

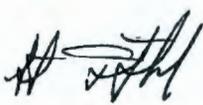
RECEIVED OCTOBER 9, 2008

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 WSCF Analytical Lab
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FLUOR**Memorandum**

M4W41-SLF-08-1125

To: H. Hampt E6-35 Date: 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 WSCF20081634 – SAF NUMBER F08-138

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 WSCF20081634:

- 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-08-1125

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20081634
Data Deliverable Date: 18-sep-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F08-138	B1WMD7	W08GR03208	SOIL

M4W41-SLF-08-1125

ATTACHMENT 2

NARRATIVE

Consisting of 5 pages
Including cover page

Introduction

One (1) S&GRP sample was received at the WSCF Laboratory on August 5, 2008. This sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

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

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

Analytical Methodology for Requested Analyses

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

Inorganic Comments

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

- Matrix Spike and Matrix Spike Duplicate (MS/MSD) were analyzed on sample# B1WMD7 (SDG# 20081634, SAF# F08-138).
- MS/MSD recovery was below the laboratory established limit of 80.0% at 58.4% and 55.0% respectively. Result was N flagged.
- We observed an unknown peak interfering with the ammonia result (poor integration). Result was X flagged.

All QC controls are within the established limits.

Anions – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See pages 20-21 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1WB30 (SDG# 20081484, SAF# F08-093).
- 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 limits. Affected sample results in this batch were N flagged.

All other QC controls are within the established limits.

All QC controls are within the established limits.

Cyanide – The hold time requirement (14 days) for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per GRP Letter of Instruction. See page 22 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VC68 (SDG# 20081633, SAF# F08-090).

All QC controls are within the established limits.

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

- Sample results were D flagged if dilution(s) were required.
- Sample results that were less than five times the reportable limit, however greater than the method detection limit, were B flagged.
- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VHR2 (SDG# 20081738, SAF# F08-093).

All QC controls are within the established limits.

ICP-MS 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 24-25 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).

All QC controls are within the established limits.

Organic Comments

Semi-VOA – The hold time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GPP Letter of Instruction. See pages 29-32 for QC details. Analytical Note(s):

- Matrix Spike and Matrix Spike Duplicate were analyzed on sample# B1VCB4, SDG 20081636, SAF# F08-092).
- The surrogate Terphenly-d14 exceeded the laboratory established value in the LCS. The data was accepted since the Terphenly-d14 recovery in the MS/MSD and blank met the laboratory established criteria.

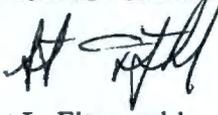
All other QC controls are within the established limits.

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike (*Matrix Spikes apply only to Neptunium, Technetium & Tritium and Matrix Spike Duplicate applies to Neptunium*), Blank and Laboratory Control Sample were analyzed with this delivery group. See page 36-40 for QC details. Analytical Note(s):

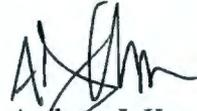
- Rad Chem analyses requested to be performed on these samples included: Americium by AEA, Gamma Energy Analysis, Uranium Isotopics by AEA, Plutonium Isotopics by AEA, and Sr-89/90.
- Gamma Energy Analysis: Duplicate was analyzed on sample# B1VC98, (SDG#20081633, SAF# F08-090).
- Plutonium Isotopics by AEA: Duplicate was analyzed on sample# B1VC98, (SDG#20081633, SAF# F08-090).
- SR 89/90: Duplicate was analyzed on sample# B1VC98, (SDG#20081633, SAF# F08-090).
- Uranium Isotopics by AEA: Duplicate was analyzed on sample# B1VC98, (SDG#20081633, SAF# F08-090).
- The RPD value for U-235 from the duplicate analysis performed on sample B1VC93 did not meet the laboratory established limit, but the RPD criterion does not apply since this was a low level sample.

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



Andrew J. Kopriva
WSCF Client Services

M4W41-SLF-08-1125

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 33 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#: WSCF20081634
Report Date: 7-oct-2008
Report WGPP/ver. 5.2
Groundwater Remediation Program

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20081634

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W08GR03208	Percent Solids
37484	1	37914	42247	BLANK		Cyanide by Midi/Spectrophotom
37484	2	37914	42247	LCS		Cyanide by Midi/Spectrophotom
37484	4	37914	42247	MS	W08GR03193	Cyanide by Midi/Spectrophotom
37484	5	37914	42247	MSD	W08GR03193	Cyanide by Midi/Spectrophotom
37484	5	37914	42247	SPK-RPD	W08GR03193	Cyanide by Midi/Spectrophotom
37484	10	37914	42247	SAMPLE	W08GR03208	Cyanide by Midi/Spectrophotom
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	23	38012	42357	SAMPLE	W08GR03208	ICP-200.8 MS All possible meta
37598	2	38045	42464	BLANK		Anions by Ion Chromatography
37598	17	38045	42464	BLANK		Anions by Ion Chromatography
37598	3	38045	42464	LCS		Anions by Ion Chromatography
37598	5	38045	42464	DUP	W08GR02654	Anions by Ion Chromatography
37598	6	38045	42464	MS	W08GR02654	Anions by Ion Chromatography
37598	7	38045	42464	MSD	W08GR02654	Anions by Ion Chromatography
37598	7	38045	42464	SPK-RPD	W08GR02654	Anions by Ion Chromatography
37598	16	38045	42464	SAMPLE	W08GR03208	Anions by Ion Chromatography
37944	3	38369	42789	BLANK		Ammonia (N) by IC
37944	8	38369	42789	BLANK		Ammonia (N) by IC
37944	1	38369	42789	LCS		Ammonia (N) by IC
37944	5	38369	42789	DUP	W08GR03208	Ammonia (N) by IC
37944	6	38369	42789	MS	W08GR03208	Ammonia (N) by IC
37944	7	38369	42789	MSD	W08GR03208	Ammonia (N) by IC
37944	4	38369	42789	SAMPLE	W08GR03208	Ammonia (N) by IC
37944	7	38369	42789	SPK-RPD	W08GR03208	Ammonia (N) by IC
38158	1	38566	43041	BLANK		ICP Metals Analysis, Grd H20 P
38158	2	38566	43041	LCS		ICP Metals Analysis, Grd H20 P
38158	6	38566	43041	SAMPLE	W08GR03208	ICP Metals Analysis, Grd H20 P
38158	4	38566	43041	MS	W08GR03336	ICP Metals Analysis, Grd H20 P
38158	5	38566	43041	MSD	W08GR03336	ICP Metals Analysis, Grd H20 P
38158	5	38566	43041	SPK-RPD	W08GR03336	ICP Metals Analysis, Grd H20 P

