REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
11/08/2011	
3. Project No.	Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
Data Validation Report for CH2M Hill Plateau Remediation Company: VSR12-001, Project 100K Area AA, Stockpiles 7 and 9	100K Area AA, Stockpiles 7 and 9	D. L. Klages	100-K Soil Remediation	(509)942-3947

17. Comment Submittal Approval	10. Agreement With Indicated Comment Disposition(s)	11. CLOSED
Date:	Deanna L. Klages Reviewer/Point of Contact (print and sign)	Deanna L. Klages Reviewer/Point of Contact (print and sign)
Organization Manager (optional) (print and sign)	11/08/2011 Date	11/08/2011 Date
	Deanna L. Klages Author/Originator (print and sign)	Deanna L. Klages Author/Originator (print and sign)

12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if **NOT** accepted)	16. Status
1	No Issues noted.					

CHPRC - REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
10/27/11	RCR-VSR12-001
3. Project No. Area AA Stockpiles	Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
VSR12-001, Area AA Stockpiles Data Validation Report	SGRP	SL Huggins	SGRP QA	2753E/B106 373-3630

17. Comment Submittal Approval	10. Agreement With Indicated Comment Disposition(s)	11. CLOSED
10/27/11 Date; SL Huggins Organization Manager (optional) (print and sign)	Date; Reviewer/Point of Contact (print and sign); Author/Originator (print and sign)	11/1/11 Date; Reviewer/Point of Contact (print and sign); SL HUGGINS Author/Originator (print and sign)

12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if **NOT** accepted)	16. Status
1	Page 4 under Holding Times and Sample Preservation need to add discussion concerning sample preservation and compliance with preservation requirements.	Incomplete information		Y	Information completed	
2	Page 78 under Holding Times and Sample Preservation need to add statement as to whether holding times and preservation requirements were met.	Incomplete information		Y	Information completed	

CHPRC - REVIEW COMMENT RECORD (RCR)

1. Date	10/27/2011
2. Review No.	
3. Project No.	
	Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
VSR12-001		Scot Fitzgerald	Analytical Support Group	2753/373-7495

17. Comment Submittal Approval	10. Agreement With Indicated Comment Disposition(s)	11. CLOSED
Date: ____ Organization Manager (optional) (print and sign): ____	Scot Fitzgerald Reviewer/Point of Contact (print and sign) 10/27/2011 Date Author/Originator (print and sign)	Scot Fitzgerald Reviewer/Point of Contact (print and sign) 10/27/2011 Date Author/Originator (print and sign)

12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if NOT accepted)	16. Status
1	No issues Noted					

ANALYTICAL QUALITY ASSOCIATES, INC.
616 Maxine NE
Albuquerque, NM 87123
505-299-5201
www.aqainc.net

Data Validation Report for CH2M Hill Plateau Remediation Company

Area AA Stockpiles 7 and 9
VSR12-001
100K Area AA

Chemical Validation - Level C

Validation Performed By: Eyda Hergenreder **Date:** **10-13-2011**

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Date: 31 October 2011
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: 100K Area AA
Subject: Inorganics - Sample Data Groups (SDG) WSCF112918

INTRODUCTION

This memorandum presents the results of data validation for SDG WSCF112918 prepared by WSCF Analytical Laboratories. A list of samples validated along with the analytical methods is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analytical Methods
B2FP00	08/10/11	Soil	C	200.8
B2FP01	08/10/11	Soil	C	200.8
B2FP02	08/10/11	Soil	C	200.8
B2FP03	08/10/11	Soil	C	200.8
B2FP04	08/10/11	Soil	C	200.8
B2FP05	08/10/11	Soil	C	200.8
B2FP06	08/10/11	Soil	C	200.8
B2FP07	08/10/11	Soil	C	200.8
B2FP08	08/10/11	Soil	C	200.8
B2FP09	08/10/11	Soil	C	200.8
B2FP10	08/10/11	Soil	C	200.8
B2FP11	08/10/11	Soil	C	200.8
B2FP12	08/10/11	Soil	C	200.8
B2FNY7	08/10/11	Soil	C	200.8
B2FNY8	08/10/11	Soil	C	200.8
B2FNY9	08/10/11	Soil	C	200.8

Data validation was conducted in accordance with the CHPRC validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan, DOE/RL-96-22, Rev. 5, Volume 1 (SAP). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested By Client

DATA QUALITY OBJECTIVES

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirement for ICP metals are analysis within 180 days of sample collection, and the holding time requirement for mercury is analysis within 28 days of sample collection. There were no specific preservation requirement for the inorganic soil analysis.

The samples were analyzed within the prescribed holding times.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

Laboratory Blanks

All laboratory blank results were acceptable with the following exceptions.

The V and Mo laboratory blank results were > the method detection limits (MDLs) but < the laboratory reporting limits (RLs). All associated Mo sample results were detects < RL should be qualified as non-detects at the RL (1.0 mg/kg) and flagged "U." The V result for samples B2FP02 and B2FP12 were detects < the RL and should be qualified as non-detect at the RL (2.0 mg/kg) and flagged "U." All other associated V sample results were detects > the RL and should not be qualified. See the table in Appendix 2 for a listing of all affected sample results.

Trip Blanks

No trip blanks were submitted for validation.

Field Blanks

No field blanks were submitted for validation.

Equipment Blanks

The equipment blank results were acceptable with the following exceptions. Mn, Ba, Co, Cu, V, Pb, Mo and Sr were detected in equipment blank sample B2FP02 and Mn, Ni, Ba, Cr, Cu, V, Pb, Mo, Sr, U and As were detected in equipment blank sample B2FP12. The V and Mo results for both samples were flagged "2.0U" and "1.0U" respectively, due to laboratory blank contamination.

- **Accuracy**

Accuracy is evaluated by reviewing matrix spike sample results, laboratory control sample results, and ICP-AES interference check sample results. According to the SAP, the matrix spike sample accuracy limits are 70% to 130% and the laboratory control sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are specified by the DV procedure. The interference check sample limits are ones specified by the DV procedure.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

All MS/MSD recoveries were acceptable with the following exceptions.

The MSD recovery for Mn was > the upper acceptance limit. All associated sample results were detects and should be qualified as estimates and flagged "J+." See the table in Appendix 2 for a listing of all affected sample results.

Laboratory Control Samples (LCSs)

All LCS recoveries were acceptable.

ICP-AES Interference Check Samples (ICSs)

ICS data was not included in the data package. Sample results should not be qualified based on this.

- **Precision**

Precision is evaluated by reviewing MS/MSD results, field duplicate sample results, field split sample results, and ICP serial dilution results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are ±30%. The limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and have associated results <5X the SAP required detection limits with differences <2X the required detection limits no precision infraction occurred. The serial dilution limits are ones specified by the DV procedure.

MS/MSD Samples

All MS/MSD RPD values were acceptable with the following exceptions.

The Mn RPD was above the acceptance limit. All Mn sample results were detects and would be qualified as estimates and flagged "J," but were further qualified flagged "J+" due to MSD recovery infraction. See the table in Appendix 2 for a listing of all affected sample results.

Field Duplicate Samples

All field duplicate results were acceptable with the following exception. Samples B2FP03 and B2FP11 had Mn RPD = 36%.

Field Split Samples

No field splits were submitted for validation.

ICP Serial Dilution Samples

ICS serial dilution data was not included in the data package. Sample results should not be qualified based on this.

- **ICP-MS Internal Standards**

The analysis of ICP-MS internal standards is used to determine the existences and magnitude of instrument drift and physical interferences. The criteria for evaluation of internal standard results apply to all samples (including QC) analyzed during the analytical run, beginning with the calibration.

ICP-MS internal standards data was not included in the data package. Sample results should not be qualified based on this.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDG WSCF112918 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

Minor deficiencies leading to qualification of sample results as estimates were due to laboratory blank infractions for V and Mo and matrix spike and precision infraction for Mn. See the table in Appendix 2 for a listing of all affected sample results.

REFERENCES

GRP-GD-003, Rev. 0, Change 0, *Data Validation for Chemical Analyses*, August 2010.

DOE/RL-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, September 2009.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.

- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.

- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.

- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.

- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.

- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.

- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

Appendix 2

Summary of Data Qualification

Inorganic Data Qualification Summary			
SDG: WSCF112918	Reviewer: AQA	Project: 100K Area AA	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
V	2.0U	B2FP02, B2FP12	Laboratory blank contamination
Mo	1.0U	B2FP00, B2FP01, B2FP02, B2FP03, B2FP04, B2FP05, B2FP06, B2FP07, B2FP08, B2FP09, B2FP10, B2FP11, B2FP12, B2FNY7, B2FNY8, B2FNY9	Laboratory blank contamination
Mn	J+	B2FP00, B2FP01, B2FP02, B2FP03, B2FP04, B2FP05, B2FP06, B2FP07, B2FP08, B2FP09, B2FP10, B2FP11, B2FP12, B2FNY7, B2FNY8, B2FNY9	High MSD recovery and poor MS/MSD precision

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918001
SAF# F11-096
Sample ID B2FP00

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride		16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride		16887-00-6	LA-533-410	B	5.23		mg/kg	1	3.1	20	08/11/11
Nitrite-N		NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N		NO3-N	LA-533-410	U	<0.96		mg/kg	1	0.96	5.0	08/11/11
Sulfate		14808-79-8	LA-533-410	B	4.28		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium		18540-29-9	LA-265-403	UN	<0.097		ug/g	1	0.097	0.49	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	J+	7439-96-5	LA-505-412	N	339		mg/kg	1	0.096	0.96	08/12/11
Nickel		7440-02-0	LA-505-412		8.38		mg/kg	1	0.19	1.9	08/12/11
Silver		7440-22-4	LA-505-412	U	<0.096		mg/kg	1	0.096	0.96	08/12/11
Antimony		7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium		7440-39-3	LA-505-412		56.5		mg/kg	1	0.19	1.9	08/12/11
Beryllium		7440-41-7	LA-505-412	B	0.262		mg/kg	1	0.096	0.48	08/12/11
Boron		7440-42-8	LA-505-412	B	0.888		mg/kg	1	0.48	4.8	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918001
SAF# F11-096
Sample ID B2FP00

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.096		mg/kg	1	0.096	0.96	08/12/11
Chromium		7440-47-3	LA-505-412		6.33		mg/kg	1	0.48	4.8	08/12/11
Cobalt		7440-48-4	LA-505-412		10.6		mg/kg	1	0.096	0.48	08/12/11
Copper		7440-50-8	LA-505-412		16.9		mg/kg	1	0.096	0.96	08/12/11
Vanadium		7440-62-2	LA-505-412		73.2		mg/kg	1	0.19	1.9	08/12/11
Zinc		7440-66-6	LA-505-412		49.3		mg/kg	1	0.76	4.8	08/12/11
Lead		7439-92-1	LA-505-412		3.99		mg/kg	1	0.096	0.96	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.048		mg/kg	1	0.048	0.19	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.487		mg/kg	1	0.096	0.96	08/12/11
Strontium		7440-24-6	LA-505-412		28.0		mg/kg	1	0.096	0.96	08/12/11
Tin		7440-31-5	LA-505-412		0.533		mg/kg	1	0.096	0.48	08/12/11
Uranium		7440-61-1	LA-505-412		0.501		mg/kg	1	0.096	0.48	08/12/11
Arsenic		7440-38-2	LA-505-412	B	2.23		mg/kg	1	0.38	3.8	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.751		mg/kg	1	0.29	2.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918002
SAF# F11-096
Sample ID B2FP01

