RECEIVED JUNE 19, 2008

0079555

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

FLUOR

Memorandum

M4W41-SLF-08-627

To: H. Hampt E6-35 Date: June 19, 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 WSCF20080882 – SAF NUMBER F08-031

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20080882:

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

SLF/grf

Attachments 4

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ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20080882
Data Deliverable Date: 16-jun-2008
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F08-031	B1TFN9	W08GR01131	SOIL
	B1TFP0	W08GR01132	SOIL
	B1TFP3	W08GR01133	SOIL
	B1TFP4	W08GR01134	SOIL

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ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Four S&GRP samples were received at the WSCF Laboratory on May 1, 2008. Samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The 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 through 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 18 through 20 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.
- Nitrate-N (B1TFP4) – Duplicate Relative Percent Difference (RPD) exceeded established laboratory limits. No flags issued.

All other QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were not met. See comment below. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group per the GRP Letter of Instruction. See page 21 through 23 for QC details. Analytical Note(s):

- Missed Hold Time (Mercury) – Samples were collected on February 11, 12, 14 and 19, 2008, however were not delivered to the WSCF Laboratory until May 1, 2008, after the regulatory hold time had expired.

- Selenium detected in the Blank was evaluated and affected sample results were C flagged.

All other QC controls are within the established limits.

Radiochemistry Comments

Rad Chem – There are no hold times associated with WSCF's radiochemical methods. A Duplicate, Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 32 through 40 for QC details. Analytical Note(s):

- Am-241 and 243 (tracer) – Duplicates were analyzed on samples B1TFF2 (SDG# 20080847, SAF# F08-066) and B1TFN9 of this SDG.

- Plutonium-239/240 and 242 (tracer) – Duplicates were analyzed on samples B1TFF2 (SDG# 20080847, SAF# F08-066) and B1TFN9 of this SDG. Plutonium-239/240 (B1TFN9) Duplicate Relative Percent Difference (RPD) exceeded established laboratory limits. No flags issued.

- Uranium-233/234, 235, 238 and 232 (tracer) – Duplicates were analyzed on samples B1TFF2 (SDG# 20080847, SAF# F08-066) and B1TFN9 of this SDG.

    - Uranium-233/234 and 235 (B1TFF2) - Duplicate RPDs exceeded established laboratory limits. No flags issued.

    - Uranium-233/234 (B1TFN9) - Duplicate RPD exceeded established laboratory limits. No flags issued.

All other QC controls are within the established limits.

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

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Pauline D. Mix
WSCF Client Services

M4W41-SLF-08-627

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 35 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald 6/19/08

Client Services: P.D. Mix 6/19/2008

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

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Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20080882
Report Date: 19-jun-2008
Report WGPP/ver. 5.2

w13qlog v4.2 19-jun-2008 07:07:53

Department: Inorganic

W13q Worklist/Batch/QC Report for Group# WSCF20080882

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36230	1	36646	40981	BLANK		ICP-200.8 MS All possible meta
36230	2	36646	40981	LCS		ICP-200.8 MS All possible meta
36230	4	36646	40981	MS	W08GR01131	ICP-200.8 MS All possible meta
36230	5	36646	40981	MSD	W08GR01131	ICP-200.8 MS All possible meta
36230	3	36646	40981	SAMPLE	W08GR01131	ICP-200.8 MS All possible meta
36230	5	36646	40981	SPK-RPD	W08GR01131	ICP-200.8 MS All possible meta
36230	6	36646	40981	SAMPLE	W08GR01132	ICP-200.8 MS All possible meta
36230	7	36646	40981	SAMPLE	W08GR01133	ICP-200.8 MS All possible meta
36230	8	36646	40981	SAMPLE	W08GR01134	ICP-200.8 MS All possible meta
36438	2	36852	41194	BLANK		Anions by Ion Chromatography
36438	16	36852	41194	BLANK		Anions by Ion Chromatography
36438	3	36852	41194	LCS		Anions by Ion Chromatography
36438	14	36852	41194	SAMPLE	W08GR01131	Anions by Ion Chromatography
36438	15	36852	41194	SAMPLE	W08GR01132	Anions by Ion Chromatography
36438	5	36852	41194	DUP	W08GR01134	Anions by Ion Chromatography
36438	6	36852	41194	MS	W08GR01134	Anions by Ion Chromatography
36438	7	36852	41194	MSD	W08GR01134	Anions by Ion Chromatography
36438	4	36852	41194	SAMPLE	W08GR01134	Anions by Ion Chromatography
36438	7	36852	41194	SPK-RPD	W08GR01134	Anions by Ion Chromatography
36526	2	36940	41293	BLANK		Anions by Ion Chromatography
36526	9	36940	41293	BLANK		Anions by Ion Chromatography
36526	3	36940	41293	LCS		Anions by Ion Chromatography
36526	5	36940	41293	DUP	W08GR01133	Anions by Ion Chromatography
36526	6	36940	41293	MS	W08GR01133	Anions by Ion Chromatography
36526	7	36940	41293	MSD	W08GR01133	Anions by Ion Chromatography
36526	4	36940	41293	SAMPLE	W08GR01133	Anions by Ion Chromatography
36526	7	36940	41293	SPK-RPD	W08GR01133	Anions by Ion Chromatography

w13qlog v4.2 19-jun-2008 07:07:53

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20080882

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
36269	1	36682	41085	BLANK		Gamma Energy Analysis-grd H2O
36269	2	36682	41085	LCS		Gamma Energy Analysis-grd H2O
36269	3	36682	41085	DUP	W08GR01131	Gamma Energy Analysis-grd H2O
36269	4	36682	41085	SAMPLE	W08GR01131	Gamma Energy Analysis-grd H2O
36269	5	36682	41085	SAMPLE	W08GR01132	Gamma Energy Analysis-grd H2O
36269	6	36682	41085	SAMPLE	W08GR01133	Gamma Energy Analysis-grd H2O
36269	7	36682	41085	SAMPLE	W08GR01134	Gamma Energy Analysis-grd H2O
36226	1	36642	41111	BLANK		Strontium 89/90
36226	2	36642	41111	LCS		Strontium 89/90
36226	3	36642	41111	DUP	W08GR01131	Strontium 89/90
36226	4	36642	41111	SAMPLE	W08GR01131	Strontium 89/90
36226	5	36642	41111	SURR	W08GR01131	Strontium 89/90
36226	10	36642	41111	SAMPLE	W08GR01132	Strontium 89/90
36226	11	36642	41111	SURR	W08GR01132	Strontium 89/90
36226	6	36642	41111	SAMPLE	W08GR01133	Strontium 89/90
36226	7	36642	41111	SURR	W08GR01133	Strontium 89/90
36226	8	36642	41111	SAMPLE	W08GR01134	Strontium 89/90
36226	9	36642	41111	SURR	W08GR01134	Strontium 89/90
36383	1	36798	41156	BLANK		Uranium Isotopics by AEA
36383	2	36798	41156	LCS		Uranium Isotopics by AEA
36383	3	36798	41156	DUP	W08GR01075	Uranium Isotopics by AEA
36383	17	36798	41156	SAMPLE	W08GR01132	Uranium Isotopics by AEA
36383	16	36798	41156	SURR	W08GR01132	Uranium Isotopics by AEA
36381	1	36796	41226	BLANK		Plutonium Isotopics by AEA
36381	2	36796	41226	LCS		Plutonium Isotopics by AEA
36381	3	36796	41226	DUP	W08GR01075	Plutonium Isotopics by AEA
36381	17	36796	41226	SAMPLE	W08GR01132	Plutonium Isotopics by AEA
36381	16	36796	41226	SURR	W08GR01132	Plutonium Isotopics by AEA
36553	1	36985	41332	BLANK		Americium by AEA
36553	2	36985	41332	LCS		Americium by AEA
36553	3	36985	41332	DUP	W08GR01075	Americium by AEA
36553	16	36985	41332	SAMPLE	W08GR01132	Americium by AEA
36553	17	36985	41332	SURR	W08GR01132	Americium by AEA
36720	1	37137	41489	BLANK		Neptunium by AEA
36720	2	37137	41489	LCS		Neptunium by AEA
36720	3	37137	41489	DUP	W08GR01131	Neptunium by AEA
36720	5	37137	41489	MS	W08GR01131	Neptunium by AEA
36720	6	37137	41489	MSD	W08GR01131	Neptunium by AEA
36720	4	37137	41489	SAMPLE	W08GR01131	Neptunium by AEA
36720	6	37137	41489	SPK-RPD	W08GR01131	Neptunium by AEA
36720	8	37137	41489	MS	W08GR01132	Neptunium by AEA
36720	7	37137	41489	SAMPLE	W08GR01132	Neptunium by AEA
36720	10	37137	41489	MS	W08GR01133	Neptunium by AEA
36720	9	37137	41489	SAMPLE	W08GR01133	Neptunium by AEA
36720	12	37137	41489	MS	W08GR01134	Neptunium by AEA
36720	11	37137	41489	SAMPLE	W08GR01134	Neptunium by AEA

