

DECEMBER 10, 2012

**WSCF Laboratory**

PO Box 650 S3-30  
Richland, WA 99352



December 10, 2012

Scot Fitzgerald  
CH2M-HILL PRC  
PO Box 1600  
Richland, WA 99352

Dear Scot Fitzgerald,

**FINAL RESULT FOR SAMPLE DELIVERY GROUP WSCF121444**

Reference: (1) SOW, Mod 2, #36587, Release 3  
(2) MSC-SD-CD-QAPP-017, current version, Waste Sampling & Characterization Facility Quality Assurance Program Plan

This letter contains the following information for sample delivery group WSCF121444

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

Very truly yours,

A handwritten signature in black ink, appearing to read "Joseph Hale", is positioned above the typed name.

Electronically signed by Joseph Hale

For Lab Manager, Dan T. Smith

WSCF Analytical Lab

(509) 373-4804

Attachments 4

CC: w/Attachments

File/LB

ATTACHMENT 1

**COVER SHEET**

Consisting of 2 pages  
Including cover page

**WSCF SAF Number Cross Reference**

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Group # WSCF121444  
Data Deliverable Date 12/10/12

<b>SAF #</b>	<b>Sample ID</b>	<b>Sample #</b>	<b>Matrix</b>	<b>Sampled</b>	<b>Received</b>
X13-005	B2MK84	121444001	WATER	11/08/12	11/08/12
X13-005	B2MK85	121444002	WATER	11/08/12	11/08/12
X13-005	B2MK88	121444003	WATER	11/08/12	11/08/12
X13-005	B2MK82	121444004	WATER	11/08/12	11/08/12
X13-005	B2MK83	121444005	WATER	11/08/12	11/08/12
X13-005	B2MK80	121444006	WATER	11/08/12	11/08/12
X13-005	B2MK81	121444007	WATER	11/08/12	11/08/12
X13-005	B2MK87	121444008	WATER	11/08/12	11/08/12

ATTACHMENT 2

**NARRATIVE**

Consisting of 3 pages  
Including cover page

### Introduction

Samples were received at the WSCF laboratory as referenced on the WSCF SAF Number Cross Reference table included in the final report. 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), Master Contract 39818, Revision 3, "Laboratory Analytical Services to CHPRC Soil and Groundwater Remediation Project."*

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 not stamped "ICED" by the WSCF Laboratory Sample Custodian during sample receiving. However, based on procedure LO-090-403 form "NOTICE OF IMPROPER SAMPLE SUBMITTAL" was not submitted and was not stamped "NOT ICED". No anomaly was noted during sample receipt.

The following generic data qualifiers (i.e., B, C, D, J and U) 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 wet chemical analyses), as appropriate.
- **C** – Analyte was detected in the blank and was evaluated. Affected sample results in the batch were C flagged (applies to inorganic and wet chemical analyses).
- **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.
- **B (organic analyses)** – Analyte was detected in the blank and was evaluated. Affected sample results in the batch were B flagged.
- **U** – Analyzed for but not detected above limiting criteria. Relative Percent Difference (RPD) values associated with an analyte qualified with a "U" are not applicable.

### Analytical Methodology for Requested Analyses

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

### Inorganic Comments

Attachment 2  
**Narrative**  
WSCF121444

**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. Analytical Note(s):

- Chloride and Sulfate – Exceeded spiking levels by a factor of 4. Spike recoveries and associated RPDs are not valid.
- All other applicable QC controls are within the established limits.

**Hexavalent Chromium** – The hold time requirement for this analysis was met. A Duplicate, Matrix Spike, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

- All applicable QC controls are within the established limits.

#### 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. Analytical Note(s):

Tracers are used to determine chemical yield. RPD is monitored in sample duplicate and is not required for tracer recovery per SOW.

#### **Gross Alpha / Gross Beta:**

- All applicable QC controls are within the established limits.

#### **Strontium-89/90:**

- All applicable 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 electronic signatures shown on the WSCF ANALYTICAL RESULTS REPORT.

