CHPRC - REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
5/15/12	RCR-VSR12-011
3. Project No. 183 KE/KW	Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
VSR12-011 183.2KE and 183.4KE East and West Stockpile Samples	SGRP	SL Huggins	SGRP QA	MO-2216E/A101 373-3630

17. Comment Submittal Approval	10. Agreement With Indicated Comment Disposition(s)	11. CLOSED
5/15/12 Date	Reviewer/Point of Contact (print and sign)	SL Huggins Reviewer/Point of Contact (print and sign)
SL Huggins Organization Manager (optional) (print and sign)	Date	5/15/12 Date
	Author/Originator (print and sign)	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 comments identified					

CHPRC - REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
05/23/2012	
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
VSR12-011		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) 05/23/2012 Date Author/Originator (print and sign)	Scot Fitzgerald Reviewer/Point of Contact (print and sign) 5/29/2012 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	Errors in the referenced SDG numbers throughout the report.		Please review and correct all occurrences of SDG numbers.	Y	Corrected SDG numbers.	closed

REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
05/21/2012	
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: VSR12-011, Project 183 KE/KW, 183.2KE and 183.4KE East and West Stockpile Samples	183.2KE and 183.4KE East and West Stockpile	D. L. Klages	100-K Soil Remediation	(509)942-3947

17. Comment Submittal Approval	10. Agreement With Indicated Comment Disposition(s)	11. CLOSED
Date / Organization Manager (optional) (print and sign)	5/23/12 Date; Deanna L. Klages Reviewer/Point of Contact (print and sign); Deanna L. Klages Author/Originator (print and sign)	5/23/12 Date; Deanna L. Klages Reviewer/Point of Contact (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	Title page and first page of each report: Project is not 183 KE/KW.		Change project name throughout reports to 100-K	Y	Project name changed to 100-K.	CLOSED
2	Page 3, incorrect SAP reference.	Our SAP is DOE/RL-96-22	Correct SAP reference	Y	SAP reference corrected.	CLOSED
3	Page 6, incorrect SAP reference.	Our SAP is DOE/RL-96-22	Correct SAP reference	Y	SAP reference corrected.	CLOSED
4	Page 61, Provide the RPD value for Barium in the duplicate sample evaluation.	This is needed for our final documentation to close out a site.	Provide RPD value.	Y	RPD value provided.	CLOSED

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

VSR12-011
183.2KE and 183.4KE East and West Stockpile Samples

Project 100-K

Chemical & Radiochemical Validation - Level C

Validation Performed By: _____ **Date: 05-11-12**
Kenneth Salaz

Validation reviewed by: _____ **Date: 05-15-12**
Marcia Hilchey

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Date: 11 May 2012
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: 100-K
Subject: PCBs - Sample Data Group (SDG) WSCF120412

INTRODUCTION

This memorandum presents the results of data validation for SDG WSCF120412 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 Method
B2H1N3	3/26/12	Soil	C	8082
B2H1N4	3/26/12	Soil	C	8082
B2H1N5	3/26/12	Soil	C	8082
B2H1N6	3/26/12	Soil	C	8082
B2H1N7	3/26/12	Soil	C	8082
B2H1N8	3/26/12	Soil	C	8082
B2H1M5	3/26/12	Soil	C	8082
B2H1M6	3/26/12	Soil	C	8082
B2H1M7	3/26/12	Soil	C	8082
B2H1M8	3/26/12	Soil	C	8082

Data validation was conducted in accordance with the CHPRC validation statement of work and the Sampling and Analysis Plan for the 100 Area Remedial Action Sampling and Analysis Plan, DOE/RL-96-22, Rev. 5 (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 for PCBs are extraction within one year of sample collection and analysis within one year of sample extraction. Sample preservation requires chilling to 4 degrees Celsius.

The samples were extracted and 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 surrogate results, matrix spike sample results, and laboratory control sample results. According to the SAP, the matrix spike and laboratory control sample accuracy limits are 50% to 150%.

Surrogates

All surrogate recoveries were acceptable.

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

All MS/MSD recoveries were acceptable. It should be noted that aroclor-1254 was the only analyte reported for the MS/MSD. Method 8082 guidance specifies aroclor-1016 and aroclor-1260 for MS/MSD analyses. No sample data are qualified as a result.

Laboratory Control Samples (LCSs)

All LCS recoveries were acceptable. It should be noted that aroclor-1254 was the only analyte reported for the LCS. Method 8082 guidance specifies aroclor-1016 and aroclor-1260 for LCS analyses. No sample data are qualified as a result

- **Precision**

Precision is evaluated by reviewing MS/MSD results, LCS/LCSD 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%. When duplicate RPDs exceed the limits and have associated results <5X the SAP required detection limits with differences <1X the required detection limits no precision infraction occurred.

MS/MSD Samples

All MS/MSD RPD values 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 WSCF120412 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

None found.

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.

- **C** — This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).

- **X** — This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful. The data should be considered unusable for decision-making purposes.

- **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

PCB Data Qualification Summary			
SDG: WSCF120412	Reviewer: AQA	Project: 183 KE/KW	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
PCBs	None	N/A	N/A

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412001
SAF# F11-095
Sample ID B2H1N3

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412002
SAF# F11-095
Sample ID B2H1N4

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412003
SAF# F11-095
Sample ID B2H1N5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412004
SAF# F11-095
Sample ID B2H1N6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412005
SAF# F11-095
Sample ID B2H1N7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412006
SAF# F11-095
Sample ID B2H1N8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412007
SAF# F11-095
Sample ID B2H1M5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412008
SAF# F11-095
Sample ID B2H1M6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412009
SAF# F11-095
Sample ID B2H1M7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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 Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Sample # 120412010
SAF# F11-095
Sample ID B2H1M8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
PCB Prep Solids										**03/27/12**
PCBs										
Aroclor-1016	12674-11-2	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1221	11104-28-2	LA-523-427	U	<8		ug/kg	1	8	20	04/09/12
Aroclor-1232	11141-16-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1242	53469-21-9	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1248	12672-29-6	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1254	11097-69-1	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12
Aroclor-1260	11096-82-5	LA-523-427	U	<4		ug/kg	1	4	8	04/09/12

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

B - Analyte was detected in both the BLANK and SAMPLE
D - Analyte was reported at a secondary diltution factor.
E - The calibration exceeds the calibration range (GC/MS).
J - Analyte < lowest calibration but >= MDL.
N - Presumed evidence based on MS library search(GC/MS only)

T - MS/MSD recovery outside control limits(GC/MS only).
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
WSCF120412

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
WSCF120412

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

- All applicable QC controls are within the established limits.

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):

- Selenium – MS / MSD Relative Percent Difference (RPD) is outside established laboratory limits. The quality control report was flagged for RPD failure.
- Manganese and Selenium – Matrix Spike and/or Matrix Spike Duplicate recoveries are outside established laboratory limits. Affected sample results in this batch were "N" flagged.
- Chromium and Vanadium – 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.

Organic Comments

PCB – 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):

- All applicable QC controls are within the established limits.

Radiochemistry Comments

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

- Gross Alpha / Gross Beta:
  - Batch QC 198116
    - Gross Alpha – The LCS recovery was outside laboratory acceptance limits, but within the 70 – 130% range allowed in the SOW.
    - All other applicable QC controls are within the established limits.

Narrative

Attachment 2
Narrative
WSCF120412

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		F11-095-386	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C; DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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)

120412

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N3	SOIL	MAR 26 2012	0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: Brazeal Tobey	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-386	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION 2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION 183 KF/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH SURFACE	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses~~ are needed. ~~☐☐** If no additional~~ analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management~~.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

ITED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302518ES10	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, DI=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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N4 2	SOIL	MAR 26 2012	0951	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012/240	RECEIVED BY/STORED IN: Brooal Hibray	DATE/TIME: MAR 26 2012/240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
AMPLING LOCATION 83.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plart - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
E CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24-	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

ECIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500-mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

INTED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-21-	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate)	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N5 3	SOIL	MAR 2 6 2012	0952	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN:	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample~~ Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N6	4 SOIL	MAR 2 6 2012	0954	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: Howard Howard	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 7/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373 5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581. ☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-28	ACTUAL SAMPLE DEPTH: N/A	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N7 5	SOIL	MAR 2 6 2012	0835	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 2 OF 2
CTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
LING LOCATION KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
IEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH N/A	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
ED TO e Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

AL INSTRUCTIONS

he CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~i60 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are ed, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

CBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
CP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, ium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
ross Alpha {Gross alpha}; Gross Beta {Gross beta};

D ON 2/29/2012 A 6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
SAMPLING LOCATION 183.2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-34	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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
DI=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			Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME			1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER			aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)			1	1	1	1	1
VOLUME			250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N8 6	SOIL	MAR 26 2012	0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 26 2012 1240	RECEIVED BY/STORED IN	DATE/TIME MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507- 24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to~~ Sample Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-378	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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			Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME			1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER			aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)			1	1	1	1	1
VOLUME			250mL	120mL	60mL	50mL	120mL
SAMPLE ANALYSIS			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B2H1M5 7	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: K Breazeal	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-378	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses~~ are needed. ☐☐** If no additional ~~analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M6 8	SOIL	MAR 2 6 2012	0919	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 2 6 2012 1240	RECEIVED BY/STORED IN Rebecca Hoey	DATE/TIME MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.LJ** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.LJLJ** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A 6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M7 9	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6000-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	ORIGINAL
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** 500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-34	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M8	10	SOIL	MAR 26 2012	0923	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
AMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CE CHEST NO.	FIELD LOGBOOK NO. HNF -N-507- 31	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

PECIAL INSTRUCTIONS

* The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

1) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
2) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
3) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

RINTED ON 2/29/2012

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Appendix 5

Data Validation Supporting Documentation

VALIDATION LEVEL:	A	B	(C)	D	E
PROJECT: 183 KE/KW			DATA PACKAGE: VSR12-011		
VALIDATOR: Ken Salaz		LAB: WSCF		DATE: 05/11/12	
			SDG: WSCF120412		
ANALYSES PERFORMED					
8015	8021	8141	8151	8315	EPA 8082 X
		WTPH-HCID	WTPH-G	WTPH-D	
SAMPLES/MATRIX: Soil Samples B2H1N3, B2H1N4, B2H1N5, B2H1N6, B2H1N7, B2H1N8, B2H1M5, B2H1M6, B2H1M7, B2H1M8					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

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

Comments: None

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

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

Continuing calibrations 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)

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

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

Field/trip 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)

Surrogates/system monitoring compounds analyzed? ..... Yes No N/A

Surrogate/system monitoring compound recoveries acceptable? ..... Yes No N/A

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

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

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: None

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. COMPOUND IDENTIFICATION, 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

8. SAMPLE CLEANUP (Levels D and E)

Fluorisil ® (or other absorbent) cleanup performed?..... Yes No N/A

Lot check performed? ..... Yes No N/A

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

Check materials traceable?..... Yes No N/A

Check materials Expired? ..... Yes No N/A

Analytical batch QC given similar cleanup?..... Yes No N/A

Transcription/Calculation Errors?..... Yes No N/A

Comments:

Comments:

Appendix 6

Additional Documentation Requested By Client

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

QC Batch 198115 **Test** PCBs by EPA SW-846 Method 8082
Associated Samples 120412001, 120412002, 120412003, 120412004, 120412005, 120412006, 120412007, 120412008, 120412009, 120412010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #72330**							
Aroclor-1016	12674-11-2		<4	ug/kg					U	04/09/12
Aroclor-1221	11104-28-2		<8	ug/kg					U	04/09/12
Aroclor-1232	11141-16-5		<4	ug/kg					U	04/09/12
Aroclor-1242	53469-21-9		<4	ug/kg					U	04/09/12
Aroclor-1248	12672-29-6		<4	ug/kg					U	04/09/12
Aroclor-1254	11097-69-1		<4	ug/kg					U	04/09/12
Aroclor-1260	11096-82-5		<4	ug/kg					U	04/09/12
LCS			**QC Sample #72331**							
Aroclor-1254	11097-69-1		70	ug/kg	88.1	75 - 128				04/09/12
MS			**QC Sample #72332**							
			Original 120412001							
Aroclor-1254	11097-69-1	<4	72	ug/kg	90.2	62 - 140				04/09/12
MSD			**QC Sample #72333**							
			Original 120412001					**Paired 72332**		
Aroclor-1254	11097-69-1	<4	70	ug/kg	88.2	62 - 140	2.80	30		04/09/12

