RECEIVED NOVEMBER 04, 2009

Mission Support Alliance
P.O. Box 650
Richland, Washington 99352

M4W41-SLF-09-284

November 3, 2009

Mr. M. A. Neely, Manager
Analytical Services
CH2M HILL Plateau Remediation Contract
PO Box 1600 MSIN R3-60
Richland, WA 99352

Dear Mike:

FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20091043 – SAF NUMBER F09-047

References: (1) Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, 'FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER'

(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 WSCF20091043:

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

Very truly yours,

S. L. Fitzgerald
WSCF Analytical Lab

SLF/grf

Attachments 4

cc: w/Attachments

R. L. Barker	S3-30
H. K. Meznarich	S3-30
J. E. Trechter	S3-30
S. J. Trent	R3-50
File/LB	

M4W41-SLF-09-284

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20091043
Data Deliverable Date: 26-oct-2009
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F09-047	B22CM0	W09GR00906	SOIL
	B22CM1	W09GR00907	SOIL
	B22CM2	W09GR00908	SOIL
	B22CM3	W09GR00909	SOIL
	B22CM4	W09GR00910	SOIL
	B22CM5	W09GR00911	SOIL
	B22CM6	W09GR00912	SOIL
	B22CM7	W09GR00913	SOIL
	B22CM8	W09GR00914	SOIL
	B22CM9	W09GR00915	SOIL
	B22CN0	W09GR00916	SOIL

M4W41-SLF-09-284

ATTACHMENT 2

NARRATIVE

Consisting of 3 pages
Including cover page

Introduction

Eleven (11) S&GRP samples were received at the WSCF Laboratory on October 19, 2009. The samples were analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Statement of Work (SOW), Modification No. 2 to Agreement 36587, Release 3, "FH WSCF ANALYTICAL SERVICES FOR GROUNDWATER."*

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.

The following generic data qualifiers (i.e., B, D, and J) may be applicable to this report, as appropriate

- **B** – Sample results with a concentration greater than the MDL but less than the PQL are B flagged (applies to inorganic and wetchem analyses), as appropriate.
- **D** – Sample results are D flagged if dilution(s) were required, as appropriate.
- **J** – Sample results with a concentration greater than the MDL but less than the PQL are J flagged (applies to organic analyses), as appropriate.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report,* page 12, for a complete listing of approved analytical methods.

Radiochemistry Comments

Rad Chem – The hold time requirement for this analysis was met. A Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. See pages 23 through 32 for QC details. Analytical Note(s):

- Pu-239 and Am-241 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply.
- Sr89/90 duplicate is flagged for poor RPD due to the non homogeneity of the sample.

All QC controls are within the established limits.

We certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this data package has been authorized by the Analytical Laboratory Manager (or designee) and the Client Services representative as verified by the following signatures.

Scot L. Fitzgerald
WSCF Analytical Laboratory Manager

Richard Barker 11/3/09
Richard Barker
WSCF Client Services

M4W41-SLF-09-284

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 32 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald 11/4/09

Client Services: Richard Barker 11/03/0 Richard Barker

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#: MOA-FH-CHPRC-2008
Report#: WSCF20091043
Report Date: 3-nov-2009
Report WGPP/ver. 5.2
Groundwater Remediation Program

