

REVIEW COMMENT RECORD (RCR)				1. Date		2. Review No.		
				04/05/2011				
				3. Project No.		Page 1 of 3		
5. Document Number(s)/Title(s) VSR11-032, Data Validation Report for CHPRC - Project 183 KW, Chemical Validation - Level C		6. Program/Project/Building Number S&GRP Sample Data Groups (SDGs) SL1006, SL1018, W06073, W06065, W06073, H4436, H4443, H4444 and H4456		7. Reviewer DL Klages		8. Organization/Group 100-K Remediation Project		9. Location/Phone 1107-K/100-K 942-3947
17. Comment Submittal Approval		10. Agreement With Indicated Comment Disposition(s)		11. CLOSED				
Date _____ Organization Manager (optional) (print and sign)		Date <u>4/21/11</u> Reviewer/Point of Contact (print and sign) <u>D.L. KLAGES / D.L. Klages</u> Author/Originator (print and sign)		Date <u>4/21/11</u> Reviewer/Point of Contact (print and sign) <u>D.L. KLAGES / D.L. Klages</u> Author/Originator (print and sign)				
12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if NOT accepted)	16. Status		
1	Page 3, in addition to the SAP, add DD-48021, <i>Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas</i>	For our SAP, an EPA approved sampling instruction is required and directs our field work.	Add SI into references and after first SAP call out.	Y	The references typically cited in the DV report are ones actually used for the DV process. SI added per your request.	CLOSED		
2	Page 5, B29D74 is an equipment blank for the metals analyses and is addressed in VSR11-031	The equipment blank requirement was called out in the sampling instruction	Update to address equipment blank in validation report VSR11-031	Y	Field QC samples are typically only assessed in the VSR they are included. A sentence has been added that the equipment blank was included in VSR11-031.	CLOSED		
3	Page 5, a field duplicate was collected.	B29T97 is the field duplicate to B29D66 for these analyses and is addressed in VSR11-031	Update to address field duplicate validation report VSR11-031	Y	Field QC samples are typically only assessed in the VSR they are included. A sentence has been added that the field duplicates were included in VSR11-031.	CLOSED		
4	Page 5, a field split was collected.	B29RL5 is the split for B29D45 in VSR11-031.	Reference other validation report in this report for that split VSR11-031.	Y	These were not identified as field splits in SSR F11-024. Reference added.	CLOSED		
5	Page 49, in addition to the SAP, add DD-48021, <i>Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-</i>	For our SAP, an EPA approved sampling instruction is required and	Add SI into references and after first SAP call out.	Y	The references typically cited in the DV report are ones actually used for the DV	CLOSED		

REVIEW COMMENT RECORD (RCR)

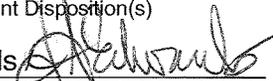
1. Date <p style="text-align: center;">04/05/2011</p>	2. Review No.
3. Project No.	Page 2 of 3

12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if NOT accepted)	16. Status
	<i>KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas</i>	directs our field work.			process. SI added per your request.	
6	Page 50, B29RL4, is the split sample for CrVI that goes with the other analyses for CrVI from VSR11-031	The equipment blank for the CrVI is B29DM9 form VSR11-031	Update to address equipment blank from VSR11-031	Y	Field QC samples are typically only assessed in the VSR they are included. A sentence has been added that the equipment blank was included in VSR11-031.	<i>Closed</i>
7	Page 50, B29RL4, is the split sample for CrVI that goes with the other analyses for CrVI from VSR11-031	B29T97 is the field duplicate to B29D66 for the CrVI analyses and is captured in VSR11-031	Update to address field duplicate from VSR11-031	Y	Field QC samples are typically only assessed in the VSR they are included. A sentence has been added that the field duplicates were included in VSR11-031.	<i>Closed</i>
8	Page 50, B29RL4, is the split sample for CrVI that goes with the other analyses for CrVI from VSR11-031	The split for B29D45 is B29RL4 in SDG W06073, VSR11-032.	Update to address split sample with emphasis that all other CrVI data is evaluated in VSR11-031	Y	These were not identified as field splits in SSR F11-024. Reference added.	<i>Closed</i>
9	Page 74, in addition to the SAP, add DD-48021, <i>Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas</i>	For our SAP, an EPA approved sampling instruction is required and directs our field work.	Add SI into references and after first SAP call out.	Y	The references typically cited in the DV report are ones actually used for the DV process. SI added per your request.	<i>Closed</i>
10	Page 75, B29DN0 is an equipment blank, not trip blank	No trip blanks are required for rad analyses, only volatiles. The equipment blank requirement was called out in the sampling instruction	Switch trip blank language into equipment blank section	Y	Sample B29DN0 is identified as a trip blank in SSR F11-026 that was used for field QC identification. Language changed to equipment blank.	<i>Closed</i>
11	Page 76, a field duplicate was collected.	B29VX1 is the field duplicate to B29DM0 for the Th analyses	Update to address field duplicate	Y	These were not identified as field duplicates in SSR F11-024. DVR updated.	<i>Closed</i>

REVIEW COMMENT RECORD (RCR)			1. Date	04/05/2011		2. Review No.
			3. Project No.	Page 3 of 3		
12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if NOT accepted)	16. Status
12	Page 76, a field split was collected.	The split for B29DJ9 is B29RL4 for the Th analyses.	Update to address split	Y	These were not identified as field splits in SSR F11-024. DVR updated.	<i>CLOSED</i>

REVIEW COMMENT RECORD (RCR)	1. Date 03/16/2011	2. Review No.
	3. Project No.	Page 1 of 2

5. Document Number(s)/Title(s) VSR11-032, Data Validation Report for CHPRC - Project 183 KW, Chemical Validation - Level C	6. Program/Project/Building Number S&GRP Sample Data Groups (SDGs); SL1006, SL1018, W06065, W06073, H4436, H4443, H4444 and H4456	7. Reviewer JA Edwards	8. Organization/Group Environmental Quality Assurance (EQA)	9. Location/Phone 2420 Stevens Rm. 345 376-4324
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17. Comment Submittal Approval Date _____ Organization Manager (optional) (print and sign)	10. Agreement With Indicated Comment Disposition(s) JA Edwards  Reviewer/Point of Contact (print and sign) 04/20/2011 Date Author/Originator (print and sign)	11. CLOSED JA Edwards  Reviewer/Point of Contact (print and sign) 04/20/2011 Date Author/Originator (print and sign)
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12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if NOT accepted)	16. Status
	(Page 6 of 213) REFERENCES DOE/RL-96-22, Rev. 5, 100 Area Remedial Sampling and Analysis Plan, September 2009	Incorrect title	ADD: ' Action ' to the title; 100 Area Remedial Action Sampling and Analysis Plan	Y	Title corrected	Closed
	(Page 63 of 213) 1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE Technical verification documentation present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Technical verification documentation present Sample results?	CHANGE: <input type="checkbox"/> No TO: <input checked="" type="checkbox"/> Yes	Y	For the associated SDG (W06073), there were no CHPRC Issue Resolution Forms present in the data package. This has historically determined whether this worksheet item was set to Yes or No. <u>Checklist not changed.</u> Please provide AQA further guidance if this is incorrect.	Closed No further action, or change needed to DVR
	(Page 181 of 213) Data Validation for Radiochemical Analysis 5. Blanks (Levels B, C, D, E)	Memorandum indicates that there were no field blanks submitted,	CHANGE: <input checked="" type="checkbox"/> Yes TO: <input type="checkbox"/> N/A	Y	The checklist does not distinguish between trip blanks, field blanks and equipment blanks.	Closed

12. Item		13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if NOT accepted)	16. Status
		Field blank results acceptable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No N/A (Page 75 of 213) <u>Field Blanks</u> No field blanks were submitted for validation	therefore the Checklist should be changed from 'Yes' to 'N/A'			Historically, the field blanks item on the checklist has covered all three of these types of blanks. Since there was a trip blank included for validation, the field should be set to Yes. <u>Checklist not changed.</u>	No further action, or change needed to DVR



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Data Validation Report for CH2M Hill Plateau Remediation Company

VSR11-032
Project 183 KW

Chemical & Radiochemical Validation - Level C

Validation Performed By: *Eyda Hergenreder* Date: 3-14-2011
Eyda Hergenreder

Validation Reviewed By: *Carl Schneider* Date: 3-14-2011

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Date: 14 March 2011
 To: CH2M Hill (technical representative)
 From: Analytical Quality Associates, Inc.
 Project: 183 KW
 Subject: Inorganics - Sample Data Groups (SDGs) SL1006 and SL1018

INTRODUCTION

This memorandum presents the results of data validation for SDGs SL1006 and SL1018 prepared by TestAmerica. 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
B29D35	11/18/10	Soil	C	6020 & 7471A
B29RL5	12/07/10	Soil	C	6020 & 7471A

Data validation was conducted in accordance with the CHPRC validation statement of work, the 100 Area Remedial Action Sampling and Analysis Plan, DOE/RL-96-22, Rev. 5/TPA-CN-264 (SAP), and the Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas, DD-48021. 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. Sample preservation was not required for soil samples.

The samples were analyzed within the prescribed holding times.

- **Blanks**

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

Laboratory Blanks

All laboratory blank results were acceptable with the following exceptions.

For SDG SL1006, the Cr laboratory blank result was > the method detection limit (MDL) but < the reporting limit (RL). The Cr result for sample B29D35 was a detect > the RL and >10X the blank value and should not be qualified.

For SDG SL1018, the Hg laboratory blank result was > the MDL but < the RL. The Hg result for sample B29RL5 was a detect > the RL and >10X the blank value 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

Equipment blank B29D74 was included in VSR11-031.

- **Accuracy**

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

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

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

For SDG SL1018, the MS and/or MSD recoveries for Be and Mg were above the upper acceptance limit. The Be and Mg results for sample B29RL5 were detects and should be qualified as estimates and flagged "J+."

Laboratory Control Samples (LCSs)

All LCS recoveries were acceptable.

ICP-AES Interference Check Samples (ICSs)

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

- **Precision**

Precision is evaluated by reviewing MS/MSD results, field duplicate sample results, field split sample results, and ICP serial dilution results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are $\pm 20\%$. The limits for reported analytes not listed in the SAP are specified by the DV procedure.

MS/MSD Samples

All MS/MSD RPD values were acceptable.

Field Duplicate Samples

Field duplicates B29D66 and B29T97 were included in VSR11-031.

Field Split Samples

Sample B29RL5 is a field split to sample B29D45 included in VSR11-031.

ICP Serial Dilution Samples

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

- **ICP-MS Internal Standards**

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

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

- **Detection Limits**

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

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDGs SL1006 and SL1018 were submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

For SDG SL1018, Issue Resolution from 10-290 requested Sn, however Sn was not reported due to method blank contamination.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

Minor deficiencies leading to qualification of Be and Mg results for sample B29RL5 as estimates was due to MS/MSD recovery infractions.

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.

DD-48021, *Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas*

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			
SDGs: SL1006, SL1018	Reviewer: AQA	Project: 183 KW	Page 1 of 1
Analyte(s)	Qualifier	Samples Affected	Reason
Be, Mg	J+	B29RL5	High MS and/or MSD recoveries

Comments: None

Appendix 3

Annotated Laboratory Reports

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B29D35

TOTAL Metals

Lot-Sample #...: F0K300452-001
 Date Sampled...: 11/18/10
 % Moisture.....: 5.4

Date Received...: 11/30/10

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0335058						
Mercury	ND N	0.035	mg/kg	SW846 7471A	12/01/10	MAMRR1AA
		Dilution Factor: 1		MDL.....: 0.0063		
Prep Batch #...: 0335090						
Cadmium	0.070	0.053	mg/kg	SW846 6020	12/01/10	MAMRR1AD
		Dilution Factor: 1		MDL.....: 0.012		
Chromium	4.5	1.1	mg/kg	SW846 6020	12/01/10	MAMRR1AE
		Dilution Factor: 1		MDL.....: 0.32		
Lead	3.1	0.32	mg/kg	SW846 6020	12/01/10	MAMRR1AG
		Dilution Factor: 1		MDL.....: 0.11		
Selenium	2.0	0.53	mg/kg	SW846 6020	12/01/10	MAMRR1AC
		Dilution Factor: 1		MDL.....: 0.17		
Vanadium	74.5	1.1	mg/kg	SW846 6020	12/01/10	MAMRR1AF
		Dilution Factor: 1		MDL.....: 0.78		
Silver	0.038 B	0.21	mg/kg	SW846 6020	12/01/10	MAMRR1A2
		Dilution Factor: 1		MDL.....: 0.0085		
Aluminum	4870 N	5.3	mg/kg	SW846 6020	12/01/10	MAMRR1A3
		Dilution Factor: 1		MDL.....: 1.2		
Arsenic	2.2	1.1	mg/kg	SW846 6020	12/01/10	MAMRR1A4
		Dilution Factor: 1		MDL.....: 0.21		
Barium	58.1	2.1	mg/kg	SW846 6020	12/01/10	MAMRR1A5
		Dilution Factor: 1		MDL.....: 0.060		
Beryllium	0.29	0.11	mg/kg	SW846 6020	12/01/10	MAMRR1A6
		Dilution Factor: 1		MDL.....: 0.015		
Calcium	8600 N	52.9	mg/kg	SW846 6020	12/01/10	MAMRR1A7
		Dilution Factor: 1		MDL.....: 6.2		
Cobalt	11.9	0.21	mg/kg	SW846 6020	12/01/10	MAMRR1A8
		Dilution Factor: 1		MDL.....: 0.045		

(Continued on next page)

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B29D35

TOTAL Metals

Lot-Sample #...: FOK300452-001

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Copper	18.2	1.1	mg/kg	SW846 6020	12/01/10	MAMRR1A9
		Dilution Factor: 1		MDL.....: 0.068		
Iron	33500 N	5.3	mg/kg	SW846 6020	12/01/10	MAMRR1CA
		Dilution Factor: 1		MDL.....: 3.5		
Potassium	704	10.6	mg/kg	SW846 6020	12/01/10	MAMRR1CC
		Dilution Factor: 1		MDL.....: 3.2		
Magnesium	4810	52.9	mg/kg	SW846 6020	12/01/10	MAMRR1CD
		Dilution Factor: 1		MDL.....: 4.0		
Manganese	372	0.53	mg/kg	SW846 6020	12/01/10	MAMRR1CE
		Dilution Factor: 1		MDL.....: 0.078		
Molybdenum	0.51 B	0.53	mg/kg	SW846 6020	12/01/10	MAMRR1CF
		Dilution Factor: 1		MDL.....: 0.081		
Sodium	276	21.1	mg/kg	SW846 6020	12/01/10	MAMRR1CG
		Dilution Factor: 1		MDL.....: 5.3		
Nickel	8.7	0.53	mg/kg	SW846 6020	12/01/10	MAMRR1CH
		Dilution Factor: 1		MDL.....: 0.087		
Antimony	ND	0.53	mg/kg	SW846 6020	12/01/10	MAMRR1CJ
		Dilution Factor: 1		MDL.....: 0.17		
Strontium	26.3	0.53	mg/kg	SW846 6020	12/01/10	MAMRR1CL
		Dilution Factor: 1		MDL.....: 0.22		
Zinc	55.1	5.3	mg/kg	SW846 6020	12/01/10	MAMRR1CN
		Dilution Factor: 1		MDL.....: 1.4		