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride		16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride		16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	20	08/11/11
Nitrite-N		NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N		NO3-N	LA-533-410	B	1.13		mg/kg	1	0.95	5.0	08/11/11
Sulfate		14808-79-8	LA-533-410	B	7.48		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium		18540-29-9	LA-265-403	UN	<0.099		ug/g	1	0.099	0.49	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	J+	7439-96-5	LA-505-412	N	392		mg/kg	1	0.094	0.94	08/12/11
Nickel		7440-02-0	LA-505-412		11.3		mg/kg	1	0.19	1.9	08/12/11
Silver		7440-22-4	LA-505-412	U	<0.094		mg/kg	1	0.094	0.94	08/12/11
Antimony		7440-36-0	LA-505-412	U	<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium		7440-39-3	LA-505-412		63.9		mg/kg	1	0.19	1.9	08/12/11
Beryllium		7440-41-7	LA-505-412	B	0.300		mg/kg	1	0.094	0.47	08/12/11
Boron		7440-42-8	LA-505-412	B	2.97		mg/kg	1	0.47	4.7	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918002
SAF# F11-096
Sample ID B2FP01

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	B	0.107		mg/kg	1	0.094	0.94	08/12/11
Chromium		7440-47-3	LA-505-412		8.54		mg/kg	1	0.47	4.7	08/12/11
Cobalt		7440-48-4	LA-505-412		10.2		mg/kg	1	0.094	0.47	08/12/11
Copper		7440-50-8	LA-505-412		18.3		mg/kg	1	0.094	0.94	08/12/11
Vanadium		7440-62-2	LA-505-412		67.7		mg/kg	1	0.19	1.9	08/12/11
Zinc		7440-66-6	LA-505-412		48.8		mg/kg	1	0.75	4.7	08/12/11
Lead		7439-92-1	LA-505-412		5.46		mg/kg	1	0.094	0.94	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.047		mg/kg	1	0.047	0.19	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.710		mg/kg	1	0.094	0.94	08/12/11
Strontium		7440-24-6	LA-505-412		31.7		mg/kg	1	0.094	0.94	08/12/11
Tin		7440-31-5	LA-505-412		0.559		mg/kg	1	0.094	0.47	08/12/11
Uranium		7440-61-1	LA-505-412		0.490		mg/kg	1	0.094	0.47	08/12/11
Arsenic		7440-38-2	LA-505-412	B	2.88		mg/kg	1	0.38	3.8	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.835		mg/kg	1	0.28	2.8	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918003
SAF# F11-096
Sample ID B2FP02

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride		16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride		16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	20	08/11/11
Nitrite-N		NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N		NO3-N	LA-533-410	U	<0.95		mg/kg	1	0.95	4.9	08/11/11
Sulfate		14808-79-8	LA-533-410	U	<3.6		mg/kg	1	3.6	52	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium		18540-29-9	LA-265-403	UN	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	J+	7439-96-5	LA-505-412	N	7.81		mg/kg	1	0.099	0.99	08/12/11
Nickel		7440-02-0	LA-505-412	U	<0.20		mg/kg	1	0.20	2.0	08/12/11
Silver		7440-22-4	LA-505-412	U	<0.099		mg/kg	1	0.099	0.99	08/12/11
Antimony		7440-36-0	LA-505-412	U	<0.30		mg/kg	1	0.30	3.0	08/12/11
Barium		7440-39-3	LA-505-412	B	0.214		mg/kg	1	0.20	2.0	08/12/11
Beryllium		7440-41-7	LA-505-412	U	<0.099		mg/kg	1	0.099	0.49	08/12/11
Boron		7440-42-8	LA-505-412	U	<0.49		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918003
SAF# F11-096
Sample ID B2FP02

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.099		mg/kg	1	0.099	0.99	08/12/11
Chromium		7440-47-3	LA-505-412	U	<0.49		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		2.21		mg/kg	1	0.099	0.49	08/12/11
Copper		7440-50-8	LA-505-412	B	0.394		mg/kg	1	0.099	0.99	08/12/11
Vanadium	2.0U	7440-62-2	LA-505-412	BC	0.351		mg/kg	1	0.20	2.0	08/12/11
Zinc		7440-66-6	LA-505-412	U	<0.79		mg/kg	1	0.79	4.9	08/12/11
Lead		7439-92-1	LA-505-412	B	0.208		mg/kg	1	0.099	0.99	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.20	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.123		mg/kg	1	0.099	0.99	08/12/11
Strontium		7440-24-6	LA-505-412	B	0.137		mg/kg	1	0.099	0.99	08/12/11
Tin		7440-31-5	LA-505-412	U	<0.099		mg/kg	1	0.099	0.49	08/12/11
Uranium		7440-61-1	LA-505-412	U	<0.099		mg/kg	1	0.099	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412	U	<0.40		mg/kg	1	0.40	4.0	08/12/11
Selenium		7782-49-2	LA-505-412	U	<0.30		mg/kg	1	0.30	3.0	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918004
SAF# F11-096
Sample ID B2FP03

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride		16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride		16887-00-6	LA-533-410	B	6.07		mg/kg	1	3.1	21	08/11/11
Nitrite-N		NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N		NO3-N	LA-533-410		5.13		mg/kg	1	0.96	5.0	08/11/11
Sulfate		14808-79-8	LA-533-410	B	26.8		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium		18540-29-9	LA-265-403	UN	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	J+	7439-96-5	LA-505-412	N	359		mg/kg	1	0.092	0.92	08/12/11
Nickel		7440-02-0	LA-505-412		11.2		mg/kg	1	0.18	1.8	08/12/11
Silver		7440-22-4	LA-505-412	U	<0.092		mg/kg	1	0.092	0.92	08/12/11
Antimony		7440-36-0	LA-505-412	U	<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium		7440-39-3	LA-505-412		54.3		mg/kg	1	0.18	1.8	08/12/11
Beryllium		7440-41-7	LA-505-412	B	0.249		mg/kg	1	0.092	0.46	08/12/11
Boron		7440-42-8	LA-505-412	B	1.86		mg/kg	1	0.46	4.6	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918004
SAF# F11-096
Sample ID B2FP03

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.092		mg/kg	1	0.092	0.92	08/12/11
Chromium		7440-47-3	LA-505-412		7.09		mg/kg	1	0.46	4.6	08/12/11
Cobalt		7440-48-4	LA-505-412		10.5		mg/kg	1	0.092	0.46	08/12/11
Copper		7440-50-8	LA-505-412		17.4		mg/kg	1	0.092	0.92	08/12/11
Vanadium		7440-62-2	LA-505-412		72.3		mg/kg	1	0.18	1.8	08/12/11
Zinc		7440-66-6	LA-505-412		48.2		mg/kg	1	0.74	4.6	08/12/11
Lead		7439-92-1	LA-505-412		4.87		mg/kg	1	0.092	0.92	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.046		mg/kg	1	0.046	0.18	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.519		mg/kg	1	0.092	0.92	08/12/11
Strontium		7440-24-6	LA-505-412		30.9		mg/kg	1	0.092	0.92	08/12/11
Tin		7440-31-5	LA-505-412		0.515		mg/kg	1	0.092	0.46	08/12/11
Uranium		7440-61-1	LA-505-412		0.509		mg/kg	1	0.092	0.46	08/12/11
Arsenic		7440-38-2	LA-505-412	B	3.54		mg/kg	1	0.37	3.7	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.736		mg/kg	1	0.28	2.8	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918005
SAF# F11-096
Sample ID B2FP04

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride		16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride		16887-00-6	LA-533-410	B	4.13		mg/kg	1	3.1	21	08/11/11
Nitrite-N		NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	5.0	08/11/11
Nitrate-N		NO3-N	LA-533-410	B	3.85		mg/kg	1	0.96	5.0	08/11/11
Sulfate		14808-79-8	LA-533-410	B	14.9		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium		18540-29-9	LA-265-403	UN	<0.10		ug/g	1	0.10	0.51	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	J+	7439-96-5	LA-505-412	N	456		mg/kg	1	0.097	0.97	08/12/11
Nickel		7440-02-0	LA-505-412		11.4		mg/kg	1	0.19	1.9	08/12/11
Silver		7440-22-4	LA-505-412	U	<0.097		mg/kg	1	0.097	0.97	08/12/11
Antimony		7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium		7440-39-3	LA-505-412		80.3		mg/kg	1	0.19	1.9	08/12/11
Beryllium		7440-41-7	LA-505-412	B	0.346		mg/kg	1	0.097	0.49	08/12/11
Boron		7440-42-8	LA-505-412	B	1.52		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918005
SAF# F11-096
Sample ID B2FP04

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.097		mg/kg	1	0.097	0.97	08/12/11
Chromium		7440-47-3	LA-505-412		8.47		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		11.9		mg/kg	1	0.097	0.49	08/12/11
Copper		7440-50-8	LA-505-412		19.3		mg/kg	1	0.097	0.97	08/12/11
Vanadium		7440-62-2	LA-505-412		80.4		mg/kg	1	0.19	1.9	08/12/11
Zinc		7440-66-6	LA-505-412		57.1		mg/kg	1	0.78	4.9	08/12/11
Lead		7439-92-1	LA-505-412		6.63		mg/kg	1	0.097	0.97	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.19	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.561		mg/kg	1	0.097	0.97	08/12/11
Strontium		7440-24-6	LA-505-412		35.2		mg/kg	1	0.097	0.97	08/12/11
Tin		7440-31-5	LA-505-412		0.575		mg/kg	1	0.097	0.49	08/12/11
Uranium		7440-61-1	LA-505-412		0.591		mg/kg	1	0.097	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412		4.16		mg/kg	1	0.39	3.9	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.774		mg/kg	1	0.29	2.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918006
SAF# F11-096
Sample ID B2FP05

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/11/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B	7.56		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	U	<0.95		mg/kg	1	0.95	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410		56.2		mg/kg	1	3.6	52	08/11/11
Cr(VI) Prep										**08/11/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	UN	<0.093		ug/g	1	0.093	0.47	08/12/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	341		mg/kg	1	0.098	0.98	08/12/11
Nickel	7440-02-0	LA-505-412		9.58		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Antimony	7440-36-0	LA-505-412	B	0.611		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412		67.4		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.245		mg/kg	1	0.098	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B	1.58		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918006
SAF# F11-096
Sample ID B2FP05

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Chromium		7440-47-3	LA-505-412		8.68		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		9.59		mg/kg	1	0.098	0.49	08/12/11
Copper		7440-50-8	LA-505-412		18.3		mg/kg	1	0.098	0.98	08/12/11
Vanadium		7440-62-2	LA-505-412		64.4		mg/kg	1	0.20	2.0	08/12/11
Zinc		7440-66-6	LA-505-412		52.6		mg/kg	1	0.79	4.9	08/12/11
Lead		7439-92-1	LA-505-412		7.63		mg/kg	1	0.098	0.98	08/12/11
Mercury		7439-97-6	LA-505-412	B	0.119		mg/kg	1	0.049	0.20	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.452		mg/kg	1	0.098	0.98	08/12/11
Strontium		7440-24-6	LA-505-412		33.7		mg/kg	1	0.098	0.98	08/12/11
Tin		7440-31-5	LA-505-412		0.670		mg/kg	1	0.098	0.49	08/12/11
Uranium		7440-61-1	LA-505-412		0.569		mg/kg	1	0.098	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412		3.95		mg/kg	1	0.39	3.9	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.727		mg/kg	1	0.29	2.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918007
SAF# F11-096
Sample ID B2FP06

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/11/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B	3.71		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	B	2.21		mg/kg	1	0.95	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B	8.94		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep										**08/11/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	UN	<0.098		ug/g	1	0.098	0.49	08/12/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	408		mg/kg	1	0.097	0.97	08/12/11
Nickel	7440-02-0	LA-505-412		12.2		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.097		mg/kg	1	0.097	0.97	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412		72.0		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.400		mg/kg	1	0.097	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B	1.56		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918007
SAF# F11-096
Sample ID B2FP06

