

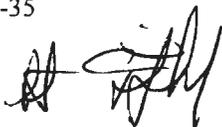
RECEIVED OCTOBER 9, 2008

REVISION 1

Fluor Hanford  
 WSCF Analytical Lab  
 P.O. Box 1000  
 Richland, WA 99352  
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**FLUOR****Memorandum**

To: H. Hampt E6-35 Date: M4W41-SLF-08-1126  
 October 9, 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: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20081670 – SAF NUMBER  
~~F06-027~~ F08-093 P.D. Mix 10/10/2008

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001,  
 October 31, 2002  
 (2) HNF-SD-CD-QAPP-017, Rev. 9, Waste Sampling & Characterization Facility Quality  
 Assurance Plan

This letter contains the following attachments for sample delivery group WSCF20081670:

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

SLF/cmj

Attachments 4

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M4W41-SLF-08-1126

ATTACHMENT 1

**COVER SHEET**

Consisting of 2 pages  
Including cover page

# WSCF SAF NUMBER CROSS REFERENCE

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Group#: WSCF20081670  
Data Deliverable Date: 18-sep-2008  
Data Deliverable: Cover Sheet

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SAF#	Sample ID	WSCF#	Matrix
F08-093	B1WB32	W08GR03258	SOIL

---

**M4W41-SLF-08-1126**

**ATTACHMENT 2**

**NARRATIVE**

**Consisting of 4 pages  
Including cover page**

### Introduction

One S&GRP sample was received at the WSCF Laboratory on August 7, 2008. Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

### Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, pages 12-13 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 16-17 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.
- Phosphate-P – Matrix Spike and Matrix Spike Duplicate recoveries were less than established laboratory limit. Affected sample result in this batch was N flagged.

All other QC controls are within the established limits.

**Cyanide** – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 18 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1WB32 of this SDG.
- Matrix Spike Duplicate recovery was less than established laboratory limit. Affected sample result in this batch was N flagged.

All QC controls are within the established limits.

**ICP-AES Metals** – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 19-21 for QC details. Analytical Note(s):

- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than the reportable limit, however greater than the method detection limit, were B flagged.
- Matrix Spikes and Matrix Spike Duplicates were analyzed on sample B1WB37 (SDG# 20081560, SAF# F08-093).
- Barium and Sodium – MS recovery slightly exceeded established laboratory limits. Sample result for Barium and Sodium was N flagged.
- Barium and Calcium contamination detected in the Blank. The affected samples were C flagged.
- Aluminum, Calcium, Iron, Magnesium and Titanium – Sample concentrations exceeded the spiking levels by a factor of 4. Spike recoveries are not valid. Check and high standards were analyzed to ensure Aluminum, Calcium, Iron, Magnesium and Potassium linearity because sample results are greater than the calibration standard.
- Boron – The result for Boron was biased high due to interference from Iron. Sample result for Boron was E flagged.
- Beryllium – The result for Beryllium was calculated due to the high Iron concentration. Sample result for Beryllium was E flagged.

All other QC controls are within the established limits.

**ICP-MS Metals** – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See pages 22-25 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1W188 (SDG# 20081522, SAF# F08-132) and B1VDX9 (SDG# 20081540, SAF# F08-101).
- QC batch B1VDX9: The Manganese recovery in the MS did not meet the established limit of 70% at 69%. Sample was N flagged.

All QC controls are within the established limits.

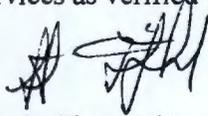
**Radiochemistry Comments**

**Rad Chem** – There are no hold times associated with WSCF’s radiochemical methods. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 30-34 for QC details. Analytical Note(s):

- Americium-241 and 243 (tracer) – Duplicate QC was analyzed on sample# B1WMD7 (SDG# 20081634, SAF# F08-138).
- Plutonium 238, 239/40 and 242 (tracer) – Duplicate QC was analyzed on sample# B1WB30 (SDG# 20081484, SAF# F08-093).
- Uranium 233/34, 235, 238 and 232 (tracer) – Duplicate QC was analyzed on sample# B1WB30 (SDG# 20081484, SAF# F08-093).
- Strontium-89/90 and 85 (tracer) – Duplicate QC was analyzed on sample# B1WN00 (SDG# 20081664, SAF# F08-148).
- Strontium-89/90 and 85 (tracer): Sample B1VDX3 (and a duplicate of B1VDX3) was analyzed as a QC sample with sample B1WB35 of this SDG. The result from this QC sample did not appear with the Sr89/90 data from sample B1VDX3 since our LIMS system does not allow additional results to be submitted under the same sample ID. The result from QC sample B1VDX3 (and a duplicate of B1VDX3) was non-detectable.

All 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



Andrew J. Kopriva  
WSCF Client Services

M4W41-SLF-08-1126

ATTACHMENT 3

**ANALYTICAL RESULTS**

Consisting of 29 pages  
Including cover page

**WSCF**  
**ANALYTICAL RESULTS REPORT**  
for  
**Groundwater Remediation Program**

**Richland, WA 99354**

**Attention: Steve Trent**

Analytical: ~~\_\_\_\_\_~~ S. Fitzgerald 10/9/08  
Client Services: ~~\_\_\_\_\_~~ A. Kopriva 10/8/08

*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#: WSCF20081670  
Report Date: 7-oct-2008  
Report WGPP/ver. 5.2  
Groundwater Remediation Program

## W13q Worklist/Batch/QC Report for Group# WSCF20081670

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37696	1	38130	42696	BLANK		Strontium 89/90
37696	2	38130	42696	LCS		Strontium 89/90
37696	3	38130	42696	DUP	W08GR03235	Strontium 89/90
37696	14	38130	42696	SAMPLE	W08GR03258	Strontium 89/90
37696	15	38130	42696	SURR	W08GR03258	Strontium 89/90
38028	1	38450	42959	BLANK		Uranium Isotopics by AEA
38028	2	38450	42959	LCS		Uranium Isotopics by AEA
38028	4	38450	42959	SAMPLE	W08GR03258	Uranium Isotopics by AEA
38028	5	38450	42959	SURR	W08GR03258	Uranium Isotopics by AEA
38028	3	38450	42959	DUP	W08GR03325	Uranium Isotopics by AEA
37551	3	37991	42980	BLANK		Gamma Energy Analysis-grd H2O
37551	4	37991	42980	LCS		Gamma Energy Analysis-grd H2O
37551	1	37991	42980	DUP	W08GR02382	Gamma Energy Analysis-grd H2O
37551	5	37991	42980	SAMPLE	W08GR03258	Gamma Energy Analysis-grd H2O
38029	1	38451	43028	BLANK		Plutonium Isotopics by AEA
38029	2	38451	43028	LCS		Plutonium Isotopics by AEA
38029	4	38451	43028	SAMPLE	W08GR03258	Plutonium Isotopics by AEA
38029	5	38451	43028	SURR	W08GR03258	Plutonium Isotopics by AEA
38029	3	38451	43028	DUP	W08GR03325	Plutonium Isotopics by AEA
38312	1	38733	43181	BLANK		Americium by AEA
38312	2	38733	43181	LCS		Americium by AEA
38312	3	38733	43181	DUP	W08GR03208	Americium by AEA
38312	6	38733	43181	SAMPLE	W08GR03258	Americium by AEA
38312	7	38733	43181	SURR	W08GR03258	Americium by AEA