36707	1	37124	41496	BLANK		Uranium Isotopics by AEA
36707	2	37124	41496	LCS		Uranium Isotopics by AEA
36707	3	37124	41496	DUP	W08GR01131	Uranium Isotopics by AEA
36707	4	37124	41496	SAMPLE	W08GR01131	Uranium Isotopics by AEA
36707	5	37124	41496	SURR	W08GR01131	Uranium Isotopics by AEA
36707	6	37124	41496	SAMPLE	W08GR01133	Uranium Isotopics by AEA
36707	7	37124	41496	SURR	W08GR01133	Uranium Isotopics by AEA
36707	8	37124	41496	SAMPLE	W08GR01134	Uranium Isotopics by AEA
36707	9	37124	41496	SURR	W08GR01134	Uranium Isotopics by AEA
36708	1	37125	41500	BLANK		Plutonium Isotopics by AEA
36708	2	37125	41500	LCS		Plutonium Isotopics by AEA
36708	3	37125	41500	DUP	W08GR01131	Plutonium Isotopics by AEA
36708	4	37125	41500	SAMPLE	W08GR01131	Plutonium Isotopics by AEA
36708	5	37125	41500	SURR	W08GR01131	Plutonium Isotopics by AEA
36708	6	37125	41500	SAMPLE	W08GR01133	Plutonium Isotopics by AEA
36708	7	37125	41500	SURR	W08GR01133	Plutonium Isotopics by AEA
36708	8	37125	41500	SAMPLE	W08GR01134	Plutonium Isotopics by AEA
36708	9	37125	41500	SURR	W08GR01134	Plutonium Isotopics by AEA
36709	1	37126	41501	BLANK		Americium by AEA
36709	2	37126	41501	LCS		Americium by AEA
36709	3	37126	41501	DUP	W08GR01131	Americium by AEA
36709	4	37126	41501	SAMPLE	W08GR01131	Americium by AEA
36709	5	37126	41501	SURR	W08GR01131	Americium by AEA
36709	6	37126	41501	SAMPLE	W08GR01133	Americium by AEA
36709	7	37126	41501	SURR	W08GR01133	Americium by AEA
36709	8	37126	41501	SAMPLE	W08GR01134	Americium by AEA
36709	9	37126	41501	SURR	W08GR01134	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-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-533-410 LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY

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

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

WSCF
METHOD REFERENCES REPORT

Department: Radiochemistry

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

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

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

LA-508-471 LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP

HEIS PUISO_IE_PRECIP_AEA	Plutonium by Alpha Energy Analysis
HEIS RAISO_AEA	Radium-226

LA-508-481 LA-508-481: GAMMA ENERGY ANALYSIS USING PROCOUNT SOFTWARE

HEIS GAMMA_GS	Gamma Emmision Spectrometry

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01131
Client ID: B1TFN9 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Inorganic
Sampled: 02/11/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											**05/22/08**
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.294	mg/kg			49.00	0.29		05/22/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.490	mg/kg			49.00	0.49		05/22/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	2.00	mg/kg			49.00	0.24		05/22/08
Sulfate	14808-79-8	LA-533-410	BD	4.59	mg/kg			49.00	3.4		05/22/08
ICP-200.8 MS All possible meta Prep											**05/07/08**
ICP-200.8 MS All possible meta											
Nickel	7440-02-0	LA-505-412		8.95	mg/kg			1.00	0.199		05/07/08
Silver	7440-22-4	LA-505-412	U	< 0.0997	mg/kg			1.00	0.0997		05/07/08
Barium	7440-39-3	LA-505-412		76.9	mg/kg			1.00	0.199		05/07/08
Beryllium	7440-41-7	LA-505-412		0.260	mg/kg			1.00	0.0498		05/07/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0997	mg/kg			1.00	0.0997		05/07/08
Chromium	7440-47-3	LA-505-412		7.91	mg/kg			1.00	0.498		05/07/08
Copper	7440-50-8	LA-505-412		13.1	mg/kg			1.00	0.0997		05/07/08
Zinc	7440-66-6	LA-505-412		39.7	mg/kg			1.00	0.797		05/07/08
Lead	7439-92-1	LA-505-412		4.31	mg/kg			1.00	0.0997		05/07/08
Mercury	7439-97-6	LA-505-412	U	< 0.0498	mg/kg			1.00	0.0498		05/07/08
Arsenic	7440-38-2	LA-505-412		3.51	mg/kg			1.00	0.399		05/07/08
Selenium	7782-49-2	LA-505-412	C	0.460	mg/kg			1.00	0.299		05/07/08

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
U - Analyzed for but not detected above limiting criteria.

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01132
Client ID: B1TFP0 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Inorganic
Sampled: 02/12/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											**05/22/08**
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.300	mg/kg			50.00	0.30		05/22/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.500	mg/kg			50.00	0.50		05/22/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	1.57	mg/kg			50.00	0.25		05/22/08
Sulfate	14808-79-8	LA-533-410	BD	11.2	mg/kg			50.00	3.5		05/22/08
ICP-200.8 MS All possible meta Prep											**05/07/08**
ICP-200.8 MS All possible meta											
Nickel	7440-02-0	LA-505-412		9.84	mg/kg			0.99	0.197		05/07/08
Silver	7440-22-4	LA-505-412	U	< 0.0987	mg/kg			0.99	0.0987		05/07/08
Barium	7440-39-3	LA-505-412		76.0	mg/kg			0.99	0.197		05/07/08
Beryllium	7440-41-7	LA-505-412		0.280	mg/kg			0.99	0.0494		05/07/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0987	mg/kg			0.99	0.0987		05/07/08
Chromium	7440-47-3	LA-505-412		8.74	mg/kg			0.99	0.494		05/07/08
Copper	7440-50-8	LA-505-412		15.5	mg/kg			0.99	0.0987		05/07/08
Zinc	7440-66-6	LA-505-412		45.2	mg/kg			0.99	0.790		05/07/08
Lead	7439-92-1	LA-505-412		3.14	mg/kg			0.99	0.0987		05/07/08
Mercury	7439-97-6	LA-505-412		0.500	mg/kg			0.99	0.0494		05/07/08
Arsenic	7440-38-2	LA-505-412		2.70	mg/kg			0.99	0.395		05/07/08
Selenium	7782-49-2	LA-505-412	C	0.570	mg/kg			0.99	0.296		05/07/08

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
U - Analyzed for but not detected above limiting criteria.

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01133
Client ID: B1TFP3 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Inorganic
Sampled: 02/14/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											**06/02/08**
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.294	mg/kg			49.00	0.29		06/02/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.490	mg/kg			49.00	0.49		06/02/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	0.795	mg/kg			49.00	0.24		06/02/08
Sulfate	14808-79-8	LA-533-410	BD	8.87	mg/kg			49.00	3.4		06/02/08
ICP-200.8 MS All possible meta Prep											**05/07/08**
ICP-200.8 MS All possible meta											
Nickel	7440-02-0	LA-505-412		6.22	mg/kg			0.96	0.192		05/07/08
Silver	7440-22-4	LA-505-412	U	< 0.0962	mg/kg			0.96	0.0962		05/07/08
Barium	7440-39-3	LA-505-412		55.4	mg/kg			0.96	0.192		05/07/08
Beryllium	7440-41-7	LA-505-412		0.200	mg/kg			0.96	0.0481		05/07/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0962	mg/kg			0.96	0.0962		05/07/08
Chromium	7440-47-3	LA-505-412		5.51	mg/kg			0.96	0.481		05/07/08
Copper	7440-50-8	LA-505-412		9.25	mg/kg			0.96	0.0962		05/07/08
Zinc	7440-66-6	LA-505-412		27.9	mg/kg			0.96	0.769		05/07/08
Lead	7439-92-1	LA-505-412		2.66	mg/kg			0.96	0.0962		05/07/08
Mercury	7439-97-6	LA-505-412	U	< 0.0481	mg/kg			0.96	0.0481		05/07/08
Arsenic	7440-38-2	LA-505-412		1.85	mg/kg			0.96	0.385		05/07/08
Selenium	7782-49-2	LA-505-412	C	0.520	mg/kg			0.96	0.288		05/07/08

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
U - Analyzed for but not detected above limiting criteria.