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20081634

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			42496	BLANK		SW-846 8270C Semi-Vols
			42496	LCS		SW-846 8270C Semi-Vols
			42496	SAMPLE	W08GR03208	SW-846 8270C Semi-Vols
			42496	SURR	W08GR03208	SW-846 8270C Semi-Vols
			42496	MS	W08GR03227	SW-846 8270C Semi-Vols
			42496	MSD	W08GR03227	SW-846 8270C Semi-Vols
			42496	SPK-RPD	W08GR03227	SW-846 8270C Semi-Vols

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20081634

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
37478	1	37912	42436	BLANK		Gamma Energy Analysis-grd H2O
37478	2	37912	42436	LCS		Gamma Energy Analysis-grd H2O
37478	3	37912	42436	DUP	W08GR03193	Gamma Energy Analysis-grd H2O
37478	9	37912	42436	SAMPLE	W08GR03208	Gamma Energy Analysis-grd H2O
37878	1	38304	42707	BLANK		Strontium 89/90
37878	2	38304	42707	LCS		Strontium 89/90
37878	3	38304	42707	DUP	W08GR03193	Strontium 89/90
37878	14	38304	42707	SAMPLE	W08GR03208	Strontium 89/90
37878	15	38304	42707	SURR	W08GR03208	Strontium 89/90
38020	1	38489	42903	BLANK		Plutonium Isotopics by AEA
38020	2	38489	42903	LCS		Plutonium Isotopics by AEA
38020	3	38489	42903	DUP	W08GR03193	Plutonium Isotopics by AEA
38020	12	38489	42903	SAMPLE	W08GR03208	Plutonium Isotopics by AEA
38020	13	38489	42903	SURR	W08GR03208	Plutonium Isotopics by AEA
38025	1	38447	42960	BLANK		Uranium Isotopics by AEA
38025	2	38447	42960	LCS		Uranium Isotopics by AEA
38025	3	38447	42960	DUP	W08GR03193	Uranium Isotopics by AEA
38025	12	38447	42960	SAMPLE	W08GR03208	Uranium Isotopics by AEA
38025	13	38447	42960	SURR	W08GR03208	Uranium 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	4	38733	43181	SAMPLE	W08GR03208	Americium by AEA
38312	5	38733	43181	SURR	W08GR03208	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.

LA-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY EPA-600/4-86-024 300.7 Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical HEIS 300.7_CATIONS_IC Determination of Ammonium by Ion Chromatography
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE HEIS 6010_METALS_ICP Inductively Coupled Plasma-Atomic Emission Spectrometry
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY EPA-600/R-94-111 200.8 DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS HEIS 200.8_METALS_ICPMS Inductively Coupled Plasma - Mass Spectrometry HEIS RADISOTOPES_ICPMS Radioisotopes by ICP/MS
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C EPA-600/4-79-020 160.1 Residual, Filterable EPA-600/4-79-020 160.3 RESIDUE, TOTAL HEIS 160.1_TDS Residual, Filterable Standard Methods 2540B Total Solids Dried at 103-105 C
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY EPA-600/R-94-111 300.0 DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY HEIS 300.0_ANIONS_IC Determination of Inorganic Anions by Ion Chromatography
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC EPA-600/4-79-020 335.2 Cyanide, Total HEIS 335.2_CYANIDE Cyanide, Total

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

Report Date: 7-oct-2008
Report#: WSCF20081634
Report WGPPM/5.2

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WSCF

METHOD REFERENCES REPORT

Department: Organic

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

LA-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C
EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
HEIS 8270_SVOA_GCMS	Semivolatile Organic Compounds By Gas Chromatography/Mass Spectrometry (GC/MS)

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#: WSCF20081634
Report WGPPM/5.2