w13qlog v4.2 03-nov-2009 11:32:59

Department: Radiochemistry

W13q Worklist/Batch/QC Report for Group# WSCF20091043

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
40123	1	40551	45110	BLANK		Gamma Energy Analysis-grd H2O
40123	2	40551	45110	LCS		Gamma Energy Analysis-grd H2O
40123	3	40551	45110	DUP	W09GR00906	Gamma Energy Analysis-grd H2O
40123	4	40551	45110	SAMPLE	W09GR00906	Gamma Energy Analysis-grd H2O
40123	5	40551	45110	SAMPLE	W09GR00907	Gamma Energy Analysis-grd H2O
40123	6	40551	45110	SAMPLE	W09GR00908	Gamma Energy Analysis-grd H2O
40123	7	40551	45110	SAMPLE	W09GR00909	Gamma Energy Analysis-grd H2O
40123	8	40551	45110	SAMPLE	W09GR00910	Gamma Energy Analysis-grd H2O
40123	9	40551	45110	SAMPLE	W09GR00911	Gamma Energy Analysis-grd H2O
40123	10	40551	45110	SAMPLE	W09GR00912	Gamma Energy Analysis-grd H2O
40123	11	40551	45110	SAMPLE	W09GR00913	Gamma Energy Analysis-grd H2O
40123	12	40551	45110	SAMPLE	W09GR00914	Gamma Energy Analysis-grd H2O
40123	13	40551	45110	SAMPLE	W09GR00915	Gamma Energy Analysis-grd H2O
40123	14	40551	45110	SAMPLE	W09GR00916	Gamma Energy Analysis-grd H2O
40139	1	40567	45114	BLANK		Plutonium Isotopics by AEA
40139	2	40567	45114	LCS		Plutonium Isotopics by AEA
40139	3	40567	45114	DUP	W09GR00906	Plutonium Isotopics by AEA
40139	4	40567	45114	SAMPLE	W09GR00906	Plutonium Isotopics by AEA
40139	5	40567	45114	SURR	W09GR00906	Plutonium Isotopics by AEA
40139	6	40567	45114	SAMPLE	W09GR00907	Plutonium Isotopics by AEA
40139	7	40567	45114	SURR	W09GR00907	Plutonium Isotopics by AEA
40139	8	40567	45114	SAMPLE	W09GR00908	Plutonium Isotopics by AEA
40139	9	40567	45114	SURR	W09GR00908	Plutonium Isotopics by AEA
40139	10	40567	45114	SAMPLE	W09GR00909	Plutonium Isotopics by AEA
40139	11	40567	45114	SURR	W09GR00909	Plutonium Isotopics by AEA
40139	12	40567	45114	SAMPLE	W09GR00910	Plutonium Isotopics by AEA
40139	13	40567	45114	SURR	W09GR00910	Plutonium Isotopics by AEA
40140	1	40568	45115	BLANK		Americium by AEA
40140	2	40568	45115	LCS		Americium by AEA
40140	3	40568	45115	DUP	W09GR00906	Americium by AEA
40140	4	40568	45115	SAMPLE	W09GR00906	Americium by AEA
40140	5	40568	45115	SURR	W09GR00906	Americium by AEA
40140	6	40568	45115	SAMPLE	W09GR00907	Americium by AEA
40140	7	40568	45115	SURR	W09GR00907	Americium by AEA
40140	8	40568	45115	SAMPLE	W09GR00908	Americium by AEA
40140	9	40568	45115	SURR	W09GR00908	Americium by AEA
40140	10	40568	45115	SAMPLE	W09GR00909	Americium by AEA
40140	11	40568	45115	SURR	W09GR00909	Americium by AEA
40140	12	40568	45115	SAMPLE	W09GR00910	Americium by AEA
40140	13	40568	45115	SURR	W09GR00910	Americium by AEA
40141	1	40569	45118	BLANK		Plutonium Isotopics by AEA
40141	2	40569	45118	LCS		Plutonium Isotopics by AEA
40141	3	40569	45118	DUP	W09GR00911	Plutonium Isotopics by AEA
40141	4	40569	45118	SAMPLE	W09GR00911	Plutonium Isotopics by AEA
40141	5	40569	45118	SURR	W09GR00911	Plutonium Isotopics by AEA
40141	6	40569	45118	SAMPLE	W09GR00912	Plutonium Isotopics by AEA
40141	7	40569	45118	SURR	W09GR00912	Plutonium Isotopics by AEA
40141	8	40569	45118	SAMPLE	W09GR00913	Plutonium Isotopics by AEA
40141	9	40569	45118	SURR	W09GR00913	Plutonium Isotopics by AEA

40141	10	40569	45118	SAMPLE	W09GR00914	Plutonium Isotopics by AEA
40141	11	40569	45118	SURR	W09GR00914	Plutonium Isotopics by AEA
40141	12	40569	45118	SAMPLE	W09GR00915	Plutonium Isotopics by AEA
40141	13	40569	45118	SURR	W09GR00915	Plutonium Isotopics by AEA
40141	14	40569	45118	SAMPLE	W09GR00916	Plutonium Isotopics by AEA
40141	15	40569	45118	SURR	W09GR00916	Plutonium Isotopics by AEA
40142	1	40570	45119	BLANK		Americium by AEA
40142	2	40570	45119	LCS		Americium by AEA
40142	3	40570	45119	DUP	W09GR00911	Americium by AEA
40142	4	40570	45119	SAMPLE	W09GR00911	Americium by AEA
40142	5	40570	45119	SURR	W09GR00911	Americium by AEA
40142	6	40570	45119	SAMPLE	W09GR00912	Americium by AEA
40142	7	40570	45119	SURR	W09GR00912	Americium by AEA
40142	8	40570	45119	SAMPLE	W09GR00913	Americium by AEA
40142	9	40570	45119	SURR	W09GR00913	Americium by AEA
40142	10	40570	45119	SAMPLE	W09GR00914	Americium by AEA
40142	11	40570	45119	SURR	W09GR00914	Americium by AEA
40142	12	40570	45119	SAMPLE	W09GR00915	Americium by AEA
40142	13	40570	45119	SURR	W09GR00915	Americium by AEA
40142	14	40570	45119	SAMPLE	W09GR00916	Americium by AEA
40142	15	40570	45119	SURR	W09GR00916	Americium by AEA
40133	1	40561	45122	BLANK		Strontium 89/90
40133	2	40561	45122	LCS		Strontium 89/90
40133	3	40561	45122	DUP	W09GR00906	Strontium 89/90
40133	4	40561	45122	SAMPLE	W09GR00906	Strontium 89/90
40133	5	40561	45122	SURR	W09GR00906	Strontium 89/90
40133	6	40561	45122	SAMPLE	W09GR00907	Strontium 89/90
40133	7	40561	45122	SURR	W09GR00907	Strontium 89/90
40133	8	40561	45122	SAMPLE	W09GR00908	Strontium 89/90
40133	9	40561	45122	SURR	W09GR00908	Strontium 89/90
40133	10	40561	45122	SAMPLE	W09GR00909	Strontium 89/90
40133	11	40561	45122	SURR	W09GR00909	Strontium 89/90
40133	12	40561	45122	SAMPLE	W09GR00910	Strontium 89/90
40133	13	40561	45122	SURR	W09GR00910	Strontium 89/90
40134	1	40562	45123	BLANK		Strontium 89/90
40134	2	40562	45123	LCS		Strontium 89/90
40134	3	40562	45123	DUP	W09GR00911	Strontium 89/90
40134	4	40562	45123	SAMPLE	W09GR00911	Strontium 89/90
40134	5	40562	45123	SURR	W09GR00911	Strontium 89/90
40134	6	40562	45123	SAMPLE	W09GR00912	Strontium 89/90
40134	7	40562	45123	SURR	W09GR00912	Strontium 89/90
40134	8	40562	45123	SAMPLE	W09GR00913	Strontium 89/90
40134	9	40562	45123	SURR	W09GR00913	Strontium 89/90
40134	10	40562	45123	SAMPLE	W09GR00914	Strontium 89/90
40134	11	40562	45123	SURR	W09GR00914	Strontium 89/90
40134	12	40562	45123	SAMPLE	W09GR00915	Strontium 89/90
40134	13	40562	45123	SURR	W09GR00915	Strontium 89/90
40134	14	40562	45123	SAMPLE	W09GR00916	Strontium 89/90
40134	15	40562	45123	SURR	W09GR00916	Strontium 89/90