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01134
Client ID: B1TFP4 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Inorganic
Sampled: 02/19/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Anions by Ion Chromatography Prep											**05/22/08**
Anions by Ion Chromatography											
Fluoride	16984-48-8	LA-533-410	DU	< 0.300	mg/kg			50.00	0.30		05/22/08
Nitrogen in Nitrite	NO2-N	LA-533-410	DU	< 0.500	mg/kg			50.00	0.50		05/22/08
Nitrogen in Nitrate	NO3-N	LA-533-410	BD	0.325	mg/kg			50.00	0.25		05/22/08
Sulfate	14808-79-8	LA-533-410	DU	< 3.50	mg/kg			50.00	3.5		05/22/08
ICP-200.8 MS All possible meta Prep											**05/07/08**
ICP-200.8 MS All possible meta											
Nickel	7440-02-0	LA-505-412		10.5	mg/kg			0.96	0.192		05/07/08
Silver	7440-22-4	LA-505-412	U	< 0.0961	mg/kg			0.96	0.0961		05/07/08
Barium	7440-39-3	LA-505-412		62.6	mg/kg			0.96	0.192		05/07/08
Beryllium	7440-41-7	LA-505-412		0.190	mg/kg			0.96	0.0480		05/07/08
Cadmium	7440-43-9	LA-505-412	U	< 0.0961	mg/kg			0.96	0.0961		05/07/08
Chromium	7440-47-3	LA-505-412		10.2	mg/kg			0.96	0.480		05/07/08
Copper	7440-50-8	LA-505-412		8.49	mg/kg			0.96	0.0961		05/07/08
Zinc	7440-66-6	LA-505-412		30.5	mg/kg			0.96	0.769		05/07/08
Lead	7439-92-1	LA-505-412		3.28	mg/kg			0.96	0.0961		05/07/08
Mercury	7439-97-6	LA-505-412	U	< 0.0480	mg/kg			0.96	0.0480		05/07/08
Arsenic	7440-38-2	LA-505-412		5.66	mg/kg			0.96	0.384		05/07/08
Selenium	7782-49-2	LA-505-412	C	0.640	mg/kg			0.96	0.288		05/07/08

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
U - Analyzed for but not detected above limiting criteria.

C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080882
Matrix: SOLID
Test: Anions by Ion Chromatography

Sample Date: 02/19/08
Receive Date:05/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01134											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Fluoride	16984-48-8	<0.3		RPD			n/a	20.000	U	05/22/08
DUP	Nitrogen in Nitrite	NO2-N	<0.5		RPD			n/a	20.000	U	05/22/08
DUP	Nitrogen in Nitrate	NO3-N	0.787		RPD			83.119	20.000 *		05/22/08
DUP	Sulfate	14808-79-8	<3.5		RPD			n/a	20.000	U	05/22/08
MS	Fluoride	16984-48-8	0.470604	94.499	% Recov	80.000	120.000				05/22/08
MS	Nitrogen in Nitrite	NO2-N	0.472936	95.158	% Recov	80.000	120.000				05/22/08
MS	Nitrogen in Nitrate	NO3-N	0.450412	100.092	% Recov	80.000	120.000				05/22/08
MS	Sulfate	14808-79-8	1.910832	96.507	% Recov	80.000	120.000				05/22/08
MSD	Fluoride	16984-48-8	0.472274	94.834	% Recov	80.000	120.000				05/22/08
MSD	Nitrogen in Nitrite	NO2-N	0.471064	94.781	% Recov	80.000	120.000				05/22/08
MSD	Nitrogen in Nitrate	NO3-N	0.445202	98.934	% Recov	80.000	120.000				05/22/08
MSD	Sulfate	14808-79-8	1.916812	96.809	% Recov	80.000	120.000				05/22/08
SPK-RPD	Fluoride	16984-48-8	94.834		RPD			0.354	20.000		05/22/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	94.781		RPD			0.397	20.000		05/22/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	98.934		RPD			1.164	20.000		05/22/08
SPK-RPD	Sulfate	14808-79-8	96.809		RPD			0.312	20.000		05/22/08
BATCH QC											
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	05/22/08
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	05/22/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	05/22/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	05/22/08
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	05/22/08
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	05/22/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	05/22/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	05/22/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080882
Matrix: SOLID
Test: Anions by Ion Chromatography

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Fluoride	16984-48-8	106.918	107.347	% Recov	80.000	120.000				05/22/08
LCS	Nitrogen in Nitrite	NO2-N	99.243	99.842	% Recov	80.000	120.000				05/22/08
LCS	Nitrogen in Nitrate	NO3-N	92.5205	102.686	% Recov	80.000	120.000				05/22/08
LCS	Sulfate	14808-79-8	387.1743	97.771	% Recov	80.000	120.000				05/22/08

Lab ID: W08GR01133
BATCH QC ASSOCIATED WITH SAMPLE

DUP	Fluoride	16984-48-8	<0.3		RPD			n/a	20.000	U	06/02/08
DUP	Nitrogen in Nitrite	NO2-N	<0.5		RPD			n/a	20.000	U	06/02/08
DUP	Nitrogen in Nitrate	NO3-N	0.9386		RPD			16.529	20.000		06/02/08
DUP	Sulfate	14808-79-8	10.6916		RPD			18.624	20.000		06/02/08
MS	Fluoride	16984-48-8	0.445072	89.372	% Recov	80.000	120.000				06/02/08
MS	Nitrogen in Nitrite	NO2-N	0.483264	97.236	% Recov	80.000	120.000				06/02/08
MS	Nitrogen in Nitrate	NO3-N	0.441513	98.114	% Recov	80.000	120.000				06/02/08
MS	Sulfate	14808-79-8	1.86475	94.179	% Recov	80.000	120.000				06/02/08
MSD	Fluoride	16984-48-8	0.453806	91.126	% Recov	80.000	120.000				06/02/08
MSD	Nitrogen in Nitrite	NO2-N	0.490461	98.684	% Recov	80.000	120.000				06/02/08
MSD	Nitrogen in Nitrate	NO3-N	0.449661	99.925	% Recov	80.000	120.000				06/02/08
MSD	Sulfate	14808-79-8	1.892414	95.576	% Recov	80.000	120.000				06/02/08
SPK-RPD	Fluoride	16984-48-8	91.126		RPD			1.944	20.000		06/02/08
SPK-RPD	Nitrogen in Nitrite	NO2-N	98.684		RPD			1.478	20.000		06/02/08
SPK-RPD	Nitrogen in Nitrate	NO3-N	99.925		RPD			1.829	20.000		06/02/08
SPK-RPD	Sulfate	14808-79-8	95.576		RPD			1.472	20.000		06/02/08

BATCH QC

BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	06/02/08
BLANK	Fluoride	16984-48-8	<6e-3	n/a	mg/L	0.000	0.030			U	06/02/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	06/02/08
BLANK	Nitrogen in Nitrite	NO2-N	<1e-2	n/a	mg/L	0.000	0.020			U	06/02/08
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	06/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080882
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
BLANK	Nitrogen in Nitrate	NO3-N	<5e-3	n/a	mg/L	0.000	0.040			U	06/02/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	06/02/08
BLANK	Sulfate	14808-79-8	<7e-2	n/a	mg/L	0.000	0.200			U	06/02/08
LCS	Fluoride	16984-48-8	104.6701	105.090	% Recov	80.000	120.000				06/02/08
LCS	Nitrogen in Nitrite	NO2-N	103.3617	103.986	% Recov	80.000	120.000				06/02/08
LCS	Nitrogen in Nitrate	NO3-N	93.2452	103.491	% Recov	80.000	120.000				06/02/08
LCS	Sulfate	14808-79-8	389.4643	98.350	% Recov	80.000	120.000				06/02/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080882
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