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Page 1

WSCF METHOD REFERENCES REPORT

Department: Radiochemistry

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

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

Attention: Steve Trent
SAF Number: F08-138
Sample # W08GR03208
Client ID: B1WMD7

**TRENT
WSCF**

Matrix: SOIL

Group #: WSCF20081634
Department: Inorganic
Sampled: 08/03/08
Received: 08/05/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											08/13/08
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.300	mg/kg			50.00	0.30		08/13/08
Chloride	16887-00-6	LA-533-410	BD	4.78	mg/kg			50.00	1.5		08/13/08
Phosphate (P) by IC	PO4-P	LA-533-410	DNU	< 2.00	mg/kg			50.00	2.0		08/13/08
Sulfate	14808-79-8	LA-533-410	D	55.6	mg/kg			50.00	3.5		08/13/08
Cyanide											
Cyanide	57-12-5	LA-695-402	U	< 0.200	mg/kg			1.00	0.20		08/07/08
ICP Metals Analysis, Grd H2O P Prep											09/25/08
ICP Metals Analysis, Grd H2O P											
Bismuth	7440-69-9	LA-505-411	U	< 3.48	mg/kg			99.34	3.5		09/25/08
ICP-200.8 MS All possible meta Prep											08/11/08
ICP-200.8 MS All possible meta											
Nickel	7440-02-0	LA-505-412		11.6	mg/kg			0.92	0.184		08/13/08
Silver	7440-22-4	LA-505-412	U	< 0.0921	mg/kg			0.92	0.0921		08/13/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0921	mg/kg			0.92	0.0921		08/13/08
Chromium	7440-47-3	LA-505-412		8.85	mg/kg			0.92	0.461		08/13/08
Copper	7440-50-8	LA-505-412		15.6	mg/kg			0.92	0.0921		08/13/08
Lead	7439-92-1	LA-505-412		3.05	mg/kg			0.92	0.0921		08/13/08
Mercury	7439-97-6	LA-505-412	U	< 0.0461	mg/kg			0.92	0.0461		08/13/08
Selenium	7782-49-2	LA-505-412		0.300	mg/kg			0.92	0.276		08/13/08
Nitrogen in ammonium Prep											09/09/08
Nitrogen in ammonium											
Nitrogen in ammonium	NH4-N	LA-503-401	BDNX	0.898	mg/kg			49.00	0.20		09/10/08
Total solids											

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

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

* - 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: F08-138
Sample # W08GR03208
Client ID: B1WMD7

TRENT
 WSCF

Matrix: SOIL

Group #: WSCF20081634
Department: Inorganic
Sampled: 08/03/08
Received: 08/05/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Total solids	TS	LA-519-412		98.8	Percent			1.00	0.0		08/11/08

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

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

* - 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: WSCF20081634
 Matrix: SOLID
 Test: Ammonia (N) by IC

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
Lab ID: W08GR03208											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Ammonia (N) by IC	7664-41-7	0.903		RPD			0.611	20.000		09/10/08
MS	Ammonia (N) by IC	7664-41-7	0.292188	58.438	% Recov	80.000	120.000				09/10/08
MSD	Ammonia (N) by IC	7664-41-7	0.275234	55.047	% Recov	80.000	120.000				09/10/08
SPK-RPD	Ammonia (N) by IC	7664-41-7	55.047		RPD			5.976	20.000		09/10/08
BATCH QC											
BLANK	Ammonia (N) by IC	7664-41-7	<4e-3	n/a	mg/L	0.000	0.002			U	09/10/08
BLANK	Ammonia (N) by IC	7664-41-7	<4e-3	n/a	mg/L	0.000	0.002			U	09/10/08
LCS	Ammonia (N) by IC	7664-41-7	98.8039	98.804	% Recov	80.000	120.000				09/10/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: Anions by Ion Chromatography

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR02654											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Chloride	16887-00-6	6.8869		RPD			3.940	20.000		08/13/08
DUP	Fluoride	16984-48-8	<0.294		RPD			n/a	20.000	U	08/13/08
DUP	Phosphate (P) by IC	PO4-P	<1.96		RPD			n/a	20.000	U	08/13/08
DUP	Sulfate	14808-79-8	20.0165		RPD			2.643	20.000		08/13/08
MS	Chloride	16887-00-6	0.921339	92.134	% Recov	80.000	120.000				08/13/08
MS	Fluoride	16984-48-8	0.405486	81.423	% Recov	80.000	120.000				08/13/08
MS	Phosphate (P) by IC	PO4-P	0.802543	62.311	% Recov	80.000	120.000				08/13/08
MS	Sulfate	14808-79-8	1.78702	90.254	% Recov	80.000	120.000				08/13/08
MSD	Chloride	16887-00-6	0.941067	94.107	% Recov	80.000	120.000				08/13/08
MSD	Fluoride	16984-48-8	0.416655	83.666	% Recov	80.000	120.000				08/13/08
MSD	Phosphate (P) by IC	PO4-P	0.830473	65.199	% Recov	80.000	120.000				08/13/08
MSD	Sulfate	14808-79-8	1.802712	91.046	% Recov	80.000	120.000				08/13/08
SPK-RPD	Chloride	16887-00-6	94.107		RPD			2.119	20.000		08/13/08
SPK-RPD	Fluoride	16984-48-8	83.666		RPD			2.717	20.000		08/13/08
SPK-RPD	Phosphate (P) by IC	PO4-P	65.199		RPD			4.530	20.000		08/13/08
SPK-RPD	Sulfate	14808-79-8	91.046		RPD			0.874	20.000		08/13/08
BATCH QC											
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/13/08
BLANK	Chloride	16887-00-6	<3e-2	n/a	mg/L	0.000	0.030			U	08/13/08
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/13/08
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	08/13/08
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	08/13/08
BLANK	Phosphate (P) by IC	PO4-P	<4e-2	n/a	mg/L	0.000	0.200			U	08/13/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/13/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	08/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081634
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	Chloride	16887-00-6	194.8642	96.947	% Recov	80.000	120.000				08/13/08
LCS	Fluoride	16984-48-8	101.1852	101.592	% Recov	80.000	120.000				08/13/08
LCS	Phosphate (P) by IC	PO4-P	187.1087	96.746	% Recov	80.000	120.000				08/13/08
LCS	Sulfate	14808-79-8	367.7256	92.860	% Recov	80.000	120.000				08/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: Cyanide by Midi/Spectrophotom

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
Lab ID: W08GR03193											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Cyanide by Midi/Spectrophotom	57-12-5	1.98	100.000	% Recov	75.000	125.000				08/07/08
MSD	Cyanide by Midi/Spectrophotom	57-12-5	1.94	97.000	% Recov	75.000	125.000				08/07/08
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	97.000		RPD			3.046	20.000		08/07/08
BATCH QC											
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	< 4	n/a	ug/L	-4.000	4.000			U	08/07/08
LCS	Cyanide by Midi/Spectrophotom	57-12-5	52.5	105.000	% Recov	85.000	115.000				08/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: ICP Metals Analysis, Grd H2O P