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B29RL5

TOTAL Metals

Lot-Sample #...: F0L080626-001
 Date Sampled...: 12/07/10
 % Moisture.....: 9.5

Date Received...: 12/08/10

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	0343076					
Cadmium	0.15	0.055	mg/kg	SW846 6020	12/09/10	MA25K1AD
		Dilution Factor: 1		MDL.....: 0.012		
Chromium	7.8	1.1	mg/kg	SW846 6020	12/09/10	MA25K1AE
		Dilution Factor: 1		MDL.....: 0.33		
Lead	6.1	0.33	mg/kg	SW846 6020	12/09/10	MA25K1AG
		Dilution Factor: 1		MDL.....: 0.11		
Selenium	1.0	0.55	mg/kg	SW846 6020	12/09/10	MA25K1AC
		Dilution Factor: 1		MDL.....: 0.17		
Vanadium	70.1	1.1	mg/kg	SW846 6020	12/09/10	MA25K1AF
		Dilution Factor: 1		MDL.....: 0.81		
Silver	0.059 B	0.22	mg/kg	SW846 6020	12/09/10	MA25K1A0
		Dilution Factor: 1		MDL.....: 0.0088		
Aluminum	6780 N	5.5	mg/kg	SW846 6020	12/09/10	MA25K1A1
		Dilution Factor: 1		MDL.....: 1.3		
Arsenic	9.3	1.1	mg/kg	SW846 6020	12/09/10	MA25K1A2
		Dilution Factor: 1		MDL.....: 0.22		
Barium	80.4	2.2	mg/kg	SW846 6020	12/09/10	MA25K1A3
		Dilution Factor: 1		MDL.....: 0.063		
Beryllium	J+ 0.35 N	0.11	mg/kg	SW846 6020	12/09/10	MA25K1A4
		Dilution Factor: 1		MDL.....: 0.015		
Cobalt	10.0	0.22	mg/kg	SW846 6020	12/09/10	MA25K1A6
		Dilution Factor: 1		MDL.....: 0.048		
Copper	22.7	1.1	mg/kg	SW846 6020	12/09/10	MA25K1A7
		Dilution Factor: 1		MDL.....: 0.071		
Iron	27500 N	5.5	mg/kg	SW846 6020	12/09/10	MA25K1A8
		Dilution Factor: 1		MDL.....: 3.6		
Potassium	1020	11.0	mg/kg	SW846 6020	12/09/10	MA25K1A9
		Dilution Factor: 1		MDL.....: 3.3		

(Continued on next page)

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B29RL5

TOTAL Metals

Lot-Sample #...: F0L080626-001

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Magnesium	J+ 4390 N	55.2	mg/kg	SW846 6020	12/09/10	MA25K1CA
		Dilution Factor: 1		MDL.....: 4.2		
Manganese	339	0.55	mg/kg	SW846 6020	12/09/10	MA25K1CC
		Dilution Factor: 1		MDL.....: 0.082		
Molybdenum	0.87	0.55	mg/kg	SW846 6020	12/09/10	MA25K1CD
		Dilution Factor: 1		MDL.....: 0.085		
Sodium	555	22.1	mg/kg	SW846 6020	12/09/10	MA25K1CE
		Dilution Factor: 1		MDL.....: 5.5		
Nickel	9.1	0.55	mg/kg	SW846 6020	12/09/10	MA25K1CF
		Dilution Factor: 1		MDL.....: 0.091		
Antimony	1.9 N	0.55	mg/kg	SW846 6020	12/09/10	MA25K1CG
		Dilution Factor: 1		MDL.....: 0.18		
Strontium	49.3	0.55	mg/kg	SW846 6020	12/09/10	MA25K1CJ
		Dilution Factor: 1		MDL.....: 0.23		
Thallium	0.30	0.22	mg/kg	SW846 6020	12/09/10	MA25K1CK
		Dilution Factor: 1		MDL.....: 0.11		
Zinc	70.3	5.5	mg/kg	SW846 6020	12/09/10	MA25K1CL
		Dilution Factor: 1		MDL.....: 1.5		
Prep Batch #...: 0343272						
Mercury	0.14 N	0.036	mg/kg	SW846 7471A	12/11/10	MA25K1AA
		Dilution Factor: 1		MDL.....: 0.0066		

NOTE(S):

- Results and reporting limits have been adjusted for dry weight.
- B Estimated result. Result is less than RL.
- N Spiked analyte recovery is outside stated control limits.

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

TestAmerica

CASE NARRATIVE - REVISED

THE LEADER IN ENVIRONMENTAL TESTING

CH2MHill Plateau Remediation Company

P.O. Box 1600

MS B3-60

Richland, Washington 99352

December 28, 2010

Attention: Mike Neely

TestAmerica Laboratories, Inc.

SDG	: SL1006
Number of Samples	: sample
Sample Matrix	: Solid
Data Deliverable	: Summary
Date SDG Closed	: November 30, 2010

II. Introduction

On November 30, 2010, one sample was received by TestAmerica - St. Louis for chemical analysis. The sample was received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the sample was given a laboratory Id to correspond with the specific client Id. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

12/22/10: The case narrative and report were revised to address the additional analytes requested.

The following SAFs are associated with this SDG: F11-024

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with a LCS/LCS duplicate.

Deviation from Request: Additional analytes were added to the target list for ICPMS 6020 analysis. Issue Resolution Form 10-291 accepted the proposed resolution to report all possible constituents from the original analysis that passed all QC Criteria

IV. Definitions

QCBLK-	Quality Control Blank, Method Blank
QCLCS-	Quality Control Laboratory Control Sample, Blank Spike
DUP-	Laboratory Duplicate
MS-	Matrix Spike
MSD-	Matrix Spike Duplicate

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company

December 28, 2010

SDG: SL1006

TestAmerica Laboratories, Inc.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** – For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** – For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **J** – For organic analyses, the sample is estimated and less than the RL.
- **C** – For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **D** – For all analyses, the sample result was obtained from the analysis of a dilution.
- **N** – For inorganics and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** – For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.

ICP Metals

Batch: 0335090

Chromium was detected in the method blank at a concentration above the method detection limit but below the reporting limit. Chromium was detected at greater than 10 times the method blank result. No qualifier is required.

Affected Samples:

F0K300452 (1): B29D35

The MS/MSD recovery for Aluminum, Calcium and Iron is outside the established QC limits. The said analyte concentration in the original sample is greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery. The analytes have been qualified accordingly with an "N" flag in the associated sample.

Affected Samples:

F0K300452 (1): B29D35

Mercury

Batch: 0335058

The MS recovery for Mercury is outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery. Mercury has been qualified accordingly with an "N" flag in the associated sample.

Affected Samples:

F0K300452 (1): B29D35



THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company

December 28, 2010

SDG: SL1006

TestAmerica Laboratories, Inc.

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Michael Franks
St. Louis Project Manager

ISSUE RESOLUTION FORM

CHPRC TRACKING NUMBER: 10-291

Date: December 21, 2010 SAF Nos. F11-024

SDG: SL1006 LOGIN No.: **F0K300452** TEST: MetalsSample No.(s) : **B29D35**

Submitted By: Mike Franks

Submitted To: Sara Champoux

Phone No. 314-298-8566

Phone No. 509-373-5290

Fax No. 314-298-8757

Fax No. 509-373-1788

ISSUE

Per the request from Dana Widrig, all reportable constituents from the ICPMS 6020 analysis will be reported in addition to the original target list. The list additional analytes is detailed in the email include with this IRF.

PROPOSED RESOLUTION

- 1) Proceed with reporting the additional analytes and note the request in the case narrative.

CHPRC/BHI/WMH/PNNL COMMENTS

Accept proposed resolution and report the following per Dana Widrig:

Be, Na, Mg, Al, K, Ca, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Sr, Mo, Ag, Cd, Sb, Ba, and Pb

Sara Champoux 12/27/10

Signature and Date

SDG# S11006

5105

CH2M Hill Plateau Remediation Company SL1006		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-024-127	PAGE 1 OF 1
COLLECTOR FM Hall CHPR		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C04 AIR QUALITY <input type="checkbox"/>
SAMPLING LOCATION KW Sed. Basln Sample 39		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	DATA TURNAROUND 3 Days / 12 Days
ICE CHEST NO. 6WS-1A6238		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO TestAmerica St. Louis		OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. 7964 9429 4812	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH9	
		HOLDING TIME	6 Months		
		TYPE OF CONTAINER	G/P		
		NO. OF CONTAINER(S)	1		
		VOLUME	250mL		
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B29D35	SOIL	NOV 18 2010	0935	X	

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN 33041 MOLLOS
RELINQUISHED BY/REMOVED FROM SSLC #1 MD 1109	DATE/TIME 11-29-10	RECEIVED BY/STORED IN FM HALL
RELINQUISHED BY/REMOVED FROM FM HALL	DATE/TIME 11-29-10	RECEIVED BY/STORED IN L.O. WALL
RELINQUISHED BY/REMOVED FROM L.O. WALL	DATE/TIME 11/29/10 1400	RECEIVED BY/STORED IN FEDEX
RELINQUISHED BY/REMOVED FROM Fed Ex	DATE/TIME	RECEIVED BY/STORED IN NICHOLAS OWENS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
 (1) ICP Metals - 6020 (TAL) {Cadmium, Chromium, Vanadium}; ICP Metals - 6020 (Add-on) {Lead, Selenium}; Mercury - 7471 - (CV) {Mercury};



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

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TestAmerica St. Louis
REVISION 1

TestAmerica

CASE NARRATIVE

THE LEADER IN ENVIRONMENTAL TESTING

CH2MHill Plateau Remediation Company

P.O. Box 1600

MS B3-60

Richland, Washington 99352

December 28, 2010

Attention: Mike Neely

TestAmerica Laboratories, Inc.

SDG	: SL1018
Number of Samples	: sample
Sample Matrix	: Solid
Data Deliverable	: Summary
Date SDG Closed	: December 8, 2010

II. Introduction

On December 8, 2010, one sample was received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the sample was given a laboratory Id to correspond with the specific client Id. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

The following SAFs are associated with this SDG: F11-024

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with a LCS/LCS duplicate.

Deviation from Request: Additional analytes were added to the target list for ICPMS 6020 analysis. Issue Resolution Form 10-290 accepted the proposed resolution to report all possible constituents from the original analysis that passed all QC Criteria. The IRF includes Tin as an additional analyte. However, upon further review by the Dept. Manager, Tin cannot be reported from the original analysis due to method blank contamination.

IV. Definitions

QCBLK-	Quality Control Blank, Method Blank
QCLCS-	Quality Control Laboratory Control Sample, Blank Spike
DUP-	Laboratory Duplicate
MS-	Matrix Spike
MSD-	Matrix Spike Duplicate

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company

December 28, 2010

SDG: SL1018

TestAmerica Laboratories, Inc.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** – For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** – For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **J** – For organic analyses, the sample is estimated and less than the RL.
- **C** – For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **D** – For all analyses, the sample result was obtained from the analysis of a dilution.
- **N** – For inorganics and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** – For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.

ICP Metals

Batch: 0343076

335090/0343076 Solid

The MS/MSD recovery for Aluminum and Iron is outside the established QC limits. The said analyte concentration in the original sample is greater than four times the amount spiked, making percent recovery information ineffective. The MS and/or MSD recovery for Beryllium, Magnesium, and Antimony is outside the established QC limits. The RPD is within method acceptance criteria indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recovery. The analytes have been qualified accordingly with an "N" flag in the associated sample.

Affected Samples:

F0L080626 (1): B29RL5

Mercury

Batch: 0343272

Mercury was detected in the method blank at concentrations above the method detection limit but below the reporting limit. Mercury was detected at a concentration 10x higher than the method blank concentration. No Qualifier is needed.

Affected Samples:

F0L080626 (1): B29RL5

The MS recovery for Mercury is outside the established QC limits. The RPD is within method acceptance criteria indicating possible matrix interference. Method performance is demonstrated by acceptable LCS recovery. This analyte has been qualified accordingly with an "N" flag in the associated sample.

Affected Samples:

F0L080626 (1): B29RL5

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CH2M Hill Plateau Remediation Company

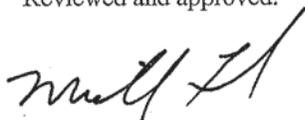
December 28, 2010

SDG: SL1018

TestAmerica Laboratories, Inc.

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:



Michael Franks
St. Louis Project Manager

ISSUE RESOLUTION FORM**CHPRC TRACKING NUMBER: 10-290**

Date: December 21, 2010 SAF Nos. F11-024

SDG: SL1018 LOGIN No.: **F0L080626** TEST: MetalsSample No.(s) : **B29RL5**

Submitted By: Mike Franks

Submitted To: Sara Champoux

Phone No. 314-298-8566

Phone No. 509-373-5290

Fax No. 314-298-8757

Fax No. 509-373-1788

ISSUE

Per the request from Dana Widrig, all reportable constituents from the ICPMS 6020 analysis will be reported in addition to the original target list. The list additional analytes is detailed in the email include with this IRF.

PROPOSED RESOLUTION

- 1) Proceed with reporting the additional analytes and note the request in the case narrative.

CHPRC/BHI/WMH/PNNL COMMENTS

Accept proposed resolution and report the following per Dana Widrig:

Be, Na, Mg, Al, K, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Sr, Mo, Ag, Cd, Sn, Sb, Ba, Tl, and Pb

Sara Champoux 12/27/10

Signature and Date

SDG# SL1018

SL1018
 CH2MHill Plateau Remediation Company
 WRTG CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
 F11-024-156 PAGE 1 OF 1

COLLECTOR F. Hall 8/16/10	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C04	DATA TURNAROUND 3 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 10 SPLIT	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil	SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. 6WS-152	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH N/A	COA 301962ES10-302682	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO TestAmerica St. Louis	OFFSITE PROPERTY NO. SEE PTR 6612.7.10 N/A	BILL OF LADING/AIR BILL NO. SEE PTR 66 12/7/10 7941 8941 7669			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	250ml - 60ml 12/6/10
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD1		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29RL5	SOIL	12/7/10	0745	✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES
RELINQUISHED BY/REMOVED FROM F. Hall	RECEIVED BY/STORED IN B.E. Briggs
DATE/TIME DEC 07 2010 0900	DATE/TIME DEC 07 2010 0900
RELINQUISHED BY/REMOVED FROM B.E. Briggs	RECEIVED BY/STORED IN CHPRC
DATE/TIME DEC 07 2010 1400	DATE/TIME DEC 07 2010 1400
RELINQUISHED BY/REMOVED FROM CHPRC	RECEIVED BY/STORED IN FEDEX SWILSON
DATE/TIME	DATE/TIME 12/8/10 0930
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN
DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN
DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN
DATE/TIME	DATE/TIME

SPECIAL INSTRUCTIONS

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
 (1) ICP Metals - 6020 (TAL) {Cadmium, Chromium, Vanadium}; ICP Metals - 6020 (Add-on) {Lead, Selenium}; Mercury - 7471 - (CV) {Mercury};

ORIGINAL

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

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Appendix 5

Data Validation Supporting Documentation

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 183 KW			DATA PACKAGE: VSR11-032		
VALIDATOR: Eyda Hergenreder		LAB: TestAmerica		DATE: 03-14-2011	
			SDG: SL1006, SL1018		
ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg X		EPA 200.8 X	
SAMPLES/MATRIX Soil samples SDG SL1006: B29D35 SDG SL1018: B29RL5					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

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

Comments: None

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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:

SDG SL1006: Cr 0.34 mg/kg

SDG SL1018: Hg 0.0061 mg/kg

Note: Related equipment blank B29DM9 was submitted for validation in VSR11-031. B29DM9 was not assessed here since it is from a separate VSR.