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

QC Batch 198115 **Test** PCBs by EPA SW-846 Method 8082
Associated Samples 120412001, 120412002, 120412003, 120412004, 120412005, 120412006, 120412007, 120412008, 120412009, 120412010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
SAMPLE			**Sample #120412001**							
Tetrachloro-m-xylene	877-09-8				92.8	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				93.2	60 - 140				04/09/12
SAMPLE			**Sample #120412002**							
Tetrachloro-m-xylene	877-09-8				99	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				94.5	60 - 140				04/09/12
SAMPLE			**Sample #120412003**							
Tetrachloro-m-xylene	877-09-8				90.2	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				91.6	60 - 140				04/09/12
SAMPLE			**Sample #120412004**							
Tetrachloro-m-xylene	877-09-8				91	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				89.5	60 - 140				04/09/12
SAMPLE			**Sample #120412005**							
Tetrachloro-m-xylene	877-09-8				99.5	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				96.2	60 - 140				04/09/12
SAMPLE			**Sample #120412006**							

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Tetrachloro-m-xylene	877-09-8				90.8	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				89.9	60 - 140				04/09/12
SAMPLE			**Sample #120412007**							
Tetrachloro-m-xylene	877-09-8				93.5	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				94	60 - 140				04/09/12
SAMPLE			**Sample #120412008**							
Tetrachloro-m-xylene	877-09-8				94.9	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				92.6	60 - 140				04/09/12
SAMPLE			**Sample #120412009**							
Tetrachloro-m-xylene	877-09-8				94.7	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				95.9	60 - 140				04/09/12
SAMPLE			**Sample #120412010**							
Tetrachloro-m-xylene	877-09-8				97.4	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				93.1	60 - 140				04/09/12
BLANK			**QC Sample #72330**							
Tetrachloro-m-xylene	877-09-8				93.3	60 - 140				04/09/12
Decachlorobiphenyl	2051-24-3				91.2	60 - 140				04/09/12
LCS			**QC Sample #72331**							
Tetrachloro-m-xylene	877-09-8				91.7	60 - 124				04/09/12
Decachlorobiphenyl	2051-24-3				94.2	72 - 125				04/09/12

Quality Control Report

Attention Scot Fitzgerald
Department Organic, Semivolatiles

Group # WSCF120412

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
MS			**QC Sample #72332**							
			Original 120412001							
Tetrachloro-m-xylene	877-09-8				95.3	51 - 120				04/09/12
Decachlorobiphenyl	2051-24-3				98.4	66 - 126				04/09/12
MSD			**QC Sample #72333**							
			Original 120412001					**Paired**	**72332**	
Tetrachloro-m-xylene	877-09-8				94.8	51 - 120	n/a			04/09/12
Decachlorobiphenyl	2051-24-3				95.3	66 - 126	n/a			04/09/12

Date: 11 May 2012
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: 100-K
Subject: Inorganics - Sample Data Group (SDG) WSCF120412

INTRODUCTION

This memorandum presents the results of data validation for SDG WSCF120412 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
B2H1N3	3/26/12	Soil	C	200.8
B2H1N4	3/26/12	Soil	C	200.8
B2H1N5	3/26/12	Soil	C	200.8
B2H1N6	3/26/12	Soil	C	200.8
B2H1N7	3/26/12	Soil	C	200.8
B2H1N8	3/26/12	Soil	C	200.8
B2H1M5	3/26/12	Soil	C	200.8
B2H1M6	3/26/12	Soil	C	200.8
B2H1M7	3/26/12	Soil	C	200.8
B2H1M8	3/26/12	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 (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 required for the inorganic soil sample 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 exception. In the method blank, Cr and V were detected but < the RL. The associated results of sample B2H1N7 were detects <5X the blank concentration and < the RL. Therefore, they should be qualified as non-detects at their respective RLs and flagged "U." The other associated sample results were all much > the RL and should not be qualified.

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 with the following exceptions. In equipment blank B2H1N7, Mn, Ba, Cr, Cu, V, Pb, Mo, Sr, U, and As were detected.

- **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 exceptions. The MS and/or MSD recoveries for Mn and Se were < the QC acceptance limits but >30%. All Mn sample results and the Se results of samples B2H1N3, B2H1N4, and B2H1M6 were detects and, therefore, should be qualified as estimates and flagged "J-." The other associated sample results were non-detects and, therefore, should be qualified as estimates and flagged "UJ."

Laboratory Control Samples (LCSs)

All LCS recoveries were acceptable.

- **Precision**

Precision is evaluated by reviewing MS/MSD 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) limit is 30%. The limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and associated results are <5X the reporting limit (RL) with absolute differences <2X the RL, no precision infraction occurred.

MS/MSD Samples

All MS/MSD RPD values were acceptable with the following exception. The MS/MSD RPD for Se was > the QC acceptance limit. The associated results of samples B2H1N3, B2H1N4, and B2H1M6 were detects and, therefore, should be qualified as estimates and flagged "J." The other associated sample results were non-detects and, therefore, should be qualified as estimates and flagged "UJ."

Field Duplicate Samples

All field duplicate results were acceptable with the following exception. The field duplicate RPD for Ba (36%) was > the QC acceptance limit. No sample data should be qualified as a result.

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 with associated non-detected sample results were below the CRDLs.

- **Completeness**

SDG WSCF120412 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 Cr and V sample results as non-detects were due to blank contamination, and those leading to qualification of Mn and Se sample results as estimates were due to MS and/or MSD recoveries < the QC acceptance limit and poor duplicate precision. 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: WSCF120412	Reviewer: AQA	Project: 100-K	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
Cr	1.1U	B2H1N7	Blank contamination
V	2.1U	B2H1N7	Blank contamination
Mn	J-	B2H1N3, B2H1N4, B2H1N5, B2H1N6, B2H1N7, B2H1N8, B2H1M5, B2H1M6, B2H1M7, B2H1M8	Low MS/MSD recoveries
Se	J-	B2H1N3, B2H1N4, B2H1M6	Low MS recovery and poor duplicate precision
Se	UJ	B2H1N5, B2H1N6, B2H1N7, B2H1N8, B2H1M5, B2H1M7, B2H1M8	Low MS recovery and poor duplicate precision

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412001
SAF# F11-095
Sample ID B2H1N3

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<3.1		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		11.0		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep											**04/02/12**
~~**Cr(VI)**~~											
~~Hexavalent chromium~~	~~18540-29-9~~	~~LA-265-403~~	~~U~~		~~<0.097~~		~~ug/g~~	~~1~~	~~0.097~~	~~0.48~~	~~04/03/12~~
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	370		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412			10.3		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U		<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412			74.1		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.356		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.0923		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412			7.59		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412			10.7		mg/kg	1	0.053	0.27	04/05/12
Copper	7440-50-8	LA-505-412			17.7		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412001
SAF# F11-095
Sample ID B2H1N3

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412			50.2		mg/kg	1	0.21	2.1	04/05/12
Zinc	7440-66-6	LA-505-412			47.6		mg/kg	1	1.1	11	04/05/12
Lead	7439-92-1	LA-505-412			5.64		mg/kg	1	0.053	0.53	04/05/12
Mercury	7439-97-6	LA-505-412	U		<0.053		mg/kg	1	0.053	0.21	04/05/12
Molybdenum	7439-98-7	LA-505-412	B		0.491		mg/kg	1	0.053	0.53	04/05/12
Strontium	7440-24-6	LA-505-412			31.8		mg/kg	1	0.11	1.1	04/05/12
Tin	7440-31-5	LA-505-412			0.591		mg/kg	1	0.053	0.53	04/05/12
Uranium	7440-61-1	LA-505-412			0.609		mg/kg	1	0.053	0.27	04/05/12
Arsenic	7440-38-2	LA-505-412			3.23		mg/kg	1	0.21	2.1	04/05/12
Selenium	7782-49-2	LA-505-412	BN	J-	0.293		mg/kg	0.5	0.27	2.7	04/06/12
Boron	7440-42-8	LA-505-412	B		1.29		mg/kg	1	0.53	5.3	04/05/12

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PQL is equivalent to Estimated Quantitation Limit (EQL)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412002
SAF# F11-095
Sample ID B2H1N4

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		6.36		mg/kg	1	5.7	55	04/02/12
Cr(VI) Prep											**04/02/12**
~~**Cr(VI)**~~											
~~Hexavalent chromium~~	~~18540-29-9~~	~~LA-265-403~~	~~U~~		~~<0.10~~		~~ug/g~~	~~1~~	~~0.10~~	~~0.51~~	~~04/03/12~~
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	351		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412			9.80		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U		<0.056		mg/kg	1	0.056	0.56	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.33		mg/kg	1	0.33	3.3	04/05/12
Barium	7440-39-3	LA-505-412			79.1		mg/kg	1	0.22	2.2	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.350		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.0993		mg/kg	1	0.056	0.56	04/05/12
Chromium	7440-47-3	LA-505-412			7.38		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412			9.93		mg/kg	1	0.056	0.28	04/05/12
Copper	7440-50-8	LA-505-412			18.7		mg/kg	1	0.11	1.1	04/05/12

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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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412002
SAF# F11-095
Sample ID B2H1N4

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412			58.8		mg/kg	1	0.22	2.2	04/05/12
Zinc	7440-66-6	LA-505-412			48.7		mg/kg	1	1.1	11	04/05/12
Lead	7439-92-1	LA-505-412			7.01		mg/kg	1	0.056	0.56	04/05/12
Mercury	7439-97-6	LA-505-412	U		<0.056		mg/kg	1	0.056	0.22	04/05/12
Molybdenum	7439-98-7	LA-505-412			1.72		mg/kg	1	0.056	0.56	04/05/12
Strontium	7440-24-6	LA-505-412			33.6		mg/kg	1	0.11	1.1	04/05/12
Tin	7440-31-5	LA-505-412	B		0.549		mg/kg	1	0.056	0.56	04/05/12
Uranium	7440-61-1	LA-505-412			0.531		mg/kg	1	0.056	0.28	04/05/12
Arsenic	7440-38-2	LA-505-412			3.09		mg/kg	1	0.22	2.2	04/05/12
Selenium	7782-49-2	LA-505-412	BN	J-	0.293		mg/kg	0.5	0.28	2.8	04/06/12
Boron	7440-42-8	LA-505-412	B		1.50		mg/kg	1	0.56	5.6	04/05/12

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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 Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412003
SAF# F11-095
Sample ID B2H1N5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**04/02/12**
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	U		<5.7		mg/kg	1	5.7	54	04/02/12
Cr(VI) Prep											**04/02/12**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	U		<0.10		ug/g	1	0.10	0.52	04/03/12
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	321		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412			8.68		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U		<0.054		mg/kg	1	0.054	0.54	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.33		mg/kg	1	0.33	3.3	04/05/12
Barium	7440-39-3	LA-505-412			54.8		mg/kg	1	0.22	2.2	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.298		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.0882		mg/kg	1	0.054	0.54	04/05/12
Chromium	7440-47-3	LA-505-412			6.15		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412			9.49		mg/kg	1	0.054	0.27	04/05/12
Copper	7440-50-8	LA-505-412			15.7		mg/kg	1	0.11	1.1	04/05/12