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

Lab ID: W08GR01131
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
MS	Silver	7440-22-4	188.2	94.100	% Recov	70.000	130.000				05/07/08
MS	Arsenic	7440 38-2	193.09	96.545	% Recov	70.000	130.000				05/07/08
MS	Barium	7440-39-3	186.32	93.160	% Recov	70.000	130.000				05/07/08
MS	Beryllium	7440-41-7	193.74	96.870	% Recov	70.000	130.000				05/07/08
MS	Cadmium	7440-43-9	191.7	95.850	% Recov	70.000	130.000				05/07/08
MS	Chromium	7440-47-3	192.19	96.095	% Recov	70.000	130.000				05/07/08
MS	Copper	7440-50-8	188.01	94.005	% Recov	70.000	130.000				05/07/08
MS	Mercury	7439-97-6	2.08	104.000	% Recov	70.000	130.000				05/07/08
MS	Nickel	7440-02-0	205.05	102.525	% Recov	70.000	130.000				05/07/08
MS	Lead	7439-92-1	192.79	96.395	% Recov	70.000	130.000				05/07/08
MS	Selenium	7782-49-2	190.64	95.320	% Recov	70.000	130.000				05/07/08
MS	Zinc	7440-66-6	189.48	94.740	% Recov	70.000	130.000				05/07/08
MSD	Silver	7440-22-4	190	95.000	% Recov	70.000	130.000				05/07/08
MSD	Arsenic	7440-38-2	194.09	97.045	% Recov	70.000	130.000				05/07/08
MSD	Barium	7440-39-3	186.72	93.360	% Recov	70.000	130.000				05/07/08
MSD	Beryllium	7440-41-7	194.94	97.470	% Recov	70.000	130.000				05/07/08
MSD	Cadmium	7440-43-9	192.9	96.450	% Recov	70.000	130.000				05/07/08
MSD	Chromium	7440-47-3	195.19	97.595	% Recov	70.000	130.000				05/07/08
MSD	Copper	7440-50-8	193.11	96.555	% Recov	70.000	130.000				05/07/08
MSD	Mercury	7439-97-6	2.08	104.000	% Recov	70.000	130.000				05/07/08
MSD	Nickel	7440-02-0	195.85	97.925	% Recov	70.000	130.000				05/07/08
MSD	Lead	7439-92-1	193.79	96.895	% Recov	70.000	130.000				05/07/08
MSD	Selenium	7782-49-2	190.14	95.070	% Recov	70.000	130.000				05/07/08
MSD	Zinc	7440-66-6	194.38	97.190	% Recov	70.000	130.000				05/07/08
SPK-RPD	Silver	7440-22-4	95.000		RPD			0.952	20.000		05/07/08
SPK-RPD	Arsenic	7440-38-2	97.045		RPD			0.517	20.000		05/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Inorganic

SDG Number: WSCF20080882
Matrix: SOLID
Test: ICP-200.8 MS All possible meta

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SPK RPD	Barium	7440-39-3	93.360		RPD			0.214	20.000		05/07/08
SPK-RPD	Beryllium	7440-41-7	97.470		RPD			0.617	20.000		05/07/08
SPK-RPD	Cadmium	7440-43-9	96.450		RPD			0.624	20.000		05/07/08
SPK-RPD	Chromium	7440-47-3	97.595		RPD			1.549	20.000		05/07/08
SPK-RPD	Copper	7440-50-8	96.555		RPD			2.676	20.000		05/07/08
SPK-RPD	Mercury	7439-97-6	104.000		RPD			0.000	20.000		05/07/08
SPK-RPD	Nickel	7440-02-0	97.925		RPD			4.590	20.000		05/07/08
SPK-RPD	Lead	7439 92-1	96.895		RPD			0.517	20.000		05/07/08
SPK-RPD	Selenium	7782-49-2	95.070		RPD			0.263	20.000		05/07/08
SPK-RPD	Zinc	7440-66-6	97.190		RPD			2.553	20.000		05/07/08
BATCH QC											
BLANK	Silver	7440-22-4	<0.1	n/a	ug/L					U	05/07/08
BLANK	Arsenic	7440-38-2	<0.4	n/a	ug/L					U	05/07/08
BLANK	Barium	7440-39-3	<0.2	n/a	ug/L					U	05/07/08
BLANK	Beryllium	7440-41-7	<5e-2	n/a	ug/L					U	05/07/08
BLANK	Cadmium	7440-43-9	<0.1	n/a	ug/L					U	05/07/08
BLANK	Chromium	7440-47-3	<0.5	n/a	ug/L					U	05/07/08
BLANK	Copper	7440-50-8	<0.1	n/a	ug/L					U	05/07/08
BLANK	Mercury	7439-97 6	<5e-2	n/a	ug/L					U	05/07/08
BLANK	Nickel	7440-02-0	<0.2	n/a	ug/L					U	05/07/08
BLANK	Lead	7439-92-1	<0.1	n/a	ug/L					U	05/07/08
BLANK	Selenium	7782-49-2	0.33	0.330	ug/L						05/07/08
BLANK	Zinc	7440-66-6	<0.8	n/a	ug/L					U	05/07/08
LCS	Silver	7440-22-4	106.9	105.842	% Recov	98.000	134.000				05/07/08
LCS	Arsenic	7440-38-2	135.3	102.500	% Recov	75.000	134.000				05/07/08
LCS	Barium	7440-39-3	321.6	100.815	% Recov	87.000	121.000				05/07/08
LCS	Beryllium	7440-41-7	88.4	98.771	% Recov	70.000	153.000				05/07/08
LCS	Cadmium	7440-43-9	64.24	96.602	% Recov	95.000	124.000				05/07/08
LCS	Chromium	7440-47-3	74.25	101.852	% Recov	77.000	125.000				05/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Inorganic**

SDG Number: WSCF20080882
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	Copper	7440-50-8	73.31	107.022	% Recov	84.000	122.000				05/07/08
LCS	Mercury	7439-97-6	7.94	95.894	% Recov	71.000	132.000				05/07/08
LCS	Nickel	7440-02-0	60.75	109.263	% Recov	90.000	121.000				05/07/08
LCS	Lead	7439-92-1	130.6	100.462	% Recov	92.000	123.000				05/07/08
LCS	Selenium	7782-49-2	175.7	109.130	% Recov	52.000	157.000				05/07/08
LCS	Zinc	7440-66-6	199.1	112.486	% Recov	85.000	130.000				05/07/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-031

Group #: WSCF20080882
Department: Inorganic

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Selenium prep blank above the MDL. C-flag W08GR01132 GEA Result for Cs-137 may be biased due to the 20% dead time due to the high concentration of Cs-137 in the sample. Sub-sampling and re-analysis would result in lower dead time, but may not be representative of the entire sample. U-235 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. lmh IC Anion - Sample dup RPD out of limits for nitrate in sample W08GR01134; However, analyte concentration below calibration range. DTS W08GR01131,33-4/U-234 batch dup is flagged for poor RPD due the inhomogeneity of the sample. lmh W08GR01131,33-4/Pu239 duplicate is flagged for poor RPD but the sample activity is low level. RPD doesn't apply to low level samples. lmh