Sample Date: 08/07/08
 Receive Date: 08/14/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR03336											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Bismuth	7440-69-9	190.2	94.627	% Recov	75.000	125.000				09/25/08
MSD	Bismuth	7440-69-9	189.1	94.550	% Recov	75.000	125.000				09/25/08
SPK-RPD	Bismuth	7440-69-9	94.550		RPD			0.081	20.000		09/25/08
BATCH QC											
BLANK	Bismuth	7440-69-9	<3.5e-2	n/a	ug/mL					U	09/25/08
LCS	Bismuth	7440-69-9	95.73	95.634	% Recov	80.000	120.000				09/25/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081634
 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
Lab ID: W08GR02831											
BATCH QC ASSOCIATED WITH SAMPLE											
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
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
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
Lab ID: W08GR02880											
BATCH QC ASSOCIATED WITH SAMPLE											
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	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
MS	Mercury	7439-97-6	1.78	89.000	% 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	Selenium	7782-49-2	89.32	89.320	% 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	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	Nickel	7440-02-0	91.98	91.980	% Recov	70.000	130.000				08/13/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20081634
 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
MSD	Lead	7439-92-1	90.85	90.850	% 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
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	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
SPK-RPD	Mercury	7439-97-6	93.500		RPD			4.932	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	Selenium	7782-49-2	92.750		RPD			3.768	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	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	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	Selenium	7782-49-2	<0.3	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	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	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	Selenium	7782-49-2	173.2	107.578	% Recov	52.000	157.000				08/13/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-138

Group #: WSCF20081634
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>IC Cation - MS/MSD recovery for ammonia out of limits in sample W08GR03208; Data N-flagged. DTS</p> <p>IC Cation - Unknown peak interfering with ammonia result in sample W08GR03208 (poor integration). DTS</p> <p>SVOA: One surrogate, Terphenyl-d14, a bit high at 121% Rec. in the LCS. Sample B1WMD7 analyzed with dilution to protect instrument. Later run of sample w/o dilution looked similar, but the low level of di-n(butyl)phthalate seen in that run was below MDL with 4x diln. Unfortunately, the 2nd analysis of the sample w/o diln. missed the 12h tune check time by 13min. hence, that data not included here. gar</p> <p>W08GR003208/U-235 batch dup is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples.</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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Report Date: 7-oct-2008

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WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-138
Sample # W08GR03208
Client ID: B1WMD7

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20081634
Department: Organic
Sampled: 08/03/08
Received: 08/05/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
SW-846 8270C Semi-Vols Prep											
SW-846 8270C Semi-Vols											
4-Nitrophenol	100-02-7	LA-523-456	U	< 810	ug/kg			4.00	8.1e+02		08/19/08
1,4-Dichlorobenzene	106-46-7	LA-523-456	U	< 970	ug/kg			4.00	9.7e+02		08/19/08
Phenol	108-95-2	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
1,2,4-Trichlorobenzene	120-82-1	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
2,4-Dinitrotoluene	121-14-2	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
Pyrene	129-00-0	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
4-Chloro-3-methylphenol	59-50-7	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
N-Nitrosodi-n-dipropylamine	621-64-7	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
Acenaphthene	83-32-9	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
Pentachlorophenol	87-86-5	LA-523-456	U	< 810	ug/kg			4.00	8.1e+02		08/19/08
2-Chlorophenol	95-57-8	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08
Tributyl phosphate	126-73-8	LA-523-456	U	< 570	ug/kg			4.00	5.7e+02		08/19/08

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)

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

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

D - Analyte was identified at a secondary dilution factor

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

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

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

* - Indicates results that have NOT been validated;

+ - Indicates more than six qualifier symbols

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F08-138 :F08-138

Group #: WSCF20081634
Department: Organic

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR03208	B1WMD7 TREN	SW-846 8270C Semi-Vols	SMP 5.795 2-Pentanone, 4-hydroxy	123-42-2	5.795233	BJ	1.2e +04	ug/kg

RQ=Result Qualifier

B - The Analyte detected in both the BLANK and the SAMPLE.(org)

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

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Organic**

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

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
Lab ID: W08GR03208											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	2-Fluorophenol(Surr)	367-12-4	3888.3	91.100	% Recov	72.000	120.000				08/19/08
SURR	2-Fluorobiphenyl(Surr)	321-80-8	4039.7	99.800	% Recov	66.000	122.000				08/19/08
SURR	Nitrobenzene-d5(Surr)	4165-80-0	3188.4	78.800	% Recov	63.000	125.000				08/19/08
SURR	Phenol-d5(Surr)	4165-82-2	3237.8	80.000	% Recov	66.000	124.000				08/19/08
SURR	2,4,6-Tribromophenol(Surr)	118-79-6	2755.0	68.000	% Recov	49.000	120.000				08/19/08
SURR	Terphenyl-d14(Surr)	98904-43-9	4359.1	108.000	% Recov	58.000	128.000				08/19/08
Lab ID: W08GR03227											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,2,4-Trichlorobenzene	120-82-1	4062.1	101.000	% Recov	75.000	121.000				08/19/08
MS	1,4-Dichlorobenzene	106-46-7	4162.0	103.000	% Recov	68.000	121.000				08/19/08
MS	2,4-Dinitrotoluene	121-14-2	3675.5	91.400	% Recov	66.000	113.000				08/19/08
MS	2-Fluorophenol(Surr)	367-12-4	4041.6	100.000	% Recov	72.000	120.000				08/19/08
MS	Acenaphthene	83-32-9	4117.1	102.000	% Recov	69.000	125.000				08/19/08
MS	4-Chloro-3-methylphenol	59-50-7	6132.6	102.000	% Recov	68.000	116.000				08/19/08
MS	2-Chlorophenol	95-57-8	6205.3	103.000	% Recov	65.000	124.000				08/19/08
MS	N-Nitrosodi-n-dipropylamine	621-64-7	4107.0	102.000	% Recov	69.000	127.000				08/19/08
MS	2-Fluorobiphenyl(Surr)	321-80-8	4313.3	107.000	% Recov	66.000	122.000				08/19/08
MS	Phenol	108-95-2	5326.4	88.300	% Recov	71.000	122.000				08/19/08
MS	Nitrobenzene-d5(Surr)	4165-80-0	4209.6	105.000	% Recov	63.000	125.000				08/19/08
MS	4-Nitrophenol	100-02-7	5939.8	98.500	% Recov	55.000	113.000				08/19/08
MS	Pentachlorophenol	87-86-5	5472.1	90.700	% Recov	50.000	113.000				08/19/08
MS	Phenol-d5(Surr)	4165-82-2	4047.0	101.000	% Recov	66.000	124.000				08/19/08
MS	Pyrene	129-00-0	4264.7	106.000	% Recov	67.000	125.000				08/19/08
MS	2,4,6-Tribromophenol(Surr)	118-79-6	3851.8	95.800	% Recov	49.000	120.000				08/19/08
MS	Terphenyl-d14(Surr)	98904-43-9	4680.7	116.000	% Recov	58.000	128.000				08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