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.097		mg/kg	1	0.097	0.97	08/12/11
Chromium		7440-47-3	LA-505-412		10.2		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		10.3		mg/kg	1	0.097	0.49	08/12/11
Copper		7440-50-8	LA-505-412		17.9		mg/kg	1	0.097	0.97	08/12/11
Vanadium		7440-62-2	LA-505-412		58.6		mg/kg	1	0.19	1.9	08/12/11
Zinc		7440-66-6	LA-505-412		46.8		mg/kg	1	0.78	4.9	08/12/11
Lead		7439-92-1	LA-505-412		5.64		mg/kg	1	0.097	0.97	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.19	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.427		mg/kg	1	0.097	0.97	08/12/11
Strontium		7440-24-6	LA-505-412		35.0		mg/kg	1	0.097	0.97	08/12/11
Tin		7440-31-5	LA-505-412	B	0.460		mg/kg	1	0.097	0.49	08/12/11
Uranium		7440-61-1	LA-505-412		0.641		mg/kg	1	0.097	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412	B	3.15		mg/kg	1	0.39	3.9	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.408		mg/kg	1	0.29	2.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918008
SAF# F11-096
Sample ID B2FP07

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/11/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B	3.57		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	B	2.92		mg/kg	1	0.96	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B	9.42		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep										**08/11/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	UN	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	383		mg/kg	1	0.092	0.92	08/12/11
Nickel	7440-02-0	LA-505-412		9.89		mg/kg	1	0.18	1.8	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.092		mg/kg	1	0.092	0.92	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium	7440-39-3	LA-505-412		55.5		mg/kg	1	0.18	1.8	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.268		mg/kg	1	0.092	0.46	08/12/11
Boron	7440-42-8	LA-505-412	B	0.954		mg/kg	1	0.46	4.6	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918008
SAF# F11-096
Sample ID B2FP07

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.092		mg/kg	1	0.092	0.92	08/12/11
Chromium		7440-47-3	LA-505-412		7.16		mg/kg	1	0.46	4.6	08/12/11
Cobalt		7440-48-4	LA-505-412		11.5		mg/kg	1	0.092	0.46	08/12/11
Copper		7440-50-8	LA-505-412		17.7		mg/kg	1	0.092	0.92	08/12/11
Vanadium		7440-62-2	LA-505-412		83.7		mg/kg	1	0.18	1.8	08/12/11
Zinc		7440-66-6	LA-505-412		54.1		mg/kg	1	0.74	4.6	08/12/11
Lead		7439-92-1	LA-505-412		4.68		mg/kg	1	0.092	0.92	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.046		mg/kg	1	0.046	0.18	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.912		mg/kg	1	0.092	0.92	08/12/11
Strontium		7440-24-6	LA-505-412		29.1		mg/kg	1	0.092	0.92	08/12/11
Tin		7440-31-5	LA-505-412		0.539		mg/kg	1	0.092	0.46	08/12/11
Uranium		7440-61-1	LA-505-412		0.529		mg/kg	1	0.092	0.46	08/12/11
Arsenic		7440-38-2	LA-505-412	B	3.42		mg/kg	1	0.37	3.7	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.553		mg/kg	1	0.28	2.8	08/12/11

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
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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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918009
SAF# F11-096
Sample ID B2FP08

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride		16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride		16887-00-6	LA-533-410	B	10.4		mg/kg	1	3.1	21	08/11/11
Nitrite-N		NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N		NO3-N	LA-533-410		5.40		mg/kg	1	0.96	5.0	08/11/11
Sulfate		14808-79-8	LA-533-410	B	18.6		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium		18540-29-9	LA-265-403	UN	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	J+	7439-96-5	LA-505-412	N	442		mg/kg	1	0.093	0.93	08/12/11
Nickel		7440-02-0	LA-505-412		13.4		mg/kg	1	0.19	1.9	08/12/11
Silver		7440-22-4	LA-505-412	U	<0.093		mg/kg	1	0.093	0.93	08/12/11
Antimony		7440-36-0	LA-505-412	U	<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium		7440-39-3	LA-505-412		68.4		mg/kg	1	0.19	1.9	08/12/11
Beryllium		7440-41-7	LA-505-412	B	0.254		mg/kg	1	0.093	0.46	08/12/11
Boron		7440-42-8	LA-505-412	B	2.70		mg/kg	1	0.46	4.6	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918009
SAF# F11-096
Sample ID B2FP08

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.093		mg/kg	1	0.093	0.93	08/12/11
Chromium		7440-47-3	LA-505-412		10.1		mg/kg	1	0.46	4.6	08/12/11
Cobalt		7440-48-4	LA-505-412		11.6		mg/kg	1	0.093	0.46	08/12/11
Copper		7440-50-8	LA-505-412		20.1		mg/kg	1	0.093	0.93	08/12/11
Vanadium		7440-62-2	LA-505-412		72.3		mg/kg	1	0.19	1.9	08/12/11
Zinc		7440-66-6	LA-505-412		55.1		mg/kg	1	0.74	4.6	08/12/11
Lead		7439-92-1	LA-505-412		7.60		mg/kg	1	0.093	0.93	08/12/11
Mercury		7439-97-6	LA-505-412	B	0.102		mg/kg	1	0.046	0.19	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.518		mg/kg	1	0.093	0.93	08/12/11
Strontium		7440-24-6	LA-505-412		38.7		mg/kg	1	0.093	0.93	08/12/11
Tin		7440-31-5	LA-505-412		0.581		mg/kg	1	0.093	0.46	08/12/11
Uranium		7440-61-1	LA-505-412		0.599		mg/kg	1	0.093	0.46	08/12/11
Arsenic		7440-38-2	LA-505-412		4.09		mg/kg	1	0.37	3.7	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.732		mg/kg	1	0.28	2.8	08/12/11

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution factor.
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X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918010
SAF# F11-096
Sample ID B2FP09

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/11/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B	9.73		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	B	4.08		mg/kg	1	0.95	4.9	08/11/11
Sulfate	14808-79-8	LA-533-410	B	16.3		mg/kg	1	3.6	52	08/11/11
Cr(VI) Prep										**08/11/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	UN	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	397		mg/kg	1	0.093	0.93	08/12/11
Nickel	7440-02-0	LA-505-412		12.4		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.093		mg/kg	1	0.093	0.93	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium	7440-39-3	LA-505-412		74.5		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412		0.479		mg/kg	1	0.093	0.47	08/12/11
Boron	7440-42-8	LA-505-412	B	1.97		mg/kg	1	0.47	4.7	08/12/11

MDL = Minimum Detection
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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918010
SAF# F11-096
Sample ID B2FP09

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	B	0.102		mg/kg	1	0.093	0.93	08/12/11
Chromium		7440-47-3	LA-505-412		11.5		mg/kg	1	0.47	4.7	08/12/11
Cobalt		7440-48-4	LA-505-412		10.3		mg/kg	1	0.093	0.47	08/12/11
Copper		7440-50-8	LA-505-412		18.4		mg/kg	1	0.093	0.93	08/12/11
Vanadium		7440-62-2	LA-505-412		62.7		mg/kg	1	0.19	1.9	08/12/11
Zinc		7440-66-6	LA-505-412		49.8		mg/kg	1	0.74	4.7	08/12/11
Lead		7439-92-1	LA-505-412		6.70		mg/kg	1	0.093	0.93	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.047		mg/kg	1	0.047	0.19	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.486		mg/kg	1	0.093	0.93	08/12/11
Strontium		7440-24-6	LA-505-412		39.3		mg/kg	1	0.093	0.93	08/12/11
Tin		7440-31-5	LA-505-412		0.522		mg/kg	1	0.093	0.47	08/12/11
Uranium		7440-61-1	LA-505-412		0.563		mg/kg	1	0.093	0.47	08/12/11
Arsenic		7440-38-2	LA-505-412		4.08		mg/kg	1	0.37	3.7	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.539		mg/kg	1	0.28	2.8	08/12/11

MDL = Minimum Detection
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TP Err = Total Propagated
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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918011
SAF# F11-096
Sample ID B2FP10

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410		25.7		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410		8.06		mg/kg	1	0.95	4.9	08/15/11
Sulfate	14808-79-8	LA-533-410		55.2		mg/kg	1	3.6	52	08/15/11
Cr(VI) Prep										**08/11/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	UN	<0.099		ug/g	1	0.099	0.50	08/12/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	368		mg/kg	1	0.099	0.99	08/12/11
Nickel	7440-02-0	LA-505-412		12.5		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.099		mg/kg	1	0.099	0.99	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.30		mg/kg	1	0.30	3.0	08/12/11
Barium	7440-39-3	LA-505-412		67.7		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.220		mg/kg	1	0.099	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B	1.56		mg/kg	1	0.49	4.9	08/12/11

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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918011
SAF# F11-096
Sample ID B2FP10

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.099		mg/kg	1	0.099	0.99	08/12/11
Chromium		7440-47-3	LA-505-412		9.65		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		10.1		mg/kg	1	0.099	0.49	08/12/11
Copper		7440-50-8	LA-505-412		18.0		mg/kg	1	0.099	0.99	08/12/11
Vanadium		7440-62-2	LA-505-412		65.2		mg/kg	1	0.20	2.0	08/12/11
Zinc		7440-66-6	LA-505-412		48.6		mg/kg	1	0.79	4.9	08/12/11
Lead		7439-92-1	LA-505-412		5.35		mg/kg	1	0.099	0.99	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.20	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.445		mg/kg	1	0.099	0.99	08/12/11
Strontium		7440-24-6	LA-505-412		34.1		mg/kg	1	0.099	0.99	08/12/11
Tin		7440-31-5	LA-505-412	B	0.484		mg/kg	1	0.099	0.49	08/12/11
Uranium		7440-61-1	LA-505-412		0.523		mg/kg	1	0.099	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412	B	3.00		mg/kg	1	0.39	3.9	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.707		mg/kg	1	0.30	3.0	08/12/11

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RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918012
SAF# F11-096
Sample ID B2FP11

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/15/11**
Anions by IC											
Fluoride		16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride		16887-00-6	LA-533-410	B	7.02		mg/kg	1	3.1	20	08/15/11
Nitrite-N		NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N		NO3-N	LA-533-410		5.65		mg/kg	1	0.96	5.0	08/15/11
Sulfate		14808-79-8	LA-533-410	B	21.1		mg/kg	1	3.6	53	08/15/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium		18540-29-9	LA-265-403	UN	<0.098		ug/g	1	0.098	0.49	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	J+	7439-96-5	LA-505-412	N	519		mg/kg	1	0.097	0.97	08/12/11
Nickel		7440-02-0	LA-505-412		12.1		mg/kg	1	0.19	1.9	08/12/11
Silver		7440-22-4	LA-505-412	U	<0.097		mg/kg	1	0.097	0.97	08/12/11
Antimony		7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium		7440-39-3	LA-505-412		66.9		mg/kg	1	0.19	1.9	08/12/11
Beryllium		7440-41-7	LA-505-412	B	0.357		mg/kg	1	0.097	0.49	08/12/11
Boron		7440-42-8	LA-505-412	B	1.41		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918012
SAF# F11-096
Sample ID B2FP11

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.097		mg/kg	1	0.097	0.97	08/12/11
Chromium		7440-47-3	LA-505-412		9.36		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		11.5		mg/kg	1	0.097	0.49	08/12/11
Copper		7440-50-8	LA-505-412		19.4		mg/kg	1	0.097	0.97	08/12/11
Vanadium		7440-62-2	LA-505-412		74.3		mg/kg	1	0.19	1.9	08/12/11
Zinc		7440-66-6	LA-505-412		53.7		mg/kg	1	0.78	4.9	08/12/11
Lead		7439-92-1	LA-505-412		6.02		mg/kg	1	0.097	0.97	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.19	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.485		mg/kg	1	0.097	0.97	08/12/11
Strontium		7440-24-6	LA-505-412		36.7		mg/kg	1	0.097	0.97	08/12/11
Tin		7440-31-5	LA-505-412		0.517		mg/kg	1	0.097	0.49	08/12/11
Uranium		7440-61-1	LA-505-412		0.575		mg/kg	1	0.097	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412		4.05		mg/kg	1	0.39	3.9	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.417		mg/kg	1	0.29	2.9	08/12/11