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

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01131
Client ID: B1TFN9 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Radiochemistry
Sampled: 02/11/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471		0.160	pCi/g	+-0.0448	pCi/g	1.00	0.024		06/16/08
Am-243 tracer by AEA	AM243	LA-508-471		19.0	pCi/g			1.00	0.015		06/16/08
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	1.46e-03	pCi/g	+-7.47e-03	pCi/g	1.00	0.013		05/12/08
Cesium-137	10045-97-3	LA-508-481		0.0168	pCi/g	+-0.0107	pCi/g	1.00	0.012		05/12/08
Europium-152	14683-23-9	LA-508-481	U	-0.0202	pCi/g	+-0.0258	pCi/g	1.00	0.036		05/12/08
Europium-154	15585-10-1	LA-508 481	U	-0.0341	pCi/g	+-0.0341	pCi/g	1.00	0.039		05/12/08
Europium-155	14391-16-3	LA-508-481	U	0.0336	pCi/g	+-0.0392	pCi/g	1.00	0.053		05/12/08
Niobium-94	14681-63-1	LA-508-481	U	7.66e-03	pCi/g	+-7.68e-03	pCi/g	1.00	0.011		05/12/08
Radium-226	13982-63-3	LA-508-481		0.512	pCi/g	+-0.0880	pCi/g	1.00	0.024		05/12/08
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471	U	-4.00e-03	pCi/g	+-0.0179	pCi/g	1.00	0.043		06/17/08
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	1.60e-03	pCi/g	+-1.60e-03	pCi/g	1.00	0.049		06/16/08
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.0230	pCi/g	+-0.0136	pCi/g	1.00	4.5e-03		06/16/08
Pu-242 tracer by AEA	PU242	LA-508-471		30.0	pCi/g			1.00	0.022		06/16/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-1.30	pCi/g	+-1.30	pCi/g	1.00	0.48		05/07/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		95.5	Percent			1.00	0.0		05/07/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.210	pCi/g	+-0.0672	pCi/g	1.00	0.016		06/16/08
Uranium-235	15117-96-1	LA-508-471		0.0440	pCi/g	+-0.0216	pCi/g	1.00	5.2e-03		06/16/08
Uranium-238	U-238	LA-508-471		0.190	pCi/g	+-0.0608	pCi/g	1.00	4.7e-03		06/16/08
U-232 tracer by AEA	U232	LA-508-471		20.0	pCi/g			1.00	0.028		06/16/08

MDL=Minimum Detection Limit
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C - The Analyte was found in the Associated Blank.(inorg)
U - Analyzed for but not detected above limiting criteria(inorg)

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01132
Client ID: B1TFP0 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Radiochemistry
Sampled: 02/12/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471		17.0	pCi/g	+-5.78	pCi/g	1.00	3.0		06/04/08
Am-243 tracer by AEA	AM243	LA-508-471		370	pCi/g			1.00	1.6		06/04/08
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	0.0626	pCi/g	+-0.0433	pCi/g	1.00	0.064		05/13/08
Cesium-137	10045-97-3	LA-508-481		3.72e+03	pCi/g	+-602	pCi/g	1.00	0.34		05/13/08
Europium-152	14683-23-9	LA-508-481	U	0.184	pCi/g	+-0.589	pCi/g	1.00	0.98		05/13/08
Europium-154	15585-10-1	LA-508-481		4.10	pCi/g	+-0.348	pCi/g	1.00	0.31		05/13/08
Europium-155	14391-16-3	LA-508-481	U	0.899	pCi/g	+-0.879	pCi/g	1.00	1.1		05/13/08
Niobium-94	14681-63-1	LA-508-481	U	-0.149	pCi/g	+-0.149	pCi/g	1.00	0.23		05/13/08
Radium-226	13982-63-3	LA-508-481	U	0.444	pCi/g	+-0.382	pCi/g	1.00	0.55		05/13/08
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471	U	4.10e-03	pCi/g	+-0.0183	pCi/g	1.00	0.038		06/17/08
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	-2.30	pCi/g	+-2.46	pCi/g	1.00	4.9		05/20/08
Pu-239/240 by AEA	PU-239/240	LA-508-471		1.60	pCi/g	+-1.26	pCi/g	1.00	1.4		05/20/08
Pu-242 tracer by AEA	PU242	LA-508-471		570	pCi/g			1.00	1.1		05/20/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-32.0	pCi/g	+-32.0	pCi/g	1.00	12		05/07/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		93.0	Percent			1.00	0.0		05/07/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		2.00	pCi/g	+-1.50	pCi/g	1.00	1.8		05/20/08
Uranium-235	15117-96-1	LA-508-471	U	0.360	pCi/g	+-0.727	pCi/g	1.00	1.3		05/20/08
Uranium-238	U-238	LA-508-471		0.990	pCi/g	+-0.851	pCi/g	1.00	0.45		05/20/08
U-232 tracer by AEA	U232	LA-508-471		380	pCi/g			1.00	2.6		05/20/08

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01133
Client ID: B1TFP3 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Radiochemistry
Sampled: 02/14/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471		0.120	pCi/g	+-0.0336	pCi/g	1.00	9.7e-03		06/16/08
Am-243 tracer by AEA	AM243	LA-508-471		19.0	pCi/g			1.00	0.014		06/16/08
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	-6.73e-03	pCi/g	+-6.73e-03	pCi/g	1.00	0.010		05/12/08
Cesium-137	10045-97-3	LA-508-481		0.0186	pCi/g	+-0.0102	pCi/g	1.00	0.012		05/12/08
Europium-152	14683-23-9	LA-508-481	U	-2.81e-03	pCi/g	+-0.0259	pCi/g	1.00	0.034		05/12/08
Europium-154	15585-10-1	LA-508-481	U	1.83e-03	pCi/g	+-0.0183	pCi/g	1.00	0.036		05/12/08
Europium-155	14391-16-3	LA-508-481	U	0.0453	pCi/g	+-0.0396	pCi/g	1.00	0.054		05/12/08
Niobium-94	14681-63-1	LA-508-481	U	4.71e-03	pCi/g	+-6.23e-03	pCi/g	1.00	0.010		05/12/08
Radium-226	13982-63-3	LA-508-481		0.477	pCi/g	+-0.0816	pCi/g	1.00	0.021		05/12/08
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471	U	-4.50e-03	pCi/g	+-0.0450	pCi/g	1.00	0.054		06/17/08
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	8.90e-03	pCi/g	+-0.0120	pCi/g	1.00	0.019		06/16/08
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.0280	pCi/g	+-0.0157	pCi/g	1.00	4.8e-03		06/16/08
Pu-242 tracer by AEA	PU242	LA-508-471		30.0	pCi/g			1.00	0.013		06/16/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		100	pCi/g	+-12.0	pCi/g	1.00	0.48		05/07/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		94.5	Percent			1.00	0.0		05/07/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.220	pCi/g	+-0.0682	pCi/g	1.00	0.012		06/16/08
Uranium-235	15117-96-1	LA-508-471		0.0480	pCi/g	+-0.0235	pCi/g	1.00	0.017		06/16/08
Uranium-238	U-238	LA-508-471		0.180	pCi/g	+-0.0576	pCi/g	1.00	0.012		06/16/08
U-232 tracer by AEA	U232	LA-508-471		20.0	pCi/g			1.00	0.020		06/16/08

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F08-031
Sample # W08GR01134
Client ID: B1TFP4 TRENT WSCF

Matrix: SOIL

Group #: WSCF20080882
Department: Radiochemistry
Sampled: 02/19/08
Received: 05/01/08

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471		0.0870	pCi/g	+-0.0270	pCi/g	1.00	0.015		06/16/08
Am-243 tracer by AEA	AM243	LA-508-471		19.0	pCi/g			1.00	0.010		06/16/08
Gamma Energy Analysis-grd H2O											
Cobalt-60	10198-40-0	LA-508-481	U	-7.99e-04	pCi/g	+-6.04e-03	pCi/g	1.00	0.010		05/12/08
Cesium-137	10045-97-3	LA-508-481		0.176	pCi/g	+-0.0302	pCi/g	1.00	0.010		05/12/08
Europium-152	14683-23-9	LA-508-481	U	-0.0310	pCi/g	+-0.0310	pCi/g	1.00	0.030		05/12/08
Europium-154	15585-10-1	LA-508-481	U	-0.0166	pCi/g	+-0.0194	pCi/g	1.00	0.032		05/12/08
Europium-155	14391-16-3	LA-508-481	U	0.0219	pCi/g	+-0.0281	pCi/g	1.00	0.047		05/12/08
Niobium-94	14681-63-1	LA-508-481	U	1.13e-03	pCi/g	+-5.30e-03	pCi/g	1.00	9.1e-03		05/12/08
Radium-226	13982-63-3	LA-508-481		0.537	pCi/g	+-0.0861	pCi/g	1.00	0.019		05/12/08
Neptunium by AEA											
Neptunium-237	13994-20-2	LA-508-471	U	4.10e-03	pCi/g	+-0.0142	pCi/g	1.00	0.030		06/17/08
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	1.70e-03	pCi/g	+-0.0140	pCi/g	1.00	0.027		06/16/08
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.0170	pCi/g	+-0.0126	pCi/g	1.00	0.012		06/16/08
Pu-242 tracer by AEA	PU242	LA-508-471		30.0	pCi/g			1.00	0.018		06/16/08
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415	U	-1.20	pCi/g	+-1.20	pCi/g	1.00	0.54		05/07/08
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		83.0	Percent			1.00	0.0		05/07/08
Uranium Isotopics by AEA											
Uranium-233/234	U-233/234	LA-508-471		0.130	pCi/g	+-0.0455	pCi/g	1.00	0.017		06/16/08
Uranium-235	15117-96-1	LA-508-471		0.0250	pCi/g	+-0.0170	pCi/g	1.00	0.018		06/16/08
Uranium-238	U-238	LA-508-471		0.150	pCi/g	+-0.0510	pCi/g	1.00	0.013		06/16/08
U-232 tracer by AEA	U232	LA-508-471		20.0	pCi/g			1.00	0.025		06/16/08