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00906
Client ID: B22CM0 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

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		0.0290	pCi/g	+-0.0186	pCi/g	1.00	0.023		10/22/09
Am-243 tracer by AEA	AM243	LA-508-471		4.00	pCi/g			1.00	0.011		10/22/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		3.20	pCi/g	+-0.433	pCi/g	1.00	0.031		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	1.90e-03	pCi/g	+-0.0190	pCi/g	1.00	0.058		10/22/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.0250	pCi/g	+-0.0162	pCi/g	1.00	0.014		10/22/09
Pu-242	13982-10-0	LA-508-471		6.20	pCi/g			1.00	0.014		10/22/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		2.20	pCi/g	+-1.14	pCi/g	1.00	0.39		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		94.8	Percent			1.00	0.0		10/21/09

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor
* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

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: F09-047
Sample # W09GR00907
Client ID: B22CM1 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

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		0.0310	pCi/g	+-0.0158	pCi/g	1.00	0.013		10/22/09
Am-243 tracer by AEA	AM243	LA-508-471		3.90	pCi/g			1.00	0.010		10/22/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		2.07	pCi/g	+-0.294	pCi/g	1.00	0.051		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	-1.80e-03	pCi/g	+-0.0180	pCi/g	1.00	0.051		10/22/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.0230	pCi/g	+-0.0150	pCi/g	1.00	0.013		10/22/09
Pu-242	13982-10-0	LA-508-471		6.10	pCi/g			1.00	0.019		10/22/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		4.60	pCi/g	+-1.29	pCi/g	1.00	0.42		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		87.4	Percent			1.00	0.0		10/21/09

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00908
Client ID: B22CM2 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

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		0.170	pCi/g	+-0.0612	pCi/g	1.00	0.010		10/22/09
Am-243 tracer by AEA	AM243	LA-508-471		9.80	pCi/g			1.00	0.010		10/22/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		174	pCi/g	+-22.9	pCi/g	1.00	0.13		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	-9.10e-03	pCi/g	+-0.0705	pCi/g	1.00	0.13		10/22/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.170	pCi/g	+-0.0714	pCi/g	1.00	0.033		10/22/09
Pu-242	13982-10-0	LA-508-471		15.0	pCi/g			1.00	0.042		10/22/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		140	pCi/g	+-16.8	pCi/g	1.00	0.92		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		98.1	Percent			1.00	0.0		10/21/09

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor
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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00909
Client ID: B22CM3 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

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		0.0270	pCi/g	+-0.0176	pCi/g	1.00	0.019		10/22/09
Am-243 tracer by AEA	AM243	LA-508-471		4.70	pCi/g			1.00	0.013		10/22/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		10.6	pCi/g	+-1.42	pCi/g	1.00	0.058		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.0180	pCi/g	+-0.0250	pCi/g	1.00	0.040		10/22/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.0330	pCi/g	+-0.0208	pCi/g	1.00	0.021		10/22/09
Pu-242	13982-10-0	LA-508-471		7.30	pCi/g			1.00	6.0e-03		10/22/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		67.0	pCi/g	+-8.04	pCi/g	1.00	0.64		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		90.6	Percent			1.00	0.0		10/21/09

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00910
Client ID: B22CM4 GPP TRENT WSCF **Matrix:** SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

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		0.440	pCi/g	+-0.229	pCi/g	1.00	0.22		10/22/09
Am-243 tracer by AEA	AM243	LA-508-471		48.0	pCi/g			1.00	0.17		10/22/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		1.16e+03	pCi/g	+-154	pCi/g	1.00	0.49		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	-0.190	pCi/g	+-0.325	pCi/g	1.00	0.63		10/22/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.780	pCi/g	+-0.351	pCi/g	1.00	0.22		10/22/09
Pu-242	13982-10-0	LA-508-471		75.0	pCi/g			1.00	0.25		10/22/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		710	pCi/g	+-85.2	pCi/g	1.00	8.9		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		99.8	Percent			1.00	0.0		10/21/09