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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:

SDG SL1018: Be MS %R = 126%; Mg MS/MSD %R = 189%/131%

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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:

Note: Related field duplicates were submitted for validation in VSR11-031. These were not assessed here since they are from a separate VSR.

Note: The field split to sample B29RL5 is sample B29D45 that is located in VSR11-031. Precision not assessed since samples are in separate VSRs.

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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:

SDG SL1018: Sn requested in Issue Resolution Form, but not reported

Appendix 6

Additional Documentation Requested By Client

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: FOK300452

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: FOL010000-058 Prep Batch #...: 0335058						
Mercury	ND	0.033	mg/kg	SW846 7471A	12/01/10	MANK91AA
		Dilution Factor: 1				
MB Lot-Sample #: FOL010000-090 Prep Batch #...: 0335090						
Cadmium	ND	0.050	mg/kg	SW846 6020	12/01/10	MANMQ1AC
		Dilution Factor: 1				
Chromium	0.34 B	1.0	mg/kg	SW846 6020	12/01/10	MANMQ1AD
		Dilution Factor: 1				
Lead	ND	0.30	mg/kg	SW846 6020	12/01/10	MANMQ1AF
		Dilution Factor: 1				
Selenium	ND	0.50	mg/kg	SW846 6020	12/01/10	MANMQ1AA
		Dilution Factor: 1				
Vanadium	ND	1.0	mg/kg	SW846 6020	12/01/10	MANMQ1AE
		Dilution Factor: 1				
Aluminum	ND	5.0	mg/kg	SW846 6020	12/01/10	MANMQ1AN
		Dilution Factor: 1				
Antimony	ND	0.50	mg/kg	SW846 6020	12/01/10	MANMQ1A5
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6020	12/01/10	MANMQ1AP
		Dilution Factor: 1				
Barium	ND	2.0	mg/kg	SW846 6020	12/01/10	MANMQ1AQ
		Dilution Factor: 1				
Beryllium	ND	0.10	mg/kg	SW846 6020	12/01/10	MANMQ1AR
		Dilution Factor: 1				
Calcium	ND	50.0	mg/kg	SW846 6020	12/01/10	MANMQ1AT
		Dilution Factor: 1				
Cobalt	ND	0.20	mg/kg	SW846 6020	12/01/10	MANMQ1AU
		Dilution Factor: 1				
Copper	ND	1.0	mg/kg	SW846 6020	12/01/10	MANMQ1AV
		Dilution Factor: 1				

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #....: F0K300452

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Iron	ND	5.0	mg/kg	SW846 6020	12/01/10	MANMQ1AW
		Dilution Factor: 1				
Magnesium	ND	50.0	mg/kg	SW846 6020	12/01/10	MANMQ1A0
		Dilution Factor: 1				
Manganese	ND	0.50	mg/kg	SW846 6020	12/01/10	MANMQ1A1
		Dilution Factor: 1				
Molybdenum	ND	0.50	mg/kg	SW846 6020	12/01/10	MANMQ1A2
		Dilution Factor: 1				
Nickel	ND	0.50	mg/kg	SW846 6020	12/01/10	MANMQ1A4
		Dilution Factor: 1				
Potassium	ND	10.0	mg/kg	SW846 6020	12/01/10	MANMQ1AX
		Dilution Factor: 1				
Silver	ND	0.20	mg/kg	SW846 6020	12/01/10	MANMQ1AM
		Dilution Factor: 1				
Sodium	ND	20.0	mg/kg	SW846 6020	12/01/10	MANMQ1A3
		Dilution Factor: 1				
Strontium	ND	0.50	mg/kg	SW846 6020	12/01/10	MANMQ1A6
		Dilution Factor: 1				
Zinc	ND	5.0	mg/kg	SW846 6020	12/01/10	MANMQ1A7
		Dilution Factor: 1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #....: F0K300452

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECVRY	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F0L010000-058 Prep Batch #....: 0335058							
Mercury	16.3	14.5	mg/kg	89	SW846 7471A	12/01/10	MANK91AC
					Dilution Factor: 50		
LCS Lot-Sample#: F0L010000-090 Prep Batch #....: 0335090							
Selenium	207	249	mg/kg	120	SW846 6020	12/01/10	MANMQ1AG
					Dilution Factor: 2.5		
Cadmium	110	115	mg/kg	105	SW846 6020	12/01/10	MANMQ1AH
					Dilution Factor: 2.5		
Chromium	93.4	103	mg/kg	111	SW846 6020	12/01/10	MANMQ1AJ
					Dilution Factor: 2.5		
Vanadium	110	116	mg/kg	105	SW846 6020	12/01/10	MANMQ1AK
					Dilution Factor: 2.5		
Lead	152	168	mg/kg	110	SW846 6020	12/01/10	MANMQ1AL
					Dilution Factor: 2.5		
Silver	52.0	56.6	mg/kg	109	SW846 6020	12/01/10	MANMQ1A8
					Dilution Factor: 2.5		
Aluminum	9780	8550	mg/kg	87	SW846 6020	12/01/10	MANMQ1A9
					Dilution Factor: 2.5		
Arsenic	109	126	mg/kg	116	SW846 6020	12/01/10	MANMQ1CA
					Dilution Factor: 2.5		
Barium	325	337	mg/kg	104	SW846 6020	12/01/10	MANMQ1CC
					Dilution Factor: 2.5		
Beryllium	92.0	89.8	mg/kg	98	SW846 6020	12/01/10	MANMQ1CD
					Dilution Factor: 2.5		
Calcium	6700	7320	mg/kg	109	SW846 6020	12/01/10	MANMQ1CE
					Dilution Factor: 2.5		
Cobalt	133	155	mg/kg	117	SW846 6020	12/01/10	MANMQ1CF
					Dilution Factor: 2.5		

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0K300452

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #	
Copper	74.7	87.3	mg/kg	117	SW846 6020	12/01/10	MANMQ1CG	
			Dilution Factor: 2.5					
Iron	13100	15300	mg/kg	117	SW846 6020	12/01/10	MANMQ1CH	
			Dilution Factor: 2.5					
Potassium	2770	2590	mg/kg	94	SW846 6020	12/01/10	MANMQ1CJ	
			Dilution Factor: 2.5					
Magnesium	2980	3110	mg/kg	104	SW846 6020	12/01/10	MANMQ1CK	
			Dilution Factor: 2.5					
Manganese	443	511	mg/kg	115	SW846 6020	12/01/10	MANMQ1CL	
			Dilution Factor: 2.5					
Molybdenum	82.5	82.8	mg/kg	100	SW846 6020	12/01/10	MANMQ1CM	
			Dilution Factor: 2.5					
Sodium	724	717	mg/kg	99	SW846 6020	12/01/10	MANMQ1CN	
			Dilution Factor: 2.5					
Nickel	109	125	mg/kg	115	SW846 6020	12/01/10	MANMQ1CP	
			Dilution Factor: 2.5					
Antimony	121	99.0	mg/kg	82	SW846 6020	12/01/10	MANMQ1CQ	
			Dilution Factor: 2.5					
Strontium	111	118	mg/kg	106	SW846 6020	12/01/10	MANMQ1CR	
			Dilution Factor: 2.5					
Zinc	299	350	mg/kg	117	SW846 6020	12/01/10	MANMQ1CT	
			Dilution Factor: 2.5					

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0K300452
 Date Sampled...: 11/18/10

Date Received...: 11/30/10

Matrix.....: SOLID

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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MS Lot-Sample #: F0K300452-001 Prep Batch #...: 0335058

% Moisture.....: 5.4

Mercury

ND	0.176	0.139	N mg/kg	79			SW846 7471A	12/01/10	MAMRR1AJ
ND	0.176	0.172	mg/kg	98	21		SW846 7471A	12/01/10	MAMRR1AK

Dilution Factor: 1

MS Lot-Sample #: F0K300452-001 Prep Batch #...: 0335090

% Moisture.....: 5.4

Cadmium

0.070	106	108	mg/kg	102			SW846 6020	12/01/10	MAMRR1AN
0.070	106	113	mg/kg	107	5.1		SW846 6020	12/01/10	MAMRR1AP

Dilution Factor: 1

Chromium

4.5	106	104	mg/kg	95			SW846 6020	12/01/10	MAMRR1AQ
4.5	106	107	mg/kg	97	2.1		SW846 6020	12/01/10	MAMRR1AR

Dilution Factor: 1

Lead

3.1	106	116	mg/kg	107			SW846 6020	12/01/10	MAMRR1AV
3.1	106	119	mg/kg	110	2.4		SW846 6020	12/01/10	MAMRR1AW

Dilution Factor: 1

Selenium

2.0	106	109	mg/kg	101			SW846 6020	12/01/10	MAMRR1AL
2.0	106	111	mg/kg	104	2.2		SW846 6020	12/01/10	MAMRR1AM

Dilution Factor: 1

Vanadium

74.5	106	170	mg/kg	90			SW846 6020	12/01/10	MAMRR1AT
74.5	106	176	mg/kg	96	3.2		SW846 6020	12/01/10	MAMRR1AU

Dilution Factor: 1

Aluminum

4870	1060	6850	N mg/kg	187			SW846 6020	12/01/10	MAMRR1CR
4870	1060	6780	N mg/kg	181	1.0		SW846 6020	12/01/10	MAMRR1CT

Dilution Factor: 1

Antimony

ND	52.9	40.0	mg/kg	76			SW846 6020	12/01/10	MAMRR1DP
ND	52.9	43.2	mg/kg	82	7.5		SW846 6020	12/01/10	MAMRR1DQ

Dilution Factor: 1

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: FOK300452

Matrix.....: SOLID

Date Sampled...: 11/18/10

Date Received...: 11/30/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Arsenic									
	2.2	106	105	mg/kg	97		SW846 6020	12/01/10	MAMRR1CU
	2.2	106	106	mg/kg	99	1.6	SW846 6020	12/01/10	MAMRR1CV
			Dilution Factor: 1						
Barium									
	58.1	106	171	mg/kg	106		SW846 6020	12/01/10	MAMRR1CW
	58.1	106	172	mg/kg	108	0.69	SW846 6020	12/01/10	MAMRR1CX
			Dilution Factor: 1						
Beryllium									
	0.29	106	112	mg/kg	106		SW846 6020	12/01/10	MAMRR1C0
	0.29	106	121	mg/kg	114	7.3	SW846 6020	12/01/10	MAMRR1C1
			Dilution Factor: 1						
Calcium									
	8600	1060	9970 N	mg/kg	130		SW846 6020	12/01/10	MAMRR1C2
	8600	1060	9130 N	mg/kg	50	8.8	SW846 6020	12/01/10	MAMRR1C3
			Dilution Factor: 1						
Cobalt									
	11.9	106	118	mg/kg	101		SW846 6020	12/01/10	MAMRR1C4
	11.9	106	118	mg/kg	100	0.56	SW846 6020	12/01/10	MAMRR1C5
			Dilution Factor: 1						
Copper									
	18.2	106	125	mg/kg	101		SW846 6020	12/01/10	MAMRR1C6
	18.2	106	125	mg/kg	101	0.01	SW846 6020	12/01/10	MAMRR1C7
			Dilution Factor: 1						
Iron									
	33500	1060	33100 N	mg/kg	0.0		SW846 6020	12/01/10	MAMRR1C8
	33500	1060	33000 N	mg/kg	0.0	0.0	SW846 6020	12/01/10	MAMRR1C9
			Dilution Factor: 1						
Magnesium									
	4810	1060	5980	mg/kg	110		SW846 6020	12/01/10	MAMRR1DD
	4810	1060	5980	mg/kg	110	0.03	SW846 6020	12/01/10	MAMRR1DE
			Dilution Factor: 1						
Manganese									
	372	106	499	mg/kg	121		SW846 6020	12/01/10	MAMRR1DF
	372	106	472	mg/kg	95	5.5	SW846 6020	12/01/10	MAMRR1DG
			Dilution Factor: 1						

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0K300452

Matrix.....: SOLID

Date Sampled...: 11/18/10

Date Received...: 11/30/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Molybdenum									
	0.51	106	106	mg/kg	100		SW846 6020	12/01/10	MAMRR1DH
	0.51	106	106	mg/kg	100	0.18	SW846 6020	12/01/10	MAMRR1DJ
	Dilution Factor: 1								
Nickel									
	8.7	106	117	mg/kg	102		SW846 6020	12/01/10	MAMRR1DM
	8.7	106	116	mg/kg	102	0.40	SW846 6020	12/01/10	MAMRR1DN
	Dilution Factor: 1								
Potassium									
	704	1060	1750	mg/kg	98		SW846 6020	12/01/10	MAMRR1DA
	704	1060	1800	mg/kg	103	2.9	SW846 6020	12/01/10	MAMRR1DC
	Dilution Factor: 1								
Silver									
	0.038	10.6	10.2	mg/kg	96		SW846 6020	12/01/10	MAMRR1CP
	0.038	10.6	10.6	mg/kg	100	3.8	SW846 6020	12/01/10	MAMRR1CQ
	Dilution Factor: 1								
Sodium									
	276	1060	1370	mg/kg	104		SW846 6020	12/01/10	MAMRR1DK
	276	1060	1430	mg/kg	110	4.2	SW846 6020	12/01/10	MAMRR1DL
	Dilution Factor: 1								
Strontium									
	26.3	106	137	mg/kg	104		SW846 6020	12/01/10	MAMRR1DR
	26.3	106	133	mg/kg	101	3.0	SW846 6020	12/01/10	MAMRR1DT
	Dilution Factor: 1								
Zinc									
	55.1	106	158	mg/kg	98		SW846 6020	12/01/10	MAMRR1DU
	55.1	106	160	mg/kg	99	1.2	SW846 6020	12/01/10	MAMRR1DV
	Dilution Factor: 1								

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0L080626

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0L090000-076 Prep Batch #...: 0343076						
Cadmium	ND	0.050	mg/kg	SW846 6020	12/09/10	MA3HW1AC
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6020	12/09/10	MA3HW1AD
		Dilution Factor: 1				
Lead	ND	0.30	mg/kg	SW846 6020	12/09/10	MA3HW1AF
		Dilution Factor: 1				
Selenium	ND	0.50	mg/kg	SW846 6020	12/09/10	MA3HW1AA
		Dilution Factor: 1				
Vanadium	ND	1.0	mg/kg	SW846 6020	12/09/10	MA3HW1AE
		Dilution Factor: 1				
Aluminum	ND	5.0	mg/kg	SW846 6020	12/09/10	MA3HW1AN
		Dilution Factor: 1				
Antimony	ND	0.50	mg/kg	SW846 6020	12/09/10	MA3HW1A4
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6020	12/09/10	MA3HW1AP
		Dilution Factor: 1				
Barium	ND	2.0	mg/kg	SW846 6020	12/09/10	MA3HW1AQ
		Dilution Factor: 1				
Beryllium	ND	0.10	mg/kg	SW846 6020	12/09/10	MA3HW1AR
		Dilution Factor: 1				
Cobalt	ND	0.20	mg/kg	SW846 6020	12/09/10	MA3HW1AT
		Dilution Factor: 1				
Copper	ND	1.0	mg/kg	SW846 6020	12/09/10	MA3HW1AU
		Dilution Factor: 1				
Iron	ND	5.0	mg/kg	SW846 6020	12/09/10	MA3HW1AV
		Dilution Factor: 1				
Magnesium	ND	50.0	mg/kg	SW846 6020	12/09/10	MA3HW1AX
		Dilution Factor: 1				
Manganese	ND	0.50	mg/kg	SW846 6020	12/09/10	MA3HW1A0
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0L080626