ATTACHMENT 3

**ANALYTICAL RESULTS**

Consisting of 22 pages  
Including cover page

DECEMBER 10, 2012

**WSCF ANALYTICAL RESULTS REPORT**

For

CH2M Hill Plateau Remediation

PO Box 1600  
Richland, WA 99352

Attention: Scot Fitzgerald

**Contract #** MOA-FH-CHPRC-2008  
**Group #** WSCF121444  
**Report Date** December 10, 2012

Analytical: Electronically signed by Joseph Hale

Client Services: Electronically signed by Marisol Avila

*Solid samples results that have a 'Percent Solid' test are reported on a "dry weight basis", except results of TCLP, Percent Solid, and Total Activity. If no 'Percent Solid' test is reported then the results are reported on an "as received" basis.*

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Batch QC List

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121444

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210015	210015	2	BLANK	84767	BLANK		Anions by Ion Chromatography (Water)
210015	210015	3	LCS	84768	LCS		Anions by Ion Chromatography (Water)
210015	210015	4	DUP	84769	B2MK83(121444005DUP)	121444005	Anions by Ion Chromatography (Water)
210015	210015	5	MS	84770	B2MK83(121444005MS)	121444005	Anions by Ion Chromatography (Water)
210015	210015	6	MSD	84771	B2MK83(121444005MSD)	121444005	Anions by Ion Chromatography (Water)
210015	210015	8	SAMPLE	121444004	B2MK82		Anions by Ion Chromatography (Water)
210015	210015	9	SAMPLE	121444005	B2MK83		Anions by Ion Chromatography (Water)
210329	210329	1	BLANK	85055	BLANK		Hexavalent chromium Discrete Analyzer
210329	210329	3	LCS	85057	LCS		Hexavalent chromium Discrete Analyzer
210329	210329	4	DUP	85058	B2MK84(121444001DUP)	121444001	Hexavalent chromium Discrete Analyzer
210329	210329	5	MS	85059	B2MK84(121444001MS)	121444001	Hexavalent chromium Discrete Analyzer
210329	210329	6	SAMPLE	121444001	B2MK84		Hexavalent chromium Discrete Analyzer
210329	210329	7	SAMPLE	121444002	B2MK85		Hexavalent chromium Discrete Analyzer
210329	210329	8	SAMPLE	121444003	B2MK88		Hexavalent chromium Discrete Analyzer

Batch QC List

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
210218	210645	1	BLANK	84848	BLANK		GAB Discrete analysis Alpha only
210218	210645	2	LCS	84849	LCS		GAB Discrete analysis Alpha only
210218	210645	3	SAMPLE	121444006	B2MK80		GAB Discrete analysis Alpha only
210218	210645	4	DUP	84850	B2MK80(121444006DUP)	121444006	GAB Discrete analysis Alpha only
210218	210645	5	SAMPLE	121444007	B2MK81		GAB Discrete analysis Alpha only
210218	210646	1	BLANK	84848	BLANK		GAB Discrete analysis Beta only
210218	210646	2	LCS	84849	LCS		GAB Discrete analysis Beta only
210218	210646	3	SAMPLE	121444006	B2MK80		GAB Discrete analysis Beta only
210218	210646	4	DUP	84850	B2MK80(121444006DUP)	121444006	GAB Discrete analysis Beta only
210218	210646	5	SAMPLE	121444007	B2MK81		GAB Discrete analysis Beta only
210241	211036	1	BLANK	84914	BLANK		Strontium 89/90 (GPC/GEA)
210241	211036	2	LCS	84915	LCS		Strontium 89/90 (GPC/GEA)
210241	211036	3	DUP	84916	B2MP83(121441008DUP)	121441008	Strontium 89/90 (GPC/GEA)
210241	211036	5	SAMPLE	121444006	B2MK80		Strontium 89/90 (GPC/GEA)
210241	211036	6	SAMPLE	121444007	B2MK81		Strontium 89/90 (GPC/GEA)
210241	211036	7	SAMPLE	121444008	B2MK87		Strontium 89/90 (GPC/GEA)

Method Reference

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121444

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, industry methods or HEIS 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 WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

<b>LA-265-403</b>	Hexavalent Chromium Analysis		
	EPA SW-846	7196A	Hexavalent Chromium
	HEIS	7196_CR6	Hexavalent Chromium
<b>LA-533-410</b>	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 reference regulatory or industry methods is available online at <http://www7.rl.gov/rapidweb/AS-DOL/index.cfm>

Method Reference

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

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, industry methods or HEIS 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 WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

<b>LA-220-406</b>	Strontium-89 and 90 in Aqueous Samples by SR-SPEC Separation		
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium 89/90, by Sr-Spec Sep.
<b>LA-508-415</b>	Operation Of The Protean 2-Inch Alpha/Beta Counting System For Gross Alpha/ Beta Samples		
	HEIS	ALPHA_GPC	Gross Alpha by GPC
	HEIS	BETA_GPC	Gross Beta by GPC
	HEIS	SRTOT_SEP_PRECIP_GPC	Strontium beta isotopic, GPC