Department: Inorganic

## W13q Worklist/Batch/QC Report for Group# WSCF20081670

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37573	1	38012	42357	BLANK		ICP-200.8 MS All possible meta
37573	2	38012	42357	LCS		ICP-200.8 MS All possible meta
37573	4	38012	42357	MS	W08GR02831	ICP-200.8 MS All possible meta
37573	5	38012	42357	MSD	W08GR02831	ICP-200.8 MS All possible meta
37573	5	38012	42357	SPK-RPD	W08GR02831	ICP-200.8 MS All possible meta
37573	7	38012	42357	MS	W08GR02880	ICP-200.8 MS All possible meta
37573	8	38012	42357	MSD	W08GR02880	ICP-200.8 MS All possible meta
37573	8	38012	42357	SPK-RPD	W08GR02880	ICP-200.8 MS All possible meta
37573	34	38012	42357	SAMPLE	W08GR03258	ICP-200.8 MS All possible meta
37586	10	38026	42422	BLANK		Cyanide by Midi/Spectrophotom
37586	11	38026	42422	LCS		Cyanide by Midi/Spectrophotom
37586	13	38026	42422	MS	W08GR03258	Cyanide by Midi/Spectrophotom
37586	14	38026	42422	MSD	W08GR03258	Cyanide by Midi/Spectrophotom
37586	12	38026	42422	SAMPLE	W08GR03258	Cyanide by Midi/Spectrophotom
37586	14	38026	42422	SPK-RPD	W08GR03258	Cyanide by Midi/Spectrophotom
37718	2	38151	42522	BLANK		Anions by Ion Chromatography
37718	17	38151	42522	BLANK		Anions by Ion Chromatography
37718	3	38151	42522	LCS		Anions by Ion Chromatography
37718	5	38151	42522	DUP	W08GR03258	Anions by Ion Chromatography
37718	6	38151	42522	MS	W08GR03258	Anions by Ion Chromatography
37718	7	38151	42522	MSD	W08GR03258	Anions by Ion Chromatography
37718	4	38151	42522	SAMPLE	W08GR03258	Anions by Ion Chromatography
37718	7	38151	42522	SPK-RPD	W08GR03258	Anions by Ion Chromatography
37993	1	38414	42932	BLANK		ICP Metals Analysis, Grd H20 P
37993	2	38414	42932	LCS		ICP Metals Analysis, Grd H20 P
37993	4	38414	42932	MS	W08GR02989	ICP Metals Analysis, Grd H20 P
37993	5	38414	42932	MSD	W08GR02989	ICP Metals Analysis, Grd H20 P
37993	5	38414	42932	SPK-RPD	W08GR02989	ICP Metals Analysis, Grd H20 P
37993	17	38414	42932	SAMPLE	W08GR03258	ICP Metals Analysis, Grd H20 P

# 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-505-411</b>	<b>LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE</b> <b>HEIS 6010_METALS_ICP</b> Inductively Coupled Plasma-Atomic Emmision Spectrometry
<b>LA-505-412</b>	<b>LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY</b> <b>EPA-600/R-94-111 200.8</b> DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS <b>HEIS 200.8_METALS_ICPMS</b> Inductively Coupled Plasma - Mass Spectrometry <b>HEIS RADISOTOPES_ICPMS</b> Radioisotopes by ICP/MS
<b>LA-533-410</b>	<b>LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY</b> <b>EPA-600/R-94-111 300.0</b> DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY <b>HEIS 300.0_ANIONS_IC</b> Determination of Inorganic Anions by Ion Chromatography
<b>LA-695-402</b>	<b>LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC</b> <b>EPA-600/4-79-020 335.2</b> Cyanide, Total <b>HEIS 335.2_CYANIDE</b> Cyanide, Total

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

Report Date: 7-oct-2008  
Report#: WSCF20081670  
Report WGPPM/5.2

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# 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> HEIS ALPHA_GPC                      GROSS ALPHA GPC HEIS BETA_GPC                        GROSS BETA GPC HEIS SRTOT_SEP_PRECIP_GPC      Rontium 89/90
<b>LA-508-471</b>	<b>LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP</b> HEIS PUIISO_IE_PRECIP_AEA      Plutonium by Alpha Energy Analysis HEIS RAISO_AEA                      Radium-226
<b>LA-508-481</b>	<b>LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE</b> HEIS GAMMA_GS                      Gamma Emmision Spectrometry

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

Report Date: 7-oct-2008  
Report#: WSCF20081670  
Report WGPPM/5.2

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# WSCF

## ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-093  
**Sample #** W08GR03258  
**Client ID:** B1WB32

**TRENT**  
**WSCF**

**Matrix: SOIL**

**Group #:** WSCF20081670  
**Department:** Inorganic  
**Sampled:** 08/05/08  
**Received:** 08/07/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
<b>Anions by Ion Chromatography Prep</b>											<b>08/20/08</b>
<b>Anions by Ion Chromatography</b>											
Fluoride	16984-48-8	LA-533-410	DU	< 0.300	mg/kg			50.00	0.30		08/20/08
Chloride	16887-00-6	LA-533-410	DU	< 1.50	mg/kg			50.00	1.5		08/20/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.500	mg/kg			50.00	0.50		08/20/08
Nitrogen in Nitrate	NO3-N	LA-533-410	D	5.29	mg/kg			50.00	0.25		08/20/08
Phosphate (P) by IC	PO4-P	LA-533-410	DNU	< 2.00	mg/kg			50.00	2.0		08/20/08
Sulfate	14808-79-8	LA-533-410	BD	10.6	mg/kg			50.00	3.5		08/20/08
<b>Cyanide</b>											
Cyanide	57-12-5	LA-695-402	NU	< 0.195	mg/kg			0.98	0.20		08/14/08
<b>ICP Metals Analysis, Grd H20 P Prep</b>											<b>09/11/08</b>
<b>ICP Metals Analysis, Grd H20 P</b>											
Aluminum	7429-90-5	LA-505-411		6.87e +03	mg/kg			98.68	5.1		09/14/08
Iron	7439-89-6	LA-505-411		1.98e +04	mg/kg			98.68	2.5		09/14/08
Magnesium	7439-95-4	LA-505-411		4.04e +03	mg/kg			98.68	4.9		09/14/08
Potassium	7440-09-7	LA-505-411		1.22e +03	mg/kg			98.68	17		09/14/08
Sodium	7440-23-5	LA-505-411	N	146	mg/kg			98.68	5.0		09/14/08
Barium	7440-39-3	LA-505-411	N	90.2	mg/kg			98.68	0.39		09/14/08
Calcium	7440-70-2	LA-505-411		4.17e +03	mg/kg			98.68	7.2		09/14/08
Lithium	7439-93-2	LA-505-411		6.19	mg/kg			98.68	0.39		09/14/08
Molybdenum	7439-98-7	LA-505-411	U	< 0.493	mg/kg			98.68	0.49		09/14/08
Strontium	7440-24-6	LA-505-411		17.3	mg/kg			98.68	0.40		09/14/08
Titanium	7440-32-6	LA-505-411	D	1.56e +03	mg/kg			9.87e +002	3.9		09/25/08
Arsenic	7440-38-2	LA-505-411	U	< 7.70	mg/kg			98.68	7.7		09/14/08
Beryllium	7440-41-7	LA-505-411	BE	1.31	mg/kg			98.68	0.39		09/14/08

**MDL = Minimum Detection Limit**

**RQ = Result Qualifier**

**TP Err = Total Propagated Error**

**DF = Dilution Factor**

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

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

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

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

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

U - Analyzed for but not detected above limiting criteria.

\* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

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# WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent  
 SAF Number: F08-093  
 Sample # W08GR03258  
 Client ID: B1WB32

TRENT  
 WSCF

Matrix: SOIL

Group #: WSCF20081670  
 Department: Inorganic  
 Sampled: 08/05/08  
 Received: 08/07/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Boron	7440-42-8	LA-505-411	E	17.5	mg/kg			98.88	2.0		09/14/08
Bismuth	7440-69-9	LA-505-411	U	< 3.45	mg/kg			98.88	3.5		09/14/08
<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	N	309	mg/kg			0.98	0.0976		08/13/08
Nickel	7440-02-0	LA-505-412		9.26	mg/kg			0.98	0.195		08/13/08
Silver	7440-22-4	LA-505-412	U	< 0.0976	mg/kg			0.98	0.0976		08/13/08
Antimony	7440-36-0	LA-505-412	U	< 0.293	mg/kg			0.98	0.293		08/13/08
Cadmium	7440-43-9	LA-505-412		0.150	mg/kg			0.98	0.0976		08/13/08
Chromium	7440-47-3	LA-505-412		9.16	mg/kg			0.98	0.488		08/13/08
Cobalt	7440-48-4	LA-505-412		6.95	mg/kg			0.98	0.0488		08/13/08
Copper	7440-50-8	LA-505-412		10.0	mg/kg			0.98	0.0976		08/13/08
Vanadium	7440-62-2	LA-505-412		36.7	mg/kg			0.98	0.195		08/13/08
Zinc	7440-66-6	LA-505-412		39.7	mg/kg			0.98	0.781		08/13/08
Lead	7439-92-1	LA-505-412		5.04	mg/kg			0.98	0.0976		08/13/08
Mercury	7439-97-6	LA-505-412	U	< 0.0488	mg/kg			0.98	0.0488		08/13/08
Uranium	7440-61-1	LA-505-412		0.540	mg/kg			0.98	0.0488		08/13/08
Selenium	7782-49-2	LA-505-412		0.360	mg/kg			0.98	0.293		08/13/08
Thallium	7440-28-0	LA-505-412		0.130	mg/kg			0.98	0.0976		08/13/08

**MDL=Minimum Detection Limit**

**RQ=Result Qualifier**

**TP Err=Total Propagated Error**

**DF=Dilution Factor**

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

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

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

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

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

U - Analyzed for but not detected above limiting criteria.

150439 - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR03258</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Chloride	16887-00-8	<1.5		RPD			n/a	20.000	U	08/20/08
DUP	Fluoride	16984-48-8	<0.3		RPD			n/a	20.000	U	08/20/08
DUP	Nitrogen in Nitrite	NO2-N	<0.5		RPD			n/a	20.000	U	08/20/08
DUP	Nitrogen in Nitrate	NO3-N	5.5052		RPD			4.074	20.000		08/20/08
DUP	Phosphate (P) by IC	PO4-P	<2		RPD			n/a	20.000	U	08/20/08
DUP	Sulfate	14808-79-8	11.425		RPD			7.192	20.000		08/20/08
MS	Chloride	16887-00-8	0.914156	91.416	% Recov	80.000	120.000				08/20/08
MS	Fluoride	16984-48-8	0.427734	85.890	% Recov	80.000	120.000				08/20/08
MS	Nitrogen in Nitrite	NO2-N	0.45714	91.980	% Recov	80.000	120.000				08/20/08
MS	Nitrogen in Nitrate	NO3-N	0.44175	98.167	% Recov	80.000	120.000				08/20/08
MS	Phosphate (P) by IC	PO4-P	0.746214	77.168	% Recov	80.000	120.000				08/20/08
MS	Sulfate	14808-79-8	1.764066	89.094	% Recov	80.000	120.000				08/20/08
MSD	Chloride	16887-00-8	0.926652	92.665	% Recov	80.000	120.000				08/20/08
MSD	Fluoride	16984-48-8	0.432818	86.911	% Recov	80.000	120.000				08/20/08
MSD	Nitrogen in Nitrite	NO2-N	0.46895	94.356	% Recov	80.000	120.000				08/20/08
MSD	Nitrogen in Nitrate	NO3-N	0.448948	99.766	% Recov	80.000	120.000				08/20/08
MSD	Phosphate (P) by IC	PO4-P	0.756792	78.262	% Recov	80.000	120.000				08/20/08
MSD	Sulfate	14808-79-8	1.7526	88.515	% Recov	80.000	120.000				08/20/08
SPK-RPD	Chloride	16887-00-8	92.665		RPD			1.357	20.000		08/20/08
SPK-RPD	Fluoride	16984-48-8	86.911		RPD			1.182	20.000		08/20/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	94.356		RPD			2.550	20.000		08/20/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	99.766		RPD			1.616	20.000		08/20/08
SPK-RPD	Phosphate (P) by IC	PO4-P	78.262		RPD			1.408	20.000		08/20/08
SPK-RPD	Sulfate	14808-79-8	88.515		RPD			0.652	20.000		08/20/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 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
<b>BATCH QC</b>											
BLANK	Chloride	16887-00-6	< 3e-2	n/a	mg/L	0.000	0.030			U	08/20/08
BLANK	Chloride	16887-00-6	< 3e-2	n/a	mg/L	0.000	0.030			U	08/20/08
BLANK	Fluoride	16984-48-8	< 6e-3	n/a	mg/L	0.000	0.030			U	08/20/08
BLANK	Fluoride	16984-48-8	< 6e-3	n/a	mg/L	0.000	0.030			U	08/20/08
BLANK	Nitrogen in Nitrite	NO2-N	< 1e-2	n/a	mg/L	0.000	0.020			U	08/20/08
BLANK	Nitrogen in Nitrite	NO2-N	< 1e-2	n/a	mg/L	0.000	0.020			U	08/20/08
BLANK	Nitrogen in Nitrate	NO3-N	< 5e-3	n/a	mg/L	0.000	0.040			U	08/20/08
BLANK	Nitrogen in Nitrate	NO3-N	< 5e-3	n/a	mg/L	0.000	0.040			U	08/20/08
BLANK	Phosphate (P) by IC	PO4-P	< 4e-2	n/a	mg/L	0.000	0.200			U	08/20/08
BLANK	Phosphate (P) by IC	PO4-P	< 4e-2	n/a	mg/L	0.000	0.200			U	08/20/08
BLANK	Sulfate	14808-79-8	< 7e-2	n/a	mg/L	0.000	0.200			U	08/20/08
BLANK	Sulfate	14808-79-8	< 7e-2	n/a	mg/L	0.000	0.200			U	08/20/08
LCS	Chloride	16887-00-6	194.763	96.897	% Recov	80.000	120.000				08/20/08
LCS	Fluoride	16984-48-8	105.3685	105.792	% Recov	80.000	120.000				08/20/08
LCS	Nitrogen in Nitrite	NO2-N	99.4537	100.054	% Recov	80.000	120.000				08/20/08
LCS	Nitrogen in Nitrate	NO3-N	92.2328	102.367	% Recov	80.000	120.000				08/20/08
LCS	Phosphate (P) by IC	PO4-P	195.9225	101.304	% Recov	80.000	120.000				08/20/08
LCS	Sulfate	14808-79-8	387.2632	97.794	% Recov	80.000	120.000				08/20/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: Cyanide by Midi/Spectrophotom