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Molybdenum	ND	0.50	mg/kg	SW846 6020	12/09/10	MA3HW1A1
		Dilution Factor: 1				
Nickel	ND	0.50	mg/kg	SW846 6020	12/09/10	MA3HW1A3
		Dilution Factor: 1				
Potassium	ND	10.0	mg/kg	SW846 6020	12/09/10	MA3HW1AW
		Dilution Factor: 1				
Silver	ND	0.20	mg/kg	SW846 6020	12/09/10	MA3HW1AM
		Dilution Factor: 1				
Sodium	ND	20.0	mg/kg	SW846 6020	12/09/10	MA3HW1A2
		Dilution Factor: 1				
Strontium	ND	0.50	mg/kg	SW846 6020	12/09/10	MA3HW1A6
		Dilution Factor: 1				
Thallium	ND	0.20	mg/kg	SW846 6020	12/09/10	MA3HW1A7
		Dilution Factor: 1				
Zinc	ND	5.0	mg/kg	SW846 6020	12/09/10	MA3HW1A8
		Dilution Factor: 1				

MB Lot-Sample #: F0L090000-272 Prep Batch #...: 0343272

Mercury	0.0061 B	0.033	mg/kg	SW846 7471A	12/11/10	MA5V41AA
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0L080626

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F0L090000-076 Prep Batch #...: 0343076							
Selenium	207	203	mg/kg	98	SW846 6020	12/09/10	MA3HW1AG
			Dilution Factor: 2.5				
Cadmium	110	105	mg/kg	95	SW846 6020	12/09/10	MA3HW1AH
			Dilution Factor: 2.5				
Chromium	93.4	89.3	mg/kg	96	SW846 6020	12/09/10	MA3HW1AJ
			Dilution Factor: 2.5				
Vanadium	110	103	mg/kg	94	SW846 6020	12/09/10	MA3HW1AK
			Dilution Factor: 2.5				
Lead	152	145	mg/kg	96	SW846 6020	12/09/10	MA3HW1AL
			Dilution Factor: 2.5				
Silver	52.0	52.2	mg/kg	100	SW846 6020	12/09/10	MA3HW1A9
			Dilution Factor: 2.5				
Aluminum	9780	7430	mg/kg	76	SW846 6020	12/09/10	MA3HW1CA
			Dilution Factor: 2.5				
Arsenic	109	111	mg/kg	102	SW846 6020	12/09/10	MA3HW1CC
			Dilution Factor: 2.5				
Barium	325	322	mg/kg	99	SW846 6020	12/09/10	MA3HW1CD
			Dilution Factor: 2.5				
Beryllium	92.0	92.6	mg/kg	101	SW846 6020	12/09/10	MA3HW1CE
			Dilution Factor: 2.5				
Cobalt	133	132	mg/kg	99	SW846 6020	12/09/10	MA3HW1CF
			Dilution Factor: 2.5				
Copper	74.7	73.1	mg/kg	98	SW846 6020	12/09/10	MA3HW1CG
			Dilution Factor: 2.5				
Iron	13100	13200	mg/kg	101	SW846 6020	12/09/10	MA3HW1CH
			Dilution Factor: 2.5				
Potassium	2770	2410	mg/kg	87	SW846 6020	12/09/10	MA3HW1CJ
			Dilution Factor: 2.5				

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0L080626

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #	
Magnesium	2980	2770	mg/kg	93	SW846 6020	12/09/10	MA3HW1CK	
			Dilution Factor: 2.5					
Manganese	443	423	mg/kg	96	SW846 6020	12/09/10	MA3HW1CL	
			Dilution Factor: 2.5					
Molybdenum	82.5	76.5	mg/kg	93	SW846 6020	12/09/10	MA3HW1CM	
			Dilution Factor: 2.5					
Sodium	724	642	mg/kg	89	SW846 6020	12/09/10	MA3HW1CN	
			Dilution Factor: 2.5					
Nickel	109	105	mg/kg	96	SW846 6020	12/09/10	MA3HW1CP	
			Dilution Factor: 2.5					
Antimony	121	103	mg/kg	85	SW846 6020	12/09/10	MA3HW1CQ	
			Dilution Factor: 2.5					
Strontium	111	108	mg/kg	97	SW846 6020	12/09/10	MA3HW1CT	
			Dilution Factor: 2.5					
Thallium	171	172	mg/kg	100	SW846 6020	12/09/10	MA3HW1CU	
			Dilution Factor: 2.5					
Zinc	299	294	mg/kg	98	SW846 6020	12/09/10	MA3HW1CV	
			Dilution Factor: 2.5					
LCS Lot-Sample#: F0L090000-272 Prep Batch #...: 0343272								
Mercury	16.3	13.4	mg/kg	82	SW846 7471A	12/11/10	MA5V41AC	
			Dilution Factor: 50					

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0L080626

Matrix.....: SOLID

Date Sampled...: 12/07/10

Date Received...: 12/08/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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MS Lot-Sample #: F0L080626-001 Prep Batch #...: 0343076

% Moisture.....: 9.5

Cadmium

0.15	110	117	mg/kg	106			SW846 6020	12/09/10	MA25K1AP
0.15	110	114	mg/kg	103	2.1		SW846 6020	12/09/10	MA25K1AQ

Dilution Factor: 1

Chromium

7.8	110	119	mg/kg	101			SW846 6020	12/09/10	MA25K1AR
7.8	110	113	mg/kg	95	5.4		SW846 6020	12/09/10	MA25K1AT

Dilution Factor: 1

Lead

6.1	110	134	mg/kg	116			SW846 6020	12/09/10	MA25K1AW
6.1	110	127	mg/kg	110	5.4		SW846 6020	12/09/10	MA25K1AX

Dilution Factor: 1

Selenium

1.0	110	96.9	mg/kg	87			SW846 6020	12/09/10	MA25K1AM
1.0	110	98.6	mg/kg	88	1.8		SW846 6020	12/09/10	MA25K1AN

Dilution Factor: 1

Vanadium

70.1	110	175	mg/kg	95			SW846 6020	12/09/10	MA25K1AU
70.1	110	175	mg/kg	95	0.43		SW846 6020	12/09/10	MA25K1AV

Dilution Factor: 1

Aluminum

6780	1100	9750 N	mg/kg	269			SW846 6020	12/09/10	MA25K1CP
6780	1100	8680 N	mg/kg	172	12		SW846 6020	12/09/10	MA25K1CQ

Dilution Factor: 1

Antimony

1.9	55.2	43.3	mg/kg	75			SW846 6020	12/09/10	MA25K1DK
1.9	55.2	42.0 N	mg/kg	72	3.1		SW846 6020	12/09/10	MA25K1DL

Dilution Factor: 1

Arsenic

9.3	110	120	mg/kg	100			SW846 6020	12/09/10	MA25K1CR
9.3	110	114	mg/kg	95	4.5		SW846 6020	12/09/10	MA25K1CT

Dilution Factor: 1

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #....: F0L080626

Matrix.....: SOLID

Date Sampled...: 12/07/10

Date Received...: 12/08/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Barium									
	80.4	110	218	mg/kg	125		SW846 6020	12/09/10	MA25K1CU
	80.4	110	211	mg/kg	118	3.2	SW846 6020	12/09/10	MA25K1CV
Dilution Factor: 1									
Beryllium									
	0.35	110	139 N	mg/kg	126		SW846 6020	12/09/10	MA25K1CW
	0.35	110	138	mg/kg	125	0.85	SW846 6020	12/09/10	MA25K1CX
Dilution Factor: 1									
Cobalt									
	10.0	110	120	mg/kg	100		SW846 6020	12/09/10	MA25K1C0
	10.0	110	115	mg/kg	95	4.2	SW846 6020	12/09/10	MA25K1C1
Dilution Factor: 1									
Copper									
	22.7	110	132	mg/kg	99		SW846 6020	12/09/10	MA25K1C2
	22.7	110	128	mg/kg	95	3.2	SW846 6020	12/09/10	MA25K1C3
Dilution Factor: 1									
Iron									
	27500	1100	30400 N	mg/kg	264		SW846 6020	12/09/10	MA25K1C4
	27500	1100	29600 N	mg/kg	191	2.7	SW846 6020	12/09/10	MA25K1C5
Dilution Factor: 1									
Magnesium									
	4390	1100	6480 N	mg/kg	189		SW846 6020	12/09/10	MA25K1C8
	4390	1100	5830 N	mg/kg	131	11	SW846 6020	12/09/10	MA25K1C9
Dilution Factor: 1									
Manganese									
	339	110	476	mg/kg	125		SW846 6020	12/09/10	MA25K1DA
	339	110	462	mg/kg	111	3.2	SW846 6020	12/09/10	MA25K1DC
Dilution Factor: 1									
Molybdenum									
	0.87	110	124	mg/kg	112		SW846 6020	12/09/10	MA25K1DD
	0.87	110	118	mg/kg	106	4.7	SW846 6020	12/09/10	MA25K1DE
Dilution Factor: 1									
Nickel									
	9.1	110	123	mg/kg	103		SW846 6020	12/09/10	MA25K1DH
	9.1	110	113	mg/kg	94	8.0	SW846 6020	12/09/10	MA25K1DJ
Dilution Factor: 1									

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F0L080626

Matrix.....: SOLID

Date Sampled...: 12/07/10

Date Received...: 12/08/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCENT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Potassium									
	1020	1100	2200	mg/kg	106		SW846 6020	12/09/10	MA25K1C6
	1020	1100	2090	mg/kg	96	5.2	SW846 6020	12/09/10	MA25K1C7
	Dilution Factor: 1								
Silver									
	0.059	11.0	11.5	mg/kg	104		SW846 6020	12/09/10	MA25K1CM
	0.059	11.0	11.3	mg/kg	102	1.7	SW846 6020	12/09/10	MA25K1CN
	Dilution Factor: 1								
Sodium									
	555	1100	1740	mg/kg	107		SW846 6020	12/09/10	MA25K1DF
	555	1100	1650	mg/kg	99	4.9	SW846 6020	12/09/10	MA25K1DG
	Dilution Factor: 1								
Strontium									
	49.3	110	180	mg/kg	118		SW846 6020	12/09/10	MA25K1DP
	49.3	110	169	mg/kg	108	6.3	SW846 6020	12/09/10	MA25K1DQ
	Dilution Factor: 1								
Thallium									
	0.30	110	117	mg/kg	106		SW846 6020	12/09/10	MA25K1DR
	0.30	110	113	mg/kg	102	3.3	SW846 6020	12/09/10	MA25K1DT
	Dilution Factor: 1								
Zinc									
	70.3	110	180	mg/kg	99		SW846 6020	12/09/10	MA25K1DU
	70.3	110	182	mg/kg	102	1.5	SW846 6020	12/09/10	MA25K1DV
	Dilution Factor: 1								

MS Lot-Sample #: F0L080626-001 Prep Batch #...: 0343272

% Moisture.....: 9.5

Mercury									
	0.14	0.184	0.364	N mg/kg	122		SW846 7471A	12/11/10	MA25K1AK
	0.14	0.184	0.348	mg/kg	113	4.4	SW846 7471A	12/11/10	MA25K1AL
	Dilution Factor: 1								

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

Date: 14 March 2011
 To: CH2M Hill (technical representative)
 From: Analytical Quality Associates, Inc.
 Project: 183 KW
 Subject: General Chemistry - Sample Data Group (SDG) W06073

INTRODUCTION

This memorandum presents the results of data validation for SDG W06073 prepared by TestAmerica. 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
B29RL4	12/20/10	Soil	C	7196A (Cr VI)

Data validation was conducted in accordance with the CHPRC validation statement of work, the 100 Area Remedial Action Sampling and Analysis Plan, DOE/RL-96-22, Rev. 5/TPA-CN-264 (SAP), and the Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas, DD-48021. 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 chromium(VI) is analysis within 30 days of sample collection. Sample preservation requires chilling to 4 degrees Celsius.

The sample was analyzed within the prescribed holding time 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

The laboratory blank result was acceptable.

Trip Blanks

No trip blanks were submitted for validation.

Field Blanks

No field blanks were submitted for validation.

Equipment Blanks

Equipment blank B29DM9 was included in VSR11-031.

- **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.

Matrix Spike (MS) Samples

The MS recovery was acceptable.

Laboratory Control Sample (LCS)

The LCS recovery was acceptable.

- **Precision**

Precision is evaluated by reviewing laboratory duplicate sample results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are $\pm 30\%$. When duplicate RPDs exceed the limits and have associated results $< 5X$ the reporting limits with difference $< 2X$ the reporting limits no precision infraction occurred.

Laboratory Duplicate Samples

The laboratory duplicate result was acceptable.

Field Duplicate Samples

Field duplicates B29D66 and B29T97 were included in VSR11-031.

Field Split Samples

Sample B29RL4 is a field split to sample B29D45 included in VSR11-031.

- **Detection Limits**

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

The sample MDL was below the CRDL.

- **Completeness**

SDG W06073 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.

DD-48021, *Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas*

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: W06073	Reviewer: AQA	Project: 183 KW	Page 1 of 1
Analyte(s)	Qualifier	Samples Affected	Reason
Cr(VI)	None	N/A	N/A

Comments: None

Appendix 3

Annotated Laboratory Reports

FORM I

Date: 28-Dec-10

SAMPLE RESULTS

Lab Name: TestAmerica

SDG: W06073

Collection Date: 12/7/2010 7:43:00 AM

Lot-Sample No.: J0L070522-1

Report No.: 45391

Received Date: 12/7/2010 11:30:00 AM

Client Sample ID: B29RL4

COC No.: F11-024-155

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0341310 7196_CR6 Work Order: MA05C1AA Report DB ID: 9MA05C10												
HEXCHROME	7.76E-01			0.0E+00	1.54E-01	mg/kg	N/A	(5.)	12/7/10 02:25 p		2.5191	
							1.55E-01	N/A			g	
Batch: 0354388 THISO_IE_PRECIP_AEA Work Order: MA05C2AC Report DB ID: 9MA05C20												
TH-228	8.16E-01		1.6E-01	2.0E-01	3.79E-02	pCi/g	58%	(21.5)	12/22/10 08:35 p		1.95	ALP21
							8.24E-03	1.00E+00			g	
TH-230	6.78E-01		1.5E-01	1.8E-01	3.74E-02	pCi/g	58%	(18.2)	12/22/10 08:35 p		1.95	ALP21
							8.11E-03	1.00E+00			g	
TH-232	8.34E-01		1.6E-01	2.0E-01	3.74E-02	pCi/g	58%	(22.3)	12/22/10 08:35 p		1.95	ALP21
							8.11E-03	1.00E+00			g	

No. of Results: 4 Comments:

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation



Certificate of Analysis

TestAmerica Laboratories, Inc.