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X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412003
SAF# F11-095
Sample ID B2H1N5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412		54.4		mg/kg	1	0.22	2.2	04/05/12
Zinc	7440-66-6	LA-505-412		41.3		mg/kg	1	1.1	11	04/05/12
Lead	7439-92-1	LA-505-412		4.33		mg/kg	1	0.054	0.54	04/05/12
Mercury	7439-97-6	LA-505-412	U	<0.054		mg/kg	1	0.054	0.22	04/05/12
Molybdenum	7439-98-7	LA-505-412	B	0.476		mg/kg	1	0.054	0.54	04/05/12
Strontium	7440-24-6	LA-505-412		26.2		mg/kg	1	0.11	1.1	04/05/12
Tin	7440-31-5	LA-505-412	B	0.413		mg/kg	1	0.054	0.54	04/05/12
Uranium	7440-61-1	LA-505-412		0.621		mg/kg	1	0.054	0.27	04/05/12
Arsenic	7440-38-2	LA-505-412		2.67		mg/kg	1	0.22	2.2	04/05/12
Selenium	7782-49-2	LA-505-412	UN	UJ <0.27		mg/kg	0.5	0.27	2.7	04/06/12
Boron	7440-42-8	LA-505-412	B	0.914		mg/kg	1	0.54	5.4	04/05/12

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PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412004
SAF# F11-095
Sample ID B2H1N6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		27.0		mg/kg	1	5.6	54	04/02/12
Cr(VI) Prep											**04/02/12**
~~**Cr(VI)**~~											
~~Hexavalent chromium~~	~~18540-29-9~~	~~LA-265-403~~	~~U~~		~~<0.093~~		~~ug/g~~	~~1~~	~~0.093~~	~~0.47~~	~~04/03/12~~
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	287		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412			8.37		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U		<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412			54.5		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.256		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.0903		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412			5.52		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412			8.66		mg/kg	1	0.053	0.26	04/05/12
Copper	7440-50-8	LA-505-412			15.5		mg/kg	1	0.11	1.1	04/05/12

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PQL is equivalent to Estimated Quantitation Limit (EQL)

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412004
SAF# F11-095
Sample ID B2H1N6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412			51.5		mg/kg	1	0.21	2.1	04/05/12
Zinc	7440-66-6	LA-505-412			42.0		mg/kg	1	1.1	11	04/05/12
Lead	7439-92-1	LA-505-412			12.1		mg/kg	1	0.053	0.53	04/05/12
Mercury	7439-97-6	LA-505-412	B		0.0567		mg/kg	1	0.053	0.21	04/05/12
Molybdenum	7439-98-7	LA-505-412	B		0.498		mg/kg	1	0.053	0.53	04/05/12
Strontium	7440-24-6	LA-505-412			24.9		mg/kg	1	0.11	1.1	04/05/12
Tin	7440-31-5	LA-505-412			0.639		mg/kg	1	0.053	0.53	04/05/12
Uranium	7440-61-1	LA-505-412			0.398		mg/kg	1	0.053	0.26	04/05/12
Arsenic	7440-38-2	LA-505-412			2.24		mg/kg	1	0.21	2.1	04/05/12
Selenium	7782-49-2	LA-505-412	UN	UJ	<0.26		mg/kg	0.5	0.26	2.6	04/06/12
Boron	7440-42-8	LA-505-412	B		0.931		mg/kg	1	0.53	5.3	04/05/12

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N - MS and/or MSD recovery outside control limits.

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X,Y or Z - See comment detail and/or narrative.
PQL is equivalent to Estimated Quantitation Limit (EQL)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412005
SAF# F11-095
Sample ID B2H1N7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<2.9		mg/kg	1	2.9	20	04/02/12
Sulfate	14808-79-8	LA-533-410	U		<5.5		mg/kg	1	5.5	52	04/02/12
Cr(VI) Prep											**04/02/12**
~~**Cr(VI)**~~											
~~Hexavalent chromium~~	~~18540-29-9~~	~~LA-265-403~~	~~U~~		~~<0.098~~		~~ug/g~~	~~1~~	~~0.098~~	~~0.49~~	~~04/03/12~~
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	BN	J-	0.392		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412	U		<0.11		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U		<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412	B		0.391		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	U		<0.11		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	U		<0.053		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412	BC	1.1U	0.599		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412	U		<0.053		mg/kg	1	0.053	0.26	04/05/12
Copper	7440-50-8	LA-505-412	B		0.129		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412005
SAF# F11-095
Sample ID B2H1N7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412	BC	2.1U	1.01		mg/kg	1	0.21	2.1	04/05/12
Zinc	7440-66-6	LA-505-412	U		<1.1		mg/kg	1	1.1	11	04/05/12
Lead	7439-92-1	LA-505-412	B		0.195		mg/kg	1	0.053	0.53	04/05/12
Mercury	7439-97-6	LA-505-412	U		<0.053		mg/kg	1	0.053	0.21	04/05/12
Molybdenum	7439-98-7	LA-505-412	B		0.103		mg/kg	1	0.053	0.53	04/05/12
Strontium	7440-24-6	LA-505-412	B		0.241		mg/kg	1	0.11	1.1	04/05/12
Tin	7440-31-5	LA-505-412	U		<0.053		mg/kg	1	0.053	0.53	04/05/12
Uranium	7440-61-1	LA-505-412	B		0.0707		mg/kg	1	0.053	0.26	04/05/12
Arsenic	7440-38-2	LA-505-412	B		0.337		mg/kg	1	0.21	2.1	04/05/12
Selenium	7782-49-2	LA-505-412	UN	UJ	<0.26		mg/kg	0.5	0.26	2.6	04/06/12
Boron	7440-42-8	LA-505-412	U		<0.53		mg/kg	1	0.53	5.3	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412006
SAF# F11-095
Sample ID B2H1N8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<3.1		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		12.4		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep											**04/02/12**
~~**Cr(VI)**~~											
~~Hexavalent chromium~~	~~18540-29-9~~	~~LA-265-403~~	~~B~~		~~0.122~~		~~ug/g~~	~~1~~	~~0.10~~	~~0.51~~	~~04/03/12~~
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	281		mg/kg	1	0.12	1.2	04/05/12
Nickel	7440-02-0	LA-505-412			8.43		mg/kg	1	0.12	1.2	04/05/12
Silver	7440-22-4	LA-505-412	U		<0.059		mg/kg	1	0.059	0.59	04/05/12
Antimony	7440-36-0	LA-505-412	B		0.477		mg/kg	1	0.35	3.5	04/05/12
Barium	7440-39-3	LA-505-412			51.4		mg/kg	1	0.23	2.3	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.317		mg/kg	1	0.12	1.2	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.0751		mg/kg	1	0.059	0.59	04/05/12
Chromium	7440-47-3	LA-505-412			6.54		mg/kg	1	0.12	1.2	04/05/12
Cobalt	7440-48-4	LA-505-412			8.23		mg/kg	1	0.059	0.29	04/05/12
Copper	7440-50-8	LA-505-412			15.6		mg/kg	1	0.12	1.2	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412006
SAF# F11-095
Sample ID B2H1N8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412			47.6		mg/kg	1	0.23	2.3	04/05/12
Zinc	7440-66-6	LA-505-412			41.0		mg/kg	1	1.2	12	04/05/12
Lead	7439-92-1	LA-505-412			5.26		mg/kg	1	0.059	0.59	04/05/12
Mercury	7439-97-6	LA-505-412	U		<0.059		mg/kg	1	0.059	0.23	04/05/12
Molybdenum	7439-98-7	LA-505-412	B		0.391		mg/kg	1	0.059	0.59	04/05/12
Strontium	7440-24-6	LA-505-412			28.0		mg/kg	1	0.12	1.2	04/05/12
Tin	7440-31-5	LA-505-412	B		0.508		mg/kg	1	0.059	0.59	04/05/12
Uranium	7440-61-1	LA-505-412			0.417		mg/kg	1	0.059	0.29	04/05/12
Arsenic	7440-38-2	LA-505-412			3.34		mg/kg	1	0.23	2.3	04/05/12
Selenium	7782-49-2	LA-505-412	UN	UJ	<0.29		mg/kg	0.5	0.29	2.9	04/06/12
Boron	7440-42-8	LA-505-412	B		0.765		mg/kg	1	0.59	5.9	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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 Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412007
SAF# F11-095
Sample ID B2H1M5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	B		3.99		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		12.2		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep											**04/02/12**
~~**Cr(VI)**~~											
~~Hexavalent chromium~~	~~18540-29-9~~	~~LA-265-403~~	~~U~~		~~<0.10~~		~~ug/g~~	~~1~~	~~0.10~~	~~0.52~~	~~04/03/12~~
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	319		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412			9.66		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U		<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412			62.0		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.344		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.0827		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412			7.51		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412			9.06		mg/kg	1	0.053	0.27	04/05/12
Copper	7440-50-8	LA-505-412			16.7		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412007
SAF# F11-095
Sample ID B2H1M5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412			49.2		mg/kg	1	0.21	2.1	04/05/12
Zinc	7440-66-6	LA-505-412			44.5		mg/kg	1	1.1	11	04/05/12
Lead	7439-92-1	LA-505-412			6.30		mg/kg	1	0.053	0.53	04/05/12
Mercury	7439-97-6	LA-505-412	U		<0.053		mg/kg	1	0.053	0.21	04/05/12
Molybdenum	7439-98-7	LA-505-412	B		0.403		mg/kg	1	0.053	0.53	04/05/12
Strontium	7440-24-6	LA-505-412			31.6		mg/kg	1	0.11	1.1	04/05/12
Tin	7440-31-5	LA-505-412	B		0.466		mg/kg	1	0.053	0.53	04/05/12
Uranium	7440-61-1	LA-505-412			0.489		mg/kg	1	0.053	0.27	04/05/12
Arsenic	7440-38-2	LA-505-412			3.11		mg/kg	1	0.21	2.1	04/05/12
Selenium	7782-49-2	LA-505-412	UN	UJ	<0.27		mg/kg	0.5	0.27	2.7	04/06/12
Boron	7440-42-8	LA-505-412	B		0.993		mg/kg	1	0.53	5.3	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412008
SAF# F11-095
Sample ID B2H1M6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		6.65		mg/kg	1	5.7	55	04/02/12
Cr(VI) Prep											**04/02/12**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	U		<0.098		ug/g	1	0.098	0.49	04/03/12
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	389		mg/kg	1	0.096	0.96	04/05/12
Nickel	7440-02-0	LA-505-412			11.8		mg/kg	1	0.096	0.96	04/05/12
Silver	7440-22-4	LA-505-412	B		0.0642		mg/kg	1	0.048	0.48	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.29		mg/kg	1	0.29	2.9	04/05/12
Barium	7440-39-3	LA-505-412			80.8		mg/kg	1	0.19	1.9	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.410		mg/kg	1	0.096	0.96	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.174		mg/kg	1	0.048	0.48	04/05/12
Chromium	7440-47-3	LA-505-412			9.59		mg/kg	1	0.096	0.96	04/05/12
Cobalt	7440-48-4	LA-505-412			10.5		mg/kg	1	0.048	0.24	04/05/12
Copper	7440-50-8	LA-505-412			17.9		mg/kg	1	0.096	0.96	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412008
SAF# F11-095
Sample ID B2H1M6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412			53.8		mg/kg	1	0.19	1.9	04/05/12
Zinc	7440-66-6	LA-505-412			52.6		mg/kg	1	0.96	9.6	04/05/12
Lead	7439-92-1	LA-505-412			7.29		mg/kg	1	0.048	0.48	04/05/12
Mercury	7439-97-6	LA-505-412	U		<0.048		mg/kg	1	0.048	0.19	04/05/12
Molybdenum	7439-98-7	LA-505-412	B		0.423		mg/kg	1	0.048	0.48	04/05/12
Strontium	7440-24-6	LA-505-412			34.5		mg/kg	1	0.096	0.96	04/05/12
Tin	7440-31-5	LA-505-412			0.539		mg/kg	1	0.048	0.48	04/05/12
Uranium	7440-61-1	LA-505-412			0.544		mg/kg	1	0.048	0.24	04/05/12
Arsenic	7440-38-2	LA-505-412			3.64		mg/kg	1	0.19	1.9	04/05/12
Selenium	7782-49-2	LA-505-412	BN	J-	0.282		mg/kg	0.5	0.24	2.4	04/06/12
Boron	7440-42-8	LA-505-412	B		1.12		mg/kg	1	0.48	4.8	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412009
SAF# F11-095
Sample ID B2H1M7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
~~**Anions by IC**~~											~~**04/02/12**~~
Anions by IC											
Chloride	16887-00-6	LA-533-410	B		5.35		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		12.3		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep											**04/02/12**
~~**Cr(VI)**~~											
~~Hexavalent chromium~~	~~18540-29-9~~	~~LA-265-403~~	~~U~~		~~<0.10~~		~~ug/g~~	~~1~~	~~0.10~~	~~0.51~~	~~04/03/12~~
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	350		mg/kg	1	0.096	0.96	04/05/12
Nickel	7440-02-0	LA-505-412			10.9		mg/kg	1	0.096	0.96	04/05/12
Silver	7440-22-4	LA-505-412	B		0.0519		mg/kg	1	0.048	0.48	04/05/12
Antimony	7440-36-0	LA-505-412	U		<0.29		mg/kg	1	0.29	2.9	04/05/12
Barium	7440-39-3	LA-505-412			77.9		mg/kg	1	0.19	1.9	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.344		mg/kg	1	0.096	0.96	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.106		mg/kg	1	0.048	0.48	04/05/12
Chromium	7440-47-3	LA-505-412			11.0		mg/kg	1	0.096	0.96	04/05/12
Cobalt	7440-48-4	LA-505-412			8.90		mg/kg	1	0.048	0.24	04/05/12
Copper	7440-50-8	LA-505-412			19.0		mg/kg	1	0.096	0.96	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412009
SAF# F11-095
Sample ID B2H1M7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412		52.6		mg/kg	1	0.19	1.9	04/05/12
Zinc	7440-66-6	LA-505-412		52.4		mg/kg	1	0.96	9.6	04/05/12
Lead	7439-92-1	LA-505-412		7.34		mg/kg	1	0.048	0.48	04/05/12
Mercury	7439-97-6	LA-505-412	U	<0.048		mg/kg	1	0.048	0.19	04/05/12
Molybdenum	7439-98-7	LA-505-412	B	0.388		mg/kg	1	0.048	0.48	04/05/12
Strontium	7440-24-6	LA-505-412		36.3		mg/kg	1	0.096	0.96	04/05/12
Tin	7440-31-5	LA-505-412	B	0.479		mg/kg	1	0.048	0.48	04/05/12
Uranium	7440-61-1	LA-505-412		0.831		mg/kg	1	0.048	0.24	04/05/12
Arsenic	7440-38-2	LA-505-412		3.45		mg/kg	1	0.19	1.9	04/05/12
Selenium	7782-49-2	LA-505-412	UN	UJ <0.24		mg/kg	0.5	0.24	2.4	04/06/12
Boron	7440-42-8	LA-505-412	B	1.02		mg/kg	1	0.48	4.8	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412010
SAF# F11-095
Sample ID B2H1M8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC											**04/02/12**
Anions by IC											
Chloride	16887-00-6	LA-533-410	U		<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B		15.7		mg/kg	1	5.7	54	04/02/12
Cr(VI) Prep											**04/02/12**
Cr(VI)											
Hexavalent chromium	18540-29-9	LA-265-403	U		<0.097		ug/g	1	0.097	0.48	04/03/12
ICPMS Prep											**03/27/12**
ICP-MS											
Manganese	7439-96-5	LA-505-412	N	J-	345		mg/kg	1	0.10	1.0	04/05/12
Nickel	7440-02-0	LA-505-412			11.9		mg/kg	1	0.10	1.0	04/05/12
Silver	7440-22-4	LA-505-412	B		0.0541		mg/kg	1	0.050	0.50	04/05/12
Antimony	7440-36-0	LA-505-412	B		0.338		mg/kg	1	0.30	3.0	04/05/12
Barium	7440-39-3	LA-505-412			76.1		mg/kg	1	0.20	2.0	04/05/12
Beryllium	7440-41-7	LA-505-412	B		0.358		mg/kg	1	0.10	1.0	04/05/12
Cadmium	7440-43-9	LA-505-412	B		0.102		mg/kg	1	0.050	0.50	04/05/12
Chromium	7440-47-3	LA-505-412			11.0		mg/kg	1	0.10	1.0	04/05/12
Cobalt	7440-48-4	LA-505-412			9.32		mg/kg	1	0.050	0.25	04/05/12
Copper	7440-50-8	LA-505-412			17.7		mg/kg	1	0.10	1.0	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412010
SAF# F11-095
Sample ID B2H1M8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Vanadium	7440-62-2	LA-505-412			55.6		mg/kg	1	0.20	2.0	04/05/12
Zinc	7440-66-6	LA-505-412			53.1		mg/kg	1	1.0	10	04/05/12
Lead	7439-92-1	LA-505-412			8.48		mg/kg	1	0.050	0.50	04/05/12
Mercury	7439-97-6	LA-505-412	U		<0.050		mg/kg	1	0.050	0.20	04/05/12
Molybdenum	7439-98-7	LA-505-412	B		0.407		mg/kg	1	0.050	0.50	04/05/12
Strontium	7440-24-6	LA-505-412			33.6		mg/kg	1	0.10	1.0	04/05/12
Tin	7440-31-5	LA-505-412			0.554		mg/kg	1	0.050	0.50	04/05/12
Uranium	7440-61-1	LA-505-412			0.507		mg/kg	1	0.050	0.25	04/05/12
Arsenic	7440-38-2	LA-505-412			3.64		mg/kg	1	0.20	2.0	04/05/12
Selenium	7782-49-2	LA-505-412	UN	UJ	<0.25		mg/kg	0.5	0.25	2.5	04/06/12
Boron	7440-42-8	LA-505-412	B		1.11		mg/kg	1	0.50	5.0	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 2
Narrative
WSCF120412