Note: A complete list of WSCF analytical procedures and reference regulatory or industry methods is available online at <http://www7.rl.gov/rapidweb/AS-DOL/index.cfm>

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121444

Sample # 121444001  
 SAF# X13-005  
 Sample ID B2MK84

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/08/12
<b>Hexavalent chromium Discrete Analyzer</b>										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.0020		mg/L	1	0.0020	0.0050	11/08/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 E - Analyte is an estimate, see comment section.  
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)  
 o - LCS recovery outside established laboratory acceptance limits.  
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121444

Sample # 121444002  
 SAF# X13-005  
 Sample ID B2MK85

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/08/12
<b>Hexavalent chromium Discrete Analyzer</b>										
Hexavalent chromium	18540-29-9	LA-265-403		0.0103		mg/L	1	0.0020	0.0050	11/08/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 E - Analyte is an estimate, see comment section.  
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)  
 o - LCS recovery outside established laboratory acceptance limits.  
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121444

Sample # 121444003  
 SAF# X13-005  
 Sample ID B2MK88

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
										11/08/12
<b>Hexavalent chromium Discrete Analyzer</b>										
Hexavalent chromium	18540-29-9	LA-265-403		0.0102		mg/L	1	0.0020	0.0050	11/08/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 E - Analyte is an estimate, see comment section.  
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)  
 o - LCS recovery outside established laboratory acceptance limits.  
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121444

Sample # 121444004  
 SAF# X13-005  
 Sample ID B2MK82

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/08/12</b>										
<b>Anions by Ion Chromatography (Water)</b>										
Fluoride	16984-48-8	LA-533-410	UD	<0.046		ug/mL	2	0.046	0.14	11/08/12
Chloride	16887-00-6	LA-533-410	UD	<0.12		ug/mL	2	0.12	0.81	11/08/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/08/12
Nitrate-N	NO3-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/08/12
Sulfate	14808-79-8	LA-533-410	UD	<0.22		ug/mL	2	0.22	2.1	11/08/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 E - Analyte is an estimate, see comment section.  
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)  
 o - LCS recovery outside established laboratory acceptance limits.  
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
 Department Inorganic

Group # WSCF121444

Sample # 121444005  
 SAF# X13-005  
 Sample ID B2MK83

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>11/08/12</b>										
<b>Anions by Ion Chromatography (Water)</b>										
Fluoride	16984-48-8	LA-533-410	BD	0.0956		ug/mL	2	0.046	0.14	11/08/12
Chloride	16887-00-6	LA-533-410	D	21.0		ug/mL	2	0.12	0.81	11/08/12
Nitrite-N	NO2-N	LA-533-410	UD	<0.038		ug/mL	2	0.038	0.20	11/08/12
Nitrate-N	NO3-N	LA-533-410	D	6.30		ug/mL	2	0.038	0.20	11/08/12
Sulfate	14808-79-8	LA-533-410	D	50.4		ug/mL	2	0.22	2.1	11/08/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)  
 C - Analyte was found in the Associated Blank. (Inorganic)  
 D - Analyte was reported at a secondary dilution factor.  
 E - Analyte is an estimate, see comment section.  
 N - MS and/or MSD recovery outside control limits.

U - Analyzed for but not detected above limiting criteria.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)  
 o - LCS recovery outside established laboratory acceptance limits.  
 o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

Sample # 121444006  
 SAF# X13-005  
 Sample ID B2MK80

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>GAB Prep for Discrete Analysis (W)</b>										11/20/12
<b>GAB Discrete analysis Alpha only</b>										
Gross Alpha	12587-46-1	LA-508-415	U	4.5E-3	.045	pCi/L	1	2.1		12/03/12
<b>GAB Discrete analysis Beta only</b>										
Gross Beta	12587-47-2	LA-508-415	U	-1.2	1.9	pCi/L	1	3.4		12/03/12
<b>Strontium 89/90 WATER/LIQUID PREP</b>										11/28/12
<b>Strontium 89/90 (GPC/GEA)</b>										
Strontium-89_90	SR-RAD	LA-220-406	U	0.22	.62	pCi/L	1	1.0		12/04/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE  
 U - Analyzed for but not detected above limiting criteria.  
 N - Spike Recovery is Outside Control Limits.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