CH2M Hill Plateau Remediation Company
 P.O. Box 1600
 Mail Stop – R3-60
 Richland, WA 99352

December 28, 2010

Attention: Mike Neely

SAF Number	:	F11-024
Date SDG Closed	:	December 7, 2010
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	W06073
Data Deliverable	:	15/15 Day

CASE NARRATIVE

I. Introduction

On December 7, 2010 one sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned to lot J0L070522 and assigned the following laboratory ID number to correspond with the CH2M specific ID:

<u>CH2M ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B29RL4	MA05C	SOIL	12/7/10

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

CH2M Hill Plateau Remediation Company
December 28, 2010

The requested analyses were:

Alpha Spectroscopy

Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084)

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

*SOP ID's changed effective 7-01-2008. Attached is a cross reference until SOP ID's are changed in all systems.

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084):

The analytical batch was reanalyzed due to low tracer yields. There was insufficient volume to process a duplicate sample in the rerun. Except as noted, the LCS, batch blank and sample results are within contractual requirements.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B29RL4), sample matrix spike (B29RL4), and matrix spike duplicate (B29RL4) results are within contractual requirements.

I certify that this Certificate of Analysis 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 hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:


Sandra Seger
Project Manager

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F11-024-155	PAGE 1 OF 1
COLLECTOR F. Hall		COMPANY CONTACT WIDRIG, DL		TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01 AIR QUALITY <input type="checkbox"/>
SAMPLING LOCATION KW Sed. Basin Sample 10 SPLIT		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil			SAF NO. F11-024		
ICE CHEST NO. 6WS-237		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH N/A		COA 94 12/6/10 301962ES10-302682	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO TestAmerica Incorporated, Richland		OFFSITE PROPERTY NO. N/A			BILL OF LADING/AIR BILL NO. N/A		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)		PRESERVATION Cool~4C None		<p>AB 12.07.10</p> <p>SDGT W099</p> <p>JOL070522</p> <p>SDGTW06073</p> <p>DUE - 12/22/10</p> <p>FLH</p> 		
			HOLDING TIME 30 Days 6 Months				
			TYPE OF CONTAINER G/P G/P				
			NO. OF CONTAINER(S) 1 1				
			VOLUME 60mL 120mL 94 60mL 12/6/10				
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD1		SAMPLE ANALYSIS Chromium Hex - 7196; Isotopic Thorium (Thorium-232);					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B29RL4	SOIL	12/7/10	0745	✓	✓		

MA05C

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
F. Hall	12/7/10 0900	Pat Briggs/B Briggs	12/7/10 0900		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
B Briggs/B Briggs	12/7/10 1130	Amad.../Amad...	12/7/10 1130		
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	

Appendix 5

Data Validation Supporting Documentation

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

VALIDATION LEVEL:	A	B	<input checked="" type="radio"/> C	D	E
PROJECT: 183 KW			DATA PACKAGE: VSR11-032		
VALIDATOR: Eyda Hergenreder		LAB: TestAmerica		DATE: 03-14-2011	
			SDG: W06073		
ANALYSES PERFORMED					
Anions/IC	TOC	TOX	TPH-418.1	Oil and Grease	Alkalinity
Ammonia	BOD/COD	Chloride	Chromium-VI <input checked="" type="checkbox"/>	pH	NO ₃ /NO ₂
Sulfate	TDS	TKN	Phosphate	Cyanide	
SAMPLES/MATRIX Soil sample SDG W06073: B29RL4					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

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

Comments: None

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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:

Note: Related equipment blank B29D74 was submitted for validation in VSR11-031. B29D74 was not assessed here since it is from a separate VSR.

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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:

Note: Related field duplicates were submitted for validation in VSR11-031. These were not assessed here since they are from a separate VSR.

Note: The field split to sample B29RL4 is sample B29D45 that is located in VSR11-031. Precision not assessed since samples are in separate VSRs.

6. HOLDING TIMES (all levels)

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

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

Comments: None

Data Validation for Chemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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

Appendix 6

Additional Documentation Requested By Client

FORM II

Date: 28-Dec-10

DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: W06073

Collection Date: 12/7/2010 7:43:00 AM

Lot-Sample No.: J0L070522-1

Report No. : 45391

Received Date: 12/7/2010 11:30:00 AM

Client Sample ID: B29RL4

COC No. : F11-024-155

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0341310	7196_CR6			Work Order: MA05C1AE	MA05C1AE	Report DB ID: MA05C1AE		Orig Sa DB ID: 9MA05C10				
HEXCHROME	7.31E-01			0.0E+00	1.54E-01	mg/kg	N/A	(4.7)	12/7/10 02:25 p		2.5085	
	7.76E-01			RPD 6.0		3.50E-01		N/A			g	

No. of Results: 1 Comments:

TestAmerica RPD - Relative Percent Difference.

rptSTLRchDupV5.2 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

.9 A2002

FORM II
BLANK RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica
Matrix: SOIL

SDG: W06073
Report No. : 45391

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0341310 7196_CR6 Work Order: MA06P1AA Report DB ID: MA06P1AA												
HEXCHROME	1.55E-01	U		0.0E+00	1.55E-01	mg/kg	N/A	1.	12/7/10 02:25 p		2.5	
						1.55E-01		N/A			g	
Batch: 0354388 THISO_IE_PRECIP_AEA Work Order: MCLHG1AA Report DB ID: MCLHG1AB												
TH-228	5.63E-03	U	1.4E-02	1.4E-02	3.22E-02	pCi/g	94%	0.17	12/22/10 08:36 p		2.01	ALP113
					9.76E-03	1.00E+00		0.81			g	
TH-230	1.39E-02	U	1.6E-02	1.6E-02	2.21E-02	pCi/g	94%	0.63	12/22/10 08:36 p		2.01	ALP113
					4.81E-03	1.00E+00		(1.7)			g	
TH-232	-9.25E-04	U	9.4E-03	9.4E-03	2.21E-02	pCi/g	94%	-0.04	12/22/10 08:36 p		2.01	ALP113
					4.81E-03	1.00E+00		-0.2			g	
No. of Results: 4 Comments:												

FORM II
LCS RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica

SDG: W06073

Matrix: SOIL

Report No. : 45391

Parameter	Result	Count Qual	Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 0341310	7196_CR6			Work Order: MA06P1AC		Report DB ID: MA06P1AC							
HEXCHROME	1.95E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		97%	12/7/10 02:25 p	2.5	
								Rec Limits:	80	120	0.0	g	
Batch: 0354388	THISO_IE_PRECIP_AEA			Work Order: MCLHG1AC		Report DB ID: MCLHG1CS							
TH-230	1.03E+00	1.3E-01	2.0E-01	1.68E-02	pCi/g	100%	1.15E+00	3.46E-02	89%	12/22/10 08:36 p	2.0	ALP116	
								Rec Limits:	70	130	-0.1	g	

No. of Results: 2 Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchLcs
V5.2.9 A2002

EH
3/14/11

FORM II
MATRIX SPIKE RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica

SDG: W06073

Lot-Sample No.: J0L070522-1, B29RL4

Report No. : 45391

Matrix: SOIL

Parameter	SpikeResult, Orig Rst	Count Qual Error (2 s)	Total Uncert(2 s)	MDC MDA	Rpt Unit, CRDL	Yield	Rec- overy	Expected, Uncert	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 0341310	Work Order: MA05C1AD	Report DB ID: MA05C1AD	Orig Sa DB ID: 9MA05C10								
HEXCHROME	1.05E+01	0.0E+00	1.53E-01	mg/kg	N/A	96.59%	1.09E+01	12/7/10 02:25 p	2.5342	7196_CR6	
	7.76E-01								g		

Number of Results: 1

Comments:

Date: 14 March 2011
 To: CH2M Hill (technical representative)
 From: Analytical Quality Associates, Inc.
 Project: 183 KW
 Subject: Radiochemical - Sample Data Groups (SDGs) W06065, W06073, H4436, H4443, H4444 and H4456

INTRODUCTION

This memorandum presents the results of data validation for SDGs W06065 and W06073 prepared by TestAmerica and SDGs H4436, H4443, H4444 and H4456 prepared by Eberline Services. 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
B29DM6	11/17/10	Soil	C	Isotopic-Th
B29RL4	12/07/10	Soil	C	Isotopic-Th
B29DN0	11/16/10	Water	C	Isotopic-Th
B29D34	11/18/10	Soil	C	Gross $\alpha\beta$ & Gamma
B29DJ0	11/18/10	Soil	C	Isotopic-Th
B29DJ1	11/18/10	Soil	C	Isotopic-Th
B29DJ2	11/16/10	Soil	C	Isotopic-Th
B29DJ3	11/16/10	Soil	C	Isotopic-Th
B29DJ4	11/18/10	Soil	C	Isotopic-Th
B29DJ5	11/18/10	Soil	C	Isotopic-Th
B29DJ6	11/16/10	Soil	C	Isotopic-Th
B29DJ7	11/16/10	Soil	C	Isotopic-Th
B29DJ8	11/18/10	Soil	C	Isotopic-Th
B29DJ9	11/18/10	Soil	C	Isotopic-Th
B29DK0	11/18/10	Soil	C	Isotopic-Th
B29DK1	11/19/10	Soil	C	Isotopic-Th
B29DK2	11/19/10	Soil	C	Isotopic-Th
B29DK3	11/19/10	Soil	C	Isotopic-Th
B29DK4	11/19/10	Soil	C	Isotopic-Th
B29DK5	11/19/10	Soil	C	Isotopic-Th
B29DK6	11/16/10	Soil	C	Isotopic-Th
B29DK7	11/16/10	Soil	C	Isotopic-Th
B29DK8	11/16/10	Soil	C	Isotopic-Th
B29DK9	11/16/10	Soil	C	Isotopic-Th
B29DL0	11/18/10	Soil	C	Isotopic-Th
B29DL1	11/18/10	Soil	C	Isotopic-Th
B29DL2	11/18/10	Soil	C	Isotopic-Th
B29DL3	11/18/10	Soil	C	Isotopic-Th
B29DL4	11/17/10	Soil	C	Isotopic-Th
B29DL5	11/16/10	Soil	C	Isotopic-Th

Sample ID	Sample Date	Media	Validation Level	Analytical Methods
B29DL6	11/17/10	Soil	C	Isotopic-Th
B29DL7	11/17/10	Soil	C	Isotopic-Th
B29DL8	11/16/10	Soil	C	Isotopic-Th
B29DL9	11/17/10	Soil	C	Isotopic-Th
B29DM0	11/17/10	Soil	C	Isotopic-Th
B29DM1	11/17/10	Soil	C	Isotopic-Th
B29DM2	11/17/10	Soil	C	Isotopic-Th
B29DM3	11/17/10	Soil	C	Isotopic-Th
B29DM4	11/17/10	Soil	C	Isotopic-Th
B29DM5	11/17/10	Soil	C	Isotopic-Th
B29RL3	12/07/10	Soil	C	Gross $\alpha\beta$ & Gamma
B29VX1	12/07/10	Soil	C	Isotopic-Th

Data validation was conducted in accordance with the CHPRC validation statement of work, the 100 Area Remedial Action Sampling and Analysis Plan, DOE/RL-96-22, Rev. 5/TPA-CN-264 (SAP), and the Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas, DD-48021. 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. Sample preservation for the water sample requires acid preservation with nitric acid to pH <2. There are no specific preservation requirements for radiochemical soil samples.

The samples were analyzed within the prescribed holding time 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 with the following exception. Th-228 was detected in equipment blank B29DN0.

- **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. According to the SAP, the laboratory control sample accuracy limits are 70% to 130%. The matrix spike 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 (MS) Samples

MS analyses are not required for the methods performed.

Laboratory Control Samples (LCSs)

All LCS recoveries were acceptable.

Carrier/Tracer Recovery Factors

All carrier/tracer recovery factors were acceptable.

- **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) limits are $\pm 30\%$. The RPD limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and have associated results $< 5X$ the MDCs the precision limits are ones specified by the DV procedure.

Laboratory Duplicate Samples

All laboratory duplicate results were acceptable with the following exception.

For SDG W06073, a duplicate sample was not included with the analyses of sample B29RL4. The Th-228, Th-230 and Th-232 results were detects and should be qualified as estimates and flagged "J" due to lack of precision data.

Field Duplicate Samples

All field duplicate results were acceptable.

Field Split Samples

All field split results were acceptable.

- **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 with the following exceptions.

The Co-60, Cs-137, Eu-152, Eu-154 and Eu-155 MDCs for sample B29RL3 were > the CRDLs.

- **Completeness**

SDGs W06065, W06073, H4436, H4443, H4444 and H4456 were submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

None found.

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.

DD-48021, *Sampling Instruction for the 183.2-KW Flocculation and Sedimentation Basins, 183.3-KW Sand Filter Basin, and 183.7-KW Pipe Tunnel Areas*

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			
SDGs: W06065, W06073, H4436, H4443, H4444, H4456	Reviewer: AQA	Project: 183 KW	Page 1 of 1
Analyte(s)	Qualifier	Samples Affected	Reason
Th-228 Th-230 Th-232	J	B29RL4	Lack of laboratory duplicate data

Comments: None

Appendix 3

Annotated Laboratory Reports

FORM I

Date: 28-Dec-10

SAMPLE RESULTS

Lab Name: TestAmerica
 Lot-Sample No.: J0L020426-1
 Client Sample ID: B29DM6

SDG: W06065
 Report No.: 45382
 COC No.: F11-024-124

Collection Date: 11/17/2010 8:30:00 AM
 Received Date: 12/1/2010 1:15:00 PM
 Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0344397	THISO_IE_PRECIP_AEA		Work Order: MAQMH2AA		Report DB ID: 9MAQMH20							
TH-228	6.15E-01		1.8E-01	2.1E-01	8.20E-02	pCi/g	32%	(7.5)	12/17/10 04:15 p		2.0	ALP116
							2.31E-02	1.00E+00			g	
TH-230	6.29E-01		1.8E-01	2.0E-01	5.17E-02	pCi/g	32%	(12.2)	12/17/10 04:15 p		2.0	ALP116
							8.46E-03	1.00E+00			g	
TH-232	5.77E-01		1.7E-01	1.9E-01	5.17E-02	pCi/g	32%	(11.2)	12/17/10 04:15 p		2.0	ALP116
							8.46E-03	1.00E+00			g	

No. of Results: 3 Comments:

TestAmerica MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM I
SAMPLE RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica
 Lot-Sample No.: J0L070522-1
 Client Sample ID: B29RL4
 SDG: W06073
 Report No.: 45391
 COC No.: F11-024-155
 Matrix: SOIL
 Collection Date: 12/7/2010 7:43:00 AM
 Received Date: 12/7/2010 11:30:00 AM

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0341310	7196_CR6											
	7.76E-01			0.0E+00	1.54E-01 mg/kg		N/A	(5.)	12/7/10-02:25 p		2.5191	
							1.55E-01	N/A			9	
Batch: 0354388	THISO_IE_PRECIP_AEA											
TH-228	J 8.16E-01		1.6E-01	2.0E-01	3.79E-02 pCi/g	8.24E-03	58%	(21.5)	12/22/10 08:35 p	1.95	g	ALP21
TH-230	J 6.78E-01		1.5E-01	1.8E-01	3.74E-02 pCi/g	8.11E-03	58%	(18.2)	12/22/10 08:35 p	1.95	g	ALP21
TH-232	J 8.34E-01		1.6E-01	2.0E-01	3.74E-02 pCi/g	8.11E-03	58%	(22.3)	12/22/10 08:35 p	1.95	g	ALP21

No. of Results: 4
 Comments:

TestAmerica
 rptSTLRchSample
 V5.2.9 A2002
 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda, Total Uncert,CRDL, or not identified by gamma scan software.