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
MSD	1,2,4-Trichlorobenzene	120-82-1	3958.6	98.000	% Recov	75.000	121.000				08/19/08
MSD	1,4-Dichlorobenzene	106-46-7	4032.0	99.800	% Recov	68.000	121.000				08/19/08
MSD	2,4-Dinitrotoluene	121-14-2	3512.4	87.000	% Recov	66.000	113.000				08/19/08
MSD	2-Fluorophenol(Surr)	367-12-4	3997.5	99.000	% Recov	72.000	120.000				08/19/08
MSD	Acenaphthene	83-32-9	4048.3	100.000	% Recov	69.000	125.000				08/19/08
MSD	4-Chloro-3-methylphenol	59-50-7	6096.5	101.000	% Recov	68.000	116.000				08/19/08
MSD	2-Chlorophenol	95-57-8	6036.0	99.600	% Recov	65.000	124.000				08/19/08
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	4152.5	103.000	% Recov	69.000	127.000				08/19/08
MSD	2-Fluorobiphenyl(Surr)	321-60-8	4117.4	102.000	% Recov	66.000	122.000				08/19/08
MSD	Phenol	108-95-2	5339.3	88.100	% Recov	71.000	122.000				08/19/08
MSD	Nitrobenzene-d5(Surr)	4165-60-0	4075.6	101.000	% Recov	63.000	125.000				08/19/08
MSD	4-Nitrophenol	100-02-7	5885.2	97.100	% Recov	55.000	113.000				08/19/08
MSD	Pentachlorophenol	87-86-5	5642.9	93.100	% Recov	50.000	113.000				08/19/08
MSD	Phenol-d5(Surr)	4165-62-2	4066.0	101.000	% Recov	66.000	124.000				08/19/08
MSD	Pyrene	129-00-0	4271.9	106.000	% Recov	67.000	125.000				08/19/08
MSD	2,4,6-Tribromophenol(Surr)	118-79-6	3991.1	98.800	% Recov	49.000	120.000				08/19/08
MSD	Terphenyl-d14(Surr)	98904-43-9	4589.0	114.000	% Recov	58.000	128.000				08/19/08
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	98.000		RPD			3.015	20.000		08/19/08
SPK-RPD	1,4-Dichlorobenzene	106-46-7	99.800		RPD			3.156	20.000		08/19/08
SPK-RPD	2,4-Dinitrotoluene	121-14-2	87.000		RPD			4.933	20.000		08/19/08
SPK-RPD	2-Fluorophenol(Surr)	367-12-4	99.000		RPD			1.005	20.000		08/19/08
SPK-RPD	Acenaphthene	83-32-9	100.000		RPD			1.980	20.000		08/19/08
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	101.000		RPD			0.985	20.000		08/19/08
SPK-RPD	2-Chlorophenol	95-57-8	99.800		RPD			3.356	20.000		08/19/08
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	103.000		RPD			0.976	20.000		08/19/08
SPK-RPD	2-Fluorobiphenyl(Surr)	321-60-8	102.000		RPD			4.785	20.000		08/19/08
SPK-RPD	Phenol	108-95-2	88.100		RPD			0.227	20.000		08/19/08
SPK-RPD	Nitrobenzene-d5(Surr)	4165-60-0	101.000		RPD			3.883	20.000		08/19/08
SPK-RPD	4-Nitrophenol	100-02-7	97.100		RPD			1.431	20.000		08/19/08
SPK-RPD	Pentachlorophenol	87-86-5	93.100		RPD			2.612	20.000		08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: SW-846 8270C Semi-Vols