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
WSCF120412

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

- All applicable QC controls are within the established limits.

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):

- Selenium – MS / MSD Relative Percent Difference (RPD) is outside established laboratory limits. The quality control report was flagged for RPD failure.
- Manganese and Selenium – Matrix Spike and/or Matrix Spike Duplicate recoveries are outside established laboratory limits. Affected sample results in this batch were "N" flagged.
- Chromium and Vanadium – 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.

Organic Comments

PCB – 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):

- All applicable QC controls are within the established limits.

Radiochemistry Comments

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

- Gross Alpha / Gross Beta:
  - Batch QC 198116
    - Gross Alpha – The LCS recovery was outside laboratory acceptance limits, but within the 70 – 130% range allowed in the SOW.
    - All other applicable QC controls are within the established limits.

Narrative

Attachment 2
Narrative
WSCF120412

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			F11-095-386	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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)

120412

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool<4C	Cool<4C	Cool<4C	Cool<4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N3	SOIL	MAR 26 2012	0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: Brazeal Tobey	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-386	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION 2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION 183 KF/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH SURFACE	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses~~ are needed. ~~☐☐** If no additional~~ analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management~~.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

ITED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 183.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302518ES10	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, DI=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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N4 2	SOIL	MAR 26 2012	0951	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 26 2012/240	RECEIVED BY/STORED IN Brooal Hibray	DATE/TIME MAR 26 2012/240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
AMPLING LOCATION 83.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plart - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
E CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24-	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

ECIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500-mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

INTED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-~~21~~ -	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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				Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME				1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER				aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)				1	1	1	1	1
VOLUME				250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate)	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N5 3	SOIL	MAR 2 6 2012	0952	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample~~ Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A-6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N6	4 SOIL	MAR 2 6 2012	0954	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012/240	RECEIVED BY/STORED IN: Howard Howard	DATE/TIME: MAR 2 6 2012/240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 7/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373 5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581. ☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: [ ]	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-28	ACTUAL SAMPLE DEPTH: N/A	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N7 5	SOIL	MAR 26 2012	0835	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 2 OF 2
CTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
LING LOCATION KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
IEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH N/A	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
ED TO e Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

AL INSTRUCTIONS

he CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~i60 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are ed, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

CBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
CP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, ium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
ross Alpha {Gross alpha}; Gross Beta {Gross beta};

D ON 2/29/2012 A 6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
SAMPLING LOCATION 183.2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-34	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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, DI=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				Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME				1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER				aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)				1	1	1	1	1
VOLUME				250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N8 6	SOIL	MAR 26 2012	0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 26 2012 1240	RECEIVED BY/STORED IN	DATE/TIME MAR 26 2012 1240
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

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

PRINTED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507- 24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to~~ Sample Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company — **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** — F11-095-378 — PAGE 1 OF 2

COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A

PRICE CODE: 8C
AIR QUALITY: ☐
DATA TURNAROUND: 15 Days / 15 Days
METHOD OF SHIPMENT: GOVERNMENT VEHICLE
ORIGINAL

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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	50mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M5 7	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	DATE/TIME
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	MAR 2 6 2012 1240	RECEIVED BY/STORED IN: K Breazeal	MAR 2 6 2012 1240
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

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

PRINTED ON 2/29/2012 — A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-378	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant Soil		SAF NO. F11-095	AIR QUALITY	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional ~~analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M6 8	SOIL	MAR 2 6 2012	0919	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 2 6 2012 1240	RECEIVED BY/STORED IN Rebecca Hoey	DATE/TIME MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.LJ** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.LJLJ** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A 6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M7 9	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6000-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management~~.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KF West Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-34	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M8 10	SOIL	MAR 26 2012	0923	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
AMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CE CHEST NO.	FIELD LOGBOOK NO. HNF -N-507-	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

PECIAL INSTRUCTIONS

* The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

1) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
2) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
3) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

RINTED ON 2/29/2012

A-6003-618 (REV 2)

Appendix 5

Data Validation Supporting Documentation

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 183 KE/KW			DATA PACKAGE: VSR12-011		
VALIDATOR: Ken Salaz		LAB: WSCF		DATE: 5/11/12	
			SDG: WSCF120412		
ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg	SW-846 Cyanide	EPA 200.8 X	
SAMPLES/MATRIX Soil Samples					
B2H1N3, B2H1N4, B2H1N5, B2H1N6, B2H1N7, B2H1N8, B2H1M5, B2H1M6, B2H1M7, B2H1M8					

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 Sample 72296: Cr 0.187 ug/L; V 0.48 ug/L

EB Sample B2H1N7: Mn 0.392 mg/kg; Ba 0.391 mg/kg; Cr 0.599 mg/kg; Cu 0.129 mg/kg; V 1.01 mg/kg; Pb 0.195 mg/kg; Mo 0.103 mg/kg; Sr 0.241 mg/kg; U 0.0707 mg/kg; As 0.337 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:

MS/MSD Samples 72298/9: Mn MS/MSD %R=68.4/68.50%; Se MS %R=53.1, RPD=33.9

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:_

Field Dup Sample B2H1N8: Ba 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 Scot Fitzgerald
Department Inorganic

Group # WSCF120412

QC Batch 198099 **Test** ICP-2008 MS All possible metal
Associated Samples 120412001, 120412002, 120412003, 120412004, 120412005, 120412006, 120412007, 120412008, 120412009, 120412010