Sample # 121444007  
 SAF# X13-005  
 Sample ID B2MK81

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>GAB Prep for Discrete Analysis (W)</b>										11/20/12
<b>GAB Discrete analysis Alpha only</b>										
Gross Alpha	12587-46-1	LA-508-415	U	4.1	3.3	pCi/L	1	5.0		12/03/12
<b>GAB Discrete analysis Beta only</b>										
Gross Beta	12587-47-2	LA-508-415		8.2	4.7	pCi/L	1	7.2		12/03/12
<b>Strontium 89/90 WATER/LIQUID PREP</b>										11/28/12
<b>Strontium 89/90 (GPC/GEA)</b>										
Strontium-89_90	SR-RAD	LA-220-406	U	0.22	.62	pCi/L	1	1.0		12/04/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE  
 U - Analyzed for but not detected above limiting criteria.  
 N - Spike Recovery is Outside Control Limits.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

Sample # 121444008  
 SAF# X13-005  
 Sample ID B2MK87

Matrix WATER  
 Sampled 11/08/12  
 Received 11/08/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
<b>Strontium 89/90 WATER/LIQUID PREP</b>										<b>11/28/12</b>
<b>Strontium 89/90 (GPC/GEA)</b>										
Strontium-89_90	SR-RAD	LA-220-406	U	-0.15	.59	pCi/L	1	1.0		12/04/12

MDL = Minimum Detection Limit  
 RQ = Result Qualifier  
 TP Err = Total Propagated Error  
 DF = Dilution Factor  
 + - Indicates more than nine qualifier

B - Analyte was detected in both the BLANK and SAMPLE  
 U - Analyzed for but not detected above limiting criteria.  
 N - Spike Recovery is Outside Control Limits.  
 X,Y or Z - See comment detail and/or narrative.  
 PQL is equivalent to Estimated Quantitation Limit (EQL)

o - LCS recovery outside established laboratory acceptance limits.

**Quality Control Report**

**Attention** Scot Fitzgerald  
**Department** Inorganic

**Group #** WSCF121444

**Analytical Batch** 210015 (QC Batch: 210015)      **Test** Anions by Ion Chromatography (Water)  
**Associated Samples** 121444004, 121444005

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #84767</b>								
Fluoride	16984-48-8	<0.023		ug/mL					U	11/08/12
Chloride	16887-00-6	<0.058		ug/mL					U	11/08/12
Nitrite-N	NO2-N	<0.019		ug/mL					U	11/08/12
Nitrate-N	NO3-N	<0.019		ug/mL					U	11/08/12
Sulfate	14808-79-8	<0.11		ug/mL					U	11/08/12
<b>LCS</b>		<b>QC Sample #84768</b>								
Fluoride	16984-48-8	0.968		ug/mL	97.7	90 - 110				11/08/12
Chloride	16887-00-6	1.98		ug/mL	100.1	90 - 110				11/08/12
Nitrite-N	NO2-N	1.06		ug/mL	108.5	90 - 110				11/08/12
Nitrate-N	NO3-N	0.947		ug/mL	107	90 - 110				11/08/12
Sulfate	14808-79-8	4.12		ug/mL	105	90 - 110				11/08/12
<b>DUP</b>		<b>QC Sample #84769</b>								
		<b>Original 121444005</b>								
Fluoride	16984-48-8	0.0956	0.100	ug/mL			4.90	20	BD	11/08/12
Chloride	16887-00-6	21.0	21.9	ug/mL			4.40	20	D	11/08/12
Nitrite-N	NO2-N	<0.038	<0.038	ug/mL			0.00	20	UD	11/08/12
Nitrate-N	NO3-N	6.30	6.59	ug/mL			4.40	20	D	11/08/12

\* - QC result out of range

n/a - Not Applicable



**Quality Control Report**

**Attention** Scot Fitzgerald  
**Department** Inorganic

**Group #** WSCF121444

**Analytical Batch** 210329 (QC Batch: 210329)      **Test** Hexavalent chromium Discrete Analyzer  
**Associated Samples** 121444001, 121444002, 121444003