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
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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 diltution factor.
E - Analyte is an estimate, see comment section.
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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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918013
SAF# F11-096
Sample ID B2FP12

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<0.99		mg/kg	1	0.99	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	U	<0.94		mg/kg	1	0.94	4.9	08/15/11
Sulfate	14808-79-8	LA-533-410	U	<3.6		mg/kg	1	3.6	52	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.094		ug/g	1	0.094	0.47	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	BN	0.722		mg/kg	1	0.098	0.98	08/12/11
Nickel	7440-02-0	LA-505-412	B	0.460		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412	B	0.311		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	U	<0.098		mg/kg	1	0.098	0.49	08/12/11
Boron	7440-42-8	LA-505-412	U	<0.49		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution factor.
E - Analyte is an estimate, see comment section.
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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)

EH
10/13/11

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918013
SAF# F11-096
Sample ID B2FP12

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Chromium		7440-47-3	LA-505-412	B	1.04		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412	U	<0.098		mg/kg	1	0.098	0.49	08/12/11
Copper		7440-50-8	LA-505-412	B	0.973		mg/kg	1	0.098	0.98	08/12/11
Vanadium	2.0U	7440-62-2	LA-505-412	BC	0.996		mg/kg	1	0.20	2.0	08/12/11
Zinc		7440-66-6	LA-505-412	U	<0.78		mg/kg	1	0.78	4.9	08/12/11
Lead		7439-92-1	LA-505-412	B	0.227		mg/kg	1	0.098	0.98	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.20	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.122		mg/kg	1	0.098	0.98	08/12/11
Strontium		7440-24-6	LA-505-412	B	0.230		mg/kg	1	0.098	0.98	08/12/11
Tin		7440-31-5	LA-505-412	U	<0.098		mg/kg	1	0.098	0.49	08/12/11
Uranium		7440-61-1	LA-505-412	B	0.175		mg/kg	1	0.098	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412	B	0.956		mg/kg	1	0.39	3.9	08/12/11
Selenium		7782-49-2	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11

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

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C - Analyte was found in the Associated Blank. (Inorganic)
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E - Analyte is an estimate, see comment section.
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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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918014
SAF# F11-096
Sample ID B2FNY7

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	B	4.27		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	U	<0.95		mg/kg	1	0.95	5.0	08/15/11
Sulfate	14808-79-8	LA-533-410	B	6.71		mg/kg	1	3.6	52	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.099		ug/g	1	0.099	0.49	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	348		mg/kg	1	0.098	0.98	08/12/11
Nickel	7440-02-0	LA-505-412		10.5		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412		63.2		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.373		mg/kg	1	0.098	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B	1.60		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
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TP Err = Total Propagated
DF = Dilution Factor
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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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918014
SAF# F11-096
Sample ID B2FNY7

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Chromium		7440-47-3	LA-505-412		8.64		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		9.69		mg/kg	1	0.098	0.49	08/12/11
Copper		7440-50-8	LA-505-412		16.0		mg/kg	1	0.098	0.98	08/12/11
Vanadium		7440-62-2	LA-505-412		64.6		mg/kg	1	0.20	2.0	08/12/11
Zinc		7440-66-6	LA-505-412		47.6		mg/kg	1	0.78	4.9	08/12/11
Lead		7439-92-1	LA-505-412		5.47		mg/kg	1	0.098	0.98	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.20	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.463		mg/kg	1	0.098	0.98	08/12/11
Strontium		7440-24-6	LA-505-412		31.1		mg/kg	1	0.098	0.98	08/12/11
Tin		7440-31-5	LA-505-412	B	0.464		mg/kg	1	0.098	0.49	08/12/11
Uranium		7440-61-1	LA-505-412	B	0.487		mg/kg	1	0.098	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412	B	2.78		mg/kg	1	0.39	3.9	08/12/11
Selenium		7782-49-2	LA-505-412	B	1.06		mg/kg	1	0.29	2.9	08/12/11

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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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918015
SAF# F11-096
Sample ID B2FNY8

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	U	<0.96		mg/kg	1	0.96	5.0	08/15/11
Sulfate	14808-79-8	LA-533-410	B	5.55		mg/kg	1	3.6	53	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.50	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	358		mg/kg	1	0.092	0.92	08/12/11
Nickel	7440-02-0	LA-505-412		8.97		mg/kg	1	0.18	1.8	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.092		mg/kg	1	0.092	0.92	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.27		mg/kg	1	0.27	2.7	08/12/11
Barium	7440-39-3	LA-505-412		59.2		mg/kg	1	0.18	1.8	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.351		mg/kg	1	0.092	0.46	08/12/11
Boron	7440-42-8	LA-505-412	B	0.507		mg/kg	1	0.46	4.6	08/12/11

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TP Err = Total Propagated
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C - Analyte was found in the Associated Blank. (Inorganic)
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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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918015
SAF# F11-096
Sample ID B2FNY8

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.092		mg/kg	1	0.092	0.92	08/12/11
Chromium		7440-47-3	LA-505-412		5.46		mg/kg	1	0.46	4.6	08/12/11
Cobalt		7440-48-4	LA-505-412		11.0		mg/kg	1	0.092	0.46	08/12/11
Copper		7440-50-8	LA-505-412		18.0		mg/kg	1	0.092	0.92	08/12/11
Vanadium		7440-62-2	LA-505-412		71.4		mg/kg	1	0.18	1.8	08/12/11
Zinc		7440-66-6	LA-505-412		50.0		mg/kg	1	0.73	4.6	08/12/11
Lead		7439-92-1	LA-505-412		4.20		mg/kg	1	0.092	0.92	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.046		mg/kg	1	0.046	0.18	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.454		mg/kg	1	0.092	0.92	08/12/11
Strontium		7440-24-6	LA-505-412		29.1		mg/kg	1	0.092	0.92	08/12/11
Tin		7440-31-5	LA-505-412		0.509		mg/kg	1	0.092	0.46	08/12/11
Uranium		7440-61-1	LA-505-412		0.517		mg/kg	1	0.092	0.46	08/12/11
Arsenic		7440-38-2	LA-505-412	B	2.19		mg/kg	1	0.37	3.7	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.709		mg/kg	1	0.27	2.7	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
DF = Dilution Factor
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C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918016
SAF# F11-096
Sample ID B2FNY9

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	B	5.08		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	B	1.01		mg/kg	1	0.96	5.0	08/15/11
Sulfate	14808-79-8	LA-533-410	B	9.71		mg/kg	1	3.6	53	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.51	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese J+	7439-96-5	LA-505-412	N	363		mg/kg	1	0.099	0.99	08/12/11
Nickel	7440-02-0	LA-505-412		9.22		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.099		mg/kg	1	0.099	0.99	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.30		mg/kg	1	0.30	3.0	08/12/11
Barium	7440-39-3	LA-505-412		69.2		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.157		mg/kg	1	0.099	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B	1.03		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918016
SAF# F11-096
Sample ID B2FNY9

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed		CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Cadmium		7440-43-9	LA-505-412	U	<0.099		mg/kg	1	0.099	0.99	08/12/11
Chromium		7440-47-3	LA-505-412		5.40		mg/kg	1	0.49	4.9	08/12/11
Cobalt		7440-48-4	LA-505-412		11.6		mg/kg	1	0.099	0.49	08/12/11
Copper		7440-50-8	LA-505-412		17.9		mg/kg	1	0.099	0.99	08/12/11
Vanadium		7440-62-2	LA-505-412		83.7		mg/kg	1	0.20	2.0	08/12/11
Zinc		7440-66-6	LA-505-412		51.5		mg/kg	1	0.79	4.9	08/12/11
Lead		7439-92-1	LA-505-412		3.73		mg/kg	1	0.099	0.99	08/12/11
Mercury		7439-97-6	LA-505-412	U	<0.049		mg/kg	1	0.049	0.20	08/12/11
Molybdenum	1.0U	7439-98-7	LA-505-412	BC	0.454		mg/kg	1	0.099	0.99	08/12/11
Strontium		7440-24-6	LA-505-412		29.1		mg/kg	1	0.099	0.99	08/12/11
Tin		7440-31-5	LA-505-412		0.526		mg/kg	1	0.099	0.49	08/12/11
Uranium		7440-61-1	LA-505-412	B	0.478		mg/kg	1	0.099	0.49	08/12/11
Arsenic		7440-38-2	LA-505-412	B	2.28		mg/kg	1	0.40	4.0	08/12/11
Selenium		7782-49-2	LA-505-412	B	0.726		mg/kg	1	0.30	3.0	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 2
Narrative
WSCF112918

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), 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.

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, D, U 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 wet chemical 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.
- **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

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):

- All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF112918

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):

- Batch QC 188130
  - Matrix Spike recovery is outside established laboratory limits. Affected sample results in this batch were "N" flagged.
  - All other applicable QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

  - Manganese – MS / MSD Relative Percent Difference (RPD) is outside established laboratory limits. The quality control report was flagged for RPD failure.
  - Manganese – Matrix Spike and/or Matrix Spike Duplicate recoveries are outside established laboratory limits. Affected sample results in this batch were "N" flagged.
  - Vanadium and Molybdenum – Detected in the Blank and evaluated. Affected sample results in this batch were "C" Flagged.
  - All other 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.

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-158	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND
SAMPLING LOCATION: Area AA Stockpile #7 Sample 4	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	12 Days / 12 Days
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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)

112918

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	Cool-4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP00	SOIL	8-10-11	1038	✓	✓

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall, CHPRC	8-10-11 1120	DJ Sparks, CHPRC	8-10-11 1120
DJ Sparks, CHPRC	AUG 10 2011 1420	[signature]	AUG 10 2011 1420

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc};
ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-159	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 5	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP01	2	SOIL	8-10-11	1013	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1200	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1200
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-160	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 6	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0 -1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP02 3	SOIL	8-10-11	1008	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1000	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1000
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 1 1 2011 1420	RECEIVED BY/STORED IN:	DATE/TIME: AUG 1 1 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011 A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-096-161	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01 / AIR QUALITY: ☐ / DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 1	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP03 4	SOIL	8-10-11	1055	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1100	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1100
RELINQUISHED BY/REMOVED FROM: DJ Sparks	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-162	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 2	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP04 5	SOIL	8-10-11	1107	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1200	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1200
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1400	RECEIVED BY/STORED IN: M. Nelson M. Nelson	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc); ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-163	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 3	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: 117	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C	
HOLDING TIME	6 Months	28 Days/48 Hours	
TYPE OF CONTAINER	G/P	G/P	
NO. OF CONTAINER(S)	1	1	
VOLUME	120mL	60mL	
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP05 6	SOIL	8-10-11	1115	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 1115 8-10-11	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 1200 8-10-11
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: 1420 AUG 10 2011	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: 1420 AUG 10 2011
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

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Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-164	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 4	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-507-23.	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP06 17	SOIL	8-10-11	1123	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1100	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1100	** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: M. Nelson M. Nelson	DATE/TIME: AUG 10 2011 1420	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

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Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-165	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 5	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302582ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120ml.	60ml.
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP07	SOIL	8-10-11	1132	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall	DATE/TIME: 8-10-11 1400	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1400
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 10 2011	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

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Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-096-166	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01 / AIR QUALITY: ☐ / DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 6	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-23.	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP08 9	SOIL	8-10-11	1138	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11	** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1420	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-096-167	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01 / DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 7	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐
ICE CHEST NO.:	FIELD LOGBOOK NO.: NA HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP09 10	SOIL	8-10-11	1145	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: 1420 AUG 10 2011	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: 1420 AUG 10 2011
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-168	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 8	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP10 11	SOIL	8-10-11	1154	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1200	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1200
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1400	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1400
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.L** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