Analyte	CAS #	Original Found	QC Found	Units	% Recov Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #72296**						
Manganese	7439-96-5		<0.10	ug/L				U	04/05/12
Nickel	7440-02-0		<0.10	ug/L				U	04/05/12
Silver	7440-22-4		<0.050	ug/L				U	04/05/12
Antimony	7440-36-0		<0.30	ug/L				U	04/05/12
Barium	7440-39-3		<0.20	ug/L				U	04/05/12
Beryllium	7440-41-7		<0.10	ug/L				U	04/05/12
Cadmium	7440-43-9		<0.050	ug/L				U	04/05/12
Chromium	7440-47-3		0.187	ug/L				B	04/05/12
Cobalt	7440-48-4		<0.050	ug/L				U	04/05/12
Copper	7440-50-8		<0.10	ug/L				U	04/05/12
Vanadium	7440-62-2		0.480	ug/L				B	04/05/12
Zinc	7440-66-6		<1.0	ug/L				U	04/05/12
Lead	7439-92-1		<0.050	ug/L				U	04/05/12
Mercury	7439-97-6		<0.050	ug/L				U	04/05/12
Molybdenum	7439-98-7		<0.050	ug/L				U	04/05/12
Strontium	7440-24-6		<0.10	ug/L				U	04/05/12
Tin	7440-31-5		<0.050	ug/L				U	04/05/12
Uranium	7440-61-1		<0.050	ug/L				U	04/05/12
Arsenic	7440-38-2		<0.20	ug/L				U	04/05/12

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Selenium	7782-49-2		<0.50	ug/L					U	04/06/12
LCS			**QC Sample #72297**							
Manganese	7439-96-5		299	mg/kg	104.5	75 - 121				04/05/12
Nickel	7440-02-0		62.6	mg/kg	105.9	74 - 122				04/05/12
Silver	7440-22-4		41.0	mg/kg	119.1	83 - 127				04/05/12
Antimony	7440-36-0		103	mg/kg	84.1	62 - 205				04/05/12
Barium	7440-39-3		182	mg/kg	108	78 - 118				04/05/12
Beryllium	7440-41-7		72.3	mg/kg	115.9	77 - 120				04/05/12
Cadmium	7440-43-9		68.8	mg/kg	111.4	76 - 129				04/05/12
Chromium	7440-47-3		73.5	mg/kg	103.1	68 - 119				04/05/12
Cobalt	7440-48-4		114	mg/kg	111.1	77 - 122				04/05/12
Copper	7440-50-8		83.0	mg/kg	102.2	67 - 120				04/05/12
Vanadium	7440-62-2		57.8	mg/kg	97.6	67 - 122				04/05/12
Zinc	7440-66-6		146	mg/kg	103.2	73 - 131				04/05/12
Lead	7439-92-1		104	mg/kg	112.9	79 - 124				04/05/12
Mercury	7439-97-6		4.52	mg/kg	120	69 - 124				04/05/12
Molybdenum	7439-98-7		45.8	mg/kg	107.5	80 - 125				04/05/12
Strontium	7440-24-6		72.4	mg/kg	100	78 - 119				04/05/12
Tin	7440-31-5		129	mg/kg	120.3	84 - 130				04/05/12
Uranium	7440-61-1		411	mg/kg	109.1	86 - 113				04/05/12
Arsenic	7440-38-2		105	mg/kg	113	79 - 125				04/05/12
Selenium	7782-49-2		88.6	mg/kg	99	82 - 133				04/06/12
MS			**QC Sample #72298**							
			Original 120412001							

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
Manganese	7439-96-5	370	69.3	mg/kg	68.4	70 - 130			N	04/05/12
Nickel	7440-02-0	10.3	93.3	mg/kg	92.1	70 - 130				04/05/12
Silver	7440-22-4	<0.053	101	mg/kg	99.8	70 - 130				04/05/12
Antimony	7440-36-0	<0.32	88.5	mg/kg	87.4	70 - 130				04/05/12
Barium	7440-39-3	74.1	110	mg/kg	108.4	70 - 130				04/05/12
Beryllium	7440-41-7	0.356	105	mg/kg	103.8	70 - 130				04/05/12
Cadmium	7440-43-9	0.0923	99.8	mg/kg	98.5	70 - 130				04/05/12
Chromium	7440-47-3	7.59	96.0	mg/kg	94.8	70 - 130				04/05/12
Cobalt	7440-48-4	10.7	95.9	mg/kg	94.7	70 - 130				04/05/12
Copper	7440-50-8	17.7	92.7	mg/kg	91.5	70 - 130				04/05/12
Vanadium	7440-62-2	50.2	97.2	mg/kg	96	70 - 130				04/05/12
Zinc	7440-66-6	47.6	94.7	mg/kg	93.5	70 - 130				04/05/12
Lead	7439-92-1	5.64	102	mg/kg	101.1	70 - 130				04/05/12
Mercury	7439-97-6	<0.053	2.27	mg/kg	112	70 - 130				04/05/12
Molybdenum	7439-98-7	0.491	110	mg/kg	108.4	70 - 130				04/05/12
Strontium	7440-24-6	31.8	104	mg/kg	102.3	70 - 130				04/05/12
Tin	7440-31-5	0.591	106	mg/kg	104.3	70 - 130				04/05/12
Uranium	7440-61-1	0.609	106	mg/kg	104.4	70 - 130				04/05/12
Arsenic	7440-38-2	3.23	99.5	mg/kg	98.3	70 - 130				04/05/12
Selenium	7782-49-2	0.293	53.8	mg/kg	53.1	70 - 130			N	04/06/12
MSD			**QC Sample #72299**							
			Original 120412001					**Paired**	**72298**	
Manganese	7439-96-5	370	67.5	mg/kg	68.5	70 - 130	0.20	30	N	04/05/12
Nickel	7440-02-0	10.3	92.6	mg/kg	94	70 - 130	1.00	30		04/05/12
Silver	7440-22-4	<0.053	95.2	mg/kg	96.6	70 - 130	5.90	30		04/05/12

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
Antimony	7440-36-0	<0.32	82.2	mg/kg	83.4	70 - 130	7.40	30			04/05/12
Barium	7440-39-3	74.1	93.7	mg/kg	95	70 - 130	9.30	30			04/05/12
Beryllium	7440-41-7	0.356	101	mg/kg	102.9	70 - 130	2.90	30			04/05/12
Cadmium	7440-43-9	0.0923	95.9	mg/kg	97.3	70 - 130	3.90	30			04/05/12
Chromium	7440-47-3	7.59	91.1	mg/kg	92.5	70 - 130	4.70	30			04/05/12
Cobalt	7440-48-4	10.7	92.4	mg/kg	93.8	70 - 130	2.90	30			04/05/12
Copper	7440-50-8	17.7	89.9	mg/kg	91.2	70 - 130	1.90	30			04/05/12
Vanadium	7440-62-2	50.2	94.2	mg/kg	95.6	70 - 130	2.10	30			04/05/12
Zinc	7440-66-6	47.6	90.0	mg/kg	91.3	70 - 130	3.60	30			04/05/12
Lead	7439-92-1	5.64	97.3	mg/kg	98.7	70 - 130	4.70	30			04/05/12
Mercury	7439-97-6	<0.053	2.19	mg/kg	111	70 - 130	3.60	30			04/05/12
Molybdenum	7439-98-7	0.491	104	mg/kg	105.6	70 - 130	4.70	30			04/05/12
Strontium	7440-24-6	31.8	102	mg/kg	103.6	70 - 130	1.50	30			04/05/12
Tin	7440-31-5	0.591	101	mg/kg	102.6	70 - 130	3.80	30			04/05/12
Uranium	7440-61-1	0.609	101	mg/kg	102.7	70 - 130	3.80	30			04/05/12
Arsenic	7440-38-2	3.23	94.4	mg/kg	95.7	70 - 130	5.60	30			04/05/12
Selenium	7782-49-2	0.293	75.9	mg/kg	77	70 - 130	33.90	30	*	X	04/06/12

Date: 11 May 2012
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: 100-K
Subject: General Chemistry - Sample Data Group (SDG) WSCF120412

INTRODUCTION

This memorandum presents the results of data validation for SDG WSCF120412 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
B2H1N3	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1N4	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1N5	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1N6	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1N7	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1N8	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1M5	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1M6	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1M7	3/26/12	Soil	C	300.0 & 7196 (Cr VI)
B2H1M8	3/26/12	Soil	C	300.0 & 7196 (Cr VI)

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 (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 30 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 the 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.

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) limit is 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 associated results are <5X the reporting limit (RL) with absolute differences <2X the RL, no precision infraction occurred.

MS/MSD Samples

All MS/MSD RPD values were acceptable.

Laboratory Duplicate Samples

All laboratory duplicate results were acceptable with the following exceptions. The duplicate relative percent difference for Cr VI was >30%. However, the parent and/or duplicate results were <5X the RL, and the absolute difference was <2X the RL. Therefore, no sample data should be qualified.

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 with associated non-detected sample results were below the CRDLs.

CRDLs for fluoride, chloride, nitrate-N and nitrite-N were not provided in the SAP.

- **Completeness**

SDG WSCF120412 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

None found.

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: WSCF120412	Reviewer: AQA	Project: 100-K	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
None			

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412001
SAF# F11-095
Sample ID B2H1N3

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	11.0		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.097		ug/g	1	0.097	0.48	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	370		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412		10.3		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U	<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412		74.1		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.356		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.0923		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412		7.59		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412		10.7		mg/kg	1	0.053	0.27	04/05/12
Copper	7440-50-8	LA-505-412		17.7		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412002
SAF# F11-095
Sample ID B2H1N4

