		130.000		05/01/08
MS	Selenium	7782-49-2	190.3	95.150	% Recov	70.000	130.000		130.000		05/01/08
MS	Thallium	7440-28-0	184.2	92.100	% Recov	70.000	130.000		130.000		05/01/08
MS	Zinc	7440-66-6	185.26	92.630	% Recov	70.000	130.000		130.000		05/01/08
MSD	Silver	7440-22-4	184.4	92.200	% Recov	70.000	130.000		130.000		05/01/08
MSD	Arsenic	7440-38-2	186.58	93.290	% Recov	70.000	130.000		130.000		05/01/08
MSD	Barium	7440-39-3	180.09	90.045	% Recov	70.000	130.000		130.000		05/01/08
MSD	Beryllium	7440-41-7	181.78	90.890	% Recov	70.000	130.000		130.000		05/01/08
MSD	Cadmium	7440-43-9	185.4	92.700	% Recov	70.000	130.000		130.000		05/01/08
MSD	Chromium	7440-47-3	181.3	90.650	% Recov	70.000	130.000		130.000		05/01/08
MSD	Copper	7440-50-8	178.56	89.280	% Recov	70.000	130.000		130.000		05/01/08
MSD	Mercury	7439-97-6	1.91	95.500	% Recov	70.000	130.000		130.000		05/01/08
MSD	Nickel	7440-02-0	181.94	90.970	% Recov	70.000	130.000		130.000		05/01/08
MSD	Lead	7439-92-1	188.81	94.405	% Recov	70.000	130.000		130.000		05/01/08
MSD	Antimony	7440-36-0	179.2	89.600	% Recov	70.000	130.000		130.000		05/01/08
MSD	Selenium	7782-49-2	184.6	92.300	% Recov	70.000	130.000		130.000		05/01/08

Lab ID: W08GR01020  
 BATCH QC ASSOCIATED WITH SAMPLE

**REVISED**  
 7-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

Matrix: SOLID

Test: ICP-200.8 MS All possible meta

Sample Date: 04/11/08  
Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Thallium	7440-28-0	179.5	89.750	% Recov	70.000	130.000				05/01/08
MSD	Zinc	7440-66-6	177.96	88.980	% Recov	70.000	130.000				05/01/08
SPK-RPD	Silver	7440-22-4	92.200		RPD			3.412	20.000		05/01/08
SPK-RPD	Arsenic	7440-38-2	93.290		RPD			3.786	20.000		05/01/08
SPK-RPD	Barium	7440-39-3	90.045		RPD			25.950	20.000 *		05/01/08
SPK-RPD	Beryllium	7440-41-7	90.890		RPD			3.300	20.000		05/01/08
SPK-RPD	Cadmium	7440-43-9	92.700		RPD			3.185	20.000		05/01/08
SPK-RPD	Chromium	7440-47-3	90.650		RPD			5.159	20.000		05/01/08
SPK-RPD	Copper	7440-50-8	89.280		RPD			3.575	20.000		05/01/08
SPK-RPD	Mercury	7439-97-6	95.500		RPD			3.599	20.000		05/01/08
SPK-RPD	Nickel	7440-02-0	90.970		RPD			1.635	20.000		05/01/08
SPK-RPD	Lead	7439-92-1	94.405		RPD			3.333	20.000		05/01/08
SPK-RPD	Antimony	7440-36-0	89.600		RPD			4.153	20.000		05/01/08
SPK-RPD	Selenium	7782-49-2	92.300		RPD			3.041	20.000		05/01/08
SPK-RPD	Thallium	7440-28-0	89.750		RPD			2.585	20.000		05/01/08
SPK-RPD	Zinc	7440-66-6	88.980		RPD			4.020	20.000		05/01/08
MS	Silver	7440-22-4	185	92.500	% Recov	70.000	130.000				05/01/08
MS	Arsenic	7440-38-2	183	91.500	% Recov	70.000	130.000				05/01/08
MS	Cadmium	7440-43-9	185.5	92.750	% Recov	70.000	130.000				05/01/08
MS	Cobalt	7440-48-4	183	91.500	% Recov	70.000	130.000				05/01/08
MS	Chromium	7440-47-3	172.37	86.185	% Recov	70.000	130.000				05/01/08
MS	Manganese	7439-96-5	220.6	110.300	% Recov	70.000	130.000				05/01/08
MS	Lead	7439-92-1	188.94	94.470	% Recov	70.000	130.000				05/01/08
MS	Antimony	7440-36-0	189	94.500	% Recov	70.000	130.000				05/01/08
MS	Thallium	7440-28-0	186	93.000	% Recov	70.000	130.000				05/01/08
MSD	Silver	7440-22-4	187.5	93.750	% Recov	70.000	130.000				05/01/08
MSD	Arsenic	7440-38-2	185.9	92.950	% Recov	70.000	130.000				05/01/08

Lab ID: W08GR01023  
BATCH QC ASSOCIATED WITH SAMPLE

**REVISED**  
R 7-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

Matrix: SOLID

Test: ICP-200.8 MS All possible meta

Sample Date: 04/11/08  
Receive Date: 04/11/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Cadmium	7440-43-9	188.1	94.050	% Recov	70.000	130.000				05/01/08
MSD	Chromium	7440-47-3	179.47	89.735	% Recov	70.000	130.000				05/01/08
MSD	Manganese	7439-96-5	201.4	100.700	% Recov	70.000	130.000				05/01/08
MSD	Lead	7439-92-1	191.84	95.920	% Recov	70.000	130.000				05/01/08
MSD	Antimony	7440-36-0	183	91.500	% Recov	75.000	125.000				05/01/08
MSD	Thallium	7440-28-0	183	91.500	% Recov	75.000	125.000				05/01/08
SPK-RPD	Silver	7440-22-4	93.750		RPD			1.342	20.000		05/01/08
SPK-RPD	Arsenic	7440-38-2	92.950		RPD			1.572	20.000		05/01/08
SPK-RPD	Cadmium	7440-43-9	94.050		RPD			1.392	20.000		05/01/08
SPK-RPD	Chromium	7440-47-3	89.735		RPD			4.036	20.000		05/01/08
SPK-RPD	Manganese	7439-96-5	100.700		RPD			9.100	20.000		05/01/08
SPK-RPD	Lead	7439-92-1	95.920		RPD			1.523	20.000		05/01/08
SPK-RPD	Antimony	7440-36-0	91.5		RPD			3.226	20.000		05/01/08
SPK-RPD	Thallium	7440-28-0	91.5		RPD			1.626	20.000		05/01/08
<b>BATCH QC</b>											
BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	05/01/08
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	05/01/08
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L					U	05/01/08
BLANK	Beryllium	7440-41-7	<5e-2	n/a	ug/L					U	05/01/08
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	05/01/08
BLANK	Cobalt	7440-48-4	<5e-2	n/a	ug/L					U	05/01/08
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	05/01/08
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L					U	05/01/08
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	05/01/08
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	05/01/08
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	05/01/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	05/01/08
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	05/01/08
BLANK	Selenium	7782-49-2	<0.3	n/a	ug/L					U	05/01/08

REVISED

R 7-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

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	Thallium	7440-28-0	<0.1	n/a	ug/L					U	05/01/08
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	05/01/08
LCS	Silver	7440-22-4	109.2	108.119	% Recov	98.000	134.000				05/01/08
LCS	Arsenic	7440-38-2	134.4	101.818	% Recov	75.000	134.000				05/01/08
LCS	Barium	7440-39-3	318.1	99.718	% Recov	87.000	121.000				05/01/08
LCS	Beryllium	7440-41-7	87.87	98.179	% Recov	70.000	153.000				05/01/08
LCS	Cadmium	7440-43-9	66.13	99.444	% Recov	95.000	124.000				05/01/08
LCS	Cobalt	7440-48-4	73.61	100.698	% Recov	88.000	119.000				05/01/08
LCS	Chromium	7440-47-3	68.72	94.266	% Recov	77.000	125.000				05/01/08
LCS	Copper	7440-50-8	67.33	98.292	% Recov	84.000	122.000				05/01/08
LCS	Mercury	7439-97-6	7.73	93.357	% Recov	71.000	132.000				05/01/08
LCS	Manganese	7439-96-5	458.4	101.192	% Recov	83.000	118.000				05/01/08
LCS	Nickel	7440-02-0	55.74	100.252	% Recov	90.000	121.000				05/01/08
LCS	Lead	7439-92-1	133.7	102.846	% Recov	92.000	123.000				05/01/08
LCS	Antimony	7440-36-0	140.4	155.654	% Recov	114.000	260.000				05/01/08
LCS	Selenium	7782-49-2	172.5	107.143	% Recov	52.000	157.000				05/01/08
LCS	Thallium	7440-28-0	126.2	94.887	% Recov	92.000	123.000				05/01/08
LCS	Zinc	7440-66-6	184.5	104.237	% Recov	85.000	130.000				05/01/08
MS	Silver	7440-22-4	188.2	94.100	% Recov	70.000	130.000				05/07/08
MS	Arsenic	7440-38-2	193.09	96.545	% Recov	70.000	130.000				05/07/08
MS	Barium	7440-39-3	186.32	93.160	% Recov	70.000	130.000				05/07/08
MS	Beryllium	7440-41-7	193.74	96.870	% Recov	70.000	130.000				05/07/08
MS	Cadmium	7440-43-9	191.7	95.850	% Recov	70.000	130.000				05/07/08
MS	Cobalt	7440-48-4	187	93.500	% Recov	70.000	130.000				05/07/08
MS	Chromium	7440-47-3	192.19	96.095	% Recov	70.000	130.000				05/07/08
MS	Copper	7440-50-8	188.01	94.005	% Recov	70.000	130.000				05/07/08
MS	Mercury	7439-97-6	2.08	104.000	% Recov	70.000	130.000				05/07/08