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
SPK-RPD	Phenol-d5(Surr)	4165-82-2	101.000		RPD			0.000	20.000		08/19/08
SPK-RPD	Pyrene	129-00-0	106.000		RPD			0.000	20.000		08/19/08
SPK-RPD	2,4,6-Tribromophenol(Surr)	118-79-6	98.800		RPD			3.083	20.000		08/19/08
SPK-RPD	Terphenyl-d14(Surr)	98904-43-9	114.000		RPD			1.739	20.000		08/19/08
BATCH QC											
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 140	n/a	ug/Kg					U	08/19/08
BLANK	1,4-Dichlorobenzene	106-46-7	< 240	n/a	ug/Kg					U	08/19/08
BLANK	2,4-Dinitrotoluene	121-14-2	< 140	n/a	ug/Kg					U	08/19/08
BLANK	2-Fluorophenol(Surr)	367-12-4	3475.8	86.900	% Recov	72.000	120.000				08/19/08
BLANK	Acenaphthene	83-32-9	< 140	n/a	ug/Kg					U	08/19/08
BLANK	4-Chloro-3-methylphenol	59-50-7	< 140	n/a	ug/Kg					U	08/19/08
BLANK	2-Chlorophenol	95-57-8	< 140	n/a	ug/Kg					U	08/19/08
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 140	n/a	ug/Kg					U	08/19/08
BLANK	2-Fluorobiphenyl(Surr)	321-80-8	3514.2	87.900	% Recov	66.000	122.000				08/19/08
BLANK	Phenol	108-95-2	< 140	n/a	ug/Kg					U	08/19/08
BLANK	Nitrobenzene-d5(Surr)	4165-80-0	3535.0	88.400	% Recov	63.000	125.000				08/19/08
BLANK	4-Nitrophenol	100-02-7	< 200	n/a	ug/Kg					U	08/19/08
BLANK	Pentachlorophenol	87-86-5	< 200	n/a	ug/Kg					U	08/19/08
BLANK	Phenol-d5(Surr)	4165-82-2	3422.8	85.600	% Recov	66.000	124.000				08/19/08
BLANK	Pyrene	129-00-0	< 140	n/a	ug/Kg					U	08/19/08
BLANK	Tributyl phosphate	126-73-8	< 140	n/a	ug/Kg					U	08/19/08
BLANK	2,4,6-Tribromophenol(Surr)	118-79-6	2400.1	60.000	% Recov	49.000	120.000				08/19/08
BLANK	Terphenyl-d14(Surr)	98904-43-9	3843.8	96.100	% Recov	58.000	128.000				08/19/08
LCS	1,2,4-Trichlorobenzene	120-82-1	4114.1	103.000	% Recov	76.000	118.000				08/19/08
LCS	1,4-Dichlorobenzene	106-46-7	4396.2	110.000	% Recov	68.000	121.000				08/19/08
LCS	2,4-Dinitrotoluene	121-14-2	3869.1	96.700	% Recov	68.000	112.000				08/19/08
LCS	2-Fluorophenol(Surr)	367-12-4	4194.6	105.000	% Recov	50.600	110.000				08/19/08
LCS	Acenaphthene	83-32-9	4274.0	107.000	% Recov	75.000	121.000				08/19/08
LCS	4-Chloro-3-methylphenol	59-50-7	6235.4	104.000	% Recov	68.000	117.000				08/19/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20081634
 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	2-Chlorophenol	95-57-8	6555.3	109.000	% Recov	84.000	114.000				08/19/08
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	4417.2	110.000	% Recov	76.000	119.000				08/19/08
LCS	2-Fluorobiphenyl(Surr)	321-60-8	4342.8	109.000	% Recov	58.000	109.000				08/19/08
LCS	Phenol	108-95-2	5742.3	95.700	% Recov	80.000	113.000				08/19/08
LCS	Nitrobenzene-d5(Surr)	4165-80-0	4266.7	107.000	% Recov	60.000	118.000				08/19/08
LCS	4-Nitrophenol	100-02-7	6182.9	103.000	% Recov	42.000	123.000				08/19/08
LCS	Pentachlorophenol	87-86-5	5485.8	91.400	% Recov	55.000	120.000				08/19/08
LCS	Phenol-d5(Surr)	4165-82-2	4303.1	108.000	% Recov	59.000	116.000				08/19/08
LCS	Pyrene	129-00-0	4876.8	122.000	% Recov	67.000	122.000				08/19/08
LCS	2,4,6-Tribromophenol(Surr)	118-79-6	3721.2	93.000	% Recov	60.000	120.000				08/19/08
LCS	Terphenyl-d14(Surr)	98904-43-9	4845.9	121.000	% Recov	60.000	120.000				08/19/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-138

Group #: WSCF20081634
Department: Organic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>IC Cation - MS/MSD recovery for ammonia out of limits in sample W08GR03208; Data N-flagged. DTS</p> <p>IC Cation - Unknown peak interfering with ammonia result in sample W08GR03208 (poor integration). DTS</p> <p>SVOA: One surrogate, Terphenyl-d14, a bit high at 121% Rec. in the LCS. Sample B1WMD7 analyzed with dilution to protect instrument. Later run of sample w/o dilution looked similar, but the low level of di-n(butyl)phthalate seen in that run was below MDL with 4x diln. Unfortunately, the 2nd analysis of the sample w/o diln. missed the 12h tune check time by 13min. hence, that data not included here. gar</p> <p>W08GR003208/U-235 batch dup is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples.</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 RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-138
Sample #: W08GR03208
Client ID: B1WMD7