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	6.36		mg/kg	1	5.7	55	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.51	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	351		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412		9.80		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U	<0.056		mg/kg	1	0.056	0.56	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.33		mg/kg	1	0.33	3.3	04/05/12
Barium	7440-39-3	LA-505-412		79.1		mg/kg	1	0.22	2.2	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.350		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.0993		mg/kg	1	0.056	0.56	04/05/12
Chromium	7440-47-3	LA-505-412		7.38		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412		9.93		mg/kg	1	0.056	0.28	04/05/12
Copper	7440-50-8	LA-505-412		18.7		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412003
SAF# F11-095
Sample ID B2H1N5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	U	<5.7		mg/kg	1	5.7	54	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.52	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	321		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412		8.68		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U	<0.054		mg/kg	1	0.054	0.54	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.33		mg/kg	1	0.33	3.3	04/05/12
Barium	7440-39-3	LA-505-412		54.8		mg/kg	1	0.22	2.2	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.298		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.0882		mg/kg	1	0.054	0.54	04/05/12
Chromium	7440-47-3	LA-505-412		6.15		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412		9.49		mg/kg	1	0.054	0.27	04/05/12
Copper	7440-50-8	LA-505-412		15.7		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412004
SAF# F11-095
Sample ID B2H1N6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	27.0		mg/kg	1	5.6	54	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.093		ug/g	1	0.093	0.47	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	287		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412		8.37		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U	<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412		54.5		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.256		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.0903		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412		5.52		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412		8.66		mg/kg	1	0.053	0.26	04/05/12
Copper	7440-50-8	LA-505-412		15.5		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412005
SAF# F11-095
Sample ID B2H1N7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<2.9		mg/kg	1	2.9	20	04/02/12
Sulfate	14808-79-8	LA-533-410	U	<5.5		mg/kg	1	5.5	52	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.098		ug/g	1	0.098	0.49	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	BN	0.392		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412	U	<0.11		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U	<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412	B	0.391		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	U	<0.11		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	U	<0.053		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412	BC	0.599		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412	U	<0.053		mg/kg	1	0.053	0.26	04/05/12
Copper	7440-50-8	LA-505-412	B	0.129		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412006
SAF# F11-095
Sample ID B2H1N8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<3.1		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	12.4		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	B	0.122		ug/g	1	0.10	0.51	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	281		mg/kg	1	0.12	1.2	04/05/12
Nickel	7440-02-0	LA-505-412		8.43		mg/kg	1	0.12	1.2	04/05/12
Silver	7440-22-4	LA-505-412	U	<0.059		mg/kg	1	0.059	0.59	04/05/12
Antimony	7440-36-0	LA-505-412	B	0.477		mg/kg	1	0.35	3.5	04/05/12
Barium	7440-39-3	LA-505-412		51.4		mg/kg	1	0.23	2.3	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.317		mg/kg	1	0.12	1.2	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.0751		mg/kg	1	0.059	0.59	04/05/12
Chromium	7440-47-3	LA-505-412		6.54		mg/kg	1	0.12	1.2	04/05/12
Cobalt	7440-48-4	LA-505-412		8.23		mg/kg	1	0.059	0.29	04/05/12
Copper	7440-50-8	LA-505-412		15.6		mg/kg	1	0.12	1.2	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412007
SAF# F11-095
Sample ID B2H1M5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	B	3.99		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	12.2		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.52	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	319		mg/kg	1	0.11	1.1	04/05/12
Nickel	7440-02-0	LA-505-412		9.66		mg/kg	1	0.11	1.1	04/05/12
Silver	7440-22-4	LA-505-412	U	<0.053		mg/kg	1	0.053	0.53	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.32		mg/kg	1	0.32	3.2	04/05/12
Barium	7440-39-3	LA-505-412		62.0		mg/kg	1	0.21	2.1	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.344		mg/kg	1	0.11	1.1	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.0827		mg/kg	1	0.053	0.53	04/05/12
Chromium	7440-47-3	LA-505-412		7.51		mg/kg	1	0.11	1.1	04/05/12
Cobalt	7440-48-4	LA-505-412		9.06		mg/kg	1	0.053	0.27	04/05/12
Copper	7440-50-8	LA-505-412		16.7		mg/kg	1	0.11	1.1	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412008
SAF# F11-095
Sample ID B2H1M6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	6.65		mg/kg	1	5.7	55	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.098		ug/g	1	0.098	0.49	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	389		mg/kg	1	0.096	0.96	04/05/12
Nickel	7440-02-0	LA-505-412		11.8		mg/kg	1	0.096	0.96	04/05/12
Silver	7440-22-4	LA-505-412	B	0.0642		mg/kg	1	0.048	0.48	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	04/05/12
Barium	7440-39-3	LA-505-412		80.8		mg/kg	1	0.19	1.9	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.410		mg/kg	1	0.096	0.96	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.174		mg/kg	1	0.048	0.48	04/05/12
Chromium	7440-47-3	LA-505-412		9.59		mg/kg	1	0.096	0.96	04/05/12
Cobalt	7440-48-4	LA-505-412		10.5		mg/kg	1	0.048	0.24	04/05/12
Copper	7440-50-8	LA-505-412		17.9		mg/kg	1	0.096	0.96	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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 Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412009
SAF# F11-095
Sample ID B2H1M7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	B	5.35		mg/kg	1	3.1	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	12.3		mg/kg	1	5.8	55	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.10		ug/g	1	0.10	0.51	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	350		mg/kg	1	0.096	0.96	04/05/12
Nickel	7440-02-0	LA-505-412		10.9		mg/kg	1	0.096	0.96	04/05/12
Silver	7440-22-4	LA-505-412	B	0.0519		mg/kg	1	0.048	0.48	04/05/12
Antimony	7440-36-0	LA-505-412	U	<0.29		mg/kg	1	0.29	2.9	04/05/12
Barium	7440-39-3	LA-505-412		77.9		mg/kg	1	0.19	1.9	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.344		mg/kg	1	0.096	0.96	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.106		mg/kg	1	0.048	0.48	04/05/12
Chromium	7440-47-3	LA-505-412		11.0		mg/kg	1	0.096	0.96	04/05/12
Cobalt	7440-48-4	LA-505-412		8.90		mg/kg	1	0.048	0.24	04/05/12
Copper	7440-50-8	LA-505-412		19.0		mg/kg	1	0.096	0.96	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

Sample # 120412010
SAF# F11-095
Sample ID B2H1M8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Anions by IC										**04/02/12**
Anions by IC										
Chloride	16887-00-6	LA-533-410	U	<3.0		mg/kg	1	3.0	21	04/02/12
Sulfate	14808-79-8	LA-533-410	B	15.7		mg/kg	1	5.7	54	04/02/12
Cr(VI) Prep										**04/02/12**
Cr(VI)										
Hexavalent chromium	18540-29-9	LA-265-403	U	<0.097		ug/g	1	0.097	0.48	04/03/12
ICPMS Prep										**03/27/12**
ICP-MS										
Manganese	7439-96-5	LA-505-412	N	345		mg/kg	1	0.10	1.0	04/05/12
Nickel	7440-02-0	LA-505-412		11.9		mg/kg	1	0.10	1.0	04/05/12
Silver	7440-22-4	LA-505-412	B	0.0541		mg/kg	1	0.050	0.50	04/05/12
Antimony	7440-36-0	LA-505-412	B	0.338		mg/kg	1	0.30	3.0	04/05/12
Barium	7440-39-3	LA-505-412		76.1		mg/kg	1	0.20	2.0	04/05/12
Beryllium	7440-41-7	LA-505-412	B	0.358		mg/kg	1	0.10	1.0	04/05/12
Cadmium	7440-43-9	LA-505-412	B	0.102		mg/kg	1	0.050	0.50	04/05/12
Chromium	7440-47-3	LA-505-412		11.0		mg/kg	1	0.10	1.0	04/05/12
Cobalt	7440-48-4	LA-505-412		9.32		mg/kg	1	0.050	0.25	04/05/12
Copper	7440-50-8	LA-505-412		17.7		mg/kg	1	0.10	1.0	04/05/12

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

B - Analyte < the PQL(or EQL)but >= the IDL/MDL(Inorganic)
C - Analyte was found in the Associated Blank. (Inorganic)
D - Analyte was reported at a secondary 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)

KS
05/11/12

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 2
Narrative
WSCF120412

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
WSCF120412

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

- All applicable QC controls are within the established limits.

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):

- Selenium – MS / MSD Relative Percent Difference (RPD) is outside established laboratory limits. The quality control report was flagged for RPD failure.
- Manganese and Selenium – Matrix Spike and/or Matrix Spike Duplicate recoveries are outside established laboratory limits. Affected sample results in this batch were "N" flagged.
- Chromium and Vanadium – 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.

Organic Comments

PCB – 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):

- All applicable QC controls are within the established limits.

Radiochemistry Comments

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

- Gross Alpha / Gross Beta:
  - Batch QC 198116
    - Gross Alpha – The LCS recovery was outside laboratory acceptance limits, but within the 70 – 130% range allowed in the SOW.
    - All other applicable QC controls are within the established limits.

Narrative

Attachment 2
Narrative
WSCF120412

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			F11-095-386	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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)

120412

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool<4C	Cool<4C	Cool<4C	Cool<4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO. / MATRIX* / SAMPLE DATE / SAMPLE TIME					
B2H1N3 / SOIL / MAR 26 2012 / 0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: Brazeal Hibrey	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-386	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION 2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH SURFACE	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses~~ are needed. ~~☐☐** If no additional~~ analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management~~.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

ITED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302518ES10	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, DI=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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N4 2	SOIL	MAR 26 2012	0951	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012/240	RECEIVED BY/STORED IN: Brooal Hibray	DATE/TIME: MAR 26 2012/240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
AMPLING LOCATION 83.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plart - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
E CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24-	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

PECIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500-mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

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A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-21-	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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				Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME				1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER				aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)				1	1	1	1	1
VOLUME				250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate)	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME				
B2H1N5	3	SOIL	MAR 2 6 2012	0952	✓	✓	✓	✓ ✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN:	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample~~ Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N6	4 SOIL	MAR 2 6 2012	0954	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012/240	RECEIVED BY/STORED IN: Howard Breazeal	DATE/TIME: MAR 2 6 2012/240
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
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

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

PRINTED ON 7/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373 5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581. ☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: [ ]	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-28	ACTUAL SAMPLE DEPTH: N/A	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N7 5	SOIL	MAR 2 6 2012	0835	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 2 OF 2
CTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
LING LOCATION KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
IEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH N/A	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
ED TO e Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

AL INSTRUCTIONS

he CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~100 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are ed, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

CBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
CP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, ium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
ross Alpha {Gross alpha}; Gross Beta {Gross beta};

D ON 2/29/2012 A 6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
SAMPLING LOCATION 183.2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-34	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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
DI=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			Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME			1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER			aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)			1	1	1	1	1
VOLUME			250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N8 6	SOIL	MAR 2 6 2012	0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 2 6 2012 1240	RECEIVED BY/STORED IN	DATE/TIME MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507- 24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to~~ Sample Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-378	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
			HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
			TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
			NO. OF CONTAINER(S)	1	1	1	1	1
			VOLUME	250mL	120mL	60mL	50mL	120mL
			SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M5 7	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: K Breazeal	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-378	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant Soil		SAF NO. F11-095	AIR QUALITY	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses~~ are needed. ☐☐** If no additional a~~nalyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M6 8	SOIL	MAR 2 6 2012	0919	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 2 6 2012 1240	RECEIVED BY/STORED IN Rebecca Hoey	DATE/TIME MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.LJ** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.LJLJ** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A 6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M7 9	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6000-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	ORIGINAL
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** 500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M8 10	SOIL	MAR 26 2012	0923	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
AMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CE CHEST NO.	FIELD LOGBOOK NO. HNF -N-507- 31	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

PECIAL INSTRUCTIONS

* The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

1) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
2) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
3) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

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A-6003-618 (REV 2)

Appendix 5

Data Validation Supporting Documentation

VALIDATION LEVEL:	A	B	(C)	D	E
PROJECT: 183 KE/KW			DATA PACKAGE: VSR12-011		
VALIDATOR: Ken Salaz		LAB: WSCF		DATE: 5/11/12	
			SDG: WSCF120412		
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		
SAMPLES/MATRIX Soil Samples					
B2H1N3, B2H1N4, B2H1N5, B2H1N6, B2H1N7, B2H1N8, B2H1M5, B2H1M6, B2H1M7, B2H1M8					

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:_ None

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:

Cr VI RPD>30%, parent and duplicate results <5X the RL, differences <2X the RL

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 Scot Fitzgerald
Department Inorganic

Group # WSCF120412

QC Batch 198200 **Test** Anions by Ion Chromatography (Solid)
Associated Samples 120412001, 120412002, 120412003, 120412004, 120412005, 120412006, 120412007, 120412008, 120412009, 120412010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit	RQ	Analyzed
BLANK			**QC Sample #72487**							
Chloride	16887-00-6		<0.058	ug/mL					U	04/02/12
Sulfate	14808-79-8		<0.11	ug/mL					U	04/02/12
LCS			**QC Sample #72489**							
Chloride	16887-00-6		1.90	ug/mL	95.9	90 - 110				04/02/12
Sulfate	14808-79-8		3.77	ug/mL	96.2	90 - 110				04/02/12
MS			**QC Sample #72490**							
			Original 120412005							
Chloride	16887-00-6	<2.9	44.5	mg/kg	89	80 - 120				04/02/12
Sulfate	14808-79-8	<5.5	93.2	mg/kg	94	80 - 120				04/02/12
MSD			**QC Sample #72491**							
			Original 120412005					**Paired**	**72490**	
Chloride	16887-00-6	<2.9	46.1	mg/kg	92.4	80 - 120	3.50	30		04/02/12
Sulfate	14808-79-8	<5.5	92.4	mg/kg	93.6	80 - 120	0.90	30		04/02/12
DUP			**QC Sample #72492**							
			Original 120412005							
Chloride	16887-00-6	<2.9	<2.9	mg/kg			8.50	30	U	04/02/12
Sulfate	14808-79-8	<5.5	<5.4	mg/kg			0.00	30	U	04/02/12