Lab ID: W08GR01131  
BATCH QC ASSOCIATED WITH SAMPLE

REVISED  
R 7-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

Matrix: SOLID

Test: ICP-200.8 MS All possible meta

Sample Date: 02/11/08  
Receive Date: 05/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Manganese	7439-96-5	181	90.500	% Recov	70.000	130.000				05/07/08
MS	Nickel	7440-02-0	205.05	102.525	% Recov	70.000	130.000				05/07/08
MS	Lead	7439-92-1	192.79	96.395	% Recov	70.000	130.000				05/07/08
MS	Antimony	7440-36-0	189	94.500	% Recov	70.000	130.000				05/07/08
MS	Selenium	7782-49-2	190.64	95.320	% Recov	70.000	130.000				05/07/08
MS	Thallium	7440-28-0	185	92.500	% Recov	70.000	130.000				05/07/08
MS	Zinc	7440-66-6	189.48	94.740	% Recov	70.000	130.000				05/07/08
MSD	Silver	7440-22-4	190	95.000	% Recov	70.000	130.000				05/07/08
MSD	Arsenic	7440-38-2	194.09	97.045	% Recov	70.000	130.000				05/07/08
MSD	Barium	7440-39-3	186.72	93.360	% Recov	70.000	130.000				05/07/08
MSD	Beryllium	7440-41-7	194.94	97.470	% Recov	70.000	130.000				05/07/08
MSD	Cadmium	7440-43-9	192.9	96.450	% Recov	70.000	130.000				05/07/08
MSD	Cobalt	7440-48-4	188	94.000	% Recov	70.000	130.000				05/07/08
MSD	Chromium	7440-47-3	195.19	97.595	% Recov	70.000	130.000				05/07/08
MSD	Copper	7440-50-8	193.11	96.555	% Recov	70.000	130.000				05/07/08
MSD	Mercury	7439-97-6	2.08	104.000	% Recov	70.000	130.000				05/07/08
MSD	Manganese	7439-96-5	166	83.000	% Recov	70.000	130.000				05/07/08
MSD	Nickel	7440-02-0	195.85	97.925	% Recov	70.000	130.000				05/07/08
MSD	Lead	7439-92-1	193.79	96.895	% Recov	70.000	130.000				05/07/08
MSD	Antimony	7440-36-0	185	92.500	% Recov	70.000	130.000				05/07/08
MSD	Selenium	7782-49-2	190.14	95.070	% Recov	70.000	130.000				05/07/08
MSD	Thallium	7440-28-0	183	91.500	% Recov	70.000	130.000				05/07/08
MSD	Zinc	7440-66-6	194.38	97.190	% Recov	70.000	130.000				05/07/08
SPK-RPD	Silver	7440-22-4	95.000		RPD			0.952	20.000		05/07/08
SPK-RPD	Arsenic	7440-38-2	97.045		RPD			0.517	20.000		05/07/08
SPK-RPD	Barium	7440-39-3	93.360		RPD			0.214	20.000		05/07/08
SPK-RPD	Beryllium	7440-41-7	97.470		RPD			0.617	20.000		05/07/08
SPK-RPD	Cadmium	7440-43-9	96.450		RPD			0.624	20.000		05/07/08
SPK-RPD	Cobalt	7440-48-4	94.000		RPD			0.533	20.000		05/07/08
SPK-RPD	Chromium	7440-47-3	97.595		RPD			1.549	20.000		05/07/08

REVISED

17-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: ICP-200.8 MS All possible meta

Sample Date: 02/11/08  
 Receive Date: 05/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Copper	7440-50-8	96.555		RPD			2.676	20.000		05/07/08
SPK-RPD	Mercury	7439-97-6	104.000		RPD			0.000	20.000		05/07/08
SPK-RPD	Manganese	7439-96-5	83.000		RPD			8.646	20.000		05/07/08
SPK-RPD	Nickel	7440-02-0	97.925		RPD			4.590	20.000		05/07/08
SPK-RPD	Lead	7439-92-1	96.895		RPD			0.517	20.000		05/07/08
SPK-RPD	Antimony	7440-36-0	92.500		RPD			2.139	20.000		05/07/08
SPK-RPD	Selenium	7782-49-2	95.070		RPD			0.263	20.000		05/07/08
SPK-RPD	Thallium	7440-28-0	91.500		RPD			1.087	20.000		05/07/08
SPK-RPD	Zinc	7440-66-6	97.190		RPD			2.553	20.000		05/07/08
<b>BATCH QC</b>											
BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	05/07/08
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	05/07/08
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L					U	05/07/08
BLANK	Beryllium	7440-41-7	<5e-2	n/a	ug/L					U	05/07/08
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	05/07/08
BLANK	Cobalt	7440-48-4	<5e-2	n/a	ug/L					U	05/07/08
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	05/07/08
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L					U	05/07/08
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	05/07/08
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	05/07/08
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	05/07/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	05/07/08
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	05/07/08
BLANK	Selenium	7782-49-2	0.33	0.330	ug/L					U	05/07/08
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L					U	05/07/08
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	05/07/08
LCS	Silver	7440-22-4	106.9	105.842	% Recov	98.000	134.000				05/07/08
LCS	Arsenic	7440-38-2	135.3	102.500	% Recov	75.000	134.000				05/07/08
LCS	Barium	7440-39-3	321.6	100.815	% Recov	87.000	121.000				05/07/08

REVISED

07-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801

Matrix: SOLID

Test: ICP-200.8 MS All possible meta

Sample Date:  
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Beryllium	7440-41-7	88.4	98.771	% Recov	70.000	153.000				05/07/08
LCS	Cadmium	7440-43-9	64.24	96.602	% Recov	95.000	124.000				05/07/08
LCS	Cobalt	7440-48-4	78.93	107.975	% Recov	88.000	119.000				05/07/08
LCS	Chromium	7440-47-3	74.25	101.852	% Recov	77.000	125.000				05/07/08
LCS	Copper	7440-50-8	73.31	107.022	% Recov	84.000	122.000				05/07/08
LCS	Mercury	7439-97-6	7.94	95.894	% Recov	71.000	132.000				05/07/08
LCS	Manganese	7439-96-5	473	104.415	% Recov	83.000	118.000				05/07/08
LCS	Nickel	7440-02-0	60.75	109.263	% Recov	90.000	121.000				05/07/08
LCS	Lead	7439-92-1	130.6	100.462	% Recov	92.000	123.000				05/07/08
LCS	Antimony	7440-36-0	136.7	151.552	% Recov	114.000	260.000				05/07/08
LCS	Selenium	7782-49-2	175.7	109.130	% Recov	52.000	157.000				05/07/08
LCS	Thallium	7440-28-0	124	93.233	% Recov	92.000	123.000				05/07/08
LCS	Zinc	7440-66-6	199.1	112.486	% Recov	85.000	130.000				05/07/08

**REVISED**  
R 7-18-08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: pH Soil and Waste Measurement

Sample Date: 04/17/08  
 Receive Date: 04/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
DUP	pH Soil and Waste Measurement	PH	9.10		RPD			0.220	3.000		05/08/08

Lab ID: W08GR01075  
 BATCH QC ASSOCIATED WITH SAMPLE

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01033  
**Client ID:** BITDF2 GPP WSCF

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/31/08  
**Received:** 04/15/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>NWTPH-D TPH Diesel Range (Wa) Prep</b>											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 3.10e+03	ug/kg			1.00	3.1e+03		05/05/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 3.10e+03	ug/kg			1.00	3.1e+03		05/05/08
<b>PCBs complete list Prep</b>											
<b>PCBs complete list</b>											
Aroclor-1016	12674-11-2	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1221	11104-28-2	LA-523-427	U	< 20.0	ug/kg			1.00	20		05/06/08
Aroclor-1232	11141-16-5	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1242	53469-21-9	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1248	12672-29-6	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1254	11097-69-1	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1260	11096-82-5	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1262	37324-23-5	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
Aroclor-1268	11100-14-4	LA-523-427	U	< 10.0	ug/kg			1.00	10		05/06/08
<b>SW-846 8270C Semi-Vols Prep</b>											
<b>SW-846 8270C Semi-Vols</b>											
4-Nitrophenol	100-02-7	LA-523-456	U	< 210	ug/kg			1.00	2.1e+02		05/06/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 250	ug/kg			1.00	2.5e+02		05/06/08
Phenol	108-95-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
Pyrene	129-00-0	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08

**MDL = Minimum Detection Limit** B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier** D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error** U - Analyzed for but not detected above limiting criteria (inorg)  
**5DF = 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  
 C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01033  
**Client ID:** BITDF2

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/31/08  
**Received:** 04/15/08

**GPP**      **TRENT**  
**WSCF**

**Matrix:**      SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Acenaphthene	83-32-9	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 210	ug/kg			1.00	2.1e+02		05/06/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
1,2,4-Trimethylbenzene	95-63-6	LA-523-456	U	< 190	ug/kg			1.00	1.9e+02		05/06/08

**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**

B - The analyte < the RDL but > = the IDL/MDL (inorg)  
 D - Analyte was identified at a secondary dilution factor (inorg)  
 U - Analyzed for but not detected above limiting criteria (inorg)  
 U - Analyzed for but not detected above limiting criteria (inorg)

C - The Analyte was found in the Associated Blank (inorg)  
 J - Analyte < lowest calibration but > = MDL (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01036  
**Client ID:** BITV15 GPP  
**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/11/08  
**Received:** 04/15/08

**Matrix:** SOIL  
**Method:** TRENT  
**WSCF**

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>NWTPH-D TPH Diesel Range (Wa) Prep</b>											
Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 7.10e+03	ug/kg			1.00	7.1e+03		05/05/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 7.10e+03	ug/kg			1.00	7.1e+03		05/05/08 <b>04/30/08</b>
<b>PCBs complete list Prep</b>											
<b>PCBs complete list</b>											
Aroclor-1016	12674-11-2	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1221	11104-28-2	LA-523-427	U	< 19.0	ug/kg			1.00	19		05/06/08
Aroclor-1232	11141-16-5	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1242	53469-21-9	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1248	12672-29-6	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1254	11097-69-1	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1260	11096-82-5	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1262	37324-23-5	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1268	11100-14-4	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08 <b>04/30/08</b>
<b>SW-846 8270C Semi-Vols Prep</b>											
<b>SW-846 8270C Semi-Vols</b>											
4-Nitrophenol	100-02-7	LA-523-456	U	< 460	ug/kg			1.00	4.6e+02		05/06/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 550	ug/kg			1.00	5.5e+02		05/06/08
Phenol	108-95-2	LA-523-456	U	< 320	ug/kg			1.00	3.2e+02		05/06/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 320	ug/kg			1.00	3.2e+02		05/06/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 320	ug/kg			1.00	3.2e+02		05/06/08
Pyrene	129-00-0	LA-523-456	U	< 320	ug/kg			1.00	3.2e+02		05/06/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 320	ug/kg			1.00	3.2e+02		05/06/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 320	ug/kg			1.00	3.2e+02		05/06/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (inorg)  
**60 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  
 Report WGPP/ver. 5.2  
 Groundwater Remediation Program

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01036  
**Client ID:** BITV15 GPP WSCF  
**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/11/08  
**Received:** 04/15/08

**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Acenaphthene	83-32-9	LA-523-456	U	<	320		ug/kg	1.00	3.2e+02		05/06/08
Pentachlorophenol	87-86-5	LA-523-456	U	<	460		ug/kg	1.00	4.6e+02		05/06/08
2-Chlorophenol	95-57-8	LA-523-456	U	<	320		ug/kg	1.00	3.2e+02		05/06/08
Tributyl phosphate	126-73-8	LA-523-456	U	<	320		ug/kg	1.00	3.2e+02		05/06/08
1,2,4-Trimethylbenzene	95-63-6	LA-523-456	U	<	410		ug/kg	1.00	4.1e+02		05/06/08

**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)  
 D - Analyte was identified at a secondary dilution factor (inorg)  
 U - Analyzed for but not detected above limiting criteria (inorg)  
 U - Analyzed for but not detected above limiting criteria (org)  
 + - Indicates more than six qualifier symbols