4-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-096-169	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01 / AIR QUALITY: ☐ / DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 9	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-807-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
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=Vegetaton, 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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP11	12	SOIL	8-10-11	1055	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1100	RECEIVED BY/STORED IN: D. Sparks CHPRC	DATE/TIME: 8-10-11 1200
RELINQUISHED BY/REMOVED FROM: D. Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-170	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 10	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP12 13	SOIL	8-10-11	1052	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1420	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1420
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: Bonnie J Boozer	DATE/TIME: 1420 AUG 10 2011
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-155	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 1	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-507-23.	ACTUAL SAMPLE DEPTH: 0-1	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool-4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120ml.	60ml.
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FNY7 14	SOIL	8-16-11	1013	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall	DATE/TIME: 8-16-11 1420	RECEIVED BY/STORED IN: BJ Sparks, CHPRC	DATE/TIME: 8-16-11 1420
RELINQUISHED BY/REMOVED FROM: BJ Sparks, CHPRC	DATE/TIME: AUG 1 0 2011 1420	RECEIVED BY/STORED IN:	DATE/TIME: AUG 1 0 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-156	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 2	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FNY8 15	SOIL	8-10-11	1025	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1200	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1200
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: 1420 AUG 10 2011
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: ** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-157	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 3	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool-4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FNY9 16	SOIL	8-10-11	1032	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1620	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1620
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 10 2011 1410	RECEIVED BY/STORED IN:	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6000-610 (REV 2)

Appendix 5

Data Validation Supporting Documentation

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 100K Area AA			DATA PACKAGE: VSR12-001		
VALIDATOR: Eyda Hergenreder		LAB: WSCF		DATE: 10-31-2011	
			SDG: WSCF112918		
ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg		EPA 200.8 X	

SAMPLES/MATRIX Soil samples

SDG WSCF112918: B2FP00, B2FP01, B2FP02, B2FP03, B2FP04, B2FP05, B2FP06, B2FP07, B2FP08, B2FP09, B2FP10, B2FP11, B2FP12, B2FNY7, B2FNY8, B2FNY9

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes (No) N/A

Comments: None

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? ..... Yes No N/A

Initial calibrations acceptable? ..... Yes No N/A

ICP interference checks acceptable? ..... Yes No N/A

ICV and CCV checks performed on all instruments? ..... Yes No N/A

ICV and CCV checks acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments:

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E) ..... Yes No N/A

ICB and CCB results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:
MB V 0.226 mg/kg; Mo 0.168 mg/kg

EB B2FP02: Mn 0.781 mg/kg; Ba 0.214 mg/kg, Co 2.21 mg/kg; Cu 0.394 mg/kg; V 0.351 mg/kg; Pb 0.208 mg/kg; Mo 0.123 mg/kg; Sr 0.137 mg/kg
EB B2FP12: Mn 0.722 mg/kg; Ni 0.460 mg/kg; Ba 0.311 mg/kg; Cr 1.04 mg/kg; Cu 0.973 mg/kg; V 0.996 mg/kg; Pb 0.227 mg/kg; Mo 0.122 mg/kg; Sr 0.230 mg/kg; U 0.175 mg/kg; As 0.956 mg/kg

4. ACCURACY (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A

MS/MSD results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments:

Mn MSD 172%

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable?.....Yes No N/A

Duplicate results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:

Mn MS/MSD RPD 73%

Samples B2FP03/B2FP11 Mn RPD = 36%;

6. ICP QUALITY CONTROL (Levels D and E)

ICP serial dilution samples analyzed? ..... Yes No N/A

ICP serial dilution %D values acceptable? ..... Yes No N/A

ICP post digestion spike required? ..... Yes No N/A

ICP post digestion spike values acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Transcription/calculation errors? ..... Yes No N/A

Comments:

7. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: None

8. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

Results reported for all requested analyses?.....(Yes) No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No (N/A)

Samples properly prepared? (Levels D, E)..... Yes No (N/A)

Detection limits meet RDL?.....(Yes) No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No (N/A)

Comments: None

Comments (attach additional sheets as necessary):

Appendix 6

Additional Documentation Requested By Client

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

QC Batch 188101 **Test** ICP-2008 MS All possible metal
Associated Samples 112918001, 112918002, 112918003, 112918004, 112918005, 112918006, 112918007, 112918008, 112918009, 112918010, 112918011, 112918012, 112918013, 112918014, 112918015, 112918016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
LCS			**QC Sample #62689**							
Manganese	7439-96-5		262	mg/kg	91.7	75 - 121				08/12/11
Nickel	7440-02-0		56.3	mg/kg	95.3	74 - 122				08/12/11
Silver	7440-22-4		32.1	mg/kg	93.3	83 - 127				08/12/11
Antimony	7440-36-0		166	mg/kg	136.3	62 - 205				08/12/11
Beryllium	7440-41-7		55.9	mg/kg	89.6	77 - 120				08/12/11
Cadmium	7440-43-9		59.4	mg/kg	96.1	76 - 129				08/12/11
Chromium	7440-47-3		65.6	mg/kg	92.1	68 - 119				08/12/11
Cobalt	7440-48-4		96.4	mg/kg	93.6	77 - 122				08/12/11
Copper	7440-50-8		74.4	mg/kg	91.6	67 - 120				08/12/11
Vanadium	7440-62-2		55.2	mg/kg	93.2	67 - 122				08/12/11
Zinc	7440-66-6		129	mg/kg	91.3	73 - 131				08/12/11
Lead	7439-92-1		87.2	mg/kg	94.4	79 - 124				08/12/11
Mercury	7439-97-6		3.81	mg/kg	101	69 - 124				08/12/11
Molybdenum	7439-98-7		46.0	mg/kg	108.1	80 - 125				08/12/11
Strontium	7440-24-6		64.8	mg/kg	89.5	78 - 119				08/12/11
Tin	7440-31-5		103	mg/kg	95.9	84 - 130				08/12/11
Uranium	7440-61-1		357	mg/kg	89.2	86 - 113				08/12/11
Arsenic	7440-38-2		87.2	mg/kg	94.2	79 - 125				08/12/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Selenium	7782-49-2		87.1	mg/kg	97.3	82 - 133					08/12/11
MS			**QC Sample #62690**								
			Original	**112918001**							
Manganese	7439-96-5	339	78.2	mg/kg	79.7	70 - 130					08/12/11
Nickel	7440-02-0	8.38	88.8	mg/kg	90.4	70 - 130					08/12/11
Silver	7440-22-4	<0.096	92.8	mg/kg	94.6	70 - 130					08/12/11
Antimony	7440-36-0	<0.29	87.1	mg/kg	88.8	70 - 130					08/12/11
Beryllium	7440-41-7	0.262	90.8	mg/kg	92.5	70 - 130					08/12/11
Cadmium	7440-43-9	<0.096	91.5	mg/kg	93.2	70 - 130					08/12/11
Chromium	7440-47-3	6.33	89.3	mg/kg	91	70 - 130					08/12/11
Cobalt	7440-48-4	10.6	87.4	mg/kg	89	70 - 130					08/12/11
Copper	7440-50-8	16.9	86.7	mg/kg	88.3	70 - 130					08/12/11
Vanadium	7440-62-2	73.2	81.8	mg/kg	83.3	70 - 130					08/12/11
Zinc	7440-66-6	49.3	84.1	mg/kg	85.6	70 - 130					08/12/11
Lead	7439-92-1	3.99	90.6	mg/kg	92.2	70 - 130					08/12/11
Mercury	7439-97-6	<0.048	1.92	mg/kg	98	70 - 130					08/12/11
Molybdenum	7439-98-7	0.487	91.9	mg/kg	93.6	70 - 130					08/12/11
Strontium	7440-24-6	28.0	92.3	mg/kg	94	70 - 130					08/12/11
Tin	7440-31-5	0.533	93.9	mg/kg	95.6	70 - 130					08/12/11
Uranium	7440-61-1	0.501	92.6	mg/kg	94.3	70 - 130					08/12/11
Arsenic	7440-38-2	2.23	91.7	mg/kg	93.4	70 - 130					08/12/11
Selenium	7782-49-2	0.751	91.1	mg/kg	92.8	70 - 130					08/12/11
MSD			**QC Sample #62691**								
			Original	**112918001**					**Paired**	**62690**	
Manganese	7439-96-5	339	161	mg/kg	171.8	70 - 130	73.20	30	*	NX	08/12/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Nickel	7440-02-0	8.38	89.8	mg/kg	96.1	70 - 130	6.10	30		08/12/11
Silver	7440-22-4	<0.096	91.5	mg/kg	97.9	70 - 130	3.40	30		08/12/11
Antimony	7440-36-0	<0.29	88.7	mg/kg	94.9	70 - 130	6.60	30		08/12/11
Beryllium	7440-41-7	0.262	88.6	mg/kg	94.8	70 - 130	2.50	30		08/12/11
Cadmium	7440-43-9	<0.096	92.1	mg/kg	98.5	70 - 130	5.50	30		08/12/11
Chromium	7440-47-3	6.33	90.2	mg/kg	96.5	70 - 130	5.90	30		08/12/11
Cobalt	7440-48-4	10.6	88.5	mg/kg	94.6	70 - 130	6.10	30		08/12/11
Copper	7440-50-8	16.9	87.7	mg/kg	93.8	70 - 130	6.00	30		08/12/11
Vanadium	7440-62-2	73.2	96.8	mg/kg	103.6	70 - 130	21.70	30		08/12/11
Zinc	7440-66-6	49.3	88.6	mg/kg	94.7	70 - 130	10.10	30		08/12/11
Lead	7439-92-1	3.99	91.8	mg/kg	98.2	70 - 130	6.30	30		08/12/11
Mercury	7439-97-6	<0.048	1.91	mg/kg	102	70 - 130	4.00	30		08/12/11
Molybdenum	7439-98-7	0.487	92.5	mg/kg	98.9	70 - 130	5.50	30		08/12/11
Strontium	7440-24-6	28.0	94.7	mg/kg	101.3	70 - 130	7.50	30		08/12/11
Tin	7440-31-5	0.533	94.0	mg/kg	100.5	70 - 130	5.00	30		08/12/11
Uranium	7440-61-1	0.501	92.4	mg/kg	98.8	70 - 130	4.70	30		08/12/11
Arsenic	7440-38-2	2.23	92.0	mg/kg	98.4	70 - 130	5.20	30		08/12/11
Selenium	7782-49-2	0.751	90.9	mg/kg	97.2	70 - 130	4.60	30		08/12/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

QC Batch 188101 **Test** ICP-2008 MS All possible metal
Associated Samples 112918001, 112918002, 112918003, 112918004, 112918005, 112918006, 112918007, 112918008, 112918009, 112918010, 112918011, 112918012, 112918013, 112918014, 112918015, 112918016

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #62688**						
Manganese	7439-96-5		<0.10	ug/L				U	08/12/11
Nickel	7440-02-0		<0.20	ug/L				U	08/12/11
Silver	7440-22-4		<0.050	ug/L				U	08/12/11
Antimony	7440-36-0		<0.050	ug/L				U	08/12/11
Barium	7440-39-3		<0.20	ug/L				U	08/12/11
Boron	7440-42-8		<0.50	ug/L				U	08/12/11
Beryllium	7440-41-7		<0.050	ug/L				U	08/12/11
Cadmium	7440-43-9		<0.050	ug/L				U	08/12/11
Chromium	7440-47-3		<0.10	ug/L				U	08/12/11
Cobalt	7440-48-4		<0.10	ug/L				U	08/12/11
Copper	7440-50-8		<0.10	ug/L				U	08/12/11
Vanadium	7440-62-2		0.226	ug/L				B	08/12/11
Zinc	7440-66-6		<0.80	ug/L				U	08/12/11
Lead	7439-92-1		<0.10	ug/L				U	08/12/11
Mercury	7439-97-6		<0.030	ug/L				U	08/12/11
Molybdenum	7439-98-7		0.168	ug/L				B	08/12/11
Strontium	7440-24-6		<0.10	ug/L				U	08/12/11
Tin	7440-31-5		<0.10	ug/L				U	08/12/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Uranium	7440-61-1		<0.10	ug/L					U	08/12/11
Arsenic	7440-38-2		<0.40	ug/L					U	08/12/11
Selenium	7782-49-2		<0.30	ug/L					U	08/12/11
LCS			**QC Sample #62689**							
Barium	7440-39-3		153	mg/kg	90.7	78 - 118				08/12/11
Boron	7440-42-8		98.6	mg/kg	93	64 - 136				08/12/11
MS			**QC Sample #62690**							
			Original 112918001							
Barium	7440-39-3	56.5	89.6	mg/kg	91.3	70 - 130				08/12/11
Boron	7440-42-8	0.888	92.4	mg/kg	94.1	70 - 130				08/12/11
MSD			**QC Sample #62691**							
			Original 112918001					**Paired**	**62690**	
Barium	7440-39-3	56.5	92.2	mg/kg	98.6	70 - 130	7.70	30		08/12/11
Boron	7440-42-8	0.888	89.3	mg/kg	95.5	70 - 130	1.50	30		08/12/11

Date: 31 October 2011
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: 100K Area AA
Subject: General Chemistry - Sample Data Groups (SDGs) WSCF112918

INTRODUCTION

This memorandum presents the results of data validation for SDG WSCF112918 prepared by WSCF Analytical Laboratories. A list of samples validated along with the analytical methods is provided in the following table.