Quality Control Report

Attention Scot Fitzgerald
Department Inorganic

Group # WSCF120412

QC Batch 198297 **Test** Hexavalent chromium
Associated Samples 120412001, 120412002, 120412003, 120412004, 120412005, 120412006, 120412007, 120412008, 120412009, 120412010

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #72550**								
Hexavalent chromium	18540-29-9		<0.092	ug/g						U	04/03/12
LCS			**QC Sample #72551**								
Hexavalent chromium	18540-29-9		3.56	ug/g	96.6	80 - 120					04/03/12
DUP			**QC Sample #72552**								
			Original 120412010								
Hexavalent chromium	18540-29-9	<0.097	<0.093	ug/g			63.60	30	*	UX	04/03/12
MS			**QC Sample #72553**								
			Original 120412010								
Hexavalent chromium	18540-29-9	<0.097	3.40	ug/g	91.6	75 - 125					04/03/12
PSTSPK			**QC Sample #72554**								
Hexavalent chromium	18540-29-9		0.0401	ug/g	80.2	85 - 115					04/03/12
IMS			**QC Sample #72555**								
			Original 120412010								
Hexavalent chromium	18540-29-9	<0.097	359	ug/g	92.6	75 - 125					04/03/12

Date: 11 May 2012
To: CH2M Hill (technical representative)
From: Analytical Quality Associates, Inc.
Project: 100-K
Subject: Radiochemical - Sample Data Group (SDG) WSCF120412

INTRODUCTION

This memorandum presents the results of data validation for SDG WSCF120412 prepared by WSCF 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
B2H1N3	3/26/12	Soil	C	Gross αβ
B2H1N4	3/26/12	Soil	C	Gross αβ
B2H1N5	3/26/12	Soil	C	Gross αβ
B2H1N6	3/26/12	Soil	C	Gross αβ
B2H1N7	3/26/12	Soil	C	Gross αβ
B2H1N8	3/26/12	Soil	C	Gross αβ
B2H1M5	3/26/12	Soil	C	Gross αβ
B2H1M6	3/26/12	Soil	C	Gross αβ
B2H1M7	3/26/12	Soil	C	Gross αβ
B2H1M8	3/26/12	Soil	C	Gross αβ

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 (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 maximum holding time for radiochemical analysis is 180 days. There are no specific preservation requirements for radiochemical 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.

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, laboratory control sample results, and chemical recovery factors. Chemical recovery factors are determined through use of a carrier or tracer and provide assessment of the chemical separation process that is affected by the laboratory procedure, sample matrix, and/or interference. Chemical recovery factors are used to correct sample concentration, uncertainty, and MDC results. The laboratory control sample accuracy limits are specified by the DV procedure.

Matrix Spike (MS) Samples

MS analyses are not required for this method.

Laboratory Control Samples (LCSs)

All LCS recoveries were acceptable with the following exception. For batch 198116, the LCS recovery was < the QC acceptance limit but >30%. The associated sample results were all non-detects and should be qualified as estimates and flagged "UJ."

Carrier/Tracer Recovery Factors

Carrier/tracers are not required for this method.

- **Precision**

Precision is evaluated by reviewing laboratory duplicate, field duplicate, 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) limit is 50%. 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 MDCs the precision limits are ones specified by the DV procedure.

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

All reported sample MDCs with associated non-detected sample results were below the CRDLs.

- **Completeness**

SDG WSCF120412 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

A minor deficiency leading to qualification of Gross alpha sample results as estimates was due to an LCS recovery < the QC acceptance limit. See the table in Appendix 2 for a listing of all affected sample results.

REFERENCES

GRP-GD-002, Rev. 0, Change 0, *Data Validation for Radiochemical 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 and 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 MDC. 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.

- **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

Radiochemical Data Qualification Summary			
SDG: WSCF120412	Reviewer: AQA	Project: 100-K	Page 1 of 1
Analyte(s)	**Qualifier**	**Samples Affected**	**Reason**
Gross α	UJ	B2H1N3, B2H1N4, B2H1N5, B2H1N6, B2H1N7, B2H1N8, B2H1M5	Low LCS recovery

Comments: None

Appendix 3

Annotated Laboratory Reports

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412001
SAF# F11-095
Sample ID B2H1N3

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep											**03/29/12**
Gross Alpha/Beta											
Gross Alpha	12587-46-1	LA-508-415	U	UJ	-0.18	.64	pCi/g	1	1.3		04/04/12
Gross Beta	12587-47-2	LA-508-415			2.2	1.1	pCi/g	1	1.7		04/04/12

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412002
SAF# F11-095
Sample ID B2H1N4

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep											**03/29/12**
Gross Alpha/Beta											
Gross Alpha	12587-46-1	LA-508-415	U	UJ	-0.52	.57	pCi/g	1	1.3		04/04/12
Gross Beta	12587-47-2	LA-508-415			1.9	1	pCi/g	1	1.6		04/04/12

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

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

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412003
SAF# F11-095
Sample ID B2H1N5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep											**03/29/12**
Gross Alpha/Beta											
Gross Alpha	12587-46-1	LA-508-415	U	UJ	-0.21	.57	pCi/g	1	1.2		04/04/12
Gross Beta	12587-47-2	LA-508-415			1.5	.94	pCi/g	1	1.5		04/04/12

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

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

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412004
SAF# F11-095
Sample ID B2H1N6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep											**03/29/12**
Gross Alpha/Beta											
Gross Alpha	12587-46-1	LA-508-415	U	UJ	-0.055	.63	pCi/g	1	1.2		04/04/12
Gross Beta	12587-47-2	LA-508-415			1.7	1	pCi/g	1	1.6		04/04/12

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412005
SAF# F11-095
Sample ID B2H1N7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep											**03/29/12**
Gross Alpha/Beta											
Gross Alpha	12587-46-1	LA-508-415	U	UJ	-0.32	.43	pCi/g	1	0.91		04/04/12
Gross Beta	12587-47-2	LA-508-415	U		0.24	.8	pCi/g	1	1.4		04/04/12

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

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

KS
05/11/12

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412006
SAF# F11-095
Sample ID B2H1N8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep											**03/29/12**
Gross Alpha/Beta											
Gross Alpha	12587-46-1	LA-508-415	U	UJ	0.12	.7	pCi/g	1	1.4		04/04/12
Gross Beta	12587-47-2	LA-508-415	U		1.6	1	pCi/g	1	1.7		04/04/12

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412007
SAF# F11-095
Sample ID B2H1M5

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ		Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep											**03/29/12**
Gross Alpha/Beta											
Gross Alpha	12587-46-1	LA-508-415	U	UJ	0.061	.7	pCi/g	1	1.4		04/04/12
Gross Beta	12587-47-2	LA-508-415			1.8	1	pCi/g	1	1.7		04/04/12

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412008
SAF# F11-095
Sample ID B2H1M6

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**03/29/12**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415		1.0	.65	pCi/g	1	0.94		04/03/12
Gross Beta	12587-47-2	LA-508-415		2.4	1.1	pCi/g	1	1.7		04/03/12

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412009
SAF# F11-095
Sample ID B2H1M7

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**03/29/12**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415	U	0.72	.57	pCi/g	1	0.90		04/03/12
Gross Beta	12587-47-2	LA-508-415		2.9	1.1	pCi/g	1	1.6		04/03/12

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

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

WSCF Analytical Results Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

Sample # 120412010
SAF# F11-095
Sample ID B2H1M8

Matrix SOIL
Sampled 03/26/12
Received 03/26/12

Test Performed	CAS #	Method	RQ	Result	TP Err	Units	DF	MDL	PQL	Analyzed
Alpha/Beta Prep										**03/29/12**
Gross Alpha/Beta										
Gross Alpha	12587-46-1	LA-508-415		1.0	.64	pCi/g	1	0.92		04/03/12
Gross Beta	12587-47-2	LA-508-415		3.2	1.1	pCi/g	1	1.6		04/03/12

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

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

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 2
Narrative
WSCF120412

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
WSCF120412

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

- All applicable QC controls are within the established limits.

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):

- Selenium – MS / MSD Relative Percent Difference (RPD) is outside established laboratory limits. The quality control report was flagged for RPD failure.
- Manganese and Selenium – Matrix Spike and/or Matrix Spike Duplicate recoveries are outside established laboratory limits. Affected sample results in this batch were "N" flagged.
- Chromium and Vanadium – 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.

Organic Comments

PCB – 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):

- All applicable QC controls are within the established limits.

Radiochemistry Comments

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

- Gross Alpha / Gross Beta:
  - Batch QC 198116
    - Gross Alpha – The LCS recovery was outside laboratory acceptance limits, but within the 70 – 130% range allowed in the SOW.
    - All other applicable QC controls are within the established limits.

Narrative

Attachment 2
Narrative
WSCF120412

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			F11-095-386	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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)

120412

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool<4C	Cool<4C	Cool<4C	Cool<4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N3	SOIL	MAR 26 2012	0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: Brazeal Hibrey	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-386	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION 2KE/183.4KE East Stockpile Sample #1	PROJECT DESIGNATION 183 KF/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH SURFACE	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses~~ are needed. ~~☐☐** If no additional~~ analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management~~.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

ITED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302518ES10	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, DI=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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N4 2	SOIL	MAR 26 2012	0951	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012/240	RECEIVED BY/STORED IN: Brooal Hibray	DATE/TIME: MAR 26 2012/240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-387	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
AMPLING LOCATION 83.2KE/183.4KE East Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plart - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
E CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24-	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

ECIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500-mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

INTED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-~~21~~ -	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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				Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME				1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER				aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)				1	1	1	1	1
VOLUME				250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS				SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N5 3	SOIL	MAR 2 6 2012	0952	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-388	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY	
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample~~ Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N6	4 SOIL	MAR 2 6 2012	0954	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012/240	RECEIVED BY/STORED IN: Howard Howard	DATE/TIME: MAR 2 6 2012/240
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
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

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

PRINTED ON 7/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-389	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373 5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE East Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581. ☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ☐☐** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 1 OF 2
COLLECTOR: DJ Sparks, CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: [ ]	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-28	ACTUAL SAMPLE DEPTH: N/A	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N7 5	SOIL	MAR 2 6 2012	0835	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-390	PAGE 2 OF 2
CTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
LING LOCATION KE/183.4KE Stockpile Sample #9	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
IEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH N/A	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
ED TO e Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

AL INSTRUCTIONS

he CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~i60 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are ed, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

CBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
CP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, ium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
ross Alpha {Gross alpha}; Gross Beta {Gross beta};

D ON 2/29/2012 A 6003 618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
SAMPLING LOCATION 183.2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-34	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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
DI=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			Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME			1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER			aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)			1	1	1	1	1
VOLUME			250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1N8 6	SOIL	MAR 26 2012	0949	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 26 2012 1240	RECEIVED BY/STORED IN	DATE/TIME MAR 26 2012 1240
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

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

PRINTED ON 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-391	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE Stockpile Sample #10	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional analyses are ~~ded, the COC will be completed for sample disposal and returned to~~ Sample Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-378	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY:	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
			HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
			TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
			NO. OF CONTAINER(S)	1	1	1	1	1
			VOLUME	250mL	120mL	60mL	50mL	120mL
			SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M5 7	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012 1240	RECEIVED BY/STORED IN: K Breazeal	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

Sample Receipt

Chain of Custody

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-378	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #1	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** If no additional ~~analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 1 OF 2
COLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
SAMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
ICE CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M6 8	SOIL	MAR 2 6 2012	0919	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM DJ Sparks CHPRC	DATE/TIME MAR 2 6 2012 1240	RECEIVED BY/STORED IN Rebecca Hoey	DATE/TIME MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-379	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #2	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	15 Days / 15 Days
CHEST NO.	FIELD LOGBOOK NO. HNF-N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.LJ** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.LJLJ** ~~-500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed.~~ ☐☐** ~~If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012 A 6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-24	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M7 9	SOIL	MAR 2 6 2012	0915	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 2 6 2012	RECEIVED BY/STORED IN: [signature]	DATE/TIME: MAR 2 6 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6000-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-380	PAGE 2 OF 2
LECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
IPLING LOCATION .2KE/183.4KE West Stockpile Sample #3	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	ORIGINAL
CHEST NO.	FIELD LOGBOOK NO. HNF -N-507-24	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
PPED TO ste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

CIAL INSTRUCTIONS

The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** 500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are ded, the COC will be completed for sample disposal and returned to Sample Management.