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01037  
**Client ID:** BITV19 GPP WSCF  
**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/12/08  
**Received:** 04/15/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>NWTPH-D TPH Diesel Range (Wa) Prep</b>											
Total Pet. Hydrocarbons Diesel	TPHDISEL	LA-523-493	U	< 7.20e+03	ug/kg			1.00	7.2e+03		05/06/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 7.20e+03	ug/kg			1.00	7.2e+03		05/06/08
<b>PCBs complete list Prep</b>											
<b>PCBs complete list</b>											
Aroclor-1016	12674-11-2	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1221	11104-28-2	LA-523-427	U	< 19.0	ug/kg			1.00	19		05/06/08
Aroclor-1232	11141-16-5	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1242	53469-21-9	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1248	12672-29-6	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1254	11097-69-1	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1260	11096-82-5	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1262	37324-23-5	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
Aroclor-1268	11100-14-4	LA-523-427	U	< 9.60	ug/kg			1.00	9.6		05/06/08
<b>SW-846 8270C Semi-Vols Prep</b>											
<b>SW-846 8270C Semi-Vols</b>											
4-Nitrophenol	100-02-7	LA-523-456	U	< 470	ug/kg			1.00	4.7e+02		05/06/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 570	ug/kg			1.00	5.7e+02		05/06/08
Phenol	108-95-2	LA-523-456	U	< 330	ug/kg			1.00	3.3e+02		05/06/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 330	ug/kg			1.00	3.3e+02		05/06/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 330	ug/kg			1.00	3.3e+02		05/06/08
Pyrene	129-00-0	LA-523-456	U	< 330	ug/kg			1.00	3.3e+02		05/06/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 330	ug/kg			1.00	3.3e+02		05/06/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 330	ug/kg			1.00	3.3e+02		05/06/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                D - Analyte was identified at a secondary dilution factor(inorg)  
**TP Err = Total Propagated Error**      U - Analyzed for but not detected above limiting criteria(inorg)  
**PDF = 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  
 C - The Analyte was found in the Associated Blank.(inorg)  
 J - Analyte < lowest calibration but > = MDL.(org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative(inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01037  
**Client ID:** BITV19 GPP WSCF  
**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/12/08  
**Received:** 04/15/08

**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Acenaphthene	83-32-9	LA-523-456	U	<	330 ug/kg			1.00	3.3e+02		05/06/08
Pentachlorophenol	87-86-5	LA-523-456	U	<	470 ug/kg			1.00	4.7e+02		05/06/08
2-Chlorophenol	95-57-8	LA-523-456	U	<	330 ug/kg			1.00	3.3e+02		05/06/08
Tributyl phosphate	126-73-8	LA-523-456	U	<	330 ug/kg			1.00	3.3e+02		05/06/08
1,2,4-Trimethylbenzene	95-63-6	LA-523-456	U	<	430 ug/kg			1.00	4.3e+02		05/06/08

**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)  
 D - Analyte was identified at a secondary dilution factor (inorg)  
 U - Analyzed for but not detected above limiting criteria (inorg)  
 U - Analyzed for but not detected above limiting criteria (org)  
 C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative (inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01038  
**Client ID:** B1V2L5

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/26/08  
**Received:** 04/15/08

**GPP** WSCF  
**TRENT**  
**Matrix:** SOIL

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

**NWTPH-D TPH Diesel Range (Wa) Prep**

**NWTPH-D TPH Diesel Range (Wa)**

Total Pet. Hydrocarbons Diesel	TPHDIESEL	LA-523-493	U	< 3.30e+03	ug/kg			1.00	3.3e+03		05/05/08
Kerosene	TPHKEROSENE	LA-523-493	U	< 3.30e+03	ug/kg			1.00	3.3e+03		05/05/08

**PCBs complete list Prep**

**PCBs complete list**

Aroclor-1016	12674-11-2	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08
Aroclor-1221	11104-28-2	LA-523-427	U	< 22.0	ug/kg			1.00	22		05/06/08
Aroclor-1232	11141-16-5	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08
Aroclor-1242	53469-21-9	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08
Aroclor-1248	12672-29-6	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08
Aroclor-1254	11097-69-1	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08
Aroclor-1260	11096-82-5	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08
Aroclor-1262	37324-23-5	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08
Aroclor-1268	11100-14-4	LA-523-427	U	< 11.0	ug/kg			1.00	11		05/06/08

**SW-846 8270C Semi-Vols Prep**

**SW-846 8270C Semi-Vols**

4-Nitrophenol	100-02-7	LA-523-456	U	< 220	ug/kg			1.00	2.2e+02		05/06/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 260	ug/kg			1.00	2.6e+02		05/06/08
Phenol	108-95-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
Pyrene	129-00-0	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08

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

**RQ = Result Qualifier** D - Analyte was identified at a secondary dilution factor(inorg)

**TP Err = Total Propagated Error** U - Analyzed for but not detected above limiting criteria(inorg)

**DDF = 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

Report WGPP/ver. 5.2

Groundwater Remediation Program

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

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

U - Analyzed for but not detected above limiting criteria.

X - Other flags/notes described in the comments/narrative.(inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01038  
**Client ID:** B1V2L5 GPP

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/26/08  
**Received:** 04/15/08

**TRENT**      **Matrix:** SOIL

WSCF

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Acenaphthene	83-32-9	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 220	ug/kg			1.00	2.2e+02		05/06/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 150	ug/kg			1.00	1.5e+02		05/06/08
1,2,4-Trimethylbenzene	95-63-6	LA-523-456	U	< 200	ug/kg			1.00	2.0e+02		05/06/08

**MDL = Minimum Detection Limit**      B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                  D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**      U - Analyzed for but not detected above limiting criteria (inorg)  
**65 of 108**    U - Analyzed for but not detected above limiting criteria (org)  
**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  
 Report WGPP/ver. 5.2

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01048  
**Client ID:** BITV13

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/11/08  
**Received:** 04/15/08

**GPP** WSCF **TRENT** **Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>VOA Ground Water Protection</b>											
1,1-Dichloroethene	75-35-4	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Trichloroethene	79-01-6	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Benzene	71-43-2	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Toluene	108-88-3	LA-523-455	J	<	1.90		ug/kg	1.00	1.0		04/30/08
Chlorobenzene	108-90-7	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Ethylbenzene	100-41-4	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Styrene	100-42-5	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Dibromochloromethane	124-48-1	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Tetrachloroethene	127-18-4	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Xylenes (total)	1330-20-7	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Carbon tetrachloride	56-23-5	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
2-Hexanone	591-78-6	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Acetone	67-64-1	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Chloroform	67-66-3	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Bromomethane	74-83-9	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Chloromethane	74-87-3	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08
Chloroethane	75-00-3	LA-523-455	U	<	1.00		ug/kg	1.00	1.0		04/30/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**    D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (inorg)  
**DDF = 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

**Report WGPP/ver. 5.2**  
**Groundwater Remediation Program**

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01048  
**Client ID:** BITV13

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/11/08  
**Received:** 04/15/08

**GPP** TRENT  
**WSCF**

**Matrix:** SOIL

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		04/30/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Hexane	110-54-3	LA-523-455	U	< 1.00	ug/kg			1.00	1.0		04/30/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.00	ug/kg			1.00	2.0		04/30/08
Acetonitrile	75-05-8	LA-523-455	U	< 2.00	ug/kg			1.00	2.0		04/30/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                D - Analyte was identified at a secondary dilution factor(inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria(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

C - The Analyte was found in the Associated Blank.(inorg)  
 J - Analyte < lowest calibration but > = MDL.(org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative(inorg)

**Report WGPP/ver. 5.2**  
**Groundwater Remediation Program**

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01049  
**Client ID:** BITV17

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/12/08  
**Received:** 04/15/08

**GPP** WSCF  
**TRENT**  
**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>VOA Ground Water Protection</b>											
1, 1-Dichloroethene	75-35-4	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Benzene	71-43-2	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Toluene	108-88-3	LA-523-455	J	1.70	ug/kg			1.00	1.2		04/30/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
1, 1-Dichloroethane	75-34-3	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Styrene	100-42-5	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
cis-1, 3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
trans-1, 3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
1, 2-Dichloroethane	107-06-2	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
1, 2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
2-Hexanone	591-78-6	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Acetone	67-64-1	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Chloroform	67-66-3	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
1, 1, 1-Trichloroethane	71-55-6	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Bromomethane	74-83-9	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Chloromethane	74-87-3	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Chloroethane	75-00-3	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                D - Analyte was identified at a secondary dilution factor(inorg)  
**TP Err = Total Propagated Error**      U - Analyzed for but not detected above limiting criteria(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

**Report WGPP/ver. 5.2**  
**Groundwater Remediation Program**

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL.(org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative(inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #** W08GR01049  
**Client ID:** BITV17

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/12/08  
**Received:** 04/15/08

**GPP** WSCF  
**TRENT**  
**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Bromoform	75-25-2	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
2-Butanone	78-93-3	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Hexane	110-54-3	LA-523-455	U	< 1.20	ug/kg			1.00	1.2		04/30/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.50	ug/kg			1.00	2.5		04/30/08
Acetonitrile	75-05-8	LA-523-455	U	< 2.50	ug/kg			1.00	2.5		04/30/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**    D - Analyte was identified at a secondary dilution factor(inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria(inorg)  
**DDF = 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  
 C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL.(org)  
 X - Other flags/notes described in the comments/narrative(inorg)

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01050  
**Client ID:** B1V2L3

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/26/08  
**Received:** 04/15/08

**GPP** WSCF  
**TRENT**  
**Matrix:** SOIL

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>VOA Ground Water Protection</b>											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Trichloroethene	79-01-6	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Benzene	71-43-2	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Toluene	108-88-3	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Chlorobenzene	108-90-7	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Ethylbenzene	100-41-4	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Styrene	100-42-5	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
2-Hexanone	591-78-6	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Acetone	67-64-1	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Chloroform	67-66-3	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Bromomethane	74-83-9	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Chloromethane	74-87-3	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Chloroethane	75-00-3	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**                D - Analyte was identified at a secondary dilution factor(inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria(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  
 C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 X - Other flags/notes described in the comments/narrative.(inorg)

**Report WGPP/ver. 5.2**  
**Groundwater Remediation Program**

# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-043  
**Sample #:** W08GR01050  
**Client ID:** B1V2L3

**Group #:** WSCF20080801  
**Department:** Organic  
**Sampled:** 03/26/08  
**Received:** 04/15/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Vinyl chloride	75-01-4	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Methylenechloride	75-09-2	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Carbon disulfide	75-15-0	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Bromoform	75-25-2	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
2-Butanone	78-93-3	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Hexane	110-54-3	LA-523-455	U	< 1.10	ug/kg			1.00	1.1		05/28/08
Tetrahydrofuran	109-99-9	LA-523-455	U	< 2.30	ug/kg			1.00	2.3		05/28/08
Acetonitrile	75-05-8	LA-523-455	U	< 2.30	ug/kg			1.00	2.3		05/28/08

Matrix: SOIL

**MDL = Minimum Detection Limit**    B - The analyte < the RDL but > = the IDL/MDL (inorg)  
**RQ = Result Qualifier**            D - Analyte was identified at a secondary dilution factor (inorg)  
**TP Err = Total Propagated Error**    U - Analyzed for but not detected above limiting criteria (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

C - The Analyte was found in the Associated Blank. (inorg)  
 J - Analyte < lowest calibration but > = MDL. (org)  
 U - Analyzed for but not detected above limiting criteria.  
 X - Other flags/notes described in the comments/narrative. (inorg)

# WSCF TENTATIVELY IDENTIFIED PEAK REPORT

Attention:  
Project Number

Steve Trent  
F08-043 :F08-043

Group #:  
Department:

WSCF20080801  
Organic

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units	
W08GR01033	B1TDF2	GPP	TRENT	SW-846 8270C Semi-Vols	SMP 13.480 Di-n-butylphthalate	84-74-2	13.480008	1.9e+02	ug/kg
W08GR01036	B1TV15	GPP	TRENT	SW-846 8270C Semi-Vols	SMP 13.480 Di-n-butylphthalate	84-74-2	13.480001	8.4e+02	ug/kg
W08GR01037	B1TV19	GPP	TRENT	SW-846 8270C Semi-Vols	SMP 13.480 Di-n-butylphthalate	84-74-2	13.480003	7.1e+02	ug/kg
W08GR01038	B1VZL5	GPP	TRENT	SW-846 8270C Semi-Vols	SMP 13.496 Di-n-butylphthalate	84-74-2	13.49611	1.8e+02	ug/kg
W08GR01048	B1TV13	GPP	TRENT	VOA Ground Water Protection	SMP 7.442 Unknown	Unknown	7.442533	0.61	ug/kg
W08GR01048	B1TV13	GPP	TRENT	VOA Ground Water Protection	SMP 8.140 Unknown	Unknown	8.14025	4.2	ug/kg
W08GR01049	B1TV17	GPP	TRENT	VOA Ground Water Protection	SMP 7.445 Unknown	Unknown	7.445766	1.6	ug/kg
W08GR01049	B1TV17	GPP	TRENT	VOA Ground Water Protection	SMP 8.185 Unknown	Unknown	8.185283	0.65	ug/kg
W08GR01050	B1VZL3	GPP	TRENT	VOA Ground Water Protection	SMP 7.445 Unknown	Unknown	7.44575	2.6	ug/kg

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

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

Groundwater Remediation Program

WGPPE v 5.2 Report#: WSCF20080801

Report Date: 5-jun-2008

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: PCBs complete list

Sample Date: 03/31/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
<b>Lab ID: W08GR01033</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
MS	Aroclor-1260	11096-82-5	214.74	103.000	% Recov	75.000	125.000				05/06/08	
MS	Decachlorobiphenyl	2051-24-3	204.34	98.100	% Recov	50.000	150.000				05/06/08	
MS	Tetrachloro-m-xylene	877-09-8	195.45	93.800	% Recov	50.000	150.000				05/06/08	
MSD	Aroclor-1260	11096-82-5	213.48	106.000	% Recov	75.000	125.000				05/06/08	
MSD	Decachlorobiphenyl	2051-24-3	201.16	100.000	% Recov	50.000	150.000				05/06/08	
MSD	Tetrachloro-m-xylene	877-09-8	193.50	96.400	% Recov	50.000	150.000				05/06/08	
SPK-RPD	Aroclor-1260	11096-82-5	106.000		RPD			2.871	25.000		05/06/08	
SPK-RPD	Decachlorobiphenyl	2051-24-3	100.000		RPD			1.918	20.000		05/06/08	
SPK-RPD	Tetrachloro-m-xylene	877-09-8	96.400		RPD			2.734	20.000		05/06/08	
SURR	Decachlorobiphenyl	2051-24-3	194.01	95.000	% Recov	50.000	150.000				05/06/08	
SURR	Tetrachloro-m-xylene	877-09-8	176.22	86.300	% Recov	50.000	150.000				05/06/08	
<b>Lab ID: W08GR01036</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
SURR	Decachlorobiphenyl	2051-24-3	182.02	94.900	% Recov	50.000	150.000				05/06/08	
SURR	Tetrachloro-m-xylene	877-09-8	171.91	89.700	% Recov	50.000	150.000				05/06/08	
<b>Lab ID: W08GR01037</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
SURR	Decachlorobiphenyl	2051-24-3	185.41	97.100	% Recov	50.000	150.000				05/06/08	
SURR	Tetrachloro-m-xylene	877-09-8	178.69	93.500	% Recov	50.000	150.000				05/06/08	
<b>Lab ID: W08GR01038</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
SURR	Decachlorobiphenyl	2051-24-3	213.87	97.600	% Recov	50.000	150.000				05/06/08	
SURR	Tetrachloro-m-xylene	877-09-8	182.29	83.200	% Recov	50.000	150.000				05/06/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: PCBs complete list

Sample Date: 03/26/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
<b>BATCH QC</b>												
BLANK	Aroclor-1016	12674-11-2	< 10	n/a	UGKG					U	05/06/08	
BLANK	Aroclor-1221	11104-28-2	< 20	n/a	ug/Kg					U	05/06/08	
BLANK	Aroclor-1232	11141-16-5	< 10	n/a	ug/Kg					U	05/06/08	
BLANK	Aroclor-1242	53469-21-9	< 10	n/a	ug/Kg					U	05/06/08	
BLANK	Aroclor-1248	12672-29-6	< 10	n/a	ug/Kg					U	05/06/08	
BLANK	Aroclor-1254	11097-69-1	< 10	n/a	ug/Kg					U	05/06/08	
BLANK	Aroclor-1260	11096-82-5	< 10	n/a	ug/Kg					U	05/06/08	
BLANK	Aroclor-1262	37324-23-5	< 10	n/a	ug/Kg					U	05/06/08	
BLANK	Aroclor-1268	11100-14-4	< 10	n/a	ug/Kg					U	05/06/08	
BLANK	Decachlorobiphenyl	2051-24-3	191.10	95.600	% Recov	50.000	150.000				05/06/08	
BLANK	Tetrachloro-m-xylene	877-09-8	185.59	92.800	% Recov	50.000	150.000				05/06/08	
LCS	Aroclor-1260	11096-82-5	205.86	103.000	% Recov	70.000	130.000				05/06/08	
LCS	Decachlorobiphenyl	2051-24-3	198.16	99.100	% Recov	50.000	150.000				05/06/08	
LCS	Tetrachloro-m-xylene	877-09-8	185.66	92.800	% Recov	50.000	150.000				05/06/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

Sample Date: 03/31/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
<b>Lab ID: W08GR01033</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
SURR	2-Fluorophenol(Surr)	367-12-4	4317.1	103.000	% Recov	72.000	120.000				05/06/08	
SURR	2-Fluorobiphenyl(Surr)	321-60-8	4413.2	106.000	% Recov	66.000	122.000				05/06/08	
SURR	Nitrobenzene-d5(Surr)	4165-60-0	4455.9	107.000	% Recov	63.000	125.000				05/06/08	
SURR	Phenol-d5(Surr)	4165-62-2	4233.9	101.000	% Recov	66.000	124.000				05/06/08	
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	3876.7	92.900	% Recov	49.000	120.000				05/06/08	
SURR	Terphenyl-d14(Surr)	98904-43-9	4961.2	119.000	% Recov	58.000	128.000				05/06/08	
<b>Lab ID: W08GR01036</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
SURR	2-Fluorophenol(Surr)	367-12-4	9424.2	102.000	% Recov	72.000	120.000				05/06/08	
SURR	2-Fluorobiphenyl(Surr)	321-60-8	9626.7	104.000	% Recov	66.000	122.000				05/06/08	
SURR	Nitrobenzene-d5(Surr)	4165-60-0	9848.4	107.000	% Recov	63.000	125.000				05/06/08	
SURR	Phenol-d5(Surr)	4165-62-2	9755.0	106.000	% Recov	66.000	124.000				05/06/08	
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	8851.2	96.000	% Recov	49.000	120.000				05/06/08	
SURR	Terphenyl-d14(Surr)	98904-43-9	10995	119.000	% Recov	58.000	128.000				05/06/08	
<b>Lab ID: W08GR01037</b>												
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>												
SURR	2-Fluorophenol(Surr)	367-12-4	9651.8	102.000	% Recov	72.000	120.000				05/06/08	
SURR	2-Fluorobiphenyl(Surr)	321-60-8	9740.4	103.000	% Recov	66.000	122.000				05/06/08	
SURR	Nitrobenzene-d5(Surr)	4165-60-0	9969.7	105.000	% Recov	63.000	125.000				05/06/08	
SURR	Phenol-d5(Surr)	4165-62-2	9816.2	104.000	% Recov	66.000	124.000				05/06/08	
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	8521.1	90.200	% Recov	49.000	120.000				05/06/08	
SURR	Terphenyl-d14(Surr)	98904-43-9	11710	124.000	% Recov	58.000	128.000				05/06/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: **WSCF20080801**  
 Matrix: **SOLID**  
 Test: **SW-846 8270C Semi-Vols**

Sample Date: **03/26/08**  
 Receive Date: **04/15/08**

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date	
	<b>Lab ID: W08GR01038</b>											
	<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	1,2,4-Trichlorobenzene	120-82-1	4855.4	109.000	% Recov	75.000	121.000				05/06/08	
MS	1,4-Dichlorobenzene	106-46-7	4834.2	109.000	% Recov	68.000	121.000				05/06/08	
MS	2,4-Dinitrotoluene	121-14-2	4628.0	104.000	% Recov	66.000	113.000				05/06/08	
MS	2-Fluorophenol(Surr)	367-12-4	4428.8	99.900	% Recov	72.000	120.000				05/06/08	
MS	Acenaphthene	83-32-9	5009.1	113.000	% Recov	69.000	125.000				05/06/08	
MS	4-Chloro-3-methylphenol	59-50-7	7004.0	105.000	% Recov	68.000	116.000				05/06/08	
MS	2-Chlorophenol	95-57-8	6983.5	105.000	% Recov	65.000	124.000				05/06/08	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	4919.2	111.000	% Recov	69.000	127.000				05/06/08	
MS	2-Fluorobiphenyl(Surr)	321-60-8	4763.2	107.000	% Recov	66.000	122.000				05/06/08	
MS	Phenol	108-95-2	7009.8	105.000	% Recov	71.000	122.000				05/06/08	
MS	Nitrobenzene-d5(Surr)	4165-60-0	4747.5	107.000	% Recov	63.000	125.000				05/06/08	
MS	4-Nitrophenol	100-02-7	5908.3	88.800	% Recov	55.000	113.000				05/06/08	
MS	Pentachlorophenol	87-86-5	5767.6	86.700	% Recov	50.000	113.000				05/06/08	
MS	Phenol-d5(Surr)	4165-62-2	4699.5	106.000	% Recov	66.000	124.000				05/06/08	
MS	Pyrene	129-00-0	5508.6	124.000	% Recov	67.000	125.000				05/06/08	
MS	2,4,6-Tribromophenol(Surr)	118-79-6	4594.5	104.000	% Recov	49.000	120.000				05/06/08	
MS	Terphenyl-d14(Surr)	98904-43-9	5356.6	121.000	% Recov	58.000	128.000				05/06/08	
MSD	1,2,4-Trichlorobenzene	120-82-1	4965.4	112.000	% Recov	75.000	121.000				05/06/08	
MSD	1,4-Dichlorobenzene	106-46-7	4770.4	108.000	% Recov	68.000	121.000				05/06/08	
MSD	2,4-Dinitrotoluene	121-14-2	4720.4	107.000	% Recov	66.000	113.000				05/06/08	
MSD	2-Fluorophenol(Surr)	367-12-4	4652.6	105.000	% Recov	72.000	120.000				05/06/08	
MSD	Acenaphthene	83-32-9	5116.2	116.000	% Recov	69.000	125.000				05/06/08	
MSD	4-Chloro-3-methylphenol	59-50-7	7395.4	111.000	% Recov	68.000	116.000				05/06/08	
MSD	2-Chlorophenol	95-57-8	7185.2	108.000	% Recov	65.000	124.000				05/06/08	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	5172.5	117.000	% Recov	69.000	127.000				05/06/08	
MSD	2-Fluorobiphenyl(Surr)	321-60-8	4923.2	111.000	% Recov	66.000	122.000				05/06/08	
MSD	Phenol	108-95-2	7386.0	111.000	% Recov	71.000	122.000				05/06/08	