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor
* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00911
Client ID: B22CM5 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471	U	0.610	pCi/g	+-0.573	pCi/g	1.00	0.85		10/23/09
Am-243 tracer by AEA	AM243	LA-508-471		96.0	pCi/g			1.00	0.47		10/23/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		996	pCi/g	+-131	pCi/g	1.00	0.44		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.380	pCi/g	+-0.908	pCi/g	1.00	1.5		10/23/09
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.190	pCi/g	+-0.359	pCi/g	1.00	0.62		10/23/09
Pu-242	13982-10-0	LA-508-471		150	pCi/g			1.00	0.35		10/23/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		1.30e+03	pCi/g	+-156	pCi/g	1.00	17		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		95.5	Percent			1.00	0.0		10/21/09

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ = Result Qualifier
TP Err = Total Propagated Error
DF = Dilution Factor

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00912
Client ID: B22CM6 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471	U	9.80e-03	pCi/g	+-0.0301	pCi/g	1.00	0.052		10/23/09
Am-243 tracer by AEA	AM243	LA-508-471		3.90	pCi/g			1.00	0.030		10/23/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		10.2	pCi/g	+-1.26	pCi/g	1.00	0.068		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.0160	pCi/g	+-0.0349	pCi/g	1.00	0.060		10/23/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.0220	pCi/g	+-0.0147	pCi/g	1.00	0.013		10/23/09
Pu-242	13982-10-0	LA-508-471		6.10	pCi/g			1.00	0.019		10/23/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		5.70	pCi/g	+-1.31	pCi/g	1.00	0.38		01/09/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		87.1	Percent			1.00	0.0		10/21/09

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
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TP Err = Total Propagated Error
DF = Dilution Factor

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00913
Client ID: B22CM7 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

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		1.70	pCi/g	+-1.02	pCi/g	1.00	1.3		10/23/09
Am-243 tracer by AEA	AM243	LA-508-471		96.0	pCi/g			1.00	0.91		10/23/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		1.34e+04	pCi/g	+-1.67e+03	pCi/g	1.00	7.4		10/21/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.330	pCi/g	+-0.855	pCi/g	1.00	1.4		10/23/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		4.40	pCi/g	+-1.45	pCi/g	1.00	0.13		10/23/09
Pu-242	13982-10-0	LA-508-471		150	pCi/g			1.00	0.50		10/23/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		3.10e+03	pCi/g	+-372	pCi/g	1.00	18		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		92.3	Percent			1.00	0.0		10/21/09

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00914
Client ID: B22CM8 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471	U	0.140	pCi/g	+-0.265	pCi/g	1.00	0.45		10/23/09
Am-243 tracer by AEA	AM243	LA-508-471		32.0	pCi/g			1.00	0.21		10/23/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		330	pCi/g	+-43.7	pCi/g	1.00	0.22		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	0.0610	pCi/g	+-0.245	pCi/g	1.00	0.43		10/23/09
Pu-239/240 by AEA	PU-239/240	LA-508-471		0.210	pCi/g	+-0.151	pCi/g	1.00	0.18		10/23/09
Pu-242	13982-10-0	LA-508-471		49.0	pCi/g			1.00	0.14		10/23/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		200	pCi/g	+-28.0	pCi/g	1.00	3.9		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		102	Percent			1.00	0.0		10/21/09

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00915
Client ID: B22CM9 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471	U	0.250	pCi/g	+-0.228	pCi/g	1.00	0.34		10/23/09
Am-243 tracer by AEA	AM243	LA-508-471		33.0	pCi/g			1.00	0.20		10/23/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		249	pCi/g	+-32.9	pCi/g	1.00	0.20		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	-0.430	pCi/g	+-0.348	pCi/g	1.00	0.65		10/23/09
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.0310	pCi/g	+-0.0983	pCi/g	1.00	0.18		10/23/09
Pu-242	13982-10-0	LA-508-471		51.0	pCi/g			1.00	0.14		10/23/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		540	pCi/g	+-64.8	pCi/g	1.00	4.2		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		100	Percent			1.00	0.0		10/21/09

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor

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WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
SAF Number: F09-047
Sample # W09GR00916
Client ID: B22CN0 GPP TRENT WSCF
Matrix: SOIL

Group #: WSCF20091043
Department: Radiochemistry
Sampled: 10/19/09
Received: 10/19/09

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Americium by AEA											
Americium-241	14596-10-2	LA-508-471	U	0.790	pCi/g	+-0.664	pCi/g	1.00	0.96		10/23/09
Am-243 tracer by AEA	AM243	LA-508-471		98.0	pCi/g			1.00	0.63		10/23/09
Gamma Energy Analysis-grd H2O											
Cesium-137	10045-97-3	LA-508-481		511	pCi/g	+-67.5	pCi/g	1.00	0.28		10/20/09
Plutonium Isotopics by AEA											
Plutonium-238	13981-16-3	LA-508-471	U	-1.50	pCi/g	+-0.960	pCi/g	1.00	1.8		10/23/09
Pu-239/240 by AEA	PU-239/240	LA-508-471	U	0.370	pCi/g	+-0.333	pCi/g	1.00	0.43		10/23/09
Pu-242	13982-10-0	LA-508-471		150	pCi/g			1.00	0.50		10/23/09
Strontium 89/90											
Strontium-89/90	SR-RAD	LA-508-415		1.40e+03	pCi/g	+-168	pCi/g	1.00	8.1		10/21/09
Sr-85 Tracer by Beta Counting	SR85	LA-508-415		102	Percent			1.00	0.0		10/21/09