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										
			<b>QC Sample #85055</b>							
Hexavalent chromium	18540-29-9		<0.0020	mg/L					U	11/08/12
<b>LCS</b>			<b>QC Sample #85057</b>							
Hexavalent chromium	18540-29-9		0.0509	mg/L	101.8	90 - 110				11/08/12
<b>DUP</b>			<b>QC Sample #85058</b>							
			<b>Original 121444001</b>							
Hexavalent chromium	18540-29-9	<0.0020	<0.0020	mg/L			50.00	20	* U	11/08/12
<b>MS</b>			<b>QC Sample #85059</b>							
			<b>Original 121444001</b>							
Hexavalent chromium	18540-29-9	<0.0020	0.0435	mg/L	108.8	85 - 115				11/08/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

Analytical Batch 210645 (QC Batch: 210218) Test GAB Discrete analysis Alpha only  
 Associated Samples 121444006, 121444007

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #84848</b>								
Gross Alpha	12587-46-1		-1.2	pCi/L					U	12/03/12
<b>LCS</b>		<b>QC Sample #84849</b>								
Gross Alpha	12587-46-1		56	pCi/L	94.4	80 - 120				12/03/12
<b>DUP</b>		<b>QC Sample #84850</b>								
		<b>Original 121444006</b>								
Gross Alpha	12587-46-1	4.5E-3	0.089	pCi/L			180.80	20	* U	12/03/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

Analytical Batch 210646 (QC Batch: 210218) Test GAB Discrete analysis Beta only  
 Associated Samples 121444006, 121444007

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>		<b>QC Sample #84848</b>								
Gross Beta	12587-47-2		0.053	pCi/L					U	12/03/12
<b>LCS</b>		<b>QC Sample #84849</b>								
Gross Beta	12587-47-2		250	pCi/L	99.1	80 - 120				12/03/12
<b>DUP</b>		<b>QC Sample #84850</b>								
		<b>Original 121444006</b>								
Gross Beta	12587-47-2	-1.2	-0.42	pCi/L			-93.50	20	* U	12/03/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

Analytical Batch 211036 (QC Batch: 210241) Test Strontium 89/90 (GPC/GEA)  
 Associated Samples 121444006, 121444007, 121444008

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>BLANK</b>										
Strontium-89_90	SR-RAD		-0.27	pCi/L					U	12/04/12
<b>LCS</b>										
Strontium-89_90	SR-RAD		90	pCi/L	101.6	80 - 120				12/04/12
<b>DUP</b>										
Strontium-89_90	SR-RAD		-0.40	pCi/L			-16.90	20	U	12/04/12
<b>SAMPLE</b>										
Strontium Nitrate	10042-76-9			mg	74.4	25 - 105				12/04/12
<b>SAMPLE</b>										
Strontium Nitrate	10042-76-9			mg	74.4	25 - 105				12/04/12
<b>SAMPLE</b>										
Strontium Nitrate	10042-76-9			mg	74.4	25 - 105				12/04/12
<b>BLANK</b>										
Strontium Nitrate	10042-76-9			mg	76.9	25 - 105				12/04/12

\* - QC result out of range

n/a - Not Applicable

Quality Control Report

Attention Scot Fitzgerald  
 Department Radiochemistry

Group # WSCF121444

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
<b>LCS</b>		<b>QC Sample #84915</b>								
Strontium Nitrate	10042-76-9			mg	78.5	25 - 105				12/04/12
<b>DUP</b>		<b>QC Sample #84916</b>								
		<b>Original 121441008</b>								
Strontium Nitrate	10042-76-9			mg	73.6	25 - 105	n/a			12/04/12

\* - QC result out of range

n/a - Not Applicable

Attention: Scot Fitzgerald

Group #

WSCF121444

**Quality Control Comments**

Department Inorganic

84770 B2MK83(121444005MS)

**Analyte** Chloride - Anions by Ion Chromatography (Water)

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

**Analyte** Sulfate - Anions by Ion Chromatography (Water)

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

84771 B2MK83(121444005MSD)

**Analyte** Chloride - Anions by Ion Chromatography (Water)

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

**Analyte** Sulfate - Anions by Ion Chromatography (Water)

[1] X5: Sample concentration exceed spiking level by a factor of 4. Spike recoveries are not valid.