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: **WSCF20080801**  
 Matrix: **SOLID**  
 Test: **SW-846 8270C Semi-Vols**

Sample Date: **03/26/08**  
 Receive Date: **04/15/08**

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Nitrobenzene-d5(Surr)	4165-60-0	4904.8	111.000	% Recov	63.000	125.000				05/06/08
MSD	4-Nitrophenol	100-02-7	6615.4	99.700	% Recov	55.000	113.000				05/06/08
MSD	Pentachlorophenol	87-86-5	6594.1	99.300	% Recov	50.000	113.000				05/06/08
MSD	Phenol-d5(Surr)	4165-62-2	4740.8	107.000	% Recov	66.000	124.000				05/06/08
MSD	Pyrene	129-00-0	5471.2	124.000	% Recov	67.000	125.000				05/06/08
MSD	2,4,6-Tribromophenol(Surr)	118-79-6	4730.5	107.000	% Recov	49.000	120.000				05/06/08
MSD	Terphenyl-d14(Surr)	98904-43-9	5552.1	125.000	% Recov	58.000	128.000				05/06/08
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	112.000		RPD			2.715	20.000		05/06/08
SPK-RPD	1,4-Dichlorobenzene	106-46-7	108.000		RPD			0.922	20.000		05/06/08
SPK-RPD	2,4-Dinitrotoluene	121-14-2	107.000		RPD			2.844	20.000		05/06/08
SPK-RPD	2-Fluorophenol(Surr)	367-12-4	105.000		RPD			4.978	20.000		05/06/08
SPK-RPD	Acenaphthene	83-32-9	116.000		RPD			2.620	20.000		05/06/08
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	111.000		RPD			5.556	20.000		05/06/08
SPK-RPD	2-Chlorophenol	95-57-8	108.000		RPD			2.817	20.000		05/06/08
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	117.000		RPD			5.263	20.000		05/06/08
SPK-RPD	2-Fluorobiphenyl(Surr)	321-60-8	111.000		RPD			3.670	20.000		05/06/08
SPK-RPD	Phenol	108-95-2	111.000		RPD			5.556	20.000		05/06/08
SPK-RPD	Nitrobenzene-d5(Surr)	4165-60-0	111.000		RPD			3.670	20.000		05/06/08
SPK-RPD	4-Nitrophenol	100-02-7	99.700		RPD			11.565	20.000		05/06/08
SPK-RPD	Pentachlorophenol	87-86-5	99.300		RPD			13.548	20.000		05/06/08
SPK-RPD	Phenol-d5(Surr)	4165-62-2	107.000		RPD			0.939	20.000		05/06/08
SPK-RPD	Pyrene	129-00-0	124.000		RPD			0.000	20.000		05/06/08
SPK-RPD	2,4,6-Tribromophenol(Surr)	118-79-6	107.000		RPD			2.844	20.000		05/06/08
SPK-RPD	Terphenyl-d14(Surr)	98904-43-9	125.000		RPD			3.252	20.000		05/06/08
SURR	2-Fluorophenol(Surr)	367-12-4	4989.3	113.000	% Recov	72.000	120.000				05/06/08
SURR	2-Fluorobiphenyl(Surr)	321-60-8	4945.3	112.000	% Recov	66.000	122.000				05/06/08
SURR	Nitrobenzene-d5(Surr)	4165-60-0	5069.1	115.000	% Recov	63.000	125.000				05/06/08
SURR	Phenol-d5(Surr)	4165-62-2	4974.2	113.000	% Recov	66.000	124.000				05/06/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	4336.3	98.200	% Recov	49.000	120.000				05/06/08
SURR	Terphenyl-d14(Surr)	98904-43-9	5578.4	126.000	% Recov	58.000	128.000				05/06/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

Sample Date: 03/26/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>BATCH QC</b>											
BLANK	1,2,4-Trimethylbenzene	95-63-6	< 180	n/a	ug/Kg					U	05/06/08
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 140	n/a	ug/Kg					U	05/06/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 240	n/a	ug/Kg					U	05/06/08
BLANK	2,4-Dinitrotoluene	121-14-2	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2-Fluorophenol(Surr)	367-12-4	3245.6	81.100	% Recov	72.000	120.000				05/06/08
BLANK	Acenaphthene	83-32-9	< 140	n/a	ug/Kg					U	05/06/08
BLANK	4-Chloro-3-methylphenol	59-50-7	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2-Chlorophenol	95-57-8	< 140	n/a	ug/Kg					U	05/06/08
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2-Fluorobiphenyl(Surr)	321-60-8	3223.3	80.600	% Recov	66.000	122.000				05/06/08
BLANK	Phenol	108-95-2	< 140	n/a	ug/Kg					U	05/06/08
BLANK	Nitrobenzene-d5(Surr)	4165-60-0	3268.5	81.700	% Recov	63.000	125.000				05/06/08
BLANK	4-Nitrophenol	100-02-7	< 200	n/a	ug/Kg					U	05/06/08
BLANK	Pentachlorophenol	87-86-5	< 200	n/a	ug/Kg					U	05/06/08
BLANK	Phenol-d5(Surr)	4165-62-2	3227.2	80.700	% Recov	66.000	124.000				05/06/08
BLANK	Pyrene	129-00-0	< 140	n/a	ug/Kg					U	05/06/08
BLANK	Tributyl phosphate	126-73-8	< 140	n/a	ug/Kg					U	05/06/08
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	2693.6	67.300	% Recov	49.000	120.000				05/06/08
BLANK	Terphenyl-d14(Surr)	98904-43-9	3511.7	87.800	% Recov	58.000	128.000				05/06/08
LCS	1,2,4-Trichlorobenzene	120-82-1	4451.0	111.000	% Recov	76.000	118.000				05/06/08
LCS	1,4-Dichlorobenzene	106-46-7	4474.7	112.000	% Recov	68.000	121.000				05/06/08
LCS	2,4-Dinitrotoluene	121-14-2	4243.3	106.000	% Recov	68.000	112.000				05/06/08
LCS	2-Fluorophenol(Surr)	367-12-4	4399.7	110.000	% Recov	50.000	110.000				05/06/08
LCS	Acenaphthene	83-32-9	4541.2	114.000	% Recov	75.000	121.000				05/06/08
LCS	4-Chloro-3-methylphenol	59-50-7	6574.7	110.000	% Recov	68.000	117.000				05/06/08
LCS	2-Chlorophenol	95-57-8	6755.2	113.000	% Recov	84.000	114.000				05/06/08
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	4533.2	113.000	% Recov	76.000	119.000				05/06/08
LCS	2-Fluorobiphenyl(Surr)	321-60-8	4304.0	107.600	% Recov	58.000	109.000				05/06/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: SW-846 8270C Semi-Vols

Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Phenol	108-95-2	6775.8	112.930	% Recov	80.000	113.000				05/06/08
LCS	Nitrobenzene-d5(Surr)	4165-60-0	4479.7	112.000	% Recov	60.000	118.000				05/06/08
LCS	4-Nitrophenol	100-02-7	5440.8	90.700	% Recov	42.000	123.000				05/06/08
LCS	Pentachlorophenol	87-86-5	5921.1	98.700	% Recov	55.000	120.000				05/06/08
LCS	Phenol-d5(Surr)	4165-62-2	4489.2	112.000	% Recov	59.000	116.000				05/06/08
LCS	Pyrene	129-00-0	4837.4	120.935	% Recov	67.000	122.000				05/06/08
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	4078.1	102.000	% Recov	60.000	120.000				05/06/08
LCS	Terphenyl-d14(Surr)	98904-43-9	4723.9	118.097	% Recov	60.000	120.000				05/06/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date: 03/31/08  
 Receive Date: 04/15/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01033</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	ortho-Terphenyl Surr	84-15-1	20184	96.500	% Recov	70.000	130.000				05/05/08
<b>Lab ID: W08GR01036</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	ortho-Terphenyl Surr	84-15-1	43209	91.200	% Recov	70.000	130.000				05/05/08
<b>Lab ID: W08GR01037</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	ortho-Terphenyl Surr	84-15-1	42654	89.100	% Recov	70.000	130.000				05/05/08
<b>Lab ID: W08GR01038</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	ortho-Terphenyl Surr	84-15-1	16833	75.600	% Recov	70.000	130.000				05/05/08
<b>Lab ID: W08GR01053</b> <b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	ortho-Terphenyl Surr	84-15-1	20260	101.000	% Recov	70.000	130.000				05/05/08
MS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	111020	110.000	% Recov	75.000	125.000				05/05/08
MSD	ortho-Terphenyl Surr	84-15-1	19493	97.700	% Recov	70.000	130.000				05/05/08
MSD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	107400	108.000	% Recov	75.000	125.000				05/05/08
SPK-RPD	ortho-Terphenyl Surr	84-15-1	97.700		RPD			3.322	20.000		05/05/08
SPK-RPD	Total Pet. Hydrocarbons Diesel	TPHDIESEL	108.000		RPD			1.835	20.000		05/05/08
<b>BATCH QC</b>											
BLANK	Kerosene	TPHKEROSENE	< 3000	n/a	ug/Kg					U	05/05/08
BLANK	ortho-Terphenyl Surr	84-15-1	16572	82.900	% Recov	70.000	130.000				05/05/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: NWTPH-D TPH Diesel Range (Wa)

Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Total Pet. Hydrocarbons Diesel	TPHDIESEL	< 3000	n/a	ug/Kg					U	05/05/08
LCS	ortho-Terphenyl Surr	84-15-1	19214	96.100	% Recov	70.000	130.000				05/05/08
LCS	Total Pet. Hydrocarbons Diesel	TPHDIESEL	98085	98.100	% Recov	80.000	120.000				05/05/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: **WSCF20080801**  
 Matrix: **SOLID**  
 Test: **VOA Ground Water Protection**

Sample Date: **03/11/08**  
 Receive Date: **04/15/08**

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR01048</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	45.900	91.800	% Recov	75.000	125.000		125.000		04/30/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	54.290	109.000	% Recov	75.000	125.000		125.000		04/30/08
SURR	Toluene-d8(Surr)	2037-26-5	47.250	94.500	% Recov	80.000	126.000		126.000		04/30/08
<b>Lab ID: W08GR01049</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	58.680	93.900	% Recov	75.000	125.000		125.000		04/30/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	63.730	102.000	% Recov	75.000	125.000		125.000		04/30/08
SURR	Toluene-d8(Surr)	2037-26-5	59.540	95.300	% Recov	80.000	126.000		126.000		04/30/08
<b>Lab ID: W08GR01050</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	4-Bromofluorobenzene(Surr)	460-00-4	56.450	99.400	% Recov	75.000	125.000		125.000		05/28/08
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	62.830	111.000	% Recov	75.000	125.000		125.000		05/28/08
SURR	Toluene-d8(Surr)	2037-26-5	57.550	101.000	% Recov	80.000	126.000		126.000		05/28/08
<b>Lab ID: W08GR01076</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	1,1-Dichloroethene	75-35-4	24.260	96.200	% Recov	63.000	117.000		117.000		04/30/08
MS	Benzene	71-43-2	25.130	99.700	% Recov	75.000	129.000		129.000		04/30/08
MS	4-Bromofluorobenzene(Surr)	460-00-4	52.210	104.000	% Recov	75.000	125.000		125.000		04/30/08
MS	Chlorobenzene	108-90-7	25.890	103.000	% Recov	79.000	119.000		119.000		04/30/08
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	53.060	105.000	% Recov	75.000	125.000		125.000		04/30/08
MS	Toluene-d8(Surr)	2037-26-5	50.470	100.000	% Recov	75.000	125.000		125.000		04/30/08
MS	Toluene	108-88-3	25.700	102.000	% Recov	76.000	120.000		120.000		04/30/08
MS	Trichloroethene	79-01-6	22.510	89.300	% Recov	73.000	123.000		123.000		04/30/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20080801  
 Matrix: SOLID  
 Test: VOA Ground Water Protection