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria(inorg)
RQ=Result Qualifier
TP Err=Total Propagated Error
DF=Dilution Factor
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WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20091043
Matrix: SOLID
Test: Americium by AEA

Sample Date: 10/19/09
Receive Date:10/19/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00906											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	1.8e-2		RPD			46.809	20.000 •		10/22/09
DUP	Am-243 tracer by AEA	AM243	3.93	98.325	% Recov	30.000	105.000				10/22/09
SURR	Am-243 tracer by AEA	AM243	3.986	92.260	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00907											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	3.916	94.550	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00908											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	9.752	97.310	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00909											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	4.711	89.780	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00910											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	48.01	93.920	% Recov	30.000	105.000				10/22/09
BATCH QC											
BLANK	Americium-241	14596-10-2	U1.8e-2	n/a	pCi/g	-10.000	1000.000				10/22/09
BLANK	Am-243 tracer by AEA	AM243	4.002	86.000	% Recov	30.000	105.000				10/22/09
LCS	Americium-241	14596-10-2	12.55	105.907	% Recov	80.000	120.000				10/22/09
LCS	Am-243 tracer by AEA	AM243	11.11	93.770	% Recov	30.000	105.000				10/22/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091043
Matrix: SOLID
Test: Americium by AEA

Sample Date: 10/19/09
Receive Date:10/19/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00911											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Americium-241	14596-10-2	U4.6e-2		RPD			n/a	20.000		10/23/09
DUP	Am-243 tracer by AEA	AM243	98.09	86.480	% Recov	30.000	105.000				10/23/09
SURR	Am-243 tracer by AEA	AM243	95.84	96.300	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00912											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	3.908	94.260	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	96.2	90.890	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00914											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	31.52	86.610	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00915											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	32.7	98.830	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00916											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Am-243 tracer by AEA	AM243	97.71	102.000	% Recov	30.000	105.000				10/23/09
BATCH QC											
BLANK	Americium-241	14596-10-2	U-2.2e-2	n/a	pCi/g	-10.000	1000.000				10/23/09
BLANK	Am-243 tracer by AEA	AM243	4.002	83.180	% Recov	30.000	105.000				10/23/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20091043
Matrix: SOLID
Test: Americium by AEA

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Americium-241	14596-10-2	12.06	101.772	% Recov	80.000	120.000				10/23/09
LCS	Am-243 tracer by AEA	AM243	11.11	91.980	% Recov	30.000	105.000				10/23/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20091043
Matrix: SOLID
Test: Gamma Energy Analysis-grd H2O

Sample Date: 10/19/09
Receive Date:10/19/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00906											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Cesium-137	10045-97-3	3.218		RPD			0.405	20.000		10/20/09
BATCH QC											
BLANK	Cesium-137	10045-97-3	U6.139e-3	n/a	pCi/g	-10.000	1000.000				10/21/09
LCS	Cesium-137	10045-97-3	6593	109.156	% Recov	80.000	120.000				10/21/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091043
Matrix: SOLID
Test: Plutonium Isotopics by AEA

Sample Date: 10/19/09
Receive Date: 10/19/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00906											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U-1.3e-2		RPD			n/a	20.000		10/22/09
DUP	Pu-239/240 by AEA	PU-239/240	1.5e-2		RPD			50.000	20.000 *		10/22/09
DUP	Pu-242	13982-10-0	6.124	87.260	% Recov	30.000	105.000				10/22/09
SURR	Pu-242	13982-10-0	6.209	89.300	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00907											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	6.1	95.610	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00908											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	15.19	89.230	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00909											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	7.338	92.160	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00910											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	74.78	83.280	% Recov	30.000	105.000				10/22/09
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U2.2e-2	n/a	pCi/g	-10.000	1000.000				10/22/09
BLANK	Pu-239/240 by AEA	PU-239/240	U1.8e-3	n/a	pCi/g	-10.000	1000.000				10/22/09
BLANK	Pu-242	PU242	6.234	89.200	% Recov	30.000	105.000				10/22/09
LCS	Pu-239/240 by AEA	PU-239/240	14.12	109.926	% Recov	80.000	120.000				10/22/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20091043
Matrix: SOLID
Test: Plutonium Isotopics by AEA

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Pu-242	PU242	17.3	92.480	% Recov	30.000	105.000				10/22/09
Lab ID: W09GR00911											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Plutonium-238	13981-16-3	U0.19		RPD			n/a	20.000		10/23/09
DUP	Pu-239/240 by AEA	PU-239/240	U0.43		RPD			n/a	20.000		10/23/09
DUP	Pu-242	13982-10-0	152.8	85.240	% Recov	30.000	105.000				10/23/09
SURR	Pu-242	13982-10-0	149.3	85.980	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00912											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	6.088	95.410	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	149.9	86.490	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00914											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	49.1	87.040	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00915											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	50.93	94.810	% Recov	30.000	105.000				10/23/09
Lab ID: W09GR00916											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Pu-242	13982-10-0	152.2	86.740	% Recov	30.000	105.000				10/23/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20091043
Matrix: SOLID
Test: Plutonium Isotopics by AEA