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F08-031 :F08-031

Group #: WSCF20080882
Department: Radiochemistry

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.71	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				20	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	BI-212				0.59	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				22	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.61	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				14	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	CS-134				0.038	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	CS-134 Count Error				36	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	K-40				14	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				13	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	PB-212				0.80	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				9.4	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	PB-214				0.96	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error				23	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.74	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				17	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	SN-126				0.16	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error				25	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	TH-234				0.77	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	TH-234 Count Error				33	%
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.22	pCi/g
W08GR01131	B1TFN9	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				15	%
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	AM-241				3.1	pCi/g
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	AM-241 Count Error				40	%
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	BI-212				3.8	pCi/g

RQ=Result Qualifier

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F08-031 :F08-031

Group #: WSCF20080882
Department: Radiochemistry

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				37	%
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.45	pCi/g
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				32	%
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	K-40				10	pCi/g
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	SN-126				1.2	pCi/g
W08GR01132	B1TFP0	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error				48	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.53	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				19	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	BI-212				0.39	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				24	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.55	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				13	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	CS-134				0.022	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	CS-134 Count Error				44	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	K-40				18	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				13	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	PB-212				0.67	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				10	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	PB-214				0.81	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error				24	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.58	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				18	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	SN-126				0.14	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error				26	%

RQ=Result Qualifier

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F08-031 :F08-031

Group #: WSCF20080882
Department: Radiochemistry

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	TH-234				0.78	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	TH-234 Count Error				36	%
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.19	pCi/g
W08GR01133	B1TFP3	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				16	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.60	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				18	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	BI-212				0.45	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				23	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.63	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				12	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	CS-134				0.033	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	CS-134 Count Error				35	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	K-40				18	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				13	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	PB-212				0.77	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				9.8	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	PB-214				0.96	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error				19	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.67	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				17	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	SN-126				0.18	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error				22	%
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.22	pCi/g
W08GR01134	B1TFP4	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				15	%

RQ=Result Qualifier

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WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01131											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cobalt-60	10198-40-0	U2.824e-3		RPD			n/a	20.000		05/15/08
DUP	Cesium-137	10045-97-3	1.555e-2		RPD			7.847	20.000		05/15/08
DUP	Europium-152	14683-23-9	U-2.323e 2		RPD			n/a	20.000		05/15/08
DUP	Europium-154	15585-10-1	U-3.681e-3		RPD			n/a	20.000		05/15/08
DUP	Europium-155	14391-16-3	U1.828e-2		RPD			n/a	20.000		05/15/08
DUP	Niobium-94	14681-63-1	U2.118e-3		RPD			n/a	20.000		05/15/08
DUP	Radium-226	13982-63-3	0.5179		RPD			1.087	20.000		05/15/08
BATCH QC											
BLANK	Cobalt-60	10198-40-0	U7.507e-4	n/a	pCi/g	-10.000	1000.000				05/14/08
BLANK	Cesium-137	10045-97-3	U2.279e-3	n/a	pCi/g	-10.000	1000.000				05/14/08
BLANK	Europium-152	14683-23-9	U1.71e-3	n/a	pCi/g	-10.000	1000.000				05/14/08
BLANK	Europium-154	15585-10-1	U-3.339e-3	n/a	pCi/g	-10.000	1000.000				05/14/08
BLANK	Europium-155	14391-16-3	U6.573e-3	n/a	pCi/g	-10.000	1000.000				05/14/08
BLANK	Niobium-94	14681-63-1	U1.475e-3	n/a	pCi/g	-10.000	1000.000				05/14/08
BLANK	Radium-226	13982-63-3	5.464e-2	0.055	pCi/g	-10.000	1000.000				05/14/08
LCS	Cobalt-60	10198-40-0	10480	105.433	% Recov	80.000	120.000				05/14/08
LCS	Cesium-137	10045-97-3	6394	105.861	% Recov	80.000	120.000				05/14/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Americium by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01075											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	U2e-2		RPD			n/a	20.000		06/04/08
DUP	Am-243 tracer by AEA	AM243	3.995	99.790	% Recov	30.000	105.000				06/04/08
Lab ID: W08GR01132											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	365.9	86.470	% Recov	30.000	105.000				06/04/08
BATCH QC											
BLANK	Americium-241	14596-10-2	U6.1e-3	n/a	pCi/g	-10.000	1000.000				06/04/08
BLANK	Am-243 tracer by AEA	AM243	4.003	79.940	% Recov	30.000	105.000				06/04/08
LCS	Americium-241	14596-10-2	13	109.705	% Recov	80.000	120.000				06/04/08
LCS	Am-243 tracer by AEA	AM243	11.11	87.630	% Recov	30.000	105.000				06/04/08
Lab ID: W08GR01131											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	0.19		RPD			17.143	20.000		06/16/08
DUP	Am-243 tracer by AEA	AM243	19.43	97.120	% Recov	30.000	105.000				06/16/08
SURR	Am-243 tracer by AEA	AM243	19.47	96.960	% Recov	30.000	105.000				06/16/08
Lab ID: W08GR01133											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	19.24	98.670	% Recov	30.000	105.000				06/16/08
Lab ID: W08GR01134											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	19.28	103.890	% Recov	30.000	105.000				06/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Americium by AEA

Sample Date: 02/19/08
Receive Date:05/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Americium-241	14596-10 2	1.7e-2	0.017	pCi/g	-10.000	1000.000				06/16/08
BLANK	Am-243 tracer by AEA	AM243	4.003	74.050	% Recov	30.000	105.000				06/16/08
LCS	Americium-241	14596-10-2	12.58	106.160	% Recov	80.000	120.000				06/16/08
LCS	Am-243 tracer by AEA	AM243	11.11	96.100	% Recov	30.000	105.000				06/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Neptunium by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01131											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Neptunium-237	13994-20-2	U 9.7e-3		RPD			n/a	25.000		06/17/08
MS	Neptunium-237	13994-20-2	104.9	104.900	% Recov	75.000	125.000				06/17/08
MSD	Neptunium-237	13994-20-2	89.6	89.600	% Recov	75.000	125.000				06/17/08
SPK-RPD	Neptunium-237	13994-20-2	89.600		% RPD			15.733	20.000		06/17/08
Lab ID: W08GR01132											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	102	102.000	% Recov	75.000	125.000				06/17/08
Lab ID: W08GR01133											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	93.7	93.700	% Recov	75.000	125.000				06/17/08
Lab ID: W08GR01134											
BATCH QC ASSOCIATED WITH SAMPLE											
MS	Neptunium-237	13994-20-2	101	101.000	% Recov	75.000	125.000				06/17/08
BATCH QC											
BLANK	Neptunium-237	13994-20-2	U4.1e-3	n/a	pCi/G	-10.000	1000.000				06/17/08
LCS	Neptunium-237	13994-20-2	12.09	94.861	% Recov	80.000	120.000				06/17/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Plutonium Isotopics by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01075											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U3.4e-3		RPD			n/a	20.000		05/20/08
DUP	Pu-239/240 by AEA	PU-239/240	3.9e-2		RPD			0.000	20.000		05/20/08
DUP	Pu-242 tracer by AEA	PU242	6.184	91.650	% Recov	30.000	105.000				05/20/08
Lab ID: W08GR01132											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242 tracer by AEA	PU242	566.4	99.560	% Recov	30.000	105.000				05/20/08
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U7.9e-3	n/a	pCi/g	-10.000	1000.000				05/20/08
BLANK	Pu-239/240 by AEA	PU-239/240	U-2e-3	n/a	pCi/g	-10.000	1000.000				05/20/08
BLANK	Pu-242 tracer by AEA	PU242	6.196	84.750	% Recov	30.000	105.000				05/20/08
LCS	Pu-239/240 by AEA	PU-239/240	13.61	105.956	% Recov	80.000	120.000				05/20/08
LCS	Pu-242 tracer by AEA	PU242	17.19	91.900	% Recov	30.000	105.000				05/20/08
Lab ID: W08GR01131											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U-1e-2		RPD			n/a	20.000		06/16/08
DUP	Pu-239/240 by AEA	PU-239/240	3.1e-2		RPD			29.630	20.000 *		06/16/08
DUP	Pu-242 tracer by AEA	PU242	30.08	88.730	% Recov	30.000	105.000				06/16/08
SURR	Pu-242 tracer by AEA	PU242	30.14	97.820	% Recov	30.000	105.000				06/16/08
Lab ID: W08GR01133											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242 tracer by AEA	PU242	29.79	90.690	% Recov	30.000	105.000				06/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Plutonium Isotopics by AEA