Sample Date: 04/17/08  
 Receive Date: 04/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	1,1-Dichloroethane	75-35-4	24.250	104.000	% Recov	63.000	117.000				04/30/08
MSD	Benzene	71-43-2	22.360	95.600	% Recov	75.000	129.000				04/30/08
MSD	4-Bromofluorobenzene(Surr)	460-00-4	49.240	105.000	% Recov	75.000	125.000				04/30/08
MSD	Chlorobenzene	108-90-7	23.340	99.800	% Recov	79.000	119.000				04/30/08
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	49.840	107.000	% Recov	75.000	125.000				04/30/08
MSD	Toluene-d8(Surr)	2037-26-5	46.670	99.800	% Recov	75.000	125.000				04/30/08
MSD	Toluene	108-88-3	22.930	98.100	% Recov	76.000	120.000				04/30/08
MSD	Trichloroethane	79-01-6	20.320	86.900	% Recov	73.000	123.000				04/30/08
SPK-RPD	1,1-Dichloroethane	75-35-4	104.000		RPD			7.792	20.000		04/30/08
SPK-RPD	Benzene	71-43-2	95.600		RPD			4.199	20.000		04/30/08
SPK-RPD	4-Bromofluorobenzene(Surr)	460-00-4	105.000		RPD			0.957	20.000		04/30/08
SPK-RPD	Chlorobenzene	108-90-7	99.800		RPD			3.156	20.000		04/30/08
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	107.000		RPD			1.887	20.000		04/30/08
SPK-RPD	Toluene-d8(Surr)	2037-26-5	99.800		RPD			0.200	20.000		04/30/08
SPK-RPD	Toluene	108-88-3	98.100		RPD			3.898	20.000		04/30/08
SPK-RPD	Trichloroethane	79-01-6	86.900		RPD			2.724	20.000		04/30/08
<b>BATCH QC</b>											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,1-Dichloroethane	75-35-4	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,2-Dichloroethane(Total)	540-59-0	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/Kg					U	04/30/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: **WSCF20080801**  
 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	4-Bromofluorobenzene(Surr)	460-00-4	52.180	104.000	% Recov	75.000	125.000			U	04/30/08
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.460	101.000	% Recov	75.000	125.000			U	04/30/08
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Hexane	110-54-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Tetrahydrofuran	109-99-9	< 2.0	n/a	ug/Kg					U	04/30/08
BLANK	Toluene-d8(Surr)	2037-26-5	49.650	99.300	% Recov	80.000	126.000			U	04/30/08
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/Kg					U	04/30/08
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/Kg					U	04/30/08
LCS	1,1-Dichloroethene	75-35-4	22.470	89.900	% Recov	75.000	125.000			U	04/30/08
LCS	Benzene	71-43-2	24.120	96.500	% Recov	75.000	125.000			U	04/30/08
LCS	4-Bromofluorobenzene(Surr)	460-00-4	52.080	104.000	% Recov	75.000	125.000			U	04/30/08
LCS	Chlorobenzene	108-90-7	25.410	102.000	% Recov	75.000	125.000			U	04/30/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20080801  
 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
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.500	101.000	% Recov	75.000	125.000				04/30/08
LCS	Toluene-d8(Surr)	2037-26-5	50.480	101.000	% Recov	80.000	126.000				04/30/08
LCS	Toluene	108-88-3	25.030	100.000	% Recov	75.000	125.000				04/30/08
LCS	Trichloroethene	79-01-6	21.580	86.300	% Recov	75.000	125.000				04/30/08

M4W41-SLF-08-614

ATTACHMENT 5

**SAMPLE RECEIPT INFORMATION**

Consisting of 18 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#: 123215/ES20  
Group#: 20080801  
Project#: F08-043  
Proj Mgr: Steve Trent E6-35  
Phone: 373-5869

The following samples were received from you on 04/15/08. 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
W08GR01033	B1TDF2	GPP @2008 @GEA-GPP	TRENT Solid, or handle as if solid @AEA-30 @AEA-31 @AEA-32 @AEA-33 @IC-30 @PCBGPP @SR89_90 @SVOCGPP @TPHI	03/31/08
W08GR01036	B1TV15	GPP @2008 @GEA-GPP	TRENT Solid, or handle as if solid @AEA-30 @AEA-31 @AEA-32 @AEA-33 @IC-30 @PCBGPP @SR89_90 @SVOCGPP @TPHI	03/11/08
W08GR01037	B1TV19	GPP @2008 @GEA-GPP	TRENT Solid, or handle as if solid @AEA-30 @AEA-31 @AEA-32 @AEA-33 @IC-30 @PCBGPP @SR89_90 @SVOCGPP @TPHI	03/12/08
W08GR01038	B1V2L5	GPP @2008 @GEA-GPP	TRENT Solid, or handle as if solid @AEA-30 @AEA-31 @AEA-32 @AEA-33 @IC-30 @PCBGPP @SR89_90 @SVOCGPP @TPHI	03/26/08
W08GR01043	B1TDF1	GPP	TRENT Solid, or handle as if solid	03/31/08
W08GR01044	B1TV14	GPP	TRENT Solid, or handle as if solid	03/11/08
W08GR01045	B1TV18	GPP	TRENT Solid, or handle as if solid	03/12/08
W08GR01046	B1V2L4	GPP	TRENT Solid, or handle as if solid	03/26/08
W08GR01047	B1TDF0	GPP	TRENT Solid, or handle as if solid	03/31/08
W08GR01048	B1TV13	GPP @VOA-GPP	TRENT Solid, or handle as if solid	03/11/08
W08GR01049	B1TV17	GPP @VOA-GPP	TRENT Solid, or handle as if solid	03/12/08
W08GR01050	B1V2L3	GPP @VOA-GPP	TRENT Solid, or handle as if solid	03/26/08

Test Acronym Description

Test Acronym	Description
--------------	-------------

---

Groundwater Remediation Program

Richland, WA 99354  
Attn: Steve Trent

Customer Code: GPP  
PO#: 123215/ES20  
Group#: 20080801  
Project#: F08-043  
Proj Mgr: Steve Trent E6-35  
Phone: 373-5869

---

Test Acronym Description

---

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@AEA-32	Uranium Isotopics by AEA
@AEA-33	Neptunium by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@IC-30	Anions by Ion Chromatography
@PCBGPP	PCBs complete list
@SR89_90	Strontium 89/90
@SVOCGPP	SW-846 8270C Semi-Vols
@TPHD-WA	NWTPH-D TPH Diesel Range (Wa)
@VOA-GPP	VOA Ground Water Protection
PH-30	pH Soil and Waste Measurement



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Fluor Hanford Inc.

<b>COLLECTOR</b> NCO Sampler	<b>COMPANY CONTACT</b> TRENT, SJ	<b>TELEPHONE NO.</b> 373-5869	<b>PROJECT COORDINATOR</b> WIDRIG, DL	<b>PRICE CODE</b> 8N	<b>DATA TURNAROUND</b> 45 Days / 45 Days
<b>SAMPLING LOCATION</b> C5941, I-049	<b>PROJECT DESIGNATION</b> 216-A-30 Crib Sampling	<b>SAF NO.</b> F08-043	<b>COA</b> 123215ES20	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>METHOD OF SHIPMENT</b> GOVERNMENT VEHICLE
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>BILL OF LADING/AIR BILL NO.</b> N/A		

**SHIPPED TO**  
Waste Sampling & Characterization

**OFFSITE PROPERTY NO.**  
N/A

**SPECIAL INSTRUCTIONS**

\*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.\*\* All VOA samples will be collected using EPA Method 5035A.

(1)Semi-VOA - 8270B (Add-On) (1,2,4-Trimethylbenzene, Tributyl phosphate)  
 (2)TPH-DieselKerosene Range - WTPH-D (Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range)  
 (3)ICP/MS - 200.8 (TAL) (Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc) ICP/MS - 200.8 (Add-on) (Arsenic, Beryllium, Lead, Selenium)  
 (4)IC Anions - 300.0 (Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate)  
 (5)Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226) Gamma Spec - Add-on (Niobium-94, Radium-228) Isotopic Uranium; Neptunium-237; Strontium-90 -- Total Sr; Isotopic Plutonium; Americium-241 (Americium-241)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Fluor Hanford Inc.

COLLECTOR: NCO Sampler *psf*  
 COMPANY CONTACT: TRENT, SJ  
 TELEPHONE NO.: 373-5869  
 PROJECT COORDINATOR: WIDRIG, DL  
 PRICE CODE: 8N  
 DATA TURNAROUND: 45 Days / 45 Days

SAMPLING LOCATION: C5941, I-SSP-001  
 PROJECT DESIGNATION: 216-A-30 Crib Sampling  
 SAF NO.: F08-043  
 AIR QUALITY:

ICE CHEST NO.:  
 FIELD LOGBOOK NO.:  
 ACTUAL SAMPLE DEPTH: 18.1'-20.6'  
 COA: 123215ES10  
 METHOD OF SHIPMENT: GOVERNMENT VEHICLE

SHIPPED TO: Waste Sampling & Characterization  
 OFFSITE PROPERTY NO.: N/A  
 BILL OF LADING/AIR BILL NO.: N/A

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SPECIAL HANDLING AND/OR STORAGE
A=Air DL=Drum L=Liquid 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	aG	1	120ml	
		Cool--4C	aG	1	120ml	
		Cool--4C	aG	1	120ml	
		Cool--4C	G/P	1	120ml	
		Cool--4C	G/P	1	120ml	
		Cool--4C	Square Bottle - Poly	1	500ml	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	SPECIAL INSTRUCTIONS
B1V15	SOIL	3-11-08	1250	

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SPECIAL INSTRUCTIONS
<i>T. Pope</i>	3-11-08	<i>Site RMA</i>	3-11-08 1345	(1) Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
<i>S. R. P.</i>	4-15-08	<i>D. Paruch</i>	4-15-08	(2) TPH-Diesel/Kerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
<i>D. Paruch</i>	4-15-08	<i>Victor KMS</i>	4-15-08	(3) ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc}
				(4) IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
				(5) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94, Radium-228} Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
01			
01			
108			