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BATCH QC											
BLANK	Plutonium-238	13981-16-3	U-9.8e-3	n/a	pCi/g	-10.000	1000.000				10/23/09
BLANK	Pu-239/240 by AEA	PU-239/240	U9.8e-3	n/a	pCi/g	-10.000	1000.000				10/23/09
BLANK	Pu-242	PU242	6.234	82.910	% Recov	30.000	105.000				10/23/09
LCS	Pu-239/240 by AEA	PU-239/240	13.61	105.956	% Recov	80.000	120.000				10/23/09
LCS	Pu-242	PU242	17.3	95.690	% Recov	30.000	105.000				10/23/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20091043
Matrix: SOLID
Test: Strontium 89/90

Sample Date: 10/19/09
Receive Date:10/19/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00906											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	98.5	98.500	% Recov	30.000	105.000		.		10/21/09
DUP	Strontium-89/90	SR-RAD	3.4		RPD			42.857	20.000 *		10/21/09
SURR	Sr-85 Tracer by Beta Counting	SR85	94.8	94.800	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00907											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	87.4	87.400	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00908											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	98.1	98.100	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00909											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	90.6	90.600	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00910											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	99.8	99.800	% Recov	30.000	105.000				10/21/09
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	90.1	90.100	% Recov	30.000	105.000				10/21/09
BLANK	Strontium-89/90	10098-97-2	U-4.3E-02	n/a	pCi/g	-10.000	300.000				10/21/09
LCS	Sr-85 Tracer by Beta Counting	SR85	99.8	99.800	% Recov	30.000	105.000				10/21/09
LCS	Strontium-89/90	10098-97-2	67.2	96.000	% Recov	80.000	120.000				10/21/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Radiochemistry

SDG Number: WSCF20091043
Matrix: SOLID
Test: Strontium 89/90

Sample Date: 10/19/09
Receive Date:10/19/09

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W09GR00911											
BATCH QC ASSOCIATED WITH SAMPLE											
DUP	Sr-85 Tracer by Beta Counting	SR85	94.7	94.700	% Recov	30.000	105.000				10/21/09
DUP	Strontium-89/90	SR-RAD	1.8E+03		RPD			32.258	20.000 •		10/21/09
SURR	Sr-85 Tracer by Beta Counting	SR85	95.5	95.500	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00912											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	87.1	87.100	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00913											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	92.3	92.300	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00914											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	101.7	101.700	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00915											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	100.2	100.200	% Recov	30.000	105.000				10/21/09
Lab ID: W09GR00916											
BATCH QC ASSOCIATED WITH SAMPLE											
SURR	Sr-85 Tracer by Beta Counting	SR85	102.1	102.100	% Recov	30.000	105.000				10/21/09
BATCH QC											
BLANK	Sr-85 Tracer by Beta Counting	SR85	94.3	94.300	% Recov	30.000	105.000				10/21/09
BLANK	Strontium-89/90	10098-97-2	5.7E-01	0.570	pCi/g	-10.000	300.000				10/21/09

WSCF ANALYTICAL LABORATORY QC REPORT

Department: **Radiochemistry**

SDG Number: WSCF20091043
Matrix: SOLID
Test: Strontium 89/90

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
LCS	Sr-85 Tracer by Beta Counting	SR85	91.6	91.600	% Recov	30.000	105.000				10/21/09
LCS	Strontium-89/90	10098-97-2	73.3	104.714	% Recov	80.000	120.000				10/21/09

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F09-047

Group #: WSCF20091043
Department: Radiochemistry

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		W09GR00906-910/Pu239 & Am241 duplicate is flagged for poor RPD but the sample activity is low level. RPD does not apply. lmh W09GR00906-910/Sr89/90 duplicate is flagged for poor RPD due to the inhomogeneity of the sample. lmh W09GR00911-916/Sr89/90 batch dup is flagged for poor RPD due to the inhomogeneity of the sample. 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
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F09-047 :F09-047

Group #: WSCF20091043
Department: Radiochemistry

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.79	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				31	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212				0.40	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				45	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.64	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				20	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				15	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				13	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212				0.70	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				14	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226				0.64	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error				19	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.63	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				26	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	SN-126				0.19	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	SN-126 Count Error				35	%
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.23	pCi/g
W09GR00906	B22CM0	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				19	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				1.3	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				35	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212				0.72	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-212 Count Error				45	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.62	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				28	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				18	pCi/g

RQ=Result Qualifier

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F09-047 :F09-047

Group #: WSCF20091043
Department: Radiochemistry

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				13	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212				1.1	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				13	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226				0.62	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error				28	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.95	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				24	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	TH-234				2.6	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	TH-234 Count Error				46	%
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.32	pCi/g
W09GR00907	B22CM1	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				22	%
W09GR00908	B22CM2	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.92	pCi/g
W09GR00908	B22CM2	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				26	%
W09GR00908	B22CM2	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				15	pCi/g
W09GR00908	B22CM2	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				15	%
W09GR00908	B22CM2	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.64	pCi/g
W09GR00908	B22CM2	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				33	%
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.60	pCi/g
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				32	%
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				15	pCi/g
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212				1.1	pCi/g
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				22	%
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-214				0.66	pCi/g
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-214 Count Error				28	%