TRENT
WSCF

Matrix: SOIL

Group #: WSCF20081634
Department: Radiochemistry
Sampled: 08/03/08
Received: 08/05/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14598-10-2	LA-508-471	U	0.0300	pCi/g	+0.0444	pCi/g	1.00	0.072		10/06/08
Am-243 tracer by AEA	AM243	LA-508-471		4.90	pCi/g			1.00	0.035		10/06/08
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	1.16e-03	pCi/g	+4.46e-03	pCi/g	1.00	7.8e-03		08/11/08
Cesium-137	10045-97-3	LA-508-481	U	2.40e-03	pCi/g	+5.29e-03	pCi/g	1.00	8.1e-03		08/11/08
Europium-152	14683-23-9	LA-508-481	U	-6.28e-03	pCi/g	+0.0156	pCi/g	1.00	0.024		08/11/08
Europium-154	15585-10-1	LA-508-481	U	-9.34e-03	pCi/g	+0.0146	pCi/g	1.00	0.024		08/11/08
Europium-155	14391-16-3	LA-508-481	U	0.0255	pCi/g	+0.0226	pCi/g	1.00	0.037		08/11/08
Radium-226	13982-63-3	LA-508-481	U	0.443	pCi/g	+0.0711	pCi/g	1.00	0.015		08/11/08
Radium-228	15262-20-1	LA-508-481	U	0.486	pCi/g	+0.0833	pCi/g	1.00	0.027		08/11/08
Plutonium Isotopes by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.0110	pCi/g	+0.0440	pCi/g	1.00	0.081		09/17/08
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	5.70e-03	pCi/g	+0.0140	pCi/g	1.00	0.027		09/17/08
Pu-242 tracer by AEA	PU242	LA-508-471		6.90	pCi/g			1.00	7.7e-03		09/17/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-7.00e-03	pCi/g	+0.0700	pCi/g	1.00	0.19		08/27/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		84.1	Percent			1.00	0.0		08/27/08
Uranium Isotopes by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.160	pCi/g	+0.0560	pCi/g	1.00	6.3e-03		09/19/08
Uranium-235	15117-96-1	LA-508-471	U	5.10e-03	pCi/g	+7.34e-03	pCi/g	1.00	6.9e-03		09/19/08
Uranium-238	U-238	LA-508-471		0.190	pCi/g	+0.0646	pCi/g	1.00	0.022		09/19/08
U-232 tracer by AEA	U232	LA-508-471		4.50	pCi/g			1.00	0.041		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)

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

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

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

+ - Indicates more than six qualifier symbols

D - Analyte was identified at a secondary dilution factor

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

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

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

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
 Project Number F08-138 :F08-138

Group #: WSCF20081634
 Department: Radiochemistry

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	AC-228			0.44	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error			18	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	BI-212			0.35	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error			21	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	BI-214			0.53	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error			12	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	CS-134			0.021	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	CS-134 Count Error			36	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	K-40			13	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error			13	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	PB-212			0.54	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error			9.2	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	PB-214			0.77	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error			19	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	SN-126			0.11	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error			21	%
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	TL-208			0.16	pCi/g
W08GR03208	B1WMD7	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error			15	%

RQ = Result Qualifier

B - The Analyte detected in both the BLANK and the SAMPLE.(org)

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

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 Groundwater Remediation Program

WGPE v 5.2 Report#: WSCF20081634

Report Date: 7-oct-2008

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081634
 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
Lab ID: W08GR03208											
BATCH QC ASSOCIATED WITH SAMPLE											
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
SURR	Am-243 tracer by AEA	AM243	4.939	82.240	% Recov	30.000	105.000				10/06/08
BATCH QC											
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: WSCF20081634
 Matrix: SOLID
 Test: Gamma Energy Analysis-grd H2O

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
Lab ID: W08GR03193											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U-8.052e-4		RPD			n/a	20.000		08/11/08
DUP	Cesium-137	10045-97-3	1.27		RPD			0.949	20.000		08/11/08
DUP	Europium-152	14683-23-9	U1.111e-2		RPD			n/a	20.000		08/11/08
DUP	Europium-154	15585-10-1	U1.852e-3		RPD			n/a	20.000		08/11/08
DUP	Europium-155	14391-16-3	U2.308e-2		RPD			n/a	20.000		08/11/08
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U1.182e-2	n/a	pCi/g	-10.000	1000.000				08/12/08
BLANK	Cesium-137	10045-97-3	U-5.275e-4	n/a	pCi/g	-10.000	1000.000				08/12/08
BLANK	Europium-152	14683-23-9	U-1.745e-3	n/a	pCi/g	-10.000	1000.000				08/12/08
BLANK	Europium-154	15585-10-1	U7.605e-4	n/a	pCi/g	-10.000	1000.000				08/12/08
BLANK	Europium-155	14391-16-3	U-1.004e-2	n/a	pCi/g	-10.000	1000.000				08/12/08
BLANK	Radium-226	13982-63-3	6.24e-2	0.062	pCi/g	-10.000	1000.000				08/12/08
BLANK	Radium-228	15262-20-1	5.548e-2	0.055	pCi/g	-10.000	1000.000				08/12/08
LCS	Cobalt-60	10198-40-0	10550	106.137	% Recov	80.000	120.000				08/08/08
LCS	Cesium-137	10045-97-3	6317	104.586	% Recov	80.000	120.000				08/08/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: Plutonium Isotopics 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
Lab ID: W08GR03193											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U-2.8e-3		RPD			n/a	20.000		09/17/08
DUP	Pu-239/240 by AEA	PU-239/240	U-8.3e-3		RPD			n/a	20.000		09/17/08
DUP	Pu-242 tracer by AEA	PU242	6.974	79.500	% Recov	30.000	105.000				09/17/08
Lab ID: W08GR03208											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242 tracer by AEA	PU242	6.925	67.760	% Recov	30.000	105.000				09/17/08
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U1.9e-2	n/a	pCi/g	-10.000	1000.000				09/17/08
BLANK	Pu-239/240 by AEA	PU-239/240	U2.7e-3	n/a	pCi/g	-10.000	1000.000				09/17/08
BLANK	Pu-242 tracer by AEA	PU242	7.795	81.090	% Recov	30.000	105.000				09/17/08
LCS	Pu-239/240 by AEA	PU-239/240	12.92	100.584	% Recov	80.000	120.000				09/17/08
LCS	Pu-242 tracer by AEA	PU242	17.3	75.200	% Recov	30.000	105.000				09/17/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: Strontium 89/90