**COLLECTOR** R.F. STOKER WIFE'S FULLER **COMPANY CONTACT** TRENT, S) **TELEPHONE NO.** 373-5869 **PROJECT COORDINATOR** WIDRIG, DL **PRICE CODE** 8N **DATA TURNAROUND** 45 Days / 45 Days

**SAMPLING LOCATION** C5941, 1-SSP-0042 94 31008 **PROJECT DESIGNATION** 216-A-30 Crib Sampling **SAF NO.** F08-043 **AIR QUALITY**  **METHOD OF SHIPMENT** GOVERNMENT VEHICLE

**ICE CHEST NO.** **FIELD LOGBOOK NO.** **ACTUAL SAMPLE DEPTH** **COA** 123215ES10 **BILL OF LADING/AIR BILL NO.** N/A

**SHIPPED TO** Waste Sampling & Characterization **OFFSITE PROPERTY NO.** N/A

**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**

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS
B1V19	W08B20057 SOIL	3/12/08	1253	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	PCBs - 8082;	G/P	G/P	500ml
						ag	ag	120ml
						ag	ag	120ml
						ag	ag	120ml

**CHAIN OF POSSESSION** Lot # 024815

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SIGN/PRINT NAMES	SPECIAL INSTRUCTIONS
R.F. STOKER / 3/12/08	1410	MO SOR FRIDGE	3/12/08		(1) Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
RELINQUISHED BY/REMOVED FROM					(2) TPH-Diesel/Kerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
MO SOR RFA	4-15-08	D. PARSONS	4-15-08		(3) ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc}
RELINQUISHED BY/REMOVED FROM					(4) IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
D. PARSONS	4-15-08	Victor Sims	4/15/08		(5) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94, Radium-228}
RELINQUISHED BY/REMOVED FROM					Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RELINQUISHED BY/REMOVED FROM					
RECEIVED BY					
DISPOSAL METHOD					



F08-043-178

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

PROJECT COORDINATOR

PRICE CODE 8N

AIR QUALITY

METHOD OF SHIPMENT

GOVERNMENT VEHICLE

<b>COLLECTOR</b> NCO Sampler	<b>COMPANY CONTACT</b> TRENT, SJ	<b>TELEPHONE NO.</b> 373-5869	<b>PROJECT COORDINATOR</b> WIDRIG, DL	<b>PRICE CODE</b> 8N	<b>DATA TURNAROUND</b> 45 Days / 45 Days
<b>SAMPLING LOCATION</b> C5941, I-SSP-003	<b>PROJECT DESIGNATION</b> 216-A-30 Crib Sampling	<b>SAF NO.</b> F08-043	<b>SAF NO.</b> F08-043	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> HNF-N-585-2	<b>ACTUAL SAMPLE DEPTH</b> 105.5' - 108.0'	<b>COA</b> 123215ES10		
<b>SHIPPED TO</b> Waste Sampling & Characterization	<b>OFFSITE PROPERTY NO.</b> N/A		<b>BILL OF LADING/AIR BILL NO.</b> N/A		

**SPECIAL INSTRUCTIONS**

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

(1)Semi-VOA - 82708 (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}

(2)TPH-Diesel/Kerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}

(3)ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium} 200.8\_HG - ICPMS;

(4)IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate} Conductivity - 9050 {Specific Conductance} pH (Soil) - 9045 {pH Measurement}

(5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94, Radium-228} isotopic Uranium, Neptunium-237; Strontium-89,90 -- Total Sr; isotopic Plutonium; Americium-241 {Americium-241}



COLLECTOR: NCO Sampler  
 COMPANY CONTACT: TRENT, SJ  
 TELEPHONE NO.: 373-5869  
 PROJECT COORDINATOR: WIDRIG, DL  
 DATA TURNAROUND: 45 Days / 45 Days

SAMPLING LOCATION: C5941, I-55P-001  
 PROJECT DESIGNATION: 216-A-30 Crib Sampling  
 SAF NO.: F08-043  
 AIR QUALITY:  8N  
 PRICE CODE: 8N  
 METHOD OF SHIPMENT: GOVERNMENT VEHICLE

ICE CHEST NO.:  
 FIELD LOGBOOK NO.:  
 ACTUAL SAMPLE DEPTH: 18.1' - 20.6'  
 COA: 123215ES10  
 BILL OF LADING/AIR BILL NO.: N/A

SHIPPED TO: Waste Sampling & Characterization  
 MATRIX\*: A=Air, DL=Drum, Liquids, DS=Drum, Solids, L=Liquid, O=Oil, S=Soil, SF=Sediment, T=Tissue, V=Vegetation, W=Water, WI=Wipe, X=Other  
 PRESERVATION: Cool-to-4C  
 TYPE OF CONTAINER: aGs\*

NO. OF CONTAINER(S): 1  
 VOLUME: 40ml  
 SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE:  
 SAMPLE ANALYSIS:

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1TV14 W. 08600 1044 SOIL		3-11-08	1250 X

ICED

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J.S. APPEL/967M	3-11-08	Site RMA	3-11-08 1345
S. + R. P. [Signature]	4-15-08	D. P. Arch	4-15-08
D. P. Arch	4-15-08	TAPAZI M	4-15-08 1400

Lot # 939150  
 SPECIAL INSTRUCTIONS: (1)VOA - 5035/8260 (TCL); VOA - 5035/8260 - (Add-On) (Acetonitrile, Hexane, Tetrahydrofuran)

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TITLE
86				
LABORATORY SECTION				
9				
10				
DISPOSITION				

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

PROJECT COORDINATOR  
WIDRIG, DL

TELEPHONE NO.  
373-5869

COMPANY CONTACT  
TRENT, SJ

PROJECT DESIGNATION  
216-A-30 Crib Sampling

SAF NO.  
F08-043

PRICE CODE  
8N

AIR QUALITY

METHOD OF SHIPMENT  
GOVERNMENT VEHICLE

ACTUAL SAMPLE DEPTH

FIELD LOGBOOK NO.

OFFSITE PROPERTY NO.  
N/A

BILL OF LADING/AIR BILL NO.  
N/A

COLECTOR  
NCO Sampler

SAMPLING LOCATION  
C5941, 1-SSP-002-95-3-16-08

ICE CHEST NO.

Waste Sampling & Characterization

MATRIX\*  
A=Air  
DI=Drum  
Liquids  
DS=Drum  
Solids  
L=Liquid  
O=Oil  
S=Soil  
SE=Sediment  
T=Tissue  
V=Vegetation  
W=Water  
W1=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)

PRESERVATION  
Cool-to-C

TYPE OF CONTAINER  
aGs\*

NO. OF CONTAINER(S)  
1

VOLUME  
40mL

SAMPLE ANALYSIS

SAMPLE DATE  
3/12/08

MATRIX\*  
SOIL

SPECIAL HANDLING AND/OR STORAGE

SIGN/ PRINT NAMES

RECEIVED BY/STORED IN  
NO SO9 Ridge 3-12-08

DATE/TIME  
1410

RECEIVED BY/STORED IN  
D. Parsh Dwyer

DATE/TIME  
4-15-08

RECEIVED BY/STORED IN  
TA FIAZ/IN Jervis, Jy

DATE/TIME  
4-15-08

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RECEIVED BY

ICED

SPECIAL INSTRUCTIONS

(1)VOA - 5035/8260 (TCL); VOA - 5035/8260 - (Add-On) (Acetonitrile, Hexane, Tetrahydrofuran)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

<b>COLLECTOR</b> NCO Sampler <i>Herbert Herrik</i>		<b>COMPANY CONTACT</b> TRENT, SJ		<b>TELEPHONE NO.</b> 373-5869		<b>PROJECT COORDINATOR</b> WIDRIG, DL		<b>PRICE CODE</b> 8N		<b>DATA TURNAROUND</b> 45 Days / 45 Days	
<b>SAMPLING LOCATION</b> C5941, I-SSP-003		<b>PROJECT DESIGNATION</b> 216-A-30 Crib Sampling		<b>SAF NO.</b> F08-043		<b>AIR QUALITY</b> <input type="checkbox"/>		<b>METHOD OF SHIPMENT</b> GOVERNMENT VEHICLE			
<b>ICE CHEST NO.</b> HNF-N-585-2		<b>FIELD LOGBOOK NO.</b> N/A		<b>ACTUAL SAMPLE DEPTH</b> 105.5' 108.0'		<b>COA</b> 123215ES10					
<b>SHIPPED TO</b> Waste Sampling & Characterization		<b>OFFSITE PROPERTY NO.</b> N/A		<b>BILL OF LADING/AIR BILL NO.</b> N/A							
<b>MATRIX*</b> A=Air DL=Drum L=Liquid DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		<b>PRESERVATION</b> Cool-4C		<b>TYPE OF CONTAINER</b> aGs*		<b>NO. OF CONTAINER(S)</b> 1		<b>VOLUME</b> 40ml		<b>SAMPLE ANALYSIS</b> SEE ITEM (1) IN SPECIAL INSTRUCTIONS	
<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> 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)		<b>SPECIAL HANDLING AND/OR STORAGE</b> Radioactive tie to B1V2L2		<b>SAMPLE DATE</b> 3-26-08		<b>SAMPLE TIME</b> 1415		<b>X</b>		<b>ICED</b>	
<b>SAMPLE NO.</b> B1V2L4 108661546 SOIL		<b>MATRIX*</b>		<b>SIGN/ PRINT NAMES</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>		<b>SPECIAL INSTRUCTIONS</b>	
<b>RELINQUISHED BY/REMOVED FROM</b> DW 4113/Deli Well		<b>DATE/TIME</b> 3-26-08/1500		MC 509 FRIKLE		RECEIVED BY/STORED IN		DATE/TIME		** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GK1 applies to this SAF. (1)VOA - 5035/8260 (TCL); VOA - 5035/8260 - (Add-On) (Acetonitrile, Hexane, Tetrahydrofuran)	
<b>RELINQUISHED BY/REMOVED FROM</b> PRO SOA REF		<b>DATE/TIME</b> 4-15-08 1400		D. Parsh		RECEIVED BY/STORED IN		DATE/TIME			
<b>RELINQUISHED BY/REMOVED FROM</b> J. Parsh		<b>DATE/TIME</b> 4-15-08		JA #1421M		RECEIVED BY/STORED IN		DATE/TIME			
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		RECEIVED BY/STORED IN		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME	
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		RECEIVED BY/STORED IN		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME	
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		RECEIVED BY/STORED IN		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME	
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		RECEIVED BY/STORED IN		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME	
<b>LABORATORY SECTION</b> 8		<b>RECEIVED BY</b>		<b>TITLE</b>		<b>DATE/TIME</b>		<b>DATE/TIME</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b> 1		<b>DISPOSAL METHOD</b>		<b>DISPOSED BY</b>		<b>DATE/TIME</b>		<b>DATE/TIME</b>		<b>DATE/TIME</b>	

**COLLECTOR** WBS, KAUR, HORTZLIK  
**COMPANY CONTACT** TRENT, SJ  
**TELEPHONE NO.** 373-5869  
**PROJECT COORDINATOR** WIDRIG, DL  
**PRICE CODE** 8N  
**DATA TURNAROUND** 45 Days / 45 Days  
**SAMPLING LOCATION** C5941, I-049  
**PROJECT DESIGNATION** 216-A-30 Crib Sampling  
**SAF NO.** F08-043  
**AIR QUALITY**