RQ=Result Qualifier

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F09-047 :F09-047

Group #: WSCF20091043
Department: Radiochemistry

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226				0.57	pCi/g
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error				27	%
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.87	pCi/g
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				29	%
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.26	pCi/g
W09GR00909	B22CM3	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				31	%
W09GR00910	B22CM4	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.85	pCi/g
W09GR00910	B22CM4	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				31	%
W09GR00910	B22CM4	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				15	pCi/g
W09GR00910	B22CM4	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				15	%
W09GR00911	B22CM5	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.83	pCi/g
W09GR00911	B22CM5	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				49	%
W09GR00911	B22CM5	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				15	pCi/g
W09GR00911	B22CM5	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				15	%
W09GR00911	B22CM5	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.83	pCi/g
W09GR00911	B22CM5	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				49	%
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				1.1	pCi/g
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				47	%
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				1.0	pCi/g
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				25	%
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				22	pCi/g
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				13	%
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212				1.1	pCi/g
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				17	%
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226				0.64	pCi/g

RQ=Result Qualifier

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F09-047 :F09-047

Group #: WSCF20091043
Department: Radiochemistry

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-226 Count Error				33	%
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				1.1	pCi/g
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				23	%
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208				0.33	pCi/g
W09GR00912	B22CM6	GPP	TRENT	Gamma Energy Analysis-grd H2O	TL-208 Count Error				25	%
W09GR00913	B22CM7	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				21	pCi/g
W09GR00913	B22CM7	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				41	%
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.70	pCi/g
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				41	%
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.42	pCi/g
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				41	%
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				15	pCi/g
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212				0.97	pCi/g
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				49	%
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.70	pCi/g
W09GR00914	B22CM8	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				41	%
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.69	pCi/g
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				41	%
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.78	pCi/g
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				29	%
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				14	pCi/g
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				15	%
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.69	pCi/g
W09GR00915	B22CM9	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				41	%

RQ=Result Qualifier

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F09-047 :F09-047

Group #: WSCF20091043
Department: Radiochemistry

Sample #	Client ID			Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228				0.92	pCi/g
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	AC-228 Count Error				32	%
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214				0.62	pCi/g
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	BI-214 Count Error				35	%
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40				15	pCi/g
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	K-40 Count Error				14	%
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212				1.1	pCi/g
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	PB-212 Count Error				48	%
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228				0.92	pCi/g
W09GR00916	B22CN0	GPP	TRENT	Gamma Energy Analysis-grd H2O	RA-228 Count Error				32	%

RQ=Result Qualifier

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M4W41-SLF-09-284

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 13 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
10/26/09

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program

Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 302222/ES10
Group#: 20091043
Project#: F09-047
Proj Mgr: Steve Trent
Phone: 373-5869

The following samples were received from you on 10/19/09. 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
W09GR00906	B22CM0	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00907	B22CM1	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00908	B22CM2	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00909	B22CM3	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00910	B22CM4	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00911	B22CM5	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00912	B22CM6	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00913	B22CM7	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00914	B22CM8	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00915	B22CM9	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09
W09GR00916	B22CN0	GPP @AEA-30	TRENT Solid, or handle as if solid @AEA-31 @GEA-GPP @SR89_90	10/19/09

Test Acronym Description

Test Acronym	Description
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@SR89_90	Strontium 89/90

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

10/26/09

F09-047-021

COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8B	DATA TURNAROUND: 7 Days / 15 Days	AIR QUALITY: ☐	SAMPLING LOCATION: ZA-L2-01
PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling	SAF NO.: F09-047	ICE CHEST NO.: SXL-102	FIELD LOGBOOK NO.: HNF-N-507-7
ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10	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=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)

SPECIAL HANDLING AND/OR STORAGE
20091043

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy {Cesium-137}	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B22CM0 W09GR0090	SOIL	10/19/09	0948	✓	–	✓						

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall, CHPRC	OCT 19 2009 /400	Victor Sims	OCT 19 2009 /400

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-022 PAGE 1 OF 1

COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8B	DATA TURNAROUND: 7 Days / 15 Days		
SAMPLING LOCATION: ZA-L2-02	PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling		SAF NO.: F09-047
AIR QUALITY: ☐			
ICE CHEST NO.: SMC-102	FIELD LOGBOOK NO.: HNF-N-507-7	ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10
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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy {Cesium-137}	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME											
B22CM1 W096R00907	SOIL	10/19/09	0950	✓	✓	✓								

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Bias	OCT 19 2009 1400

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-023 PAGE 1 OF 1

COLLECTOR FM Hall CHPRC	**COMPANY CONTACT** WIDRIG, DL	**TELEPHONE NO.** 373-5869	**PROJECT COORDINATOR** WIDRIG, DL
PRICE CODE 8B	**DATA TURNAROUND** 7 Days / 15 Days	**AIR QUALITY** ☐	
SAMPLING LOCATION ZA-L2-03	**PROJECT DESIGNATION** ARRA BC Controlled Area Remediation - In Process Soil Sampling	**SAF NO.** F09-047	
ICE CHEST NO. SAL-102	**FIELD LOGBOOK NO.** HHF-N-507-7	**ACTUAL SAMPLE DEPTH** 0-3"	**COA** 302222ES10
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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy (Cesium-137)	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CM2 W0962000408	SOIL	10/19/09	0955	✓	✓	✓