Sample ID	Sample Date	Media	Validation Level	Analytical Methods
B2FP00	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP01	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP02	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP03	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP04	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP05	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP06	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP07	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP08	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP09	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP10	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP11	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FP12	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FNY7	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FNY8	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0
B2FNY9	08/10/11	Soil	C	7196A (Cr^{+6}) & 300.0

Data validation was conducted in accordance with the CHPRC validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan, DOE/RL-96-22, Rev. 5, Volume 1 (SAP). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested By Client

DATA QUALITY OBJECTIVES

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirements are as follows:

- All anions – extraction within 28 days of sample collection and analysis within 48 hours of extraction
- Hexavalent chromium – extraction of soils within 28 days of sample collection and analysis within 24 hours of extraction

Sample preservation requires chilling to 4 degrees Celsius.

The samples were analyzed within the prescribed holding times and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

Laboratory Blanks

All laboratory blank results were acceptable.

Trip Blanks

No trip blanks were submitted for validation.

Field Blanks

No field blanks were submitted for validation.

Equipment Blanks

All equipment blank results were acceptable.

- **Accuracy**

Accuracy is evaluated by reviewing matrix spike sample results and laboratory control sample results. According to the SAP, the matrix spike sample accuracy limits are 70% to 130% and the laboratory control sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are specified by the DV procedure.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples

All MS/MSD recoveries were acceptable with the following exception.

For SDG WSCF112918 (batch 188130), the MS recovery for hexavalent chromium was < the lower acceptance limit. All associated sample results were non-detects and should be qualified as estimates and flagged "UJ." See the table in Appendix 2 for a listing of all affected sample results.

Laboratory Control Samples (LCSs)

All LCS recoveries were acceptable.

- **Precision**

Precision is evaluated by reviewing MS/MSD results, laboratory duplicate sample results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are ±30%. The RPD limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and have associated results <5X the reporting limits with difference <2X the required detection limits no precision infraction occurred

MS/MSD Samples

All MS/MSD RPD values were acceptable.

Laboratory Duplicate Samples

All laboratory duplicate results were acceptable.

Field Duplicate Samples

All field duplicate results were acceptable.

Field Split Samples

No field splits were submitted for validation.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDG WSCF112918 were submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

Minor deficiencies leading to qualification of hexavalent chromium sample results as estimates were due matrix spike recovery infractions. See the table in Appendix 2 for a listing of all affected sample results.

REFERENCES

GRP-GD-003, Rev. 0, Change 0, *Data Validation for Chemical Analyses*, August 2010.

DOE/RL-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, September 2009.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.

- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.

- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.

- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.

- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.

- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.

- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.

- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

Appendix 2

Summary of Data Qualification

General Chemistry Data Qualification Summary			
SDG: WSCF112918	Reviewer: AQA	Project: 100K Area AA	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
Hexavalent chromium	UJ	B2FP00, B2FP01, B2FP02, B2FP03, B2FP04, B2FP05, B2FP06, B2FP07, B2FP08, B2FP09, B2FP10, B2FP11	Low MS recovery

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918001
SAF# F11-096
Sample ID B2FP00

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		5.23		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	U		<0.96		mg/kg	1	0.96	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B		4.28		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.097		ug/g	1	0.097	0.49	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N		339		mg/kg	1	0.096	0.96	08/12/11
Nickel	7440-02-0	LA-505-412			8.38		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.096		mg/kg	1	0.096	0.96	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412			56.5		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.262		mg/kg	1	0.096	0.48	08/12/11
Boron	7440-42-8	LA-505-412	B		0.888		mg/kg	1	0.48	4.8	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918002
SAF# F11-096
Sample ID B2FP01

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/11/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	B	1.13		mg/kg	1	0.95	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B	7.48		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep										**08/11/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	UN UJ	<0.099		ug/g	1	0.099	0.49	08/12/11
ICPMS Prep										**08/11/11**
ICP-MS										
~~Manganese~~	~~7439-96-5~~	~~LA-505-412~~	~~N~~	~~392~~		~~mg/kg~~	~~1~~	~~0.094~~	~~0.94~~	~~08/12/11~~
Nickel	7440-02-0	LA-505-412		11.3		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.094		mg/kg	1	0.094	0.94	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium	7440-39-3	LA-505-412		63.9		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.300		mg/kg	1	0.094	0.47	08/12/11
~~Boron~~	~~7440-42-8~~	~~LA-505-412~~	~~B~~	~~2.97~~		~~mg/kg~~	~~1~~	~~0.47~~	~~4.7~~	~~08/12/11~~

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918003
SAF# F11-096
Sample ID B2FP02

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	U		<3.1		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	U		<0.95		mg/kg	1	0.95	4.9	08/11/11
Sulfate	14808-79-8	LA-533-410	U		<3.6		mg/kg	1	3.6	52	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
~~Manganese~~	~~7439-96-5~~	~~LA-505-412~~	~~N~~		~~7.81~~		~~mg/kg~~	~~1~~	~~0.099~~	~~0.99~~	~~08/12/11~~
Nickel	7440-02-0	LA-505-412	U		<0.20		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.099		mg/kg	1	0.099	0.99	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.30		mg/kg	1	0.30	3.0	08/12/11
Barium	7440-39-3	LA-505-412	B		0.214		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	U		<0.099		mg/kg	1	0.099	0.49	08/12/11
Boron	7440-42-8	LA-505-412	U		<0.49		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918004
SAF# F11-096
Sample ID B2FP03

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		6.07		mg/kg	1	3.1	21	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410			5.13		mg/kg	1	0.96	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B		26.8		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
~~Manganese~~	~~7439-96-5~~	~~LA-505-412~~	~~N~~		~~359~~		~~mg/kg~~	~~1~~	~~0.092~~	~~0.92~~	~~08/12/11~~
Nickel	7440-02-0	LA-505-412			11.2		mg/kg	1	0.18	1.8	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.092		mg/kg	1	0.092	0.92	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium	7440-39-3	LA-505-412			54.3		mg/kg	1	0.18	1.8	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.249		mg/kg	1	0.092	0.46	08/12/11
~~Boron~~	~~7440-42-8~~	~~LA-505-412~~	~~B~~		~~1.86~~		~~mg/kg~~	~~1~~	~~0.46~~	~~4.6~~	~~08/12/11~~

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918005
SAF# F11-096
Sample ID B2FP04

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		4.13		mg/kg	1	3.1	21	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	5.0	08/11/11
Nitrate-N	NO3-N	LA-533-410	B		3.85		mg/kg	1	0.96	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B		14.9		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.10		ug/g	1	0.10	0.51	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N		456		mg/kg	1	0.097	0.97	08/12/11
Nickel	7440-02-0	LA-505-412			11.4		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.097		mg/kg	1	0.097	0.97	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412			80.3		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.346		mg/kg	1	0.097	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B		1.52		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918006
SAF# F11-096
Sample ID B2FP05

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		7.56		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	U		<0.95		mg/kg	1	0.95	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410			56.2		mg/kg	1	3.6	52	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.093		ug/g	1	0.093	0.47	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N		341		mg/kg	1	0.098	0.98	08/12/11
Nickel	7440-02-0	LA-505-412			9.58		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.098		mg/kg	1	0.098	0.98	08/12/11
Antimony	7440-36-0	LA-505-412	B		0.611		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412			67.4		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.245		mg/kg	1	0.098	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B		1.58		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918007
SAF# F11-096
Sample ID B2FP06

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		3.71		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	B		2.21		mg/kg	1	0.95	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B		8.94		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.098		ug/g	1	0.098	0.49	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N		408		mg/kg	1	0.097	0.97	08/12/11
Nickel	7440-02-0	LA-505-412			12.2		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.097		mg/kg	1	0.097	0.97	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412			72.0		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.400		mg/kg	1	0.097	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B		1.56		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

EH
10/13/11

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918008
SAF# F11-096
Sample ID B2FP07

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		3.57		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	B		2.92		mg/kg	1	0.96	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B		9.42		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N		383		mg/kg	1	0.092	0.92	08/12/11
Nickel	7440-02-0	LA-505-412			9.89		mg/kg	1	0.18	1.8	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.092		mg/kg	1	0.092	0.92	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium	7440-39-3	LA-505-412			55.5		mg/kg	1	0.18	1.8	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.268		mg/kg	1	0.092	0.46	08/12/11
Boron	7440-42-8	LA-505-412	B		0.954		mg/kg	1	0.46	4.6	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918009
SAF# F11-096
Sample ID B2FP08

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		10.4		mg/kg	1	3.1	21	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410			5.40		mg/kg	1	0.96	5.0	08/11/11
Sulfate	14808-79-8	LA-533-410	B		18.6		mg/kg	1	3.6	53	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
~~Manganese~~	~~7439-96-5~~	~~LA-505-412~~	~~N~~		~~442~~		~~mg/kg~~	~~1~~	~~0.093~~	~~0.93~~	~~08/12/11~~
Nickel	7440-02-0	LA-505-412			13.4		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.093		mg/kg	1	0.093	0.93	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium	7440-39-3	LA-505-412			68.4		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.254		mg/kg	1	0.093	0.46	08/12/11
~~Boron~~	~~7440-42-8~~	~~LA-505-412~~	~~B~~		~~2.70~~		~~mg/kg~~	~~1~~	~~0.46~~	~~4.6~~	~~08/12/11~~

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918010
SAF# F11-096
Sample ID B2FP09

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/11/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/11/11
Chloride	16887-00-6	LA-533-410	B		9.73		mg/kg	1	3.1	20	08/11/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/11/11
Nitrate-N	NO3-N	LA-533-410	B		4.08		mg/kg	1	0.95	4.9	08/11/11
Sulfate	14808-79-8	LA-533-410	B		16.3		mg/kg	1	3.6	52	08/11/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.10		ug/g	1	0.10	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N		397		mg/kg	1	0.093	0.93	08/12/11
Nickel	7440-02-0	LA-505-412			12.4		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.093		mg/kg	1	0.093	0.93	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.28		mg/kg	1	0.28	2.8	08/12/11
Barium	7440-39-3	LA-505-412			74.5		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412			0.479		mg/kg	1	0.093	0.47	08/12/11
Boron	7440-42-8	LA-505-412	B		1.97		mg/kg	1	0.47	4.7	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918011
SAF# F11-096
Sample ID B2FP10