EH
 3/14/11

EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4436

7746-001

B29DN0

D A T A S H E E T

SDG <u>7746</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4436</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S011163-01</u>	Client sample id <u>B29DN0</u>	
Dept sample id <u>7746-001</u>	Location/Matrix <u>KW Sed. Basin Sample 37 WATER</u>	
Received <u>11/18/10</u>	Collected/Volume <u>11/16/10 08:35</u> <u>1 L</u>	
	Custody/SAF No <u>F11-026-004</u> <u>F11-026</u>	

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.269	0.18	0.215		U	TH
Thorium 230	14269-63-7	-0.089	0.18	0.378	1.00	U	TH
Thorium 232	TH-232	0.022	0.045	0.171	1.00	U	TH

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Protocol <u>CHPRC</u>
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Version <u>3.06</u>
Report date <u>12/01/10</u>

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4443

7754-001

B29D34

DATA SHEET

SDG <u>7754</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4443</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S011241-01</u>	Client sample id <u>B29D34</u>	
Dept sample id <u>7754-001</u>	Location/Matrix <u>KW Sed. Basin Sample 39</u>	<u>SOLID</u>
Received <u>11/30/10</u>	Collected/Weight <u>11/18/10 09:35</u>	<u>958 g</u>
% solids <u>94.1</u>	Custody/SAF No <u>F11-024-128</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Gross Alpha	12587-46-1	7.86	4.2	4.48	10.0		93A
Gross Beta	12587-47-2	15.9	4.6	6.48	15.0		93B
Tin 126	15832-50-5	U		0.125		U	GAM
Beryllium 7	13966-02-4	U		0.160		U	GAM
Potassium 40	13966-00-2	9.90	0.51	0.237			GAM
Cobalt 60	10198-40-0	U		0.025	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.166		U	GAM
Antimony 125	14234-35-6	U		0.044		U	GAM
Cesium 134	13967-70-9	U		0.041		U	GAM
Cesium 137	10045-97-3	U		0.022	0.100	U	GAM
Europium 152	14683-23-9	U		0.053	0.100	U	GAM
Europium 154	15585-10-1	U		0.068	0.100	U	GAM
Europium 155	14391-16-3	U		0.056	0.100	U	GAM
Niobium 94	14681-63-1	U		0.020		U	GAM
Radium 226	13982-63-3	0.351	0.044	0.041			GAM
Radium 228	15262-20-1	0.538	0.12	0.114			GAM

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-001

B29DJ0

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-01</u>	Client sample id <u>B29DJ0</u>	
Dept sample id <u>7755-001</u>	Location/Matrix <u>KW Sed. Basin Sample 1</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 10:15</u>	<u>142 g</u>
% solids <u>91.2</u>	Custody/SAF No <u>F11-024-004</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.764	0.45	0.430	1.00		TH
Thorium 230	14269-63-7	0.359	0.45	0.795	1.00	U	TH
Thorium 232	TH-232	0.718	0.36	0.343	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-002

B29DJ1

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SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-02</u>	Client sample id <u>B29DJ1</u>	
Dept sample id <u>7755-002</u>	Location/Matrix <u>KW Sed. Basin Sample 2</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 10:43</u>	<u>128 g</u>
% solids <u>91.6</u>	Custody/SAF No <u>F11-024-048</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.876	0.40	0.381	1.00		TH
Thorium 230	14269-63-7	0.875	0.48	0.704	1.00		TH
Thorium 232	TH-232	1.07	0.41	0.304	1.00		TH

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-003

B29DJ2

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG_H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-03</u>	Client sample id <u>B29DJ2</u>	
Dept sample id <u>7755-003</u>	Location/Matrix <u>KW Sed. Basin Sample 3</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 09:25</u>	<u>138 g</u>
% solids <u>91.5</u>	Custody/SAF No <u>F11-024-092</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.467	0.42	0.497	1.00	U	TH
Thorium 230	14269-63-7	0.674	0.52	0.837	1.00	U	TH
Thorium 232	TH-232	0.518	0.32	0.397	1.00		TH

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EBERLINE ANALYTICAL/RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-004

B29DJ3

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SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG_H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-04</u>	Client sample id <u>B29DJ3</u>	
Dept sample id <u>7755-004</u>	Location/Matrix <u>KW Sed. Basin Sample 4</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 09:47</u>	<u>139 g</u>
% solids <u>92.4</u>	Custody/SAF No <u>F11-024-133</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	1.18	0.46	0.346	1.00		TH
Thorium 230	14269-63-7	1.04	0.55	0.729	1.00		TH
Thorium 232	TH-232	0.587	0.36	0.345	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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Report date <u>01/14/11</u>

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-005

B29DJ4

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-05</u>	Client sample id <u>B29DJ4</u>	
Dept sample id <u>7755-005</u>	Location/Matrix <u>KW Sed. Basin Sample 5</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 12:09</u>	<u>145 g</u>
% solids <u>93.2</u>	Custody/SAF No <u>F11-024-137</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.748	0.36	0.438	1.00		TH
Thorium 230	14269-63-7	0.392	0.43	0.656	1.00	U	TH
Thorium 232	TH-232	0.498	0.29	0.272	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id	<u>EBRLNE</u>
Protocol	<u>CHPRC</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-DS</u>
Version	<u>3.06</u>
Report date	<u>01/14/11</u>

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-006

B29DJ5

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-06</u>	Client sample id <u>B29DJ5</u>	
Dept sample id <u>7755-006</u>	Location/Matrix <u>KW Sed. Basin Sample 6</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 12:31</u>	<u>139 g</u>
% solids <u>94.2</u>	Custody/SAF No <u>F11-024-141</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.736	0.37	0.407	1.00		TH
Thorium 230	14269-63-7	0.257	0.37	0.651	1.00	U	TH
Thorium 232	TH-232	0.478	0.30	0.281	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-007

B29DJ6

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-07</u>	Client sample id <u>B29DJ6</u>	
Dept sample id <u>7755-007</u>	Location/Matrix <u>KW Sed. Basin Sample 7</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 10:12</u>	<u>145 g</u>
% solids <u>83.3</u>	Custody/SAF No <u>F11-024-145</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.696	0.39	0.427	1.00		TH
Thorium 230	14269-63-7	0.386	0.46	0.711	1.00	U	TH
Thorium 232	TH-232	0.695	0.31	0.295	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-008

B29DJ7

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-08</u>	Client sample id <u>B29DJ7</u>	
Dept sample id <u>7755-008</u>	Location/Matrix <u>KW Sed. Basin Sample 8</u> <u>SOLID</u>	
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 10:36</u> <u>126 g</u>	
% solids <u>93.5</u>	Custody/SAF No <u>F11-024-149</u> <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.397	0.32	0.439	1.00	U	TH
Thorium 230	14269-63-7	0.555	0.48	0.730	1.00	U	TH
Thorium 232	TH-232	0.396	0.24	0.303	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
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SAMPLE DELIVERY GROUP H4444

7755-009

B29DJ8

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-09</u>	Client sample id <u>B29DJ8</u>	
Dept sample id <u>7755-009</u>	Location/Matrix <u>KW Sed. Basin Sample 9</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 13:01</u>	<u>120 g</u>
% solids <u>88.6</u>	Custody/SAF No <u>F11-024-153</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.662	0.39	0.373	1.00		TH
Thorium 230	14269-63-7	0.661	0.47	0.688	1.00	U	TH
Thorium 232	TH-232	0.583	0.31	0.297	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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SAMPLE DELIVERY GROUP H4444

7755-010

B29DJ9

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-10</u>	Client sample id <u>B29DJ9</u>	
Dept sample id <u>7755-010</u>	Location/Matrix <u>KW Sed. Basin Sample 10</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 13:14</u>	<u>134 g</u>
% solids <u>90.2</u>	Custody/SAF No <u>F11-024-008</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.757	0.40	0.382	1.00		TH
Thorium 230	14269-63-7	0	0.40	0.734	1.00	U	TH
Thorium 232	TH-232	0.518	0.32	0.305	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-011

B29DK0

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012052-11</u>	Client sample id <u>B29DK0</u>	
Dept sample id <u>7755-011</u>	Location/Matrix <u>KW Sed. Basin Sample 11</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 12:51</u>	<u>130 g</u>
% solids <u>88.6</u>	Custody/SAF No <u>F11-024-012</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.552	0.40	0.529	1.00		TH
Thorium 230	14269-63-7	0.789	0.48	0.726	1.00		TH
Thorium 232	TH-232	0.710	0.32	0.302	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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SAMPLE DELIVERY GROUP H4444

7755-012

B29DK1

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-12</u>	Client sample id <u>B29DK1</u>	
Dept sample id <u>7755-012</u>	Location/Matrix <u>KW Sed. Basin Sample 12</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/19/10 07:35</u>	<u>130 g</u>
% solids <u>88.6</u>	Custody/SAF No <u>F11-024-016</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.230	0.26	0.404	1.00	U	TH
Thorium 230	14269-63-7	0.787	0.46	0.627	1.00		TH
Thorium 232	TH-232	0.623	0.27	0.251	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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SAMPLE DELIVERY GROUP H4444

7755-013

B29DK2

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-13</u>	Client sample id <u>B29DK2</u>	
Dept sample id <u>7755-013</u>	Location/Matrix <u>KW Sed. Basin Sample 13 SOLID</u>	
Received <u>12/02/10</u>	Collected/Weight <u>11/19/10 07:59</u> <u>130 g</u>	
% solids <u>89.5</u>	Custody/SAF No <u>F11-024-020</u> <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.432	0.25	0.236	1.00		TH
Thorium 230	14269-63-7	0.679	0.43	0.610	1.00		TH
Thorium 232	TH-232	0.586	0.25	0.236	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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Protocol <u>CHPRC</u>
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SAMPLE DELIVERY GROUP H4444

7755-014

B29DK3

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-14</u>	Client sample id <u>B29DK3</u>	
Dept sample id <u>7755-014</u>	Location/Matrix <u>KW Sed. Basin Sample 14</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/19/10 08:26</u>	<u>121 g</u>
% solids <u>91.1</u>	Custody/SAF No <u>F11-024-024</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.858	0.35	0.329	1.00		TH
Thorium 230	14269-63-7	0.206	0.34	0.632	1.00	U	TH
Thorium 232	TH-232	0.583	0.28	0.262	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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SAMPLE DELIVERY GROUP H4444

7755-015

B29DK4

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-15</u>	Client sample id <u>B29DK4</u>	
Dept sample id <u>7755-015</u>	Location/Matrix <u>KW Sed. Basin Sample 15</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/19/10 17:46</u>	<u>123 g</u>
% solids <u>90.1</u>	Custody/SAF No <u>F11-024-028</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.919	0.45	0.406	1.00		TH
Thorium 230	14269-63-7	0.514	0.44	0.676	1.00	U	TH
Thorium 232	TH-232	0.661	0.30	0.281	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-016

B29DK5

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-16</u>	Client sample id <u>B29DK5</u>	
Dept sample id <u>7755-016</u>	Location/Matrix <u>KW Sed. Basin Sample 16</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/19/10 08:12</u>	<u>117 g</u>
% solids <u>89.5</u>	Custody/SAF No <u>F11-024-032</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.543	0.29	0.346	1.00		TH
Thorium 230	14269-63-7	0.434	0.43	0.690	1.00	U	TH
Thorium 232	TH-232	0.434	0.22	0.276	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-017

B29DK6

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-17</u>	Client sample id <u>B29DK6</u>	
Dept sample id <u>7755-017</u>	Location/Matrix <u>KW Sed. Basin Sample 17</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 12:16</u>	<u>125 g</u>
% solids <u>91.7</u>	Custody/SAF No <u>F11-024-036</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.755	0.38	0.362	1.00		TH
Thorium 230	14269-63-7	0.452	0.45	0.668	1.00	U	TH
Thorium 232	TH-232	0.867	0.38	0.288	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-018

B29DK7

DATA SHEET

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-18</u>	Client sample id <u>B29DK7</u>	
Dept sample id <u>7755-018</u>	Location/Matrix <u>KW Sed. Basin Sample 18</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 11:00</u>	<u>127 g</u>
% solids <u>91.5</u>	Custody/SAF No <u>F11-024-040</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.603	0.31	0.361	1.00		TH
Thorium 230	14269-63-7	0.527	0.45	0.693	1.00	U	TH
Thorium 232	TH-232	1.02	0.39	0.288	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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Protocol	<u>CHPRC</u>
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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7756-001

B29DK8

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012053-01</u>	Client sample id <u>B29DK8</u>	
Dept sample id <u>7756-001</u>	Location/Matrix <u>KW Sed. Basin Sample 19</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 12:37</u>	<u>130 g</u>
% solids <u>91.3</u>	Custody/SAF No <u>F11-024-044</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.942	0.37	0.347	1.00		TH
Thorium 230	14269-63-7	0.072	0.36	0.690	1.00	U	TH
Thorium 232	TH-232	0.831	0.37	0.276	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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SAMPLE DELIVERY GROUP H4444

7756-002

B29DK9

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-02</u>	Client sample id <u>B29DK9</u>	
Dept sample id <u>7756-002</u>	Location/Matrix <u>KW Sed. Basin Sample 20</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 13:00</u>	<u>134 g</u>
% solids <u>92.7</u>	Custody/SAF No <u>F11-024-052</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.662	0.24	0.209	1.00		TH
Thorium 230	14269-63-7	0.407	0.34	0.437	1.00	U	TH
Thorium 232	TH-232	0.509	0.21	0.162	1.00		TH

183 KW Verification Sampling and Analysis - Soil

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**EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444**

7756-003

B29DL0

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-03</u>	Client sample id <u>B29DL0</u>	
Dept sample id <u>7756-003</u>	Location/Matrix <u>KW Sed. Basin Sample 21</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 09:35</u>	<u>145 g</u>
% solids <u>94.1</u>	Custody/SAF No <u>F11-024-056</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.719	0.21	0.184	1.00		TH
Thorium 230	14269-63-7	0.120	0.30	0.407	1.00	U	TH
Thorium 232	TH-232	0.569	0.18	0.114	1.00		TH

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7756-004

B29DL1

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	<u>SDG_H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-04</u>	Client sample id <u>B29DL1</u>	
Dept sample id <u>7756-004</u>	Location/Matrix <u>KW Sed. Basin Sample 22</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 09:05</u>	<u>137 g</u>
% solids <u>93.7</u>	Custody/SAF No <u>F11-024-060</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.612	0.24	0.228	1.00		TH
Thorium 230	14269-63-7	0.305	0.34	0.437	1.00	U	TH
Thorium 232	TH-232	0.458	0.17	0.130	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-005