Sample Date: 02/19/08
Receive Date:05/01/08

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01134											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242 tracer by AEA	PU242	29.85	100.870	% Recov	30.000	105.000				06/16/08
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U 1.9e-3	n/a	pCi/g	-10.000	1000.000				06/16/08
BLANK	Pu-239/240 by AEA	PU 239/240	U9.5e-3	n/a	pCi/g	-10.000	1000.000				06/16/08
BLANK	Pu-242 tracer by AEA	PU242	6.196	91.850	% Recov	30.000	105.000				06/16/08
LCS	Pu 239/240 by AEA	PU-239/240	12.42	96.691	% Recov	80.000	120.000				06/16/08
LCS	Pu-242 tracer by AEA	PU242	17.19	86.970	% Recov	30.000	105.000				06/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Strontium 89/90

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01131											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	93.9	93.900	% Recov	30.000	105.000				05/07/08
DUP	Strontium-89/90	SR-RAD	U-1.0		RPD			n/a	20.000		05/07/08
SURR	Sr-85 Tracer by Beta Counting	SR85	95.5	95.500	% Recov	30.000	105.000				05/07/08
Lab ID: W08GR01132											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	93.0	93.000	% Recov	30.000	105.000				05/07/08
Lab ID: W08GR01133											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	94.5	94.500	% Recov	30.000	105.000				05/07/08
Lab ID: W08GR01134											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	83.0	83.000	% Recov	30.000	105.000				05/07/08
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	97	97.000	% Recov	30.000	105.000				05/07/08
BLANK	Strontium-89/90	10098-97-2	U-8.2E-01	n/a	pCi/g	-10.000	300.000				05/07/08
LCS	Sr-85 Tracer by Beta Counting	SR85	90.5	90.500	% Recov	30.000	105.000				05/07/08
LCS	Strontium-89/90	10098-97-2	75.6	107.807	% Recov	80.000	120.000				05/07/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Uranium Isotopics by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01075											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	U-232 tracer by AEA	U232	4.105	91.700	% Recov	30.000	105.000				05/20/08
DUP	Uranium-233/234	U-233/234	1.1		RPD			23.350	20.000 •		05/20/08
DUP	Uranium-235	15117-96-1	0.1		RPD			56.410	20.000 •		05/20/08
DUP	Uranium-238	U-238	0.9		RPD			16.867	20.000		05/20/08
Lab ID: W08GR01132											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	U-232 tracer by AEA	U232	376	90.420	% Recov	30.000	105.000				05/20/08
BATCH QC											
BLANK	U-232 tracer by AEA	U232	4.113	83.880	% Recov	30.000	105.000				05/20/08
BLANK	Uranium-233/234	13966-29-5	2.5e-2	0.025	pCi/g	-10.000	1000.000				05/20/08
BLANK	Uranium-235	15117-96-1	1.1e-2	0.011	pCi/g	-10.000	1000.000				05/20/08
BLANK	Uranium-238	24678-82-8	9.7e-3	0.010	pCi/g	-10.000	1000.000				05/20/08
LCS	U-232 tracer by AEA	U232	11.41	78.920	% Recov	30.000	105.000				05/20/08
LCS	Uranium-233/234	13966-29-5	n/a	n/a	% Recov	75.000	125.000				05/20/08
LCS	Uranium-235	15117-96-1	n/a	n/a	% Recov	75.000	125.000				05/20/08
LCS	Uranium-238	24678-82-8	20.08	105.935	% Recov	80.000	120.000				05/20/08
Lab ID: W08GR01131											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	U-232 tracer by AEA	U232	19.95	90.650	% Recov	30.000	105.000				06/16/08
DUP	Uranium-233/234	U-233/234	0.15		RPD			33.333	20.000 •		06/16/08
DUP	Uranium-235	15117-96-1	U1.7e-2		RPD			n/a	20.000		06/16/08
DUP	Uranium-238	U-238	0.19		RPD			0.000	20.000		06/16/08
SURR	U-232 tracer by AEA	U232	19.99	90.850	% Recov	30.000	105.000				06/16/08

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20080882
Matrix: SOLID
Test: Uranium Isotopics by AEA

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

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W08GR01133											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	U-232 tracer by AEA	U232	19.76	96.790	% Recov	30.000	105.000				06/16/08
Lab ID: W08GR01134											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	U-232 tracer by AEA	U232	19.8	95.610	% Recov	30.000	105.000				06/16/08
BATCH QC											
BLANK	U-232 tracer by AEA	U232	4.11	87.860	% Recov	30.000	105.000				06/16/08
BLANK	Uranium-233/234	13966-29-5	2.8e-2	0.028	pCi/g	-10.000	1000.000				06/16/08
BLANK	Uranium-235	15117-96-1	6.1e-3	0.006	pCi/g	-10.000	1000.000				06/16/08
BLANK	Uranium-238	24678-82-8	2.2e-2	0.022	pCi/g	-10.000	1000.000				06/16/08
LCS	U-232 tracer by AEA	U232	11.41	85.690	% Recov	30.000	105.000				06/16/08
LCS	Uranium-233/234	13966-29-5	N/A	n/a	% Recov	75.000	125.000				06/16/08
LCS	Uranium-235	15117-96-1	N/A	n/a	% Recov	75.000	125.000				06/16/08
LCS	Uranium-238	24678-82-8	20.32	100.000	% Recov	80.000	120.000				06/16/08

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F08-031

Group #: WSCF20080882
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		ICP-MS: Selenium prep blank above the MDL. C-flag W08GR01132 GEA Result for Cs-137 may be biased due to the 20% dead time due to the high concentration of Cs-137 in the sample. Sub-sampling and re-analysis would result in lower dead time, but may not be representative of the entire sample. U-235 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply to low level samples. lmh IC Anion - Sample dup RPD out of limits for nitrate in sample W08GR01134; However, analyte concentration below calibration range. DTS W08GR01131,33-4/U-234 batch dup is flagged for poor RPD due the inhomogeneity of the sample. lmh W08GR01131,33-4/Pu239 duplicate is flagged for poor RPD but the sample activity is low level. RPD doesn't apply to low level samples. lmh

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

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M4W41-SLF-08-627

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 10 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
06/16/08
tf

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 123055/ES20
Group#: 20080882
Project#: F08-031
Proj Mgr: Steve Trent E6-35
Phone: 373-5869

The following samples were received from you on 05/01/08. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W08GR01131	B1TFN9	TRENT @2008 @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @IC-30 @SR89_90	Solid, or handle as if solid	02/11/08
W08GR01132	B1TFP0	TRENT @2008 @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @IC-30 @SR89_90	Solid, or handle as if solid	02/12/08
W08GR01133	B1TFP3	TRENT @2008 @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @IC-30 @SR89_90	Solid, or handle as if solid	02/14/08
W08GR01134	B1TFP4	TRENT @2008 @AEA-30 @AEA-31 @AEA-32 @AEA-33 @GEA-GPP @IC-30 @SR89_90	Solid, or handle as if solid	02/19/08