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
Lab ID: W08GR03193											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	97.9	97.900	% Recov	30.000	105.000				08/27/08
DUP	Strontium-89/90	SR-RAD	U-7.0E-01		RPD			n/a	20.000		08/27/08
Lab ID: W08GR03208											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	84.1	84.100	% Recov	30.000	105.000				08/27/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	83.3	83.300	% Recov	30.000	105.000				08/27/08
BLANK	Strontium-89/90	10098-97-2	U-9.9E-02	n/a	pCi/g	-10.000	300.000				08/27/08
LCS	Sr-85 Tracer by Beta Counting	SR85	79.7	79.700	% Recov	30.000	105.000				08/27/08
LCS	Strontium-89/90	10098-97-2	65.9	94.929	% Recov	80.000	120.000				08/27/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20081634
 Matrix: SOLID
 Test: Uranium Isotopics 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
Lab ID: W08GR03193											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	U-232 tracer by AEA	U232	4.572	91.080	% Recov	30.000	105.000				09/19/08
DUP	Uranium-233/234	U-233/234	0.17		RPD			0.000	20.000		09/19/08
DUP	Uranium-235	15117-96-1	1.8e-2		RPD			48.276	20.000		09/19/08
DUP	Uranium-238	U-238	0.16		RPD			6.452	20.000		09/19/08
Lab ID: W08GR03208											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	U-232 tracer by AEA	U232	4.541	87.650	% Recov	30.000	105.000				09/19/08
BATCH QC											
BLANK	U-232 tracer by AEA	U232	4.6	89.970	% Recov	30.000	105.000				09/19/08
BLANK	Uranium-233/234	13966-29-5	4e-2	0.040	pCi/g	-10.000	1000.000				09/19/08
BLANK	Uranium-235	15117-96-1	U-2.5e-3	n/a	pCi/g	-10.000	1000.000				09/19/08
BLANK	Uranium-238	24678-82-8	U7e-3	n/a	pCi/g	-10.000	1000.000				09/19/08
LCS	U-232 tracer by AEA	U232	11.35	88.010	% 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	19.7	103.930	% Recov	80.000	120.000				09/19/08

WSCF ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-138

Group #: WSCF20081634
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		<p>IC Cation - MS/MSD recovery for ammonia out of limits in sample W08GR03208; Data N-flagged. DTS</p> <p>IC Cation - Unknown peak interfering with ammonia result in sample W08GR03208 (poor integration). DTS</p> <p>SVOA: One surrogate, Terphenyl-d14, a bit high at 121% Rec. in the LCS. Sample B1WMD7 analyzed with dilution to protect instrument. Later run of sample w/o dilution looked similar, but the low level of di-n(butyl)phthalate seen in that run was below MDL with 4x diln. Unfortunately, the 2nd analysis of the sample w/o diln. missed the 12h tune check time by 13min. hence, that data not included here. gar</p> <p>W08GR003208/U-235 batch dup is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples.</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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wgppc/5.2 Report#: WSCF20081634

Report Date: 7-oct-2008

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M4W41-SLF-08-1125

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
09/18/08
[Signature]

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 122727/ES10
Group#: 20081634
Project#: F08-138
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 08/05/08. 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
W08GR03208	B1WMD7	TRENT @2008 @IC-30	Solid, or handle as if solid @AEA-30 @AEA-32 @GPP6010 @SR89_90 @SVOCGPP CN-02 NH4-IC PERS	08/03/0

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
@SVOCGPP	SW-846 8270C Semi-Vols
CN-02	Cyanide by Midi/Spectrophotom
NH4-IC	Ammonia (N) by IC
PERSOLID	Percent Solids

COLLECTOR NCO Sampler <i>D. Webb</i>	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION CS923	PROJECT DESIGNATION BC Cribs & Trenches (Former TW-1 OU Vadose Zone) - Waste Management	SAF NO. F08-138	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 122727E510	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization <i>20081634</i>	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.			

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 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	Cool-4C	None
		TYPE OF CONTAINER	aG	G/P	Square Bottle - Poly
		NO. OF CONTAINER(S)	1	1	1
		VOLUME	250ml	250ml	500ml
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	Semi-VOC - 8270B (Add-On) (Tributyl phosphate)	SEE ITEM (1) IN SPECIAL INSTRUCTIONS <i>20081634</i>	SEE ITEM (2) IN SPECIAL INSTRUCTIONS <i>20081634</i>

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B1WMD7 <i>W086203208</i>	SOIL	<i>8-3-08</i>	<i>0830</i>	<i>X</i>	<i>X</i>	<i>X</i>

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS		
RELINQUISHED BY/REMOVED FROM <i>D. Webb</i>	DATE/TIME <i>8-3-08 1300</i>	RECEIVED BY/STORED IN <i>M. 413 FR 2008</i>	DATE/TIME <i>8-3-08 1300</i>	Sample @ 310 Feet. Drum Number BC1-08-068 / 0050224. Radioactive tie to B1WMD6. (1) ICP/MS - 200.8 (TAL) {Cadmium, Chromium, Copper, Nickel, Silver} ICP/MS - 200.8 (Add-on) {Lead, Selenium} ICP Metals - 6010B (Add-On) {Bismuth} 200.8 HG - ICPMS {Mercury} Cations (IC) - 300.7 {Nitrogen in ammonium} Cyanide (Total) - 335.2; IC Anions - 300.0 {Chloride, Fluoride, Phosphate, Sulfate} (2) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Gamma Spec - Add-on {Radium-226, Radium-228} Americium-241; Isotopic Plutonium; Isotopic Uranium; Strontium-89,90 -- Total Sr;
RELINQUISHED BY/REMOVED FROM <i>MO 413 ER 0615</i>	DATE/TIME <i>8-5-08 0645</i>	RECEIVED BY/STORED IN <i>J. Herrick J. Herrick</i>	DATE/TIME <i>8-5-08 0645</i>	
RELINQUISHED BY/REMOVED FROM <i>J. Herrick J. Herrick</i>	DATE/TIME <i>8-5-08 1810</i>	RECEIVED BY/STORED IN <i>Off Hudson</i>	DATE/TIME <i>8-5-08 1815</i>	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

ICED

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

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