ATTACHMENT4

**SAMPLE RECEIPT**

Consisting of 11 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**

**ACKNOWLEDGEMENT OF SAMPLES RECEIVED****WSCF Laboratory**

PO Box 650 S3-30  
 Richland, WA 99352

ATTN: Scot Fitzgerald

Customer Code: CHPRC

PO #: 403899

Work Order #: 121444

Profile #: X13-005-159

Proj. Mgr.:

Phone:

The following samples were received from you on 11/8/2012 10:55:00 AM. 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	Matrix	Collected	Received
<b>Tests scheduled</b>				
121444001	B2MK84	WATER	11/8/2012 07:16	11/8/2012 10:55
		CR6DA-W		
121444002	B2MK85	WATER	11/8/2012 10:05	11/8/2012 10:55
		CR6DA-W		
121444003	B2MK88	WATER	11/8/2012 09:55	11/8/2012 10:55
		CR6DA-W		
121444004	B2MK82	WATER	11/8/2012 07:16	11/8/2012 10:55
		IC-W		
121444005	B2MK83	WATER	11/8/2012 10:05	11/8/2012 10:55
		IC-W		
121444006	B2MK80	WATER	11/8/2012 07:16	11/8/2012 10:55
		GAB-AO-W; GAB-BO-W; SR89/90-W		
121444007	B2MK81	WATER	11/8/2012 10:05	11/8/2012 10:55
		GAB-AO-W; GAB-BO-W; SR89/90-W		
121444008	B2MK87	WATER	11/8/2012 09:55	11/8/2012 10:55
		SR89/90-W		

**Test Acronym Description**

Test Acronym	Description
CR6DA-W	Cr6 (W Discrete analyzer)
GAB-AO-W	Gross Alpha/Beta (A only)(W)
GAB-BO-W	Gross Alpha/Beta (B only)(W)

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

IC-W

Anions by IC (W)

SR89/90-W

Strontium 89/90 (GPC) (W)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.#  
X13-005-159  
Page 1 of 1

Collector: *J. Aguilar*      Contact/Requester: Karen Waters-Husted      Telephone No. 376-4650

SAF No. X13-005      Sampling Origin: Hanford Site      Purchase Order/Charge Code: 303064ESS20

Project Title: AQUIFER TUBES, NOVEMBER 2012      Logbook No. HNF-N-50646/91      Ice Chest No. N/A

Shipped To (Lab): Waste Sampling & Characterization      Method of Shipment: GOVERNMENT VEHICLE      Bill of Lading/Air Bill No. N/A

Protocol: SLRV      Priority: 31 Days      SPECIAL INSTRUCTIONS: PRIORITY      Offsite Property No. N/A

**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 5100.5 (1990/1993)      *12/14/12*

**SPECIAL INSTRUCTIONS**  
 Site Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 403899. FY12 and FY13 samples cannot be in the same SDG.

Sample No. B2MK04      Filter: N      Date: 11-8-12      Time: 0716      No./Type Container: 1x500-ml. AG      Sample Analysis: 7196\_CRG: Hexavalent Chromium (1)      Holding Time: 24 Hours      Preservative: Cool-4C

Requisitioned By	Print	Signature	Date/Time	Received By	Print	Signature	Date/Time	Matrix *
J. Aguilar		<i>[Signature]</i>	11-8-12 1055	TA Frazier		<i>[Signature]</i>	11-8-12 1055	S = Soil      DS = Drum Solids SE = Sediment      DL = Dredm Liquids SU = Solid      T = Tissue SL = Sludge      WI = Waste W = Water      L = Liquid O = Oil      V = Volatile A = Air      X = Other
Requisitioned By			Date/Time	Received By			Date/Time	
Requisitioned By			Date/Time	Received By			Date/Time	
Requisitioned By			Date/Time	Received By			Date/Time	
FINAL SAMPLE DISPOSITION				Disposal Method (e.g., Return to customer, per lab procedure, used in process)				
PRINTED O 10/9/2012				A-6004-842 (REV 2)				

Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# X13-005-162  
Page 1 of 1

Collector <i>S. Aguilar</i>	SAF No. X13-005	Project Title AQUIFER TUBES, NOVEMBER 2012	Shipped To (Lab) Waste Sampling & Characterization	Produced SURV	Contact/Requester Karen Waters-Husted	Sampling Origin Hanford Site	Logbook No. HNF-N-506 46 / 91	Method of Shipment GOVERNMENT VEHICLE	Priority 31 Days	Telephone No. 376-4650	Purchase Order/Charge Code 303064ES20	Ice Check No. N/A	Bill of Lading/Air Bill No. N/A	Offsite Property No. N/A	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>					<b>SPECIAL INSTRUCTIONS</b>										
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5100.3 (1990/1995) ***					Site Wide Caution Knowledge Information Form applies. The CACN for all analytical work at WSCF is 40389. FY12 and FY13 samples cannot be in the same SDC.										