Test Acronym Description

Test Acronym	Description
@2008	ICP-200.8 MS All possible meta
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@AEA-32	Uranium Isotopics by AEA
@AEA-33	Neptunium by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@IC-30	Anions by Ion Chromatography
@SR89_90	Strontium 89/90

06/16/08

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8N	DATA TURNAROUND
NCO Sampler	TRENT, SJ	373-5869	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	☐	45 Days / 45 Days
C5942, I-1	216-B-55 Supplemental Characterization		F08-031			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
			123055ES20	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization 20080882	N/A		N/A			

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

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

SPECIAL HANDLING AND/OR STORAGE
Radioactive Tie to B1TFM2

PRESERVATION	Cool~4C	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
TYPE OF CONTAINER	aG	aG	aG	G/P	G/P	Square Bottle - Poly
NO. OF CONTAINER(S)	1	1	1	1	1	1
VOLUME	120mL	120mL	120mL	120mL	120mL	500mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	PCBs - 8082;	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1TFN9 W08GR0113 1	SOIL	2/11/08	1510	✓	✓	✓	✓	✓	✓

624475

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. Fister / 2/11/08	1544	B55 SITE FRIG	2/11/08 1544
B55 Site Fridge	5-1-08 1130	D. Parch	5-1-08 1130
D. Parch	5-1-08 1240	TA Frazier	5-1-08 1240

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

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

A-6003-618(01/06)

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8N	DATA TURNAROUND
NCO Sampler	TRENT, SJ	373-5869	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**		**45 Days / 45 Days**
C5942, I-1	216-B-55 Supplemental Characterization		F08-031			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
			123055ES20	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

SPECIAL INSTRUCTIONS

** Analytical batch QC must be run on a sample associated with this SAF.
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
(2)TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
(3)ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium} 200.8_HG - ICPMS;
(4)IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
(5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94} Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-031-120

COLLECTOR NCO Sampler	**COMPANY CONTACT** TRENT, SJ	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** WIDRIG, DL	**PRICE CODE** 8N	**DATA TURNAROUND** 45 Days / 45 Days
SAMPLING LOCATION C5942, I-2 12.5' – 14.5'	**PROJECT DESIGNATION** 216-B-55 Supplemental Characterization		**SAF NO.** F08-031	**AIR QUALITY** ☐	
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA** 123055ES20	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO Waste Sampling & Characterization	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

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

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

SPECIAL HANDLING AND/OR STORAGE
Radioactive Tie to B1TFM3

PRESERVATION		Cool~4C	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None	
TYPE OF CONTAINER		aG	aG	aG	G/P	G/P	Square Bottle - Poly	
NO. OF CONTAINER(S)		1	1	1	1	1	1	
VOLUME		120mL	120mL	120mL	120mL	120mL	500mL	
SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	PCBs - 8082;	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS	
SAMPLE NO.	**MATRIX***	**SAMPLE DATE**	**SAMPLE TIME**					
B1TFP0 1132	SOIL	2-12-08	1120	✓	✓	✓	✓	✓ ✓

CHAIN OF POSSESSION		**SIGN/ PRINT NAMES**	
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
Ed Kaale	2-12-08 1210	BSS SITE FRIG	2/12/08 1210
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
BSS Site Frig	5-1-08 1130	D. Parch	5-1-08 1130
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
D. Parch	5-1-08 1240	TA Frazier	5-1-08 1240
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

LABORATORY SECTION — **RECEIVED BY** — **TITLE** — **DATE/TIME**

FINAL SAMPLE DISPOSITION — **DISPOSAL METHOD** — **DISPOSED BY** — **DATE/TIME**

A-6003-618(01/06)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-031-120

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8N	DATA TURNAROUND
NCO Sampler	TRENT, SJ	373-5869	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**		45 Days / 45 Days
C5942, 1-2 12.5' ~ 14.5'	216-B-55 Supplemental Characterization		F08-031			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
			123055ES20	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

SPECIAL INSTRUCTIONS

** Analytical batch QC must be run on a sample associated with this SAF.
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
(2)TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
(3)ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium} 200.8_HG - ICPMS;
(4)IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
(5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94} Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}

A-6003-618(01/06)

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F08-031-123

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

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
C5942, I-4 27.5 - 30.0	216-B-55 Supplemental Characterization	F08-031

ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA	METHOD OF SHIPMENT
			123055ES20	GOVERNMENT VEHICLE

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

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

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

SPECIAL HANDLING AND/OR STORAGE
Radioactive Tie to B1TFM5

PRESERVATION	Cool~4C	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
TYPE OF CONTAINER	aG	aG	aG	G/P	G/P	Square Bottle - Poly
NO. OF CONTAINER(S)	1	1	1	1	1	1
VOLUME	120mL	120mL	120mL	120mL	120mL	500mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	PCBs - 8082;	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1TFP3	1133	SOIL	2-14-08	13:00	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ek Kitzel / [illegible]	2-14-08 1350	B-55 Site Frig	2-14-08 1350
B 55 Site Fridge	5-1-08 1120	D. Parch	5-1-08 1120
D. Parch	5-1-08 1240	TA Frazier	5-1-08 1240

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

CED

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

A-6003-618(01/06)

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8N	DATA TURNAROUND
NCO Sampler	TRENT, SJ	373-5869	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	☐	45 Days / 45 Days
C5942, I-4 27.5' – 30.0'	216-B-55 Supplemental Characterization		F08-031			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
			123055ES20	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

SPECIAL INSTRUCTIONS

** Analytical batch QC must be run on a sample associated with this SAF.
** The 200 Area SAGRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
(2)TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
(3)ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium} 200.8_HG - ICPMS;
(4)IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
(5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94} Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8N	DATA TURNAROUND
NCO Sampler	TRENT, SJ	373-5869	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	☐	45 Days / 45 Days
C5942, I-5 47.5' – 50.0'	216-B-55 Supplemental Characterization		F08-031			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
			123055ES20	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

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

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

SPECIAL HANDLING AND/OR STORAGE
Radioactive Tie to B1TFM6

RAD 5-1-08

PRESERVATION	Cool~4C	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
TYPE OF CONTAINER	aG	aG	aG	G/P	G/P	Square Bottle - Poly
NO. OF CONTAINER(S)	1	1	1	1	1	1
VOLUME	120mL	120mL	120mL	120mL	120mL	500mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	PCBs - 8082;	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME						
B1TFP4	1134	SOIL	2-15-08	13:00	✓	✓	✓	✓	✓	✓

Lot # 120mL

027875

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Ed Kaufer/[signature]	2-15-08 13:25	B-55 Site Frig	2-15-08 13:25
B-55 Site Frig	5-1-08 1130	D. Parchen [signature]	5-1-08 1130
D. Parchen [signature]	5-1-08 1240	TA Frazier [signature]	5-1-08 1240

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

ICED

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

A-6003-618(01/06)

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE	8N	DATA TURNAROUND
NCO Sampler	TRENT, SJ	373-5869	WIDRIG, DL			
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY**	☐	**45 Days / 45 Days**
C5942, I-5 47.5' – 50.0'	216-B-55 Supplemental Characterization		F08-031			
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**		
			123055ES20	GOVERNMENT VEHICLE		
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**			
Waste Sampling & Characterization	N/A		N/A			

SPECIAL INSTRUCTIONS

** Analytical batch QC must be run on a sample associated with this SAF.
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Semi-VOA - 8270B (Add-On) {1,2,4-Trimethylbenzene, Tributyl phosphate}
(2)TPH-DieselKerosene Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}
(3)ICP/MS - 200.8 (TAL) {Barium, Cadmium, Chromium, Copper, Nickel, Silver, Zinc} ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Lead, Selenium} 200.8_HG - ICPMS;
(4)IC Anions - 300.0 {Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}
(5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Radium-226} Gamma Spec - Add-on {Niobium-94} Isotopic Uranium; Neptunium-237; Strontium-89,90 -- Total Sr; Isotopic Plutonium; Americium-241 {Americium-241}