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/15/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410			25.7		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410			8.06		mg/kg	1	0.95	4.9	08/15/11
Sulfate	14808-79-8	LA-533-410			55.2		mg/kg	1	3.6	52	08/15/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.099		ug/g	1	0.099	0.50	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N		368		mg/kg	1	0.099	0.99	08/12/11
Nickel	7440-02-0	LA-505-412			12.5		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.099		mg/kg	1	0.099	0.99	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.30		mg/kg	1	0.30	3.0	08/12/11
Barium	7440-39-3	LA-505-412			67.7		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.220		mg/kg	1	0.099	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B		1.56		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918012
SAF# F11-096
Sample ID B2FP11

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**08/15/11**
Anions by IC											
Fluoride	16984-48-8	LA-533-410	U		<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	B		7.02		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U		<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410			5.65		mg/kg	1	0.96	5.0	08/15/11
Sulfate	14808-79-8	LA-533-410	B		21.1		mg/kg	1	3.6	53	08/15/11
Cr(VI) Prep											**08/11/11**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	UN	UJ	<0.098		ug/g	1	0.098	0.49	08/12/11
ICPMS Prep											**08/11/11**
ICP-MS											
~~Manganese~~	~~7439-96-5~~	~~LA-505-412~~	~~N~~		~~519~~		~~mg/kg~~	~~1~~	~~0.097~~	~~0.97~~	~~08/12/11~~
Nickel	7440-02-0	LA-505-412			12.1		mg/kg	1	0.19	1.9	08/12/11
Silver	7440-22-4	LA-505-412	U		<0.097		mg/kg	1	0.097	0.97	08/12/11
Antimony	7440-36-0	LA-505-412	U		<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412			66.9		mg/kg	1	0.19	1.9	08/12/11
Beryllium	7440-41-7	LA-505-412	B		0.357		mg/kg	1	0.097	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B		1.41		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

EH
10/13/11

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918013
SAF# F11-096
Sample ID B2FP12

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<0.99		mg/kg	1	0.99	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	U	<0.94		mg/kg	1	0.94	4.9	08/15/11
Sulfate	14808-79-8	LA-533-410	U	<3.6		mg/kg	1	3.6	52	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.094		ug/g	1	0.094	0.47	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese	7439-96-5	LA-505-412	BN	0.722		mg/kg	1	0.098	0.98	08/12/11
Nickel	7440-02-0	LA-505-412	B	0.460		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412	B	0.311		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	U	<0.098		mg/kg	1	0.098	0.49	08/12/11
Boron	7440-42-8	LA-505-412	U	<0.49		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918014
SAF# F11-096
Sample ID B2FNY7

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	B	4.27		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	U	<0.95		mg/kg	1	0.95	5.0	08/15/11
Sulfate	14808-79-8	LA-533-410	B	6.71		mg/kg	1	3.6	52	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.099		ug/g	1	0.099	0.49	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	348		mg/kg	1	0.098	0.98	08/12/11
Nickel	7440-02-0	LA-505-412		10.5		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.098		mg/kg	1	0.098	0.98	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	08/12/11
Barium	7440-39-3	LA-505-412		63.2		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.373		mg/kg	1	0.098	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B	1.60		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

EH
10/13/11

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918015
SAF# F11-096
Sample ID B2FNY8

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	U	<0.96		mg/kg	1	0.96	5.0	08/15/11
Sulfate	14808-79-8	LA-533-410	B	5.55		mg/kg	1	3.6	53	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.50	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	358		mg/kg	1	0.092	0.92	08/12/11
Nickel	7440-02-0	LA-505-412		8.97		mg/kg	1	0.18	1.8	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.092		mg/kg	1	0.092	0.92	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.27		mg/kg	1	0.27	2.7	08/12/11
Barium	7440-39-3	LA-505-412		59.2		mg/kg	1	0.18	1.8	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.351		mg/kg	1	0.092	0.46	08/12/11
Boron	7440-42-8	LA-505-412	B	0.507		mg/kg	1	0.46	4.6	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

WSCF Analytical Results Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Sample # 112918016
SAF# F11-096
Sample ID B2FNY9

Matrix SOIL
Sampled 08/10/11
Received 08/10/11

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**08/15/11**
Anions by IC										
Fluoride	16984-48-8	LA-533-410	U	<1.8		mg/kg	1	1.8	3.6	08/15/11
Chloride	16887-00-6	LA-533-410	B	5.08		mg/kg	1	3.1	20	08/15/11
Nitrite-N	NO2-N	LA-533-410	U	<1.0		mg/kg	1	1.0	4.9	08/15/11
Nitrate-N	NO3-N	LA-533-410	B	1.01		mg/kg	1	0.96	5.0	08/15/11
Sulfate	14808-79-8	LA-533-410	B	9.71		mg/kg	1	3.6	53	08/15/11
Cr(VI) Prep										**08/17/11**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.51	08/17/11
ICPMS Prep										**08/11/11**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	363		mg/kg	1	0.099	0.99	08/12/11
Nickel	7440-02-0	LA-505-412		9.22		mg/kg	1	0.20	2.0	08/12/11
Silver	7440-22-4	LA-505-412	U	<0.099		mg/kg	1	0.099	0.99	08/12/11
Antimony	7440-36-0	LA-505-412	U	<0.30		mg/kg	1	0.30	3.0	08/12/11
Barium	7440-39-3	LA-505-412		69.2		mg/kg	1	0.20	2.0	08/12/11
Beryllium	7440-41-7	LA-505-412	B	0.157		mg/kg	1	0.099	0.49	08/12/11
Boron	7440-42-8	LA-505-412	B	1.03		mg/kg	1	0.49	4.9	08/12/11

MDL = Minimum Detection
RQ = Result Qualifier
TP Err = Total Propagated
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 diltution 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)

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 2
Narrative
WSCF112918

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), 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.

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, D, U 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 wet chemical 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.
- **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

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):

- All applicable QC controls are within the established limits.

Attachment 2
Narrative
WSCF112918

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):

- Batch QC 188130
  - Matrix Spike recovery is outside established laboratory limits. Affected sample results in this batch were "N" flagged.
  - All other applicable QC controls are within the established limits.

ICP-MS Metals – The hold time requirements for this analysis were met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample were analyzed with this delivery group. Analytical Note(s):

  - Manganese – MS / MSD Relative Percent Difference (RPD) is outside established laboratory limits. The quality control report was flagged for RPD failure.
  - Manganese – Matrix Spike and/or Matrix Spike Duplicate recoveries are outside established laboratory limits. Affected sample results in this batch were "N" flagged.
  - Vanadium and Molybdenum – Detected in the Blank and evaluated. Affected sample results in this batch were "C" Flagged.
  - All other 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.

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-158	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND
SAMPLING LOCATION: Area AA Stockpile #7 Sample 4	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	12 Days / 12 Days
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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)

112918

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	None	Cool-4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP00	SOIL	8-10-11	1038	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1120	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1120
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: [signature]	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-159	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 5	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: N/A	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP01	2	SOIL	8-10-11	1013	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1200	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1200
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) (Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-160	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 6	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0 -1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP02 3	SOIL	8-10-11	1008	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1200	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1200	** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 1 1 2011 1200	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: 1420 AUG 1 1 2011	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

PRINTED ON 7/11/2011 A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-096-161	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01 / AIR QUALITY: ☐ / DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 1	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP03 4	SOIL	8-10-11	1055	✓	✓

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES: RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	8-10-11 1200	DJ Sparks, CHPRC	8-10-11 1200
RELINQUISHED BY/REMOVED FROM: DJ Sparks	AUG 10 2011 1420	M. Nelson	AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-162	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 2	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP04 S	SOIL	8-10-11	1107	✓	✓

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
FM Hall, CHPRC	8-10-11 1200	DJ Sparks, CHPRC	8-10-11 1200
DJ Sparks, CHPRC	AUG 10 2011 1400	M. Nelson, M-nels	AUG 10 2011 1420

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc); ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-163	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 3	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: 117	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP05 6	SOIL	8-10-11	1115	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 1115 8-10-11	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 1200 8-10-11
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: 1420 AUG 10 2011	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: 1420 AUG 10 2011
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011 A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-164	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 4	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-507-23.	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP06 17	SOIL	8-10-11	1123	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1100	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1100	* The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: M. Nelson M. Nelson	DATE/TIME: AUG 10 2011 1420	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

PRINTED ON 7/11/2011 A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-165	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 5	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302582ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120ml.	60ml.
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP07	SOIL	8-10-11	1132	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall	DATE/TIME: 8-10-11 1400	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1400	** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1420	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

PRINTED ON 7/11/2011

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Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-166	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND
SAMPLING LOCATION: Area AA Stockpile #9 Sample 6	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	12 Days / 12 Days
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-23.	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP08 9	SOIL	8-10-11	1138	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1120	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1120	** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1420	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

PRINTED ON 7/11/2011

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Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-096-167	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01 / DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 7	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐
ICE CHEST NO.:	FIELD LOGBOOK NO.: NA HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP09 10	SOIL	8-10-11	1145	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: 1420 AUG 10 2011	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: 1420 AUG 10 2011
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-168	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 8	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP10 11	SOIL	8-10-11	1154	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1200	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1200	** The CACN for all analytical work at WSCF laboratory is 402581ES20.L** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1200	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1200	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

PRINTED ON 7/11/2011

4-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-096-169	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01 / AIR QUALITY: ☐ / DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 9	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-807-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP11 12	SOIL	8-10-11	1055	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1100	RECEIVED BY/STORED IN: D. Sparks CHPRC	DATE/TIME: 8-10-11 1200
RELINQUISHED BY/REMOVED FROM: D. Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: M. Nelson	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-170	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #9 Sample 10	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FP12 13	SOIL	8-10-11	1052	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1420	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1420
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: [signature]	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-155	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 1	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.:	FIELD LOGBOOK NO.: HNF-N-507-23.	ACTUAL SAMPLE DEPTH: 0-1	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool~4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120ml.	60ml.
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FNY7 14	SOIL	8-16-11	1013	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall	DATE/TIME: 8-16-11 1420	RECEIVED BY/STORED IN: BJ Sparks CHPRC	DATE/TIME: 8-16-11 1420
RELINQUISHED BY/REMOVED FROM: BJ Sparks CHPRC	DATE/TIME: AUG 1 0 2011 1420	RECEIVED BY/STORED IN:	DATE/TIME: AUG 1 0 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-156	PAGE 1 OF 1
COLLECTOR: FM Hall CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 2	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	None	Cool~4C
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	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)	HOLDING TIME	6 Months	28 Days/48 Hours
		TYPE OF CONTAINER	G/P	G/P
		NO. OF CONTAINER(S)	1	1
		VOLUME	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FNY8 15	SOIL	8-10-11	1025	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: FM Hall CHPRC	DATE/TIME: 8-10-11 1120	RECEIVED BY/STORED IN: DJ Sparks CHPRC	DATE/TIME: 8-10-11 1200	1200** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196; (2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: AUG 10 2011 1420	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: 1420 AUG 10 2011	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