SAL FEB 29 2012

PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, yllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

TED ON 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 1 OF 2
COLLECTOR: DJ Sparks CHPRC	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days
SAMPLING LOCATION: 183.2KE/183.4KE West Stockpile Sample #4	PROJECT DESIGNATION: 183 KE/KW Water Treatment Plant - Soil		SAF NO.: F11-095	AIR QUALITY: ☐	
ICE CHEST NO.	FIELD LOGBOOK NO.: HNF-N-507-34	ACTUAL SAMPLE DEPTH: Surface	COA: 302548ES10	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	Cool~4C	Cool~4C	Cool~4C	Cool~4C	None
HOLDING TIME	1 yr/1 yr	6 Months	30 Days	28 Days/48 Hours	6 Months
TYPE OF CONTAINER	aG	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1
VOLUME	250mL	120mL	60mL	60mL	120mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	Chromium Hex - 7196;	IC Anions - 300.0 (Chloride, Sulfate);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS

SAMPLE NO.		MATRIX*	SAMPLE DATE	SAMPLE TIME					
B2H1M8	10	SOIL	MAR 26 2012	0923	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM: DJ Sparks CHPRC	DATE/TIME: MAR 26 2012 1240	RECEIVED BY/STORED IN: [illegible]	DATE/TIME: MAR 26 2012 1240	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
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	
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 2/29/2012

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-095-381	PAGE 2 OF 2
OLLECTOR DJ Sparks CHPRC	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8C	DATA TURNAROUND 15 Days / 15 Days
AMPLING LOCATION 183.2KE/183.4KE West Stockpile Sample #4	PROJECT DESIGNATION 183 KE/KW Water Treatment Plant - Soil		SAF NO. F11-095	AIR QUALITY ☐	
CE CHEST NO.	FIELD LOGBOOK NO. HNF -N-507- 31	ACTUAL SAMPLE DEPTH Surface	COA 302548ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
HIPPED TO Waste Sampling & Characterization	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

PECIAL INSTRUCTIONS

* The CACN for all analytical work at WSCF laboratory is 402581.☐** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐☐** ~~he 500 mL poly bottle labeled Special Studies will be archieved at the 100-K Facility until it is determined if any additional analyses are needed. ☐☐** If no additional analyses are eeded, the COC will be completed for sample disposal and returned to Sample Management.~~ SAL FEB 29 2012

1) PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
2) ICP/MS - 200.8 (TAL) {Antimony, Barium, Cadmium, Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium, Zinc}; ICP/MS - 200.8 (Add-on) {Arsenic, eryllium, Boron, Lead, Molybdenum, Selenium, Strontium, Tin, Uranium}; 200.8_HG - ICPMS {Mercury};
3) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

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Appendix 5

Data Validation Supporting Documentation

Appendix B - Radiochemical Data Validation Checklist

RADIOCHEMICAL DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	(C)	D	E
PROJECT: 183 KE/KW			DATA PACKAGE: VSR12-011		
VALIDATOR: Ken Salaz		LAB: WSCF		DATE: 5/11/12	
			SDG: WSCF120412		
ANALYSES PERFORMED					
Gross Alpha/Beta X	Strontium-90	Technetium-99	Alpha Spectroscopy	Gamma Spectroscopy	
Total Uranium	Radium-22	Tritium			
SAMPLES/MATRIX Soil Samples					
B2H1N3, B2H1N4, B2H1N5, B2H1N6, B2H1N7, B2H1N8, B2H1M5, B2H1M6, B2H1M7, B2H1M8					

1. Completeness ..... ☐ N/A

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

Comments: None

2. Initial Calibration (Levels D, E) ..... ☒ N/A

Instruments/detectors calibrated? ..... Yes No N/A

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

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

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

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

Comments:

3. Continuing Calibration (Levels D, E)..... ☒ N/A

Calibration checked within required frequency? ..... Yes No N/A

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

Calibration check standards traceable? ..... Yes No N/A

Calibration check standards expired? ..... Yes No N/A

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

Comments:

4. Background Counts (Levels D, E) ..... ☒ N/A

Background Counts checked within required frequency? ..... Yes No N/A

Background Counts acceptable? ..... Yes No N/A

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

Comments:

5. Blanks (Levels B, C, D, E) ..... ☐ N/A

Method blank analyzed within required frequency? ..... (Yes) No N/A

Method blank results acceptable? ..... (Yes) No N/A

Analytes detected in method blank? ..... Yes (No) N/A

Field blank(s) analyzed? ..... (Yes) No N/A

Field blank results acceptable? ..... (Yes) No N/A

Analytes detected in field blank(s)? ..... Yes (No) N/A

Transcription/Calculation Errors? (Levels D, E) ..... Yes No (N/A)

Comments: None

6. Laboratory Control Samples or Blank Spike Samples (Levels C, D, E) ..... ☐ N/A

LCS /BSS analyzed within required frequency? ..... (Yes) No N/A

LCS/BSS recoveries acceptable? ..... Yes (No) N/A

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

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

LCS/BSS levels correct? (Levels D,E) ..... Yes No (N/A)

Transcription/Calculation Errors? (Levels D, E) ..... Yes No (N/A)

Comments:
Batch 198116 LCS %R=79

7. Chemical Carrier Recovery (Levels C, D, E) ..... ☒ N/A

Chemical carrier added? ..... Yes No N/A

Chemical recovery acceptable? ..... Yes No N/A

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

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

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

Comments:

8. Tracer Recovery (Levels C, D, E) ..... ☒ N/A

Tracer added? ..... Yes No N/A

Tracer recovery acceptable? ..... Yes No N/A

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

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

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

Comments:

9. Matrix Spikes (Levels C, D, E)..... ☒ N/A

Matrix spike analyzed?..... Yes No N/A

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

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

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

Transcription/Calculation Errors? (Levels D, E)..... Yes No N/A

Comments:

10. Duplicates (Levels C, D, E) ..... ☐ N/A

Duplicates Analyzed at required frequency? ..... (Yes) No N/A

RPD Values Acceptable?..... (Yes) No N/A

Transcription/Calculation Errors? (Levels D, E)..... Yes No (N/A)

Comments: None

11. Field QC Samples (Levels C, D E) ..... ☐ N/A

Field duplicate sample(s) analyzed? ..... Yes No N/A

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

Field split sample(s) analyzed? ..... Yes No N/A

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

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

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

Comments: None

12. Holding Times (All levels)

Are sample holding times acceptable? ..... Yes No N/A

Comments: None

13. Results and Detection Limits (All Levels) ..... ☐ N/A

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

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

Results Acceptable? (Levels D, E) ..... Yes No N/A

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

MDA's meet required detection limits? ..... Yes No N/A

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

Comments: None

Appendix 6

Additional Documentation Requested By Client

Batch QC List

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
198116	198143	1	BLANK	72334	BLANK		Gross Alpha/Gross Beta
198116	198143	2	LCS	72335	LCS		Gross Alpha/Gross Beta
198116	198143	3	DUP	72336	B2H1N3(120412001DUP)	120412001	Gross Alpha/Gross Beta
198116	198143	4	SAMPLE	120412001	B2H1N3		Gross Alpha/Gross Beta
198116	198143	5	SAMPLE	120412001	B2H1N3		Gross Alpha/Gross Beta
198116	198143	6	SAMPLE	120412002	B2H1N4		Gross Alpha/Gross Beta
198116	198143	7	SAMPLE	120412002	B2H1N4		Gross Alpha/Gross Beta
198116	198143	8	SAMPLE	120412003	B2H1N5		Gross Alpha/Gross Beta
198116	198143	9	SAMPLE	120412003	B2H1N5		Gross Alpha/Gross Beta
198116	198143	10	SAMPLE	120412004	B2H1N6		Gross Alpha/Gross Beta
198116	198143	11	SAMPLE	120412004	B2H1N6		Gross Alpha/Gross Beta
198116	198143	12	SAMPLE	120412005	B2H1N7		Gross Alpha/Gross Beta
198116	198143	13	SAMPLE	120412005	B2H1N7		Gross Alpha/Gross Beta
198116	198143	14	SAMPLE	120412006	B2H1N8		Gross Alpha/Gross Beta
198116	198143	15	SAMPLE	120412006	B2H1N8		Gross Alpha/Gross Beta
198116	198143	16	SAMPLE	120412007	B2H1M5		Gross Alpha/Gross Beta
198116	198143	17	SAMPLE	120412007	B2H1M5		Gross Alpha/Gross Beta
198117	198142	1	BLANK	72337	BLANK		Gross Alpha/Gross Beta
198117	198142	2	LCS	72338	LCS		Gross Alpha/Gross Beta
198117	198142	3	DUP	72339	B2H1M6(120412008DUP)	120412008	Gross Alpha/Gross Beta
198117	198142	4	SAMPLE	120412008	B2H1M6		Gross Alpha/Gross Beta
198117	198142	5	SAMPLE	120412008	B2H1M6		Gross Alpha/Gross Beta
198117	198142	6	SAMPLE	120412009	B2H1M7		Gross Alpha/Gross Beta

Batch QC List

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

QC Batch	Analytical Batch	S#	Type	Sample #	Client Sample#	Original	Test
198117	198142	7	SAMPLE	120412009	B2H1M7		Gross Alpha/Gross Beta
198117	198142	8	SAMPLE	120412010	B2H1M8		Gross Alpha/Gross Beta
198117	198142	9	SAMPLE	120412010	B2H1M8		Gross Alpha/Gross Beta

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

QC Batch 198116 **Test** Gross Alpha/Gross Beta
Associated Samples 120412001, 120412002, 120412003, 120412004, 120412005, 120412006, 120412007

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #72334**								
Gross Alpha	12587-46-1		-0.17	pCi/g						U	04/04/12
Gross Beta	12587-47-2		-0.052	pCi/g						U	04/04/12
LCS			**QC Sample #72335**								
Gross Alpha	12587-46-1		4.7	pCi/g	78.9	80 - 120				X	04/04/12
Gross Beta	12587-47-2		25	pCi/g	97.1	80 - 120					04/04/12
DUP			**QC Sample #72336**								
			Original 120412001								
Gross Alpha	12587-46-1	-0.18	-0.41	pCi/g			-76.40	30	*	U	04/04/12
Gross Beta	12587-47-2	2.2	1.8	pCi/g			21.10	30			04/04/12

Quality Control Report

Attention Scot Fitzgerald
Department Radiochemistry

Group # WSCF120412

QC Batch 198117
Associated Samples 120412008, 120412009, 120412010

Test Gross Alpha/Gross Beta

Analyte	CAS #	Original Found	QC Found	Units	% Recov	Limits	RPD	RPD Limit		RQ	Analyzed
BLANK			**QC Sample #72337**								
Gross Alpha	12587-46-1		0.13	pCi/g						U	04/03/12
Gross Beta	12587-47-2		0.30	pCi/g						U	04/03/12
LCS			**QC Sample #72338**								
Gross Alpha	12587-46-1		5.4	pCi/g	89.7	80 - 120					04/03/12
Gross Beta	12587-47-2		24	pCi/g	94.4	80 - 120					04/03/12
DUP			**QC Sample #72339**								
			Original 120412008								
Gross Alpha	12587-46-1	1.0	0.33	pCi/g			100.80	30	*	U	04/03/12
Gross Beta	12587-47-2	2.4	2.9	pCi/g			16.00	30			04/03/12