Sample No.	Filter	+	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
B2MK05	2	N	W	11-8-12	1005	7195_Cr6: Hexavalent Chromium (1)	24 Hours	Co01-40

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By	<i>S. Aguilar</i>	<i>[Signature]</i>	11-8-12 1035	Received By	<i>T. Martinez</i>	<i>[Signature]</i>	11-8-12 1035	S = Soil SE = Sediment SU = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By				Received By				DS = Drum Solids DL = Drum Liquids T = Tissue WT = Waste L = Liquid V = Vegetation X = Other
Relinquished By				Received By				

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed by Date/Time

Chain of Custody

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X13-005-164  
Page 1 of 1

Collector	J. Aquilera	Contract/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	X13-005	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064ES20
Project Title	AQUIFER TUBES, NOVEMBER 2012	Logbook No.	HNF-N-506 LW/91	Ice Chest No.	N/A
Shipped To (Lab)	Waste Sampling & Characterization	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SLRV	Priority:	31 Days	Offsite Property No.	N/A
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>		<b>SPECIAL INSTRUCTIONS</b>		<b>Hold Time</b>	
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		Site Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 403899. FY12 and FY13 samples cannot be in the same SDC.		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis
B2MK88	3	N	W	1-8-12 0955	1x500-ml AG 7196_CRF: Hexavalent Chromium (1)
					Holding Time
					24 Hours
					Preservative
					Cool-4C

Relinquished By	J. Aquilera	Date/Time	11-8-12 1055	Received By	M. Hernandez	Date/Time	11-8-12 1055
Relinquished By		Date/Time		Received By		Date/Time	
Relinquished By		Date/Time		Received By		Date/Time	
Relinquished By		Date/Time		Received By		Date/Time	
<b>FINAL SAMPLE DISPOSITION</b>				<b>Disposition</b>			
Disposal Method (e.g. Return to customer per lab procedure, used in process)				Date/Time			

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A-6004-842 (REV 2)

Chain of Custody

CH2M Hill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X13-005-158  
Page 1 of 1

Collector	J. Aguilar	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	X13-005	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064ES20
Project Title	AQUIFER TUBES, NOVEMBER 2012	Logbook No.	HN-F-N-506 46/91	Fee Chest No.	N/A
Shipped To (Lab)	Waste Sampling & Characterization	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SURV	Priority	31 Days	Offsite Property No.	N/A

**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 5600.5 (1990/1993)

**SPECIAL INSTRUCTIONS**  
 Site Wide Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 403899. FY12 and FY13 samples cannot be in the same SDX.

Sample No.	Filter	Date	Time	Nu/Type Container	Received By	Sample Analysis	Holding Time	Preservative
B2MK02	4	N	11-8-12	0716	1x500-ml F	300 O_ ANIONS_IC: List-1 (5)	48 Hours	Cool-4C

Relinquished By	J. Aguilar	Sign	Date/Time	11-8-12	1055	Received By	TA Ramirez	Sign	Date/Time	11-8-12	1055
Relinquished By			Date/Time			Received By			Date/Time		
Relinquished By			Date/Time			Received By			Date/Time		

Matrix \*

S	=	Soil	DS	=	Drum Solids
SE	=	Sediment	DL	=	Drum Liquids
SD	=	Solid	T	=	Tissue
SL	=	Sludge	WT	=	Wipe
W	=	Water	L	=	Liquid
O	=	Oil	V	=	Vegetation
A	=	Air	X	=	Other

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)

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Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C.# X13-005-161  
Page 1 of 1

Collector <b>S. Aguilar</b>	SAF No. X13-005	Project Title AQUIFER TUBES, NOVEMBER 2012	Shipped To (Lab) Waste Sampling & Characterization	Protocol SURV	Priority 31 Days	POSSIBLE SAMPLE HAZARDS/RE-MARKS *** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5100.5 (1990/1995)
Contact/Requester Karen Waters-Husted	Sampling Origin Hanford Site	Logbook No. HNF-N-506 46 / 91	Method of Shipment GOVERNMENT VEHICLE	Special Instructions SPECIAL INSTRUCTIONS Site Wide Generation Knowledge Information form applies. The CACN for all analytical work at WSCF is 403899. FY12 and FY13 samples cannot be in the same SDG.	Hold Time N/A	Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Telephone No. 376-4650	Purchase Order/Charge Code 303064ES20	Ice Chest No. N/A	Bill of Lading/Air Bill No. N/A	Offsite Property No. N/A	Holding Time 48 Hours	Preservative Cool-Ac
Sample No. B2MK03	Filter N	Date 11-8-12	Time 1005	No./Type Container 1x500-mL P	Sample Analysis 300.0 ANIONS, IC: List-1 (5)	