**ICE CHEST NO.**  
**ACTUAL SAMPLE DEPTH** 122.5' - 125'  
**METHOD OF SHIPMENT** GOVERNMENT VEHICLE  
**SHIPPED TO** Waste Sampling & Characterization  
**OFFSITE PROPERTY NO.** N/A  
**FIELD LOGBOOK NO.** HNF-N-5852  
**COA** 123215ES20  
**BILL OF LADING/AIR BILL NO.** N/A

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SPECIAL HANDLING AND/OR STORAGE
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	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 <-7C and MEH/Cool-4 >-20C	agS*	5	40ml	Radioactive tie to BITDDB8
				3	40ml	

ICED

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1TDF0	W. 08620 1047 SOIL	3-31-08	1620

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
D. M. WBS/D. W. K.	3-31-08/1104	M. C. 509 F. J. D. G.	3-31-08/1104		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. C. 509 R. W. F.	4-15-08	D. P. A. R. C. U.	4-15-08		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
D. P. A. R. C. U.	4-15-08	V. I. T. A. R. / S. I. S.	4-15-08		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

**SPECIAL INSTRUCTIONS**  
 \*\* The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to 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 included as part of the sample ID reported in the final data packages.  
 (1) VOA - 5035/8260 (LOW LEVEL); VOA - 5035/8260 (LOW LEVEL) - (Add-On) (Acetonitrile, Hexane, Tetrahydrofuran)  
 (2) VOA - 5035/8260 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) (Acetonitrile, Hexane, Tetrahydrofuran)

COLLECTOR: NCO Sampler  
 COMPANY CONTACT: TRENT, SJ  
 TELEPHONE NO.: 373-5869  
 PROJECT COORDINATOR: WIDRIG, DL  
 DATA TURNAROUND: 45 Days / 45 Days  
 PRICE CODE: 8N  
 AIR QUALITY:   
 METHOD OF SHIPMENT: GOVERNMENT VEHICLE  
 SAF NO.: F08-043  
 COA: 123215ES10  
 BILL OF LADING/AIR BILL NO.: N/A

SHIPPED TO: Waste Sampling & Characterization  
 OFFSITE PROPERTY NO.: N/A  
 ACTUAL SAMPLE DEPTH: 18.1' - 20.6'

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
A=Air DL=Drum L=Liquid 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 < -7C and MEQH/Cool ~ -4 > -20C	aGs*	5	40mL	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
			aGs*	3	40mL	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

ICED

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1TV13	SOIL	3-11-08	1250

SPECIAL HANDLING AND/OR STORAGE: NONE  
 SPECIAL INSTRUCTIONS: (1)VOA - 5035/8260 (LOW LEVEL); VOA - 5035/8260 (LOW LEVEL) - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran} (2)VOA - 5035/8260 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran}

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J.S. [Signature]	3-11-08 1345	Site KMA Bridge	3-11-08 1345
Site [Signature]	4-15-08	SPAR	4-15-08
D.P. [Signature]	4-15-08	V. [Signature]	4/15/08 14:00

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

LABORATORY SECTION: 100  
 RECEIVED BY: [Signature]  
 TITLE: [Blank]  
 DATE/TIME: [Blank]

FINAL SAMPLE DISPOSITION: 100  
 DISPOSAL METHOD: [Blank]  
 DATE/TIME: [Blank]





<b>COLLECTOR</b> NCO Sampler	<b>COMPANY CONTACT</b> TRENT, SJ	<b>TELEPHONE NO.</b> 373-5869	<b>PROJECT COORDINATOR</b> WIDRIG, DL	<b>PRICE CODE</b> 8N	<b>DATA TURNAROUND</b> 45 Days / 45 Days
<b>SAMPLING LOCATION</b> C5941, I-SSP-003	<b>PROJECT DESIGNATION</b> 216-A-30 Crfb Sampling		<b>SAF NO.</b> F08-043	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> HVF-N-585-2	<b>ACTUAL SAMPLE DEPTH</b> 105.5' - 108.0'	<b>COA</b> 123215ES10	<b>METHOD OF SHIPMENT</b> GOVERNMENT VEHICLE	
<b>SHIPPED TO</b> Waste Sampling & Characterization	<b>OFFSITE PROPERTY NO.</b> N/A	<b>BILL OF LADING/AIR BILL NO.</b> N/A			

**ICED**

**SPECIAL INSTRUCTIONS**

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

\*\* Analytical batch QC must be run on a sample associated with this SAF.

\*\* All VOA samples will be collected using EPA Method 5035A.

\*\* VOA sample bottle sets will include 3 bottles for high level analysis, 5 bottles for low level analysis, and 1 methanol process control sample.

\*\* The laboratory is to use one of the low level VOA bottles for moisture content determination.

\*\* VOA bottles will be labeled with an appended suffix of K, L, M, N, or P for low level and W, X, or Y for high level. These suffixes are for the purpose of providing bottle weights to the laboratories. These suffixes should not be include as part of the sample ID reported in the final data packages.

(1)VOA - 5035/8260 (LOW LEVEL); VOA - 5035/8260 (LOW LEVEL) - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran}

(2)VOA - 5035/8260 (HIGH LEVEL); VOA - 5035/8260 (HIGH LEVEL) - (Add-On) {Acetonitrile, Hexane, Tetrahydrofuran}

M4W41-SLF-08-614

ATTACHMENT 6

**SAMPLE RECORD SHEET**

Consisting of 5 pages  
Including cover page

CS941, I-SSP-001 (18.1'-20.6')

**SAMPLE RECORD SHEET**

Sample Number	Sample Suffix <sup>1</sup>	Empty Weight <sup>2</sup> (g)	Weight with Sample <sup>3</sup> (g)	Weight of Sample <sup>4</sup> (g)	Methanol Added (g)	Methanol Added (mL)	Weight of Methanol and Sample
BITV13	K	30.8	35.7	4.9	---	---	---
	L	30.8	35.8	5.0	---	---	---
	M	30.9	35.9	5.0	---	---	---
	N	30.6	35.6	5.0	---	---	---
BITV13	P	30.6	35.6	5.0	---	---	---
BITV14	<del>FFF</del>	29.6	29.6	0	4.2	5 mL	33.7
BITV13	W	29.4	34.4	5.0	3.9	5 mL	38.3
	X	29.5	34.6	5.1	4.0	5 mL	38.6
BITV13	Y	29.3	34.6	5.3	4.1	5 mL	38.7

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

<sup>2</sup>Empty weight is to include all labels, stickers, bags, and anything else that will be associated with the bottle when it is weighed with the sample.

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

<sup>4</sup>Sample weight is the vial with sample minus the vial empty

USED FISHER METHANOL FOR PRESERVATION

## SAMPLE RECORD SHEET

Sample Number	Sample Suffix <sup>1</sup>	Empty Weight <sup>2</sup> (g)	Weight with Sample <sup>3</sup> (g)	Weight of Sample <sup>4</sup> (g)	Methanol Added (g)	Methanol Added (mL)	Weight of Methanol and Sample
BITDEF0	K	30.8	35.7	4.9	---	---	---
	L	31.1	36.5	5.4	---	---	---
	M	30.7	36.5	5.8	---	---	---
	N	30.0	36.0	5.4	---	---	---
	✓ P	30.6	36.0	5.4	---	---	---
BITDEF1		29.6	29.6	---	28.0 4.0	5.0	33.6
BITDEFX	W	29.6	35.1	5.5	4.4	5.5	39.5
	X	29.4	34.7	5.3	4.4	5.5	39.1
	✓ Y	29.9	35.2	5.3	4.4	5.5	39.6

<sup>1</sup>Sample suffix of L, K, M, N and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7C and -20C.

Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

<sup>2</sup>Empty weight is to include all labels, stickers, bags, and anything else that will be associated with the bottle when it is weighed with the sample.

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

<sup>4</sup>Sample weight is the vial with sample minus the vial empty

Using Fischer MeOH

Time 1415

C5941

I-SSP3

SAMPLE RECORD SHEET							
Sample Number	Sample Suffix <sup>1</sup>	Empty Weight <sup>2</sup> (g)	Weight with Sample <sup>3</sup> (g)	Weight of Sample <sup>4</sup> (g)	Methanol Added (g)	Methanol Added (mL)	Weight of Methanol and Sample
BIV.2L3	K	31.3	35.4	4.1	---	---	---
	L	31.2	35.1	3.9	---	---	---
	M	31.3	35.5	4.2	---	---	---
	N	31.4	35.8	4.4	---	---	---
	P	31.1	35.7	4.6	---	---	---
BIV.2L4		29.9	29.9	0	3.9	5.0 mL	33.8
BIV.2L3	W	30.2	34.6	4.4	3.9	5.0	38.5
	X	30.5	35.0	4.5	4.0	5.0	39.0
	Y	30.0	34.7	4.7	4.0	5.0	38.7
<p><sup>1</sup>Sample suffix of L, K, M, N and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7C and -20C. Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.</p> <p><sup>2</sup>Empty weight is to include all labels, stickers, bags, and anything else that will be associated with the bottle when it is weighed with the sample.</p> <p><sup>3</sup>Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.</p> <p><sup>4</sup>Sample weight is the vial with sample minus the vial empty</p>							

1255 - Sample # BITV17 (Esterline)  
 # BITV21 (WSCF)

1410 - logged pm samples in Mo So9 Fridge

1410 - Fridge Temp - 2°C

1430 - Left Sight-Drillers went to fork lift training at 1300 have not returned

1435 - Delivered samples to WSCF. Sample # BITDF8  
 # BITDF9  
 # BITV14

VOA Record sheet for I-SSP-002

SAMPLE RECORD SHEET							
Sample Number	Sample Suffix <sup>1</sup>	Empty Weight <sup>2</sup> (g)	Weight with Sample <sup>3</sup> (g)	Weight of Sample <sup>4</sup> (g)	Methanol Added (g)	Methanol Added (mL)	Weight of Methanol and Sample
BITV17	K	31.7	36.1	4.4	NA	NA	NA
	L	31.4	35.8	4.4	NA	NA	NA
	M	31.7	35.7	4.0	NA	NA	NA
	N	31.2	35.8	4.6	NA	NA	NA
	↓	P	31.3	36.4	5.1	NA	NA
BITV18	none	29.9	29.9	0	3.9	5.0	33.8
BITV17	W	30.2	34.7	4.5	3.5	4.5	38.2
	↓	X	30.4	35.4	5.0	4.0	39.4
	↓	Y	30.3	34.8	4.5	3.6	38.4

<sup>1</sup> Sample suffix of K, L, M, N, and P relate to low-level concentration samples and will not have any preservation beyond freezing between -7C and -20C. Bottles K, L, M, N, and P will include a Teflon spin bar. Sample suffix of W, X, and Y relate to methanol preservation for high-level samples.

<sup>2</sup> Empty weight is to include all labels, stickers, bags, and anything else that will be associated with the bottle when it is weighed with the sample.

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

<sup>4</sup> Sample weight is the vial with sample minus the vial empty.

Time = 12:55

Depth = 22.0' Bgs - 24.3' Bgs

Fisher methanol used for preservation

C 5941 A-30 I 002

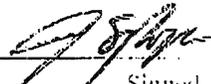


Signed

3-12-06

Date

Read and Understood By



Signed

3-17-06

108 of 108