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR03258</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	Cyanide by Midi/Spectrophotom	57-12-5	1.88	94.000	% Recov	75.000	125.000				08/14/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	1.36	69.388	% Recov	75.000	125.000				08/14/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	69.388		RPD			30.127	20.000		08/14/08
<b>BATCH QC</b>											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	08/14/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	43	86.000	% Recov	85.000	115.000				08/14/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 07/23/08  
 Receive Date: 07/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR02989											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Aluminum	7429-90-5	4455	4455.000	% Recov	75.000	125.000			•	09/14/08
MS	Arsenic	7440-38-2	102.2	102.200	% Recov	75.000	125.000				09/14/08
MS	Boron	7440-42-8	98.78	98.780	% Recov	75.000	125.000				09/14/08
MS	Barium	7440-39-3	64.5	129.000	% Recov	75.000	125.000			•	09/14/08
MS	Beryllium	7440-41-7	49.88	99.760	% Recov	75.000	125.000				09/14/08
MS	Bismuth	7440-69-9	94.48	94.480	% Recov	75.000	125.000				09/14/08
MS	Calcium	7440-70-2	800	800.000	% Recov	75.000	125.000			•	09/14/08
MS	Iron	7439-89-6	2680	2680.000	% Recov	75.000	125.000			•	09/14/08
MS	Potassium	7440-09-7	1130	113.000	% Recov	75.000	125.000				09/14/08
MS	Lithium	7439-93-2	51.83	103.660	% Recov	70.000	130.000				09/14/08
MS	Magnesium	7439-95-4	1067	1067.000	% Recov	75.000	125.000			•	09/14/08
MS	Molybdenum	7439-98-7	92.2287	92.227	% Recov	75.000	125.000				09/14/08
MS	Sodium	7440-23-5	145.06	145.060	% Recov	75.000	125.000			•	09/14/08
MS	Strontium	7440-24-6	52.74	105.480	% Recov	75.000	125.000				09/14/08
MS	Titanium	7440-32-6	304.4	304.400	% Recov	75.000	125.000			•	09/14/08
MSD	Aluminum	7429-90-5	3905	3916.750	% Recov	75.000	125.000			•	09/14/08
MSD	Arsenic	7440-38-2	101.2	101.505	% Recov	75.000	125.000				09/14/08
MSD	Boron	7440-42-8	96.08	96.369	% Recov	75.000	125.000				09/14/08
MSD	Barium	7440-39-3	57.4	115.261	% Recov	75.000	125.000				09/14/08
MSD	Beryllium	7440-41-7	49.4	99.197	% Recov	75.000	125.000				09/14/08
MSD	Bismuth	7440-69-9	92.88	93.159	% Recov	75.000	125.000				09/14/08
MSD	Calcium	7440-70-2	2380	2387.161	% Recov	75.000	125.000			•	09/14/08
MSD	Iron	7439-89-6	2050	2056.169	% Recov	75.000	125.000			•	09/14/08
MSD	Potassium	7440-09-7	946	94.885	% Recov	75.000	125.000				09/14/08
MSD	Lithium	7439-93-2	49.52	99.438	% Recov	75.000	125.000				09/14/08
MSD	Magnesium	7439-95-4	1094	1097.292	% Recov	75.000	125.000			•	09/14/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 07/23/08  
 Receive Date: 07/28/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MSD	Molybdenum	7439-98-7	91.0867	91.361	% Recov	75.000	125.000				09/14/08
MSD	Sodium	7440-23-5	123.06	123.430	% Recov	75.000	125.000				09/14/08
MSD	Strontium	7440-24-6	49.3	98.996	% Recov	75.000	125.000				09/14/08
MSD	Titanium	7440-32-6	193.4	193.982	% Recov	75.000	125.000				09/14/08
SPK-RPD	Aluminum	7429-90-5	3916.750		RPD			12.859	20.000		09/14/08
SPK-RPD	Arsenic	7440-38-2	101.505		RPD			0.682	20.000		09/14/08
SPK-RPD	Boron	7440-42-8	96.369		RPD			2.471	20.000		09/14/08
SPK-RPD	Barium	7440-39-3	115.261		RPD			11.249	20.000		09/14/08
SPK-RPD	Beryllium	7440-41-7	99.197		RPD			0.566	20.000		09/14/08
SPK-RPD	Bismuth	7440-69-9	93.159		RPD			1.408	20.000		09/14/08
SPK-RPD	Calcium	7440-70-2	2387.161		RPD			99.597	20.000		09/14/08
SPK-RPD	Iron	7439-89-6	2056.169		RPD			26.343	20.000		09/14/08
SPK-RPD	Potassium	7440-09-7	94.885		RPD			17.428	20.000		09/14/08
SPK-RPD	Lithium	7439-93-2	99.438		RPD			4.158	20.000		09/14/08
SPK-RPD	Magnesium	7439-95-4	1097.292		RPD			2.799	20.000		09/14/08
SPK-RPD	Molybdenum	7439-98-7	91.361		RPD			0.943	20.000		09/14/08
SPK-RPD	Sodium	7440-23-5	123.430		RPD			16.112	20.000		09/14/08
SPK-RPD	Strontium	7440-24-6	98.996		RPD			6.342	20.000		09/14/08
SPK-RPD	Titanium	7440-32-6	193.982		RPD			44.311	20.000		09/14/08
<b>BATCH QC</b>											
BLANK	Aluminum	7429-90-5	<5.2e-2	n/a	ug/mL					U	09/14/08
BLANK	Arsenic	7440-38-2	<7.8e-2	n/a	ug/mL					U	09/14/08
BLANK	Boron	7440-42-8	<2e-2	n/a	ug/mL					U	09/14/08
BLANK	Barium	7440-39-3	4.3e-3	0.004	ug/mL						09/14/08
BLANK	Beryllium	7440-41-7	<4e-3	n/a	ug/mL					U	09/14/08
BLANK	Bismuth	7440-69-9	<3.5e-2	n/a	ug/mL					U	09/14/08
BLANK	Calcium	7440-70-2	0.1125	0.113	ug/mL						09/14/08
BLANK	Iron	7439-89-6	<2.5e-2	n/a	ug/mL					U	09/14/08
BLANK	Potassium	7440-09-7	<0.17	n/a	ug/mL					U	09/14/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: ICP Metals Analysis, Grd H2O P