Relinquished By	Sign	Date/Time	Received By	Sign	Date/Time	Matrix *
<b>S. Aguilar</b>	<i>[Signature]</i>	11-8-12 1055	<b>TA FARIENA</b>	<i>[Signature]</i>	11-8-12 1055	S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DS - Drum Solids DL - Drum Liquids T - Tissue WT - Waste L - Liquid V - Vegetation X - Other
Relinquished By		Date/Time	Received By		Date/Time	
Relinquished By		Date/Time	Received By		Date/Time	
Relinquished By		Date/Time	Received By		Date/Time	
FINAL SAMPLE DISPOSITION						Disposal Method (e.g., Return to customer, per lab procedure, used in process)

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Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X13-005-157  
Page 1 of 1

Collector: **J. Aguilar**      Contact/Requester: Karen Waters-Husted      Telephone No.: 376-4650

SAF No.: X13-005      Sampling Origin: Hartford Site      Purchase Order/Charge Code: 303064ESS20

Project Title: AQUIFER TUBES, NOVEMBER 2012      Logbook No.: INF-N-506 46 / 91      Ice Chest No.: N/A

Shipped To (Lab): Waste Sampling & Characterization      Method of Shipment: GOVERNMENT VEHICLE      Bill of Lading/Air Bill No.: N/A

Protocol: SURV      Priority: 31 Days      OFFICE PROPERTY No.: N/A

**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 5100.5 (1990/1995) \*\*\*

SPECIAL INSTRUCTIONS: Hold Time:      Total Activity Exemption: Yes  No

Site Waste Generator Knowledge Information Form applies. The CACN for all analytical work at WSCF is 403899. P-T12 and P-T13 samples cannot be in the same SDU.

Sample No.	Filter	+	Date	Time	NuT Type Container	Sample Analysis	Holding Time	Preservative
B2MK00	N		11-8-12	0716	1x500-mL GIP	ALPHABETA_GPC: Alpha discrete   Beta (2)	6 Months	HNO3 to pH <2
B2MK30	N		11-8-12	0716	1x1-L GIP	Strontium: 89.90 - Total Sr	6 Months	HNO3 to pH <2

Relinquished By: <b>J. Aguilar</b> (Print) <b>[Signature]</b> (Sign)	Date/Time: 11-8-12 1055	Received By: <b>TA FORTIER</b> (Print) <b>[Signature]</b> (Sign)	Date/Time: 11-8-12 1055
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

Matrix \*

S = Soil	DS = Drum Solids
SE = Sediment	DL = Drum Liquids
SO = Solid	T = Tissue
SL = Sludge	WL = Wipe
W = Water	L = Liquid
O = Oil	V = Volatile
A = Air	X = Other

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)      Disposed By:      Date/Time:



Chain of Custody

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X13-005-163  
Page 1 of 1

Collector	J. Aquilar	Contact/Requester	Karen Waters-Husted	Telephone No.	376-1650
SAF No.	XT3-005	Sampling Origin	Hanford Site	Purchase Order/Charge Code	303064ES20
Project Title	AQUIFER TUBES, NOVEMBER 2012	Logbook No.	INF-N-506 4/6 / 91	Lee Chest No.	N/A
Shipped To (Lab)	Waste Sampling & Characterization	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	SLRV	Priority:	31 Days	Offsite Property No.	N/A

**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 5605 (1990/1995)

**SPECIAL INSTRUCTIONS**  
 Site Waste Generator Knowledge Information Form applies. The CACH for all analytical work at WSCF is 403899. FY12 and FY13 samples cannot be in the same SDC.

Sample No.	Filter	Date	Time	No./Type Container	Sample Analysis	Holding Time	Preservative
DZMK87	N	11-8-12	0955	1x1-L GFR	Strontium-89,90 -- Total Sr	6 Months	HNO3 to pH <2

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By	J. Aquilar	[Signature]	11-8-12 1055	Received By	[Signature]	[Signature]	11-8-12 1055	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water O = Oil A = Air
Relinquished By				Received By				DS = Drum Solids DL = Drum Liquids T = Tissue WI = Wipe L = Liquid V = Vapour X = Other

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