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Sims	OCT 19 2009 1400

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

☐ ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-024 PAGE 1 OF 1

COLLECTOR FM Hall CHPRC

COMPANY CONTACT: WIDRIG, DL

TELEPHONE NO.: 373-5869

PROJECT COORDINATOR: WIDRIG, DL

PRICE CODE: 8B

DATA TURNAROUND: 7 Days / 15 Days

SAMPLING LOCATION: ZA-L2-04

PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling

SAF NO.: F09-047

AIR QUALITY: ☐

ICE CHEST NO.: SXXL-102

FIELD LOGBOOK NO.: 14HF-H-507-7

ACTUAL SAMPLE DEPTH: 0-3"

COA: 302222ES10

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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None									
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P									
NO. OF CONTAINER(S)	1	1	1									
VOLUME	500mL	120mL	120mL									
SAMPLE ANALYSIS	Gamma Spectroscopy (Cesium-137)	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS									
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B22CM3 W0968200 909	SOIL	10/19/09	0958	✓	✓	✓						

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Stas	OCT 19 2009 1400

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

LABORATORY SECTION — RECEIVED BY — TITLE — DATE/TIME

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-025

COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8B	DATA TURNAROUND: 7 Days / 15 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: ZA-L2-05	PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling	SAF NO.: F09-047	
ICE CHEST NO.: SKC-102	FIELD LOGBOOK NO.: HNF-N-507-7	ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10
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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy {Cesium-137}	Stronbum-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CM4 WX9620910	SOIL	10/19/09	1012	✓	✓	✓

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Sims	OCT 19 2009 1400

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

☐ ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-026

COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8B	DATA TURNAROUND: 7 Days / 15 Days	AIR QUALITY: ☐	
SAMPLING LOCATION: ZA-L2-05DUP	PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling	SAF NO.: F09-047	
ICE CHEST NO.: SXL-102	FIELD LOGBOOK NO.: HNF-M-507-7	ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10
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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy (Cesium-137)	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CM5 W0916W0911	SOIL	10/19/09	1012	✓	✓	✓

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Sikel	OCT 19 2009 1400

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-027

COLLECTOR: PM Hall CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
SAMPLING LOCATION: ZA-L2-06	PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling		SAF NO.: F09-047
ICE CHEST NO.: SMCL-102	FIELD LOGBOOK NO.: HNF-N-507-7	ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8B

AIR QUALITY: ☐

DATA TURNAROUND: 7 Days / 15 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy (Cesium-137)	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CM6 W0968 00512	SOIL	10/19/09	1008	✓	✓	✓

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
PM Hall CHPRC	OCT 19 2009 1400	PM Hall CHPRC Victor Bias	OCT 19 2009 1400

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-028

COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8B	DATA TURNAROUND: 7 Days / 15 Days	AIR QUALITY: ☐	SAMPLING LOCATION: ZA-L2-07
PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling	SAF NO.: F09-047	ICE CHEST NO.: SXL-102	FIELD LOGBOOK NO.: HHF-N-507-7
ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10	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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy {Cesium-137}	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CM7 W096N8/3	SOIL	10/19/09	1002	✓	✓	✓

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Bry	OCT 19 2009 1400

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-029

COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8B	AIR QUALITY: ☐	DATA TURNAROUND: 7 Days / 15 Days	
SAMPLING LOCATION: ZA-L2-08	PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling	SAF NO.: F09-047	
ICE CHEST NO.: SML-102	FIELD LOGBOOK NO.: HNF-N-507-7	ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10
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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy {Cesium-137}	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CM8 W09 6208114	SOIL	10/19/09	1020	✓	✓	✓

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Sims	OCT 19 2009 1400

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F09-047-030

COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL
PRICE CODE: 8B	DATA TURNAROUND: 7 Days / 15 Days		
SAMPLING LOCATION: ZA-L2-09	PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling		SAF NO.: F09-047
AIR QUALITY: [ ]			
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-507-7	ACTUAL SAMPLE DEPTH: 0-3"	COA: 302222ES10
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=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	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy {Cesium-137}	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CM9 W096R0D915	SOIL	10/19/09	1025	✓	✓	✓

10-19-09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1400	Victor Bins	OCT 19 2009 1400

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F09-047-031	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: WIDRIG, DL	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: WIDRIG, DL	PRICE CODE: 8B	DATA TURNAROUND: 7 Days / 15 Days
SAMPLING LOCATION: ZA-L2-10	PROJECT DESIGNATION: ARRA BC Controlled Area Remediation - In Process Soil Sampling		SAF NO.: F09-047	AIR QUALITY: ☐	
ICE CHEST NO.: SUL-102	FIELD LOGBOOK NO.: HNF-N-507-7	ACTUAL SAMPLE DEPTH: 0.3"	COA: 302222ES10	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=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)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	None	None
TYPE OF CONTAINER	Square Bottle - Poly	G/P	G/P
NO. OF CONTAINER(S)	1	1	1
VOLUME	500mL	120mL	120mL
SAMPLE ANALYSIS	Gamma Spectroscopy {Cesium-137}	Strontium-89,90 -- Total Sr;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B22CN0 W096R00 916	SOIL	10/19/09	1028	✓	✓	✓

10/19/09

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall CHPRC	OCT 19 2009 1466	Victor Bims	OCT 19 2009 1466

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1)Americium-241 {Americium-241} Isotopic Plutonium {Plutonium-239/240, Plutonium-238}

ORIGINAL

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

A-6003-618(01/06)