Sample Date:  
 Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	Lithium	7439-93-2	<4e-3	n/a	ug/mL					U	09/14/08
BLANK	Magnesium	7439-95-4	<5e-2	n/a	ug/mL					U	09/14/08
BLANK	Molybdenum	7439-98-7	<5e-3	n/a	ug/mL					U	09/14/08
BLANK	Sodium	7440-23-5	<5.1e-2	n/a	ug/mL					U	09/14/08
BLANK	Strontium	7440-24-6	<4e-3	n/a	ug/mL					U	09/14/08
BLANK	Titanium	7440-32-6	<4e-3	n/a	ug/mL					U	09/14/08
LCS	Aluminum	7429-90-5	9545	114.188	% Recov	44.000	157.000				09/14/08
LCS	Arsenic	7440-38-2	234.2	101.385	% Recov	79.000	121.000				09/14/08
LCS	Boron	7440-42-8	233.3	109.019	% Recov	45.000	156.000				09/14/08
LCS	Barium	7440-39-3	382.5	103.659	% Recov	80.000	120.000				09/14/08
LCS	Beryllium	7440-41-7	145.2	104.086	% Recov	81.000	119.000				09/14/08
LCS	Bismuth	7440-69-9	195.8	97.900	% Recov	80.000	120.000				09/14/08
LCS	Calcium	7440-70-2	4301	107.017	% Recov	76.000	124.000				09/14/08
LCS	Iron	7439-89-6	12090	89.562	% Recov	47.000	152.000				09/14/08
LCS	Potassium	7440-09-7	4085	114.779	% Recov	64.000	136.000				09/14/08
LCS	Lithium	7439-93-2	56.45	112.900	% Recov	80.000	120.000				09/14/08
LCS	Magnesium	7439-95-4	2851	105.242	% Recov	71.000	129.000				09/14/08
LCS	Molybdenum	7439-98-7	150.6	101.963	% Recov	79.000	121.000				09/14/08
LCS	Sodium	7440-23-5	659	95.924	% Recov	51.000	149.000				09/14/08
LCS	Strontium	7440-24-6	103.3	98.946	% Recov	74.000	126.000				09/14/08
LCS	Titanium	7440-32-6	420.1	115.096	% Recov	9.000	191.000				09/14/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: ICP-200.8 MS All possible meta

Sample Date: 07/21/08  
 Receive Date: 07/21/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR02831</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	Cadmium	7440-43-9	91.9	91.900	% Recov	70.000	130.000				08/13/08
MS	Chromium	7440-47-3	88.6	88.600	% Recov	70.000	130.000				08/13/08
MS	Mercury	7439-97-6	1.92	96.000	% Recov	70.000	130.000				08/13/08
MS	Antimony	7440-36-0	71.35	71.350	% Recov	70.000	130.000				08/13/08
MS	Thallium	7440-28-0	87.12	87.120	% Recov	70.000	130.000				08/13/08
MS	Uranium	7440-61-1	94.71	94.710	% Recov	70.000	130.000				08/13/08
MSD	Cadmium	7440-43-9	92.27	92.270	% Recov	70.000	130.000				08/13/08
MSD	Chromium	7440-47-3	88.65	88.650	% Recov	70.000	130.000				08/13/08
MSD	Mercury	7439-97-6	1.96	98.000	% Recov	70.000	130.000				08/13/08
MSD	Antimony	7440-36-0	80.52	80.520	% Recov	70.000	130.000				08/13/08
MSD	Thallium	7440-28-0	88.19	88.190	% Recov	70.000	130.000				08/13/08
MSD	Uranium	7440-61-1	96.8	96.800	% Recov	70.000	130.000				08/13/08
SPK-RPD	Cadmium	7440-43-9	92.270		RPD			0.402	20.000		08/13/08
SPK-RPD	Chromium	7440-47-3	88.650		RPD			0.056	20.000		08/13/08
SPK-RPD	Mercury	7439-97-6	98.000		RPD			2.062	20.000		08/13/08
SPK-RPD	Antimony	7440-36-0	80.520		RPD			12.076	20.000		08/13/08
SPK-RPD	Thallium	7440-28-0	88.190		RPD			1.221	20.000		08/13/08
SPK-RPD	Uranium	7440-61-1	96.800		RPD			2.183	20.000		08/13/08
<b>Lab ID: W08GR02880</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
MS	Silver	7440-22-4	85.63	85.630	% Recov	70.000	130.000				08/13/08
MS	Cadmium	7440-43-9	87.2	87.200	% Recov	70.000	130.000				08/13/08
MS	Cobalt	7440-48-4	83.14	83.140	% Recov	70.000	130.000				08/13/08
MS	Chromium	7440-47-3	84.63	84.630	% Recov	70.000	130.000				08/13/08
MS	Copper	7440-50-8	82.96	82.960	% Recov	70.000	130.000				08/13/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: ICP-200.8 MS All possible meta