PRINTED ON 7/11/2011

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-096-157	PAGE 1 OF 1
COLLECTOR: FM Hall, CHPRC	COMPANY CONTACT: LUKE, SN	TELEPHONE NO.: 372-1667	PROJECT COORDINATOR: LUKE, SN	PRICE CODE: C01	DATA TURNAROUND: 12 Days / 12 Days
SAMPLING LOCATION: Area AA Stockpile #7 Sample 3	PROJECT DESIGNATION: Area AA In-Process Sampling - Soil		SAF NO.: F11-096	AIR QUALITY: ☐	
ICE CHEST NO.: NA	FIELD LOGBOOK NO.: HNF-N-507-23	ACTUAL SAMPLE DEPTH: 0-1'	COA: 302682ES10	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
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	Cool-4C
HOLDING TIME	6 Months	28 Days/48 Hours
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	120mL	60mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B2FNY9 16	SOIL	8-10-11	1032	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: FM Hall, CHPRC	DATE/TIME: 8-10-11 1620	RECEIVED BY/STORED IN: DJ Sparks, CHPRC	DATE/TIME: 8-10-11 1620
RELINQUISHED BY/REMOVED FROM: DJ Sparks, CHPRC	DATE/TIME: AUG 10 2011 1410	RECEIVED BY/STORED IN:	DATE/TIME: AUG 10 2011 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

** The CACN for all analytical work at WSCF laboratory is 402581ES20.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, Beryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury}; Chromium Hex - 7196;
(2) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate};

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

PRINTED ON 7/11/2011

A-6000-610 (REV 2)

Appendix 5

Data Validation Supporting Documentation

VALIDATION LEVEL:	A	B	(C)	D	E
PROJECT: 100K Area AA			DATA PACKAGE: VSR12-001		
VALIDATOR: Eyda Hergenreder		LAB: WSCF		DATE: 10-31-2011	
			SDG: WSCF112918		
ANALYSES PERFORMED					
Anions/IC X	TOC	TOX	TPH-418.1	Oil and Grease	Alkalinity
Ammonia	BOD/COD	Chloride	Chromium-VI X	pH	NO_3/NO_2
Sulfate	TDS	TKN	Phosphate	Cyanide	

SAMPLES/MATRIX Soil samples

SDG WSCF112918: B2FP00, B2FP01, B2FP02, B2FP03, B2FP04, B2FP05, B2FP06, B2FP07, B2FP08, B2FP09, B2FP10, B2FP11, B2FP12, B2FNY7, B2FNY8, B2FNY9

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present?..... Yes (No) N/A

Comments: None

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? ..... Yes No N/A

Initial calibrations acceptable? ..... Yes No N/A

ICV and CCV checks performed on all instruments? ..... Yes No N/A

ICV and CCV checks acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments:

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E) ..... Yes No N/A

ICB and CCB results acceptable? (Levels D, E) ..... Yes No N/A

Laboratory blanks analyzed? ..... Yes No N/A

Laboratory blank results acceptable? ..... Yes No N/A

Field blanks analyzed? (Levels C, D, E) ..... Yes No N/A

Field blank results acceptable? (Levels C, D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: None

4. ACCURACY (Levels C, D, and E)

Spike samples analyzed? ..... Yes No N/A

Spike recoveries acceptable? ..... Yes No N/A

Spike standards NIST traceable? (Levels D, E) ..... Yes No N/A

Spike standards expired? (Levels D, E) ..... Yes No N/A

LCS/BSS samples analyzed? ..... Yes No N/A

LCS/BSS results acceptable? ..... Yes No N/A

Standards traceable? (Levels D, E) ..... Yes No N/A

Standards expired? (Levels D, E) ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments:

WSCF112918 Cr+6 (batch 188130) MS 45%

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable?.....Yes No N/A

Duplicate results acceptable?.....Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E)..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? .....Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: None

6. HOLDING TIMES (all levels)

Samples properly preserved? .....Yes No N/A

Sample holding times acceptable? .....Yes No N/A

Comments: None

7. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

Results reported for all requested analyses?.....Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E)..... Yes No N/A

Detection limits meet RDL?.....Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: None

Comments (attach additional sheets as necessary):

Appendix 6

Additional Documentation Requested By Client

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

QC Batch 188130 **Test** Hexavalent chromium
Associated Samples 112918001, 112918002, 112918003, 112918004, 112918005, 112918006, 112918007, 112918008, 112918009, 112918010, 112918011, 112918012

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #62813**								
Hexavalent chromium	18540-29-9		<0.099	ug/g						U	08/12/11
LCS			**QC Sample #62814**								
Hexavalent chromium	18540-29-9		4.03	ug/g	101.6	80 - 120					08/12/11
DUP			**QC Sample #62815**								
			Original 112844001								
Hexavalent chromium	18540-29-9		<0.10	ug/g			40.10	30	*	U	08/12/11
MS			**QC Sample #62816**								
			Original 112844001								
Hexavalent chromium	18540-29-9		1.81	ug/g	45.3	75 - 125				N	08/12/11
PSTSPK			**QC Sample #62817**								
Hexavalent chromium	18540-29-9		0.0458	ug/g	91.6	85 - 115					08/12/11
IMS			**QC Sample #62818**								
			Original 112844001								
Hexavalent chromium	18540-29-9		254	ug/g	80.6	75 - 125					08/12/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

QC Batch 188139 **Test** Anions by Ion Chromatography (Solid)
Associated Samples 112918001, 112918002, 112918003, 112918004, 112918005, 112918006, 112918007, 112918008, 112918009, 112918010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #62828**							
Fluoride	16984-48-8		<0.036	ug/mL					U	08/11/11
Chloride	16887-00-6		<0.062	ug/mL					U	08/11/11
Nitrite-N	NO2-N		<0.020	ug/mL					U	08/11/11
Nitrate-N	NO3-N		<0.019	ug/mL					U	08/11/11
Sulfate	14808-79-8		<0.072	ug/mL					U	08/11/11
LCS			**QC Sample #62829**							
Fluoride	16984-48-8		0.925	ug/mL	93.4	90 - 110				08/11/11
Chloride	16887-00-6		1.83	ug/mL	92.2	90 - 110				08/11/11
Nitrite-N	NO2-N		0.953	ug/mL	97.4	90 - 110				08/11/11
Nitrate-N	NO3-N		0.883	ug/mL	99.7	90 - 110				08/11/11
Sulfate	14808-79-8		3.66	ug/mL	93.4	90 - 110				08/11/11
MS			**QC Sample #62830**							
			Original	**112918001**						
Fluoride	16984-48-8	<1.8	20.8	mg/kg	83.2	80 - 120				08/11/11
Chloride	16887-00-6	5.23	43.4	mg/kg	86.8	80 - 120				08/11/11
Nitrite-N	NO2-N	<1.0	23.3	mg/kg	94.4	80 - 120				08/11/11
Nitrate-N	NO3-N	<0.96	22.3	mg/kg	99.6	80 - 120				08/11/11
Sulfate	14808-79-8	4.28	90.1	mg/kg	90.9	80 - 120				08/11/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
MSD			**QC Sample #62831**							
			Original	**112918001**				**Paired**	**62830**	
Fluoride	16984-48-8	<1.8	20.6	mg/kg	82	80 - 120	1.50	30		08/11/11
Chloride	16887-00-6	5.23	42.4	mg/kg	84.4	80 - 120	2.80	30		08/11/11
Nitrite-N	NO2-N	<1.0	22.9	mg/kg	92.3	80 - 120	2.20	30		08/11/11
Nitrate-N	NO3-N	<0.96	22.6	mg/kg	101	80 - 120	1.40	30		08/11/11
Sulfate	14808-79-8	4.28	90.0	mg/kg	90.6	80 - 120	0.30	30		08/11/11
DUP			**QC Sample #62832**							
			Original	**112918001**						
Fluoride	16984-48-8	<1.8	<1.8	mg/kg			0.00	30	U	08/11/11
Chloride	16887-00-6	5.23	5.63	mg/kg			7.40	30	B	08/11/11
Nitrite-N	NO2-N	<1.0	<1.0	mg/kg			0.00	30	U	08/11/11
Nitrate-N	NO3-N	<0.96	<0.95	mg/kg			17.90	30	U	08/11/11
Sulfate	14808-79-8	4.28	5.35	mg/kg			22.40	30	B	08/11/11

Quality Control Report

Attention Michael Neely
Department Inorganic

Group # WSCF112918

QC Batch 188298 **Test** Anions by Ion Chromatography (Solid)
Associated Samples 112918011, 112918012, 112918013, 112918014, 112918015, 112918016

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #63056**							
Fluoride	16984-48-8		<0.036	ug/mL					U	08/15/11
Chloride	16887-00-6		<0.062	ug/mL					U	08/15/11
Nitrite-N	NO2-N		<0.020	ug/mL					U	08/15/11
Nitrate-N	NO3-N		<0.019	ug/mL					U	08/15/11
Sulfate	14808-79-8		<0.072	ug/mL					U	08/15/11
LCS			**QC Sample #63057**							
Fluoride	16984-48-8		0.897	ug/mL	90.6	90 - 110				08/15/11
Chloride	16887-00-6		1.80	ug/mL	91.1	90 - 110				08/15/11
Nitrite-N	NO2-N		0.955	ug/mL	97.6	90 - 110				08/15/11
Nitrate-N	NO3-N		0.889	ug/mL	100.4	90 - 110				08/15/11
Sulfate	14808-79-8		3.66	ug/mL	93.4	90 - 110				08/15/11
MS			**QC Sample #63058**							
			Original 112918011							
Fluoride	16984-48-8	<1.8	21.1	mg/kg	83.8	80 - 120				08/15/11
Chloride	16887-00-6	25.7	47.1	mg/kg	93.6	80 - 120				08/15/11
Nitrite-N	NO2-N	<1.0	23.8	mg/kg	95.8	80 - 120				08/15/11
Nitrate-N	NO3-N	8.06	22.3	mg/kg	99.2	80 - 120				08/15/11
Sulfate	14808-79-8	55.2	99.8	mg/kg	100.1	80 - 120				08/15/11

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Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
MSD			**QC Sample #63059**							
			Original	**112918011**				**Paired**	**63058**	
Fluoride	16984-48-8	<1.8	21.1	mg/kg	84.5	80 - 120	0.80	30		08/15/11
Chloride	16887-00-6	25.7	44.4	mg/kg	88.7	80 - 120	5.40	30		08/15/11
Nitrite-N	NO2-N	<1.0	23.6	mg/kg	95.5	80 - 120	0.30	30		08/15/11
Nitrate-N	NO3-N	8.06	21.4	mg/kg	95.8	80 - 120	3.50	30		08/15/11
Sulfate	14808-79-8	55.2	87.8	mg/kg	88.7	80 - 120	12.10	30		08/15/11
DUP			**QC Sample #63060**							
			Original	**112918011**						
Fluoride	16984-48-8	<1.8	<1.8	mg/kg			0.00	30	U	08/15/11
Chloride	16887-00-6	25.7	23.0	mg/kg			11.20	30		08/15/11
Nitrite-N	NO2-N	<1.0	<1.0	mg/kg			0.00	30	U	08/15/11
Nitrate-N	NO3-N	8.06	7.08	mg/kg			13.00	30		08/15/11
Sulfate	14808-79-8	55.2	50.8	mg/kg			8.20	30	B	08/15/11

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Group # WSCF112918

QC Batch 188387
Associated Samples 112918013, 112918014, 112918015, 112918016

Test Hexavalent chromium

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #63219**							
Hexavalent chromium	18540-29-9		<0.094	ug/g					U	08/17/11
LCS			**QC Sample #63220**							
Hexavalent chromium	18540-29-9		4.02	ug/g	101.8	80 - 120				08/17/11
DUP			**QC Sample #63221**							
			Original 112918013							
Hexavalent chromium	18540-29-9	<0.094	<0.097	ug/g			-12200.0	30	U	08/17/11
MS			**QC Sample #63222**							
			Original 112918013							
Hexavalent chromium	18540-29-9	<0.094	3.91	ug/g	98.1	75 - 125				08/17/11
PSTSPK			**QC Sample #63223**							
Hexavalent chromium	18540-29-9		0.0447	ug/g	89.4	85 - 115				08/17/11
IMS			**QC Sample #63224**							
			Original 112918013							
Hexavalent chromium	18540-29-9	<0.094	322	ug/g	96.7	75 - 125			D	08/17/11