Sample Date: 07/17/08  
 Receive Date: 07/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Mercury	7439-97-6	1.78	89.000	% Recov	70.000	130.000				08/13/08
MS	Manganese	7439-96-5	69.2	69.200	% Recov	70.000	130.000				08/13/08
MS	Nickel	7440-02-0	85.49	85.490	% Recov	70.000	130.000				08/13/08
MS	Lead	7439-92-1	86.84	86.840	% Recov	70.000	130.000				08/13/08
MS	Antimony	7440-36-0	82.72	82.720	% Recov	70.000	130.000				08/13/08
MS	Selenium	7782-49-2	89.32	89.320	% Recov	70.000	130.000				08/13/08
MS	Thallium	7440-28-0	81.14	81.140	% Recov	70.000	130.000				08/13/08
MS	Uranium	7440-61-1	87.82	87.820	% Recov	70.000	130.000				08/13/08
MS	Vanadium	7440-62-2	82.58	82.580	% Recov	70.000	130.000				08/13/08
MS	Zinc	7440-66-6	85.75	85.750	% Recov	70.000	130.000				08/13/08
MSD	Silver	7440-22-4	89.68	89.680	% Recov	70.000	130.000				08/13/08
MSD	Cadmium	7440-43-9	89.97	89.970	% Recov	70.000	130.000				08/13/08
MSD	Cobalt	7440-48-4	87.14	87.140	% Recov	70.000	130.000				08/13/08
MSD	Chromium	7440-47-3	91	91.000	% Recov	70.000	130.000				08/13/08
MSD	Copper	7440-50-8	87.72	87.720	% Recov	70.000	130.000				08/13/08
MSD	Mercury	7439-97-6	1.87	93.500	% Recov	70.000	130.000				08/13/08
MSD	Manganese	7439-96-5	97.9	97.900	% Recov	70.000	130.000				08/13/08
MSD	Nickel	7440-02-0	91.98	91.980	% Recov	70.000	130.000				08/13/08
MSD	Lead	7439-92-1	90.85	90.850	% Recov	70.000	130.000				08/13/08
MSD	Antimony	7440-36-0	84.28	84.280	% Recov	70.000	130.000				08/13/08
MSD	Selenium	7782-49-2	92.75	92.750	% Recov	70.000	130.000				08/13/08
MSD	Thallium	7440-28-0	84.46	84.460	% Recov	70.000	130.000				08/13/08
MSD	Uranium	7440-61-1	94.49	94.490	% Recov	70.000	130.000				08/13/08
MSD	Vanadium	7440-62-2	89.78	89.780	% Recov	70.000	130.000				08/13/08
MSD	Zinc	7440-66-6	93.85	93.850	% Recov	70.000	130.000				08/13/08
SPK-RPD	Silver	7440-22-4	89.680		RPD			4.620	20.000		08/13/08
SPK-RPD	Cadmium	7440-43-9	89.970		RPD			3.127	20.000		08/13/08
SPK-RPD	Cobalt	7440-48-4	87.140		RPD			4.698	20.000		08/13/08
SPK-RPD	Chromium	7440-47-3	91.000		RPD			7.254	20.000		08/13/08
SPK-RPD	Copper	7440-50-8	87.720		RPD			5.578	20.000		08/13/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: ICP-200.8 MS All possible meta

Sample Date: 07/17/08  
 Receive Date: 07/24/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK-RPD	Mercury	7439-97-6	93.500		RPD			4.932	20.000		08/13/08
SPK-RPD	Manganese	7439-96-5	97.900		RPD			34.351	20.000		08/13/08
SPK-RPD	Nickel	7440-02-0	91.980		RPD			7.314	20.000		08/13/08
SPK-RPD	Lead	7439-92-1	90.850		RPD			4.513	20.000		08/13/08
SPK-RPD	Antimony	7440-36-0	84.280		RPD			1.868	20.000		08/13/08
SPK-RPD	Selenium	7782-49-2	92.750		RPD			3.768	20.000		08/13/08
SPK-RPD	Thallium	7440-28-0	84.460		RPD			4.010	20.000		08/13/08
SPK-RPD	Uranium	7440-61-1	94.490		RPD			7.317	20.000		08/13/08
SPK-RPD	Vanadium	7440-62-2	89.780		RPD			8.355	20.000		08/13/08
SPK-RPD	Zinc	7440-66-6	93.850		RPD			9.020	20.000		08/13/08

## BATCH QC

BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	08/13/08
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	08/13/08
BLANK	Cobalt	7440-48-4	<5e-2	n/a	ug/L					U	08/13/08
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	08/13/08
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L					U	08/13/08
BLANK	Mercury	7439-97-6	<5e-2	n/a	ug/L					U	08/13/08
BLANK	Manganese	7439-96-5	<0.1	n/a	ug/L					U	08/13/08
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	08/13/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	08/13/08
BLANK	Antimony	7440-36-0	<0.3	n/a	ug/L					U	08/13/08
BLANK	Selenium	7782-49-2	<0.3	n/a	ug/L					U	08/13/08
BLANK	Thallium	7440-28-0	<0.1	n/a	ug/L					U	08/13/08
BLANK	Uranium	7440-61-1	<5e-2	n/a	ug/L					U	08/13/08
BLANK	Vanadium	7440-62-2	<0.2	n/a	ug/L					U	08/13/08
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	08/13/08
LCS	Silver	7440-22-4	110	108.911	% Recov	98.000	134.000				08/13/08
LCS	Cadmium	7440-43-9	76.9	115.639	% Recov	95.000	124.000				08/13/08
LCS	Cobalt	7440-48-4	74.47	101.874	% Recov	88.000	119.000				08/13/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20081670  
 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	Chromium	7440-47-3	70.44	96.626	% Recov	77.000	125.000				08/13/08
LCS	Copper	7440-50-8	65.27	95.285	% Recov	84.000	122.000				08/13/08
LCS	Mercury	7439-97-6	7.78	93.961	% Recov	71.000	132.000				08/13/08
LCS	Manganese	7439-96-5	436.8	96.424	% Recov	83.000	118.000				08/13/08
LCS	Nickel	7440-02-0	55.73	100.234	% Recov	90.000	121.000				08/13/08
LCS	Lead	7439-92-1	138	106.154	% Recov	92.000	123.000				08/13/08
LCS	Antimony	7440-36-0	124.5	138.027	% Recov	114.000	260.000				08/13/08
LCS	Selenium	7782-49-2	173.2	107.578	% Recov	52.000	157.000				08/13/08
LCS	Thallium	7440-28-0	136.2	102.406	% Recov	92.000	123.000				08/13/08
LCS	Uranium	7440-61-1	380.2	90.050	% Recov	81.000	125.000				08/13/08
LCS	Vanadium	7440-82-2	76.06	91.639	% Recov	81.000	122.000				08/13/08
LCS	Zinc	7440-66-6	165.6	93.559	% Recov	85.000	130.000				08/13/08

# WSCF ANALYTICAL COMMENT REPORT

**Attention:** Steve Trent  
**Project Number** F08-093

**Group #:** WSCF20081670  
**Department:** Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-MS: Manganese showed low spike recovery. "N" flag</p> <p>Cyanide: MSD spike recovery 69%. N flag</p> <p>IC Anion - MS/MSD recoveries out of limits for phosphate in sample W08GR03258; Data N-flagged. DTS</p> <p>ICP-AES: High barium and calcium preparation blank results; "C" flag if applicable.</p> <p>No zirconium present in the LCS standard.</p> <p>Elements with results &lt;5X the MDL; "B" flag.</p> <p>Aluminum, iron, magnesium, calcium, and titanium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid.</p> <p>Check and high standards used to ensure aluminum, iron, magnesium, calcium, and potassium linearity because sample results are greater than the calibration standard.</p> <p>High barium and sodium MS recoveries; "N" flag.</p> <p>Iron interference cause calculated beryllium results and boron results biased high; "E" flag.</p> <p>U-234 Duplicate is flagged for poor RPD due to the low countrate of the sample. Imh</p> <p>U-232 Tracer recovery is slightly above the limit. Since</p>

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

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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# WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent  
Project Number F08-093

Group #: WSCF20081670  
Department: Inorganic

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Sample #	Client ID	Lab Area	Test	Comment
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the other tracers came out fine, this batch has been  
approved. lmh

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

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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# WSCF ANALYTICAL RESULTS REPORT

**Attention:** Steve Trent  
**SAF Number:** F08-093  
**Sample #** W08GR03258  
**Client ID:** B1WB32

**TRENT  
WSCF**

**Matrix: SOIL**

**Group #:** WSCF20081670  
**Department:** Radiochemistry  
**Sampled:** 08/05/08  
**Received:** 08/07/08

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		2.10	pCi/g	+ -0.546	pCi/g	1.00	0.056		10/06/08
Am-243 tracer by AEA	AM243	LA-508-471		3.90	pCi/g			1.00	0.030		10/06/08
<b>Gamma Energy Analysis-grd H2O</b>											
Cesium-137	10045-97-3	LA-508-481		21.4	pCi/g	+ -3.00	pCi/g	1.00	0.12		08/12/08
Europium-154	15585-10-1	LA-508-481	U	0.0218	pCi/g	+ -0.128	pCi/g	1.00	0.24		08/12/08
<b>Plutonium Isotopics by AEA</b>											
Plutonium-238	13981-16-3	LA-508-471		0.210	pCi/g	+ -0.0735	pCi/g	1.00	0.057		09/24/08
Pu-239/240 by AEA	PU-239/240	LA-508-471		11.0	pCi/g	+ -2.75	pCi/g	1.00	0.013		09/24/08
Pu-242 tracer by AEA	PU242	LA-508-471		6.10	pCi/g			1.00	0.019		09/24/08
<b>Strontium 89/90</b>											
Strontium-89/90	SR-RAD	LA-508-415		-0.0270	pCi/g	+ -0.270	pCi/g	1.00	0.43		08/20/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		79.9	Percent			1.00	0.0		08/20/08
<b>Uranium Isotopics by AEA</b>											
Uranium-233/234	U-233/234	LA-508-471		0.210	pCi/g	+ -0.0651	pCi/g	1.00	4.4e-03		09/19/08
Uranium-235	15117-96-1	LA-508-471		0.0160	pCi/g	+ -0.0114	pCi/g	1.00	4.8e-03		09/19/08
Uranium-238	U-238	LA-508-471		0.190	pCi/g	+ -0.0608	pCi/g	1.00	0.012		09/19/08
U-232 tracer by AEA	U232	LA-508-471		4.00	pCi/g			1.00	0.029		09/19/08

**MDL=Minimum Detection Limit**

**RQ=Result Qualifier**

**TP Err=Total Propagated Error**

**DF=Dilution Factor**

\* - Indicates results that have NOT been validated;

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

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

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

+ - Indicates more than six qualifier symbols

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

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

U - Analyzed for but not detected above limiting criteria.

Report WGPP/ver. 5.2

Groundwater Remediation Program

# WSCF

## TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent  
 Project Number F08-093 :F08-093

Group #: WSCF20081670  
 Department: Radiochemistry

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	AC-228			0.59	pCi/g
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error			39	%
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	K-40			18	pCi/g
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error			16	%
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	PB-212			0.65	pCi/g
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error			37	%
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	PB-214			1.0	pCi/g
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error			34	%
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	RA-226			0.58	pCi/g
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error			50	%
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	RA-228			0.59	pCi/g
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error			39	%
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	TL-208			0.23	pCi/g
W08GR03258	B1WB32	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error			48	%

RQ=Result Qualifier

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# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: Americium by AEA

Sample Date: 08/03/08  
 Receive Date: 08/05/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR03208</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Americium-241	14596-10-2	U3.1e-2		RPD			n/a	20.000		10/06/08
DUP	Am-243 tracer by AEA	AM243	4.939	86.700	% Recov	30.000	105.000				10/06/08
<b>Lab ID: W08GR03258</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Am-243 tracer by AEA	AM243	3.909	91.730	% Recov	30.000	105.000				10/06/08
<b>BATCH QC</b>											
BLANK	Americium-241	14596-10-2	U7.9e-3	n/a	pCi/g	-10.000	1000.000				10/06/08
BLANK	Am-243 tracer by AEA	AM243	4.002	84.460	% Recov	30.000	105.000				10/06/08
LCS	Americium-241	14596-10-2	13.59	114.684	% Recov	80.000	120.000				10/06/08
LCS	Am-243 tracer by AEA	AM243	11.11	87.620	% Recov	30.000	105.000				10/06/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: Gamma Energy Analysis-grd H2O

Sample Date: 07/09/08  
 Receive Date: 07/10/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR02382</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Cesium-137	10045-97-3	U-1.619e-3					n/a	20.000		09/23/08
DUP	Europium-154	15585-10-1	U-4.342e-3					n/a	20.000		09/23/08
<b>BATCH QC</b>											
BLANK	Cesium-137	10045-97-3	U2.367e-4	n/a	pCi/g	-10.000	1000.000				09/23/08
BLANK	Europium-154	15585-10-1	U9.848e-5	n/a	pCi/g	-10.000	1000.000				09/23/08
LCS	Cesium-137	10045-97-3	8387	105.745	% Recov	80.000	120.000				09/24/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: Plutonium Isotopics by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR03258</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Pu-242 tracer by AEA	PU242	6.09	84.920	% Recov	30.000	105.000				09/24/08
<b>Lab ID: W08GR03325</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Plutonium-238	13981-16-3	U6.1e-3		RPD			n/a	20.000		09/24/08
DUP	Pu-239/240 by AEA	PU-239/240	U3e-3		RPD			n/a	20.000		09/24/08
DUP	Pu-242 tracer by AEA	PU242	5.916	104.360	% Recov	30.000	105.000				09/24/08
<b>BATCH QC</b>											
BLANK	Plutonium-238	13981-16-3	U1.1e-2	n/a	pCi/g	-10.000	1000.000				09/24/08
BLANK	Pu-239/240 by AEA	PU-239/240	7e-2	0.070	pCi/g	-10.000	1000.000				09/24/08
BLANK	Pu-242 tracer by AEA	PU242	6.236	92.350	% Recov	30.000	105.000				09/24/08
LCS	Pu-239/240 by AEA	PU-239/240	11.9	92.643	% Recov	80.000	120.000				09/24/08
LCS	Pu-242 tracer by AEA	PU242	17.3	91.320	% Recov	30.000	105.000				09/24/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: Strontium 89/90

Sample Date: 08/06/08  
 Receive Date: 08/06/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR03235</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	Sr-85 Tracer by Beta Counting	SR85	99.2	99.200	% Recov	30.000	105.000				08/20/08
DUP	Strontium-89/90	SR-RAD	U-1.6		RPD			n/a	20.000		08/20/08
<b>Lab ID: W08GR03258</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	Sr-85 Tracer by Beta Counting	SR85	79.9	79.900	% Recov	30.000	105.000				08/20/08
<b>BATCH QC</b>											
BLANK	Sr-85 Tracer by Beta Counting	SR85	83.1	83.100	% Recov	30.000	105.000				08/20/08
BLANK	Strontium-89/90	10098-97-2	U1.7E-01	n/a	pCi/g	-10.000	300.000				08/20/08
LCS	Sr-85 Tracer by Beta Counting	SR85	87.2	87.200	% Recov	30.000	105.000				08/20/08
LCS	Strontium-89/90	10098-97-2	68.3	98.387	% Recov	80.000	120.000				08/20/08

# WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081670  
 Matrix: SOLID  
 Test: Uranium Isotopics by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
<b>Lab ID: W08GR03258</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
SURR	U-232 tracer by AEA	U232	3.993	105.210	% Recov	30.000	105.000				09/19/08
<b>Lab ID: W08GR03325</b>											
<b>BATCH QC ASSOCIATED WITH SAMPLE</b>											
DUP	U-232 tracer by AEA	U232	3.879	106.250	% Recov	30.000	105.000				09/19/08
DUP	Uranium-233/234	U-233/234	0.22		RPD			20.000	20.000		09/19/08
DUP	Uranium-235	15117-96-1	U9.9e-3		RPD			n/a	20.000		09/19/08
DUP	Uranium-238	U-238	0.18		RPD			5.714	20.000		09/19/08
<b>BATCH QC</b>											
BLANK	U-232 tracer by AEA	U232	4.089	81.390	% Recov	30.000	105.000				09/19/08
BLANK	Uranium-233/234	13966-29-5	U9.6e-3	n/a	pCi/g	-10.000	1000.000				09/19/08
BLANK	Uranium-235	15117-96-1	U-2.1e-3	n/a	pCi/g	-10.000	1000.000				09/19/08
BLANK	Uranium-238	24678-82-8	U3.9e-3	n/a	pCi/g	-10.000	1000.000				09/19/08
LCS	U-232 tracer by AEA	U232	11.35	93.790	% Recov	30.000	105.000				09/19/08
LCS	Uranium-233/234	13966-29-5	N/A	n/a	% Recov	75.000	125.000				09/19/08
LCS	Uranium-235	15117-96-1	N/A	n/a	% Recov	75.000	125.000				09/19/08
LCS	Uranium-238	24678-82-8	20.93	110.419	% Recov	80.000	120.000				09/19/08

# WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent  
Project Number F08-093

Group #: WSCF20081670  
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>ICP-MS:Manganese showed low spike recovery. "N" flag</p> <p>Cyanide: MSD spike recovery 69%. N flag</p> <p>IC Anion - MS/MSD recoveries out of limits for phosphate in sample W08GR03258; Data N-flagged. DTS</p> <p>ICP-AES: High barium and calcium preparation blank results; "C" flag if applicable.</p> <p>No zirconium present in the LCS standard.</p> <p>Elements with results &lt;5X the MDL; "B" flag.</p> <p>Aluminum, iron, magnesium, calcium, and titanium sample results exceed spiking level by a factor of 4 so spike recoveries are not valid.</p> <p>Check and high standards used to ensure aluminum, iron, magnesium, calcium, and potassium linearity because sample results are greater than the calibration standard.</p> <p>High barium and sodium MS recoveries; "N" flag.</p> <p>Iron interference cause calculated beryllium results and boron results biased high; "E" flag.</p> <p>U-234 Duplicate is flagged for poor RPD due to the low countrate of the sample. lmh</p> <p>U-232 Tracer recovery is slightly above the limit. Since</p>

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

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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# WSCF ANALYTICAL COMMENT REPORT

**Attention:** Steve Trent  
**Project Number** F08-093

**Group #:** WSCF20081670  
**Department:** Radiochemistry

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Sample #	Client ID	Lab Area	Test	Comment
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---

the other tracers came out fine, this batch has been approved. lmh

---

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

VALTEST - Test Validation  
LOGTEST - Login for Tests

TESTDATA - Test Data Entry

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M4W41-SLF-08-1126

ATTACHMENT 4

**SAMPLE RECEIPT INFORMATION**

Consisting of 3 pages  
Including cover page

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

*File*

ACKNOWLEDGMENT OF SAMPLES RECEIVED

*09/18/08*  
*td*

Groundwater Remediation Program

Richland, WA 99354  
Attn: Steve Trent

Customer Code: GPP  
PO#: 123117ES10  
Group#: 20081670  
Project#: F08-093  
Proj Mgr: Steve Trent  
Phone: 373-5869

The following samples were received from you on 08/07/08. 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
W08GR03258	B1WB32	TRENT @2008 @IC-30 @AEA-30 @SR89_90	Solid, or handle as if solid @AEA-32 @GPP6010 CN-02	08/05/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AEA-30	Plutonium Isotopics by AEA
@AEA-32	Uranium Isotopics by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@GPP6010	ICP Metals Analysis, Grd H2O P
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90
CN-02	Cyanide by Midi/Spectrophotom

07/18/08

COLLECTOR <b>Fulton</b>	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION C5722 I-001	PROJECT DESIGNATION 200-CW-1 Model Group 5 Sampling - Large Ponds and Waste Sites		SAF NO. F08-093	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.	FIELD LOGBOOK NO. <b>HNF-N-585-1</b>	ACTUAL SAMPLE DEPTH <b>4'-6'</b>	COA 123117ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Waste Sampling & Characterization <b>2008/670</b>	OFFSITE PROPERTY NO. PTR	BILL OF LADING/AIR BILL NO. PTR			

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	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~4C	None																
		TYPE OF CONTAINER	G/P	G/P																
		NO. OF CONTAINER(S)	1	1																
		VOLUME	120mL	120mL																
		SPECIAL HANDLING AND/OR STORAGE Radioactive Tie to B1WB47	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS															

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME																
B1WB32 <b>W08GR03258</b>	SOIL	8-5-08	1005	✓	✓														

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <b>Fulton</b>	DATE/TIME 8-5-08 1050	RECEIVED BY/STORED IN <b>MOSA Fridge</b>	DATE/TIME 8-5-08 1050	<b>** The 200 Area S&amp;GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.</b> (1) ICP Metals - 6010B (Add-On) {Arsenic, Beryllium, Bismuth, Boron, Lithium, Molybdenum, Strontium, Titanium} ICP Metals - 6010B (TAL) {Aluminum, Barium, Calcium, Iron, Magnesium, Potassium, Sodium} ICP/MS - 200.8 (Add-on) {Lead, Selenium, Thallium, Uranium} ICP/MS - 200.8 (TAL) {Antimony, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc} 200.8_HG - ICPMS {Mercury} IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphorus in phosphate, Sulfate} Cyanide (Total) - 335.2 {Cyanide} (2) Gamma Spectroscopy {Cesium-137, Europium-154} Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240} Isotopic Uranium {Uranium-238} Strontium-89,90 -- Total Sr {Total beta radiostrontium}	
RELINQUISHED BY/REMOVED FROM <b>MOSA FRIDGE</b>	DATE/TIME 8/7/08 0728	RECEIVED BY/STORED IN <b>Shwartz</b>	DATE/TIME 8/7/08 0728		
RELINQUISHED BY/REMOVED FROM <b>Shwartz</b>	DATE/TIME 8/7/08 0740	RECEIVED BY/STORED IN <b>Chandler</b>	DATE/TIME 8/7/08 0740		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

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

661069