B29DL2

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-05</u>	Client sample id <u>B29DL2</u>	
Dept sample id <u>7756-005</u>	Location/Matrix <u>KW Sed. Basin Sample 23</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 08:09</u>	<u>141 g</u>
% solids <u>92.3</u>	Custody/SAF No <u>F11-024-064</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	1.03	0.26	0.176	1.00		TH
Thorium 230	14269-63-7	0.222	0.29	0.416	1.00	U	TH
Thorium 232	TH-232	0.619	0.19	0.121	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-006

B29DL3

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SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-06</u>	Client sample id <u>B29DL3</u>	
Dept sample id <u>7756-006</u>	Location/Matrix <u>KW Sed. Basin Sample 24</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 08:37</u>	<u>127 g</u>
% solids <u>93.8</u>	Custody/SAF No <u>F11-024-068</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.552	0.23	0.250	1.00		TH
Thorium 230	14269-63-7	0.297	0.31	0.390	1.00	U	TH
Thorium 232	TH-232	0.509	0.17	0.135	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-007

B29DL4

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SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-07</u>	Client sample id <u>B29DL4</u>	
Dept sample id <u>7756-007</u>	Location/Matrix <u>KW Sed. Basin Sample 25</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 08:03</u>	<u>127 g</u>
% solids <u>92.5</u>	Custody/SAF No <u>F11-024-072</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.846	0.25	0.235	1.00		TH
Thorium 230	14269-63-7	0.092	0.31	0.410	1.00	U	TH
Thorium 232	TH-232	0.446	0.16	0.118	1.00		TH

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SAMPLE DELIVERY GROUP H4444**

7756-008

B29DL5

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-08</u>	Client sample id <u>B29DL5</u>	
Dept sample id <u>7756-008</u>	Location/Matrix <u>KW Sed. Basin Sample 26</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 13:04</u>	<u>149 g</u>
% solids <u>93.9</u>	Custody/SAF No <u>F11-024-076</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.863	0.26	0.245	1.00		TH
Thorium 230	14269-63-7	0.303	0.32	0.419	1.00	U	TH
Thorium 232	TH-232	0.399	0.16	0.122	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-009

B29DL6

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SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-09</u>	Client sample id <u>B29DL6</u>	
Dept sample id <u>7756-009</u>	Location/Matrix <u>KW Sed. Basin Sample 27</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 08:30</u>	<u>157 g</u>
% solids <u>93.1</u>	Custody/SAF No <u>F11-024-080</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.718	0.26	0.244	1.00		TH
Thorium 230	14269-63-7	0.175	0.29	0.418	1.00	U	TH
Thorium 232	TH-232	0.590	0.19	0.153	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-010

B29DL7

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012053-10</u>	Client sample id <u>B29DL7</u>	
Dept sample id <u>7756-010</u>	Location/Matrix <u>KW Sed. Basin Sample 28</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 09:10</u>	<u>148 g</u>
% solids <u>93.0</u>	Custody/SAF No <u>F11-024-084</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.813	0.26	0.234	1.00		TH
Thorium 230	14269-63-7	0.276	0.33	0.426	1.00	U	TH
Thorium 232	TH-232	0.763	0.23	0.124	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-011

B29DL8

DATA SHEET

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012053-11</u>	Client sample id <u>B29DL8</u>	
Dept sample id <u>7756-011</u>	Location/Matrix <u>KW Sed. Basin Sample 29</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 13:21</u>	<u>137 g</u>
% solids <u>94.2</u>	Custody/SAF No <u>F11-024-088</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	1.89	0.37	0.218	1.00		TH
Thorium 230	14269-63-7	0.163	0.29	0.427	1.00	U	TH
Thorium 232	TH-232	0.488	0.20	0.156	1.00		TH

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S A M P L E D E L I V E R Y G R O U P H 4 4 4 4

7756-012

B29DL9

D A T A S H E E T

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-12</u>	Client sample id <u>B29DL9</u>	
Dept sample id <u>7756-012</u>	Location/Matrix <u>KW Sed. Basin Sample 30</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 13:31</u>	<u>140 g</u>
% solids <u>93.6</u>	Custody/SAF No <u>F11-024-096</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.297	0.20	0.261	1.00		TH
Thorium 230	14269-63-7	0.339	0.31	0.390	1.00	U	TH
Thorium 232	TH-232	0.566	0.17	0.108	1.00		TH

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S A M P L E D E L I V E R Y G R O U P H 4 4 4 4

7756-013

B29DM0

D A T A S H E E T

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-13</u>	Client sample id <u>B29DM0</u>	
Dept sample id <u>7756-013</u>	Location/Matrix <u>KW Sed. Basin Sample 31 SOLID</u>	
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 09:38</u> <u>132 g</u>	
% solids <u>93.3</u>	Custody/SAF No <u>F11-024-100</u> <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.551	0.21	0.217	1.00		TH
Thorium 230	14269-63-7	0.743	0.33	0.370	1.00		TH
Thorium 232	TH-232	0.563	0.18	0.098	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-014

B29DM1

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SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-14</u>	Client sample id <u>B29DM1</u>	
Dept sample id <u>7756-014</u>	Location/Matrix <u>KW Sed. Basin Sample 32</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 10:11</u>	<u>131 g</u>
% solids <u>92.8</u>	Custody/SAF No <u>F11-024-104</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.491	0.18	0.139	1.00		TH
Thorium 230	14269-63-7	0.465	0.30	0.363	1.00		TH
Thorium 232	TH-232	0.566	0.18	0.120	1.00		TH

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S A M P L E D E L I V E R Y G R O U P H 4 4 4 4

7756-015

B29DM2

D A T A S H E E T

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-15</u>	Client sample id <u>B29DM2</u>	
Dept sample id <u>7756-015</u>	Location/Matrix <u>KW Sed. Basin Sample 33</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 13:05</u>	<u>142 g</u>
% solids <u>92.8</u>	Custody/SAF No <u>F11-024-108</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.551	0.22	0.188	1.00		TH
Thorium 230	14269-63-7	0.092	0.31	0.408	1.00	U	TH
Thorium 232	TH-232	0.535	0.19	0.117	1.00		TH

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7756-016

B29DM3

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SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-16</u>	Client sample id <u>B29DM3</u>	
Dept sample id <u>7756-016</u>	Location/Matrix <u>KW Sed. Basin Sample 34</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 12:37</u>	<u>154 g</u>
% solids <u>92.9</u>	Custody/SAF No <u>F11-024-112</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.792	0.35	0.330	1.00		TH
Thorium 230	14269-63-7	0.378	0.41	0.633	1.00	U	TH
Thorium 232	TH-232	0.481	0.28	0.263	1.00		TH

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SAMPLE DELIVERY GROUP H4444

7756-017

B29DM4

D A T A S H E E T

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-17</u>	Client sample id <u>B29DM4</u>	
Dept sample id <u>7756-017</u>	Location/Matrix <u>KW Sed. Basin Sample 35</u>	<u>SOLID</u>
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 10:40</u>	<u>145 g</u>
% solids <u>92.7</u>	Custody/SAF No <u>F11-024-116</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.453	0.30	0.362	1.00		TH
Thorium 230	14269-63-7	-0.075	0.30	0.693	1.00	U	TH
Thorium 232	TH-232	0.452	0.23	0.288	1.00		TH

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SAMPLE DELIVERY GROUP H4444**

7756-018

B29DM5

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SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-18</u>	Client sample id <u>B29DM5</u>	
Dept sample id <u>7756-018</u>	Location/Matrix <u>KW Sed. Basin Sample 36 SOLID</u>	
Received <u>12/02/10</u>	Collected/Weight <u>11/17/10 12:11 143 g</u>	
% solids <u>92.5</u>	Custody/SAF No <u>F11-024-120 F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	1.02	0.43	0.269	1.00		TH
Thorium 230	14269-63-7	0.526	0.42	0.647	1.00	U	TH
Thorium 232	TH-232	0.386	0.21	0.268	1.00		TH

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EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4456

7759-001

B29RL3

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SDG <u>7759</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4456</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012143-01</u>	Client sample id <u>B29RL3</u>	
Dept sample id <u>7759-001</u>	Location/Matrix <u>KW Sed.Basin Sample 10 S SOLID</u>	
Received <u>12/08/10</u>	Collected/Weight <u>12/07/10 07:45</u> <u>123 g</u>	
% solids <u>90.3</u>	Custody/SAF No <u>F11-024-154</u> <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Gross Alpha	12587-46-1	5.22	3.0	3.74	10.0		93A
Gross Beta	12587-47-2	10.6	4.9	7.95	15.0		93B
Tin 126	15832-50-5	U		0.206		U	GAM
Beryllium 7	13966-02-4	U		0.945		U	GAM
Potassium 40	13966-00-2	12.3	2.4	0.196			GAM
Cobalt 60	10198-40-0	U		<u>0.154</u>	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.968		U	GAM
Antimony 125	14234-35-6	U		0.274		U	GAM
Cesium 134	13967-70-9	U		0.146		U	GAM
Cesium 137	10045-97-3	U		<u>0.141</u>	0.100	U	GAM
Europium 152	14683-23-9	U		<u>0.282</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.418</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.247</u>	0.100	U	GAM
Niobium 94	14681-63-1	U		0.121		U	GAM
Radium 226	13982-63-3	0.405	0.18	0.183			GAM
Radium 228	15262-20-1	0.751	0.52	0.560			GAM

183 KW Verification Sampling and Analysis - Soil

DATA SHEETS

Page 1

SUMMARY DATA SECTION

Page 11

Lab id	<u>EBRLNE</u>
Protocol	<u>CHPRC</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-DS</u>
Version	<u>3.06</u>
Report date	<u>12/17/10</u>

RECEIVED DECEMBER 20, 2010

EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4456

7759-002

B29VX1

DATA SHEET

SDG <u>7759</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4456</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012143-02</u>	Client sample id <u>B29VX1</u>	
Dept sample id <u>7759-002</u>	Location/Matrix <u>KW Sed.Basin Sample 31 D SOLID</u>	
Received <u>12/08/10</u>	Collected/Weight <u>12/07/10 07:30</u>	<u>47.6 g</u>
% solids <u>93.1</u>	Custody/SAF No <u>F11-024-158</u>	<u>F11-024</u>

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.573	0.28	0.302	1.00		TH
Thorium 230	14269-63-7	0.082	0.33	0.573	1.00	U	TH
Thorium 232	TH-232	0.546	0.22	0.209	1.00		TH

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/17/10</u>

DATA SHEETS

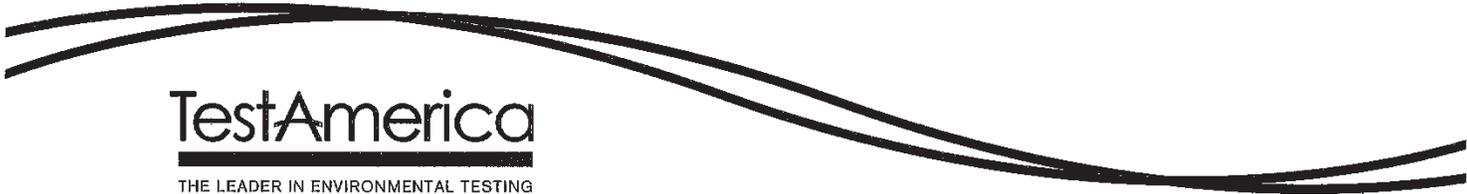
Page 2

SUMMARY DATA SECTION

Page 12

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

TestAmerica Laboratories, Inc.

CH2M Hill Plateau Remediation Company
 P.O. Box 1600
 Mail Stop – R3-60
 Richland, WA 99352

December 28, 2010

Attention: Mike Neely

SAF Number	:	F11-024
Date SDG Closed	:	December 1, 2010
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	W06065
Data Deliverable	:	15/15 Day

CASE NARRATIVE

I. Introduction

On December 1, 2010 one sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned to lot JOL020426 and assigned the following laboratory ID number to correspond with the CH2M specific ID:

<u>CH2M ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B29M6	MAQMH	SOIL	12/1/10

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

CH2M Hill Plateau Remediation Company
December 28, 2010

The requested analyses were:

Alpha Spectroscopy

Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084)*

*SOP ID's changed effective 7-01-2008. Attached is a cross reference until SOP ID's are changed in all systems.

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084):

The batch was reanalyzed due to low tracer yields. The reanalysis is acceptable. Except as noted, the LCS, batch blank, sample and sample duplicate (B29DM6) results are within contractual requirements.

I certify that this Certificate of Analysis 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 hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:


Sandra Seger
Project Manager

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-124	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01 *	DATA TURNAROUND
SAMPLING LOCATION KW Sed. Basin Sample 38		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	12 Days / 12 Days
ICE CHEST NO. GWS-194		FIELD LOGBOOK NO. HNF-N-507-1A	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT GOVERNMENT VEHICLE	
SHIPPED TO TestAmerica Incorporated, Richland		OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	*NOTTAR NOT A Q# 50639 TARL JOL 020426 price/TAT code SDG-W06065 SKS 12/2/10 DUL-12/16/10 FLH		
HOLDING TIME		6 Months				
TYPE OF CONTAINER		G/P				
NO. OF CONTAINER(S)		1				
VOLUME		120ml				
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS		Isotopic Thorium (Thorium-232);		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B29DM6	SOIL	NOV 17 2010	0830	M AQ MH		



CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1430	RECEIVED BY/STORED IN SSWH / M01109	DATE/TIME 1430	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM 664 #1 MO 1109	DATE/TIME NOV 17 2010	RECEIVED BY/STORED IN FM Hall	DATE/TIME NOV 17 2010		
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 12-1-10	RECEIVED BY/STORED IN Scott Hamaker / Scott Hamaker	DATE/TIME 12-1-10		
RELINQUISHED BY/REMOVED FROM Scott Hamaker / Scott Hamaker	DATE/TIME 12/1/10	RECEIVED BY/STORED IN Scott Hamaker / Scott Hamaker	DATE/TIME 12/1/10		
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	



Certificate of Analysis

TestAmerica Laboratories, Inc.

CH2M Hill Plateau Remediation Company
 P.O. Box 1600
 Mail Stop – R3-60
 Richland, WA 99352

December 28, 2010

Attention: Mike Neely

SAF Number	:	F11-024
Date SDG Closed	:	December 7, 2010
Number of Samples	:	One (1)
Sample Type	:	Soil
SDG Number	:	W06073
Data Deliverable	:	15/15 Day

CASE NARRATIVE

I. Introduction

On December 7, 2010 one sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned to lot J0L070522 and assigned the following laboratory ID number to correspond with the CH2M specific ID:

<u>CH2M ID#</u>	<u>TARL ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B29RL4	MA05C	SOIL	12/7/10

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

CH2M Hill Plateau Remediation Company
December 28, 2010

The requested analyses were:

Alpha Spectroscopy

Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084)

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

*SOP ID's changed effective 7-01-2008. Attached is a cross reference until SOP ID's are changed in all systems.

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Thorium-228,230,232 by method RL-ALP-005 (RICH-RC-5084):

The analytical batch was reanalyzed due to low tracer yields. There was insufficient volume to process a duplicate sample in the rerun. Except as noted, the LCS, batch blank and sample results are within contractual requirements.

Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The LCS, batch blank, samples, sample duplicate (B29RL4), sample matrix spike (B29RL4), and matrix spike duplicate (B29RL4) results are within contractual requirements.

I certify that this Certificate of Analysis 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 hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:


Sandra Seger
Project Manager

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F11-024-155	PAGE 1 OF 1
COLLECTOR F. Hall		COMPANY CONTACT WIDRIG, DL		TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 10 SPLIT		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil			SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	TARL HAS NO
ICE CHEST NO. 6WS-237		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH N/A		COA 94 12/6/10 301962ES10-302682	METHOD OF SHIPMENT GOVERNMENT VEHICLE	12/12 TAT. 15/15 will be logged. SKS 12/8/10
SHIPPED TO TestAmerica Incorporated, Richland		OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~4C	None			
		HOLDING TIME	30 Days	6 Months			
		TYPE OF CONTAINER	G/P	G/P			
		NO. OF CONTAINER(S)	1	1			
		VOLUME	60mL	120mL 60mL 94 12/6/10			
		SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD1	SAMPLE ANALYSIS	Chromium Hex - 7196;	Isotopic Thorium (Thorium-232);		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B29RL4	SOIL	12/7/10	0745	✓	✓		

AB 12.07.10
~~SDGT W099~~
 JOL070522
 SDGTW06073
 DUE - 12/22/10
 FLH
 JOL070522

MA05C

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F. Hall	DATE/TIME 12/7/10 0900	RECEIVED BY/STORED IN B. Briggs/B. Briggs	DATE/TIME 12/7/10 0900	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. 	
RELINQUISHED BY/REMOVED FROM B. Briggs/B. Briggs	DATE/TIME 12/7/10 1130	RECEIVED BY/STORED IN C. ...	DATE/TIME 12/7/10 1130		
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

Eberline Analytical
W.O. No. S0-11-163-7746

CH2M Hill Plateau Remediation Company
SDG H4436

Case Narrative

Page 1 of 1

1.0 GENERAL

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4436 was composed of one water sample designated under SAF No. F11-026 with a Project Designation of: 183 KW Verification Sampling and Analysis – QC Sampling.

The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist.

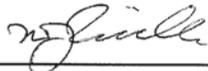
2.0 ANALYSIS NOTES

2.1 Isotopic Thorium Analysis

The results for both the original and duplicate analyses of Th-230 and Th-232 were both less than their respective MDA's, therefore no RPD or statistical control limit is calculated. The relative percent difference (RPD) in the original and duplicate results for Th-228 was 78%, greater than the control limit of 25%, however per DOE QSAS, Rev. 2.5, "When either the DER or the RPD pass, then the duplicate is acceptable." In this case, the DER was 1.3, less than the control limit of 3.0. No other problems were encountered during the course of the analyses.

3.0 Case Narrative Certification Statement

"I 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 obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



N. Joseph Verville
Client Services Manager

12/1/10

Date

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-026-004	PAGE 1 OF 1
COLLECTOR <i>FM Hall</i>	COMPANY CONTACT WIDRIG, DL <i>H4436</i>	TELEPHONE NO. 376-2858 <i>(7746)</i>	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 37	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - QC Sampling		SAF NO. F11-026	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>6WS-139-09</i>	FIELD LOGBOOK NO. <i>HNF-N-557-10</i>	ACTUAL SAMPLE DEPTH <i>m</i>	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR <i>02391</i>	BILL OF LADING/AIR BILL NO. SEE PTR <i>7941 2562 2000</i>			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	HNO3 to pH <2	
		HOLDING TIME	6 Months	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	1L	
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DNO	WATER	<i>11-16-10</i>	<i>0835</i>	<input checked="" type="checkbox"/>

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11/16/10</i>	RECEIVED BY/STORED IN <i>SSU #1</i>	DATE/TIME <i>11/16/10</i>	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
RELINQUISHED BY/REMOVED FROM <i>SSU-1</i>	DATE/TIME <i>NOV 17 2010 0745</i>	RECEIVED BY/STORED IN <i>L.D. Wall</i>	DATE/TIME <i>NOV 17 2010 0745</i>	
RELINQUISHED BY/REMOVED FROM <i>L.D. Wall</i>	DATE/TIME <i>NOV 17 2010 1400</i>	RECEIVED BY/STORED IN <i>FEDEX</i>	DATE/TIME	
RELINQUISHED BY/REMOVED FROM <i>FEDEX</i>	DATE/TIME	RECEIVED BY/STORED IN <i>M. H. ...</i>	DATE/TIME <i>11/18/10 0915</i>	
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

Eberline Analytical
W.O. No. S0-11-241-7754

CH2M Hill Plateau Remediation Company
SDG H4443

Case Narrative

Page 1 of 1

1.0 GENERAL

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4443 was composed of one solid (soil) sample designated under SAF No. F11-024 with a Project Designation of: 183 KW Verification Sampling and Analysis – Soil.

The sample was received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analysis

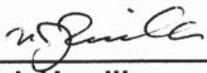
No problems were encountered during the course of the analyses.

2.2 Gamma Spectroscopy

No problems were encountered during the course of the analysis.

3.0 Case Narrative Certification Statement

“I 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 obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.”



N. Joseph Verville
Client Services Manager

12/10/10
Date

CH2Mhill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-128	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL <i>H4443</i>	TELEPHONE NO. 376-2858 <i>7754</i>	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 39		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>6WS 200</i>		FIELD LOGBOOK NO. HNF-N-507- <i>10</i>	ACTUAL SAMPLE DEPTH <i>3'</i>	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. <i>SEE PTR 20.11/29/10 02444</i>		BILL OF LADING/AIR BILL NO. <i>SEE PTR 20.11/29/10 7941 6015 1509</i>		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	None	
		HOLDING TIME	6 Months	6 Months	
		TYPE OF CONTAINER	G/P	G/P	
		NO. OF CONTAINER(S)	1	1	
		VOLUME	500mL	250mL	
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH9	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B29D34	SOIL	NOV 18 2010	<i>0535</i>	X	X

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Page 135 of 213

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>FM Hall CHPRC</i>	DATE/TIME <i>11/18/10</i> NOV 18 2010	RECEIVED BY/STORED IN <i>SSU #1 Mollo9</i>	DATE/TIME <i>11/18/10</i> NOV 18 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Radium-226, Radium-228}; (2) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};	
RELINQUISHED BY/REMOVED FROM <i>SSU #1 Mollo9</i>	DATE/TIME <i>11-29-10</i> 11-29-10	RECEIVED BY/STORED IN <i>FM Hall</i>	DATE/TIME <i>11-29-10</i> 11-29-10		
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11-29-10</i> 11-29-10	RECEIVED BY/STORED IN <i>L.D. WALL X.D. WALL</i>	DATE/TIME <i>11-29-10</i> 11-29-10		
RELINQUISHED BY/REMOVED FROM <i>L.D. WALL X.D. WALL</i>	DATE/TIME <i>11/29/10 1400</i> 11-29-10	RECEIVED BY/STORED IN <i>FEDEX</i>	DATE/TIME <i>11/29/10 1400</i> 11-29-10		
RELINQUISHED BY/REMOVED FROM <i>FEDEX</i>	DATE/TIME <i>11/30/10 0930</i> 11-30-10	RECEIVED BY/STORED IN <i>P.F. MATAWA</i>	DATE/TIME <i>11/30/10 0930</i> 11-30-10		
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

Eberline Analytical
W.O. No. S0-12-052-7755

CH2M Hill Plateau Remediation Company
SDG H4444

Case Narrative

Page 1 of 1

1.0 GENERAL

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4444 was composed of eighteen of thirty-six solid (soil) samples designated under SAF No. F11-024 with a project designation of: 183 KW Verification Sampling and Analysis - Soil.

The samples were received as stated on the chain-of-custody documents. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist.

2.0 ANALYSIS NOTES

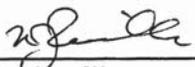
2.2 Isotopic Thorium Analysis

No problems were encountered during the course of the analyses. The results for both the original and duplicate Th-230 analyses were less than their respective MDA's, therefore no RPD, or statistical control limit is calculated.

For the reanalysis of samples B29DJ9 the Th-230 recovery for the LCS was 79.6%, less than the required 80%. The Th-230 results for both the original and duplicate reanalysis were less than their respective MDA's, therefore no RPD or statistical control limit is calculated. The relative percent difference (RPD) in the original and duplicate results for Th-228 was 30% and for Th-232 was 40%, both were greater than the control limit of 25%, however per DOE QSAS, Rev. 2.5, "When either the DER or the RPD pass, then the duplicate is acceptable." In this case, the respective DER's were 0.7 and 1.1, both less than the control limit of 3.0.

3.0 Case Narrative Certification Statement

"I 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 obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



N. Joseph Verville
Client Services Manager

1/14/11

Date

PART 1**REVISION 1****RECHECK, RECOUNT, OR REANALYSIS ORDER**

01/06/2011

Order Number: 101228EBRLNE-R7058

Eberline Services

2030 Wright Ave, P. O. Box 4040

Richmond, CA 94804-0040

Sample Delivery Group: H4444

Sample(s):

Method Name: THISO_IE_PLATE_AEA

Sample #:	B29DJ9	Sample Date:	11/18/10 1:14 pm	SAF #:	F11-024
Lab Sample ID	RDR Action	Start Date	Constituent	Action	TAT (Hardcopy/EDD)
S012052-10	12/28/2010	11:49 am	Thorium-228	RECHECK	4 Days / 4 Days
S012052-10	12/28/2010	11:49 am	Thorium-230	RECHECK	4 Days / 4 Days
S012052-10	12/28/2010	11:49 am	Thorium-232	RECHECK	4 Days / 4 Days
S012052-10	1/6/2011	6:12 am	Thorium-230	REANALYZE	15 Days / 15 Days
S012052-10	1/6/2011	6:12 am	Thorium-232	REANALYZE	15 Days / 15 Days
S012052-10	1/6/2011	6:12 am	Thorium-228	REANALYZE	15 Days / 15 Days

Deliver Report Results to: CH2M Hill Plateau Remediation Company
P.O. Box 1600
Richland, WA 99352-1234
C/O Mr. Mike Neely 2 of 54

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-004	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 1		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC2	SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DJ0	SOIL	NOV 18 2010	1615 X

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1400 NOV 18 2010	RECEIVED BY/STORED IN SSU #1 Mollis
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 0920 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 1100 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 0800 12/1/10	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME 1400 DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME DATE/TIME	RECEIVED BY/STORED IN M. WATKINS

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.



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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-048	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL 14444	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 2		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC3		SAMPLE ANALYSIS Isotopic Thorium (Thorium-232);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DJ1	SOIL	NOV 18 2010	1043 X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1400 NOV 18 2010	RECEIVED BY/STORED IN SSU #1 M. 109	DATE/TIME 1400 NOV 18 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU #1 M. 109	DATE/TIME 0920 11-30-10	RECEIVED BY/STORED IN FM Hall	DATE/TIME 0920 11-30-10		
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 1100 11-30-10	RECEIVED BY/STORED IN SSU #2	DATE/TIME 0800 11/30/10 1100		
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 0800 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker	DATE/TIME 0800 DEC 01 2010		
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 1400 DEC 01 2010	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME FED EX	RECEIVED BY/STORED IN FED EX	DATE/TIME 12/02/10 0915		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-092	PAGE 1 OF 1
COLLECTOR <i>FM Hall</i>	COMPANY CONTACT WIDRIG, DL <i>14444</i>	TELEPHONE NO. 376-2858 <i>7755</i>	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 3	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <i>GWS-1993</i>	FIELD LOGBOOK NO. <i>HNF. N. 507-10</i>	ACTUAL SAMPLE DEPTH <i>3'</i>	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR <i>02462</i>		BILL OF LADING/AIR BILL NO. SEE PTR <i>796504267445</i>			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	
		HOLDING TIME	6 Months	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	120mL	
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC4		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DJ2	SOIL	<i>11/10/10</i>	<i>0935</i>	<input checked="" type="checkbox"/>

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11/10/10 1445</i>	RECEIVED BY/STORED IN <i>SSU #1 MC-1109</i>	DATE/TIME <i>11/10/10</i>	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. <div style="border: 1px solid black; padding: 5px; display: inline-block;">ORIGINAL</div>
RELINQUISHED BY/REMOVED FROM <i>SSU #1 MC-1109</i>	DATE/TIME <i>11-30-10 0920</i>	RECEIVED BY/STORED IN <i>FM Hall</i>	DATE/TIME <i>11-30-10</i>	
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11-30-10 1100</i>	RECEIVED BY/STORED IN <i>SSU #1</i>	DATE/TIME <i>11/30/10 1100</i>	
RELINQUISHED BY/REMOVED FROM <i>SSU #1</i>	DATE/TIME <i>12/1/10 0800</i>	RECEIVED BY/STORED IN <i>SE Hamaker</i>	DATE/TIME <i>DEC 01 2010 0800</i>	
RELINQUISHED BY/REMOVED FROM <i>SE Hamaker</i>	DATE/TIME <i>DEC 01 2010 1400</i>	RECEIVED BY/STORED IN <i>FED EX</i>	DATE/TIME <i>DEC 01 2010</i>	
RELINQUISHED BY/REMOVED FROM <i>FED EX</i>	DATE/TIME <i>12/02/10 0915</i>	RECEIVED BY/STORED IN <i>FED EX</i>	DATE/TIME <i>12/02/10 0915</i>	
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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-133	PAGE 1 OF 1
COLLECTOR EM Hall		COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 7755	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 4		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-16	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC5		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DJ3	SOIL	11/16/10	0947

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
EM Hall	11/16/10	SSU #1	11/16/10		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
SSU #1	11-30-10	EM Hall	11-30-10		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
EM Hall	11-30-10	SSU #1	11/30/10		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
SSU #1	12/1/10	SE Hamaker	12/01/10		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
SE Hamaker	12/01/10	CHPRC	DEC 01 2010		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
CHPRC	DEC 01 2010	FED EX	12/02/10		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
FED EX		FE W...	0915		

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-024-137	PAGE 1 OF 1
COLLECTOR FM Hall		COMPANY CONTACT WIDRIG, DL #4444	TELEPHONE NO. 376-2858 7755	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01
SAMPLING LOCATION KW Sed. Basin Sample 5		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	DATA TURNAROUND 12 Days / 12 Days
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC6		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DJ4	SOIL	NOV 18 2010	1209 X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN SSU #1 M01109	DATE/TIME NOV 18 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU #1 MO 1109	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall	DATE/TIME 11-30-10		
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU-1	DATE/TIME 11/30/10		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN SE Hamaker	DATE/TIME DEC 01 2010		
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX	DATE/TIME 12/02/10		

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-141	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 6		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-16	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR	02462		BILL OF LADING/AIR BILL NO. 7965 0426 7445	

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	
		HOLDING TIME	6 Months	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	120mL	
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC7		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DJ5	SOIL	NOV 18 2010	1231	X

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1400 NOV 18 2010	RECEIVED BY/STORED IN SSU #1 Mo 1109
RELINQUISHED BY/REMOVED FROM SSU #1 Mo 1109	DATE/TIME 0920 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM HALL	DATE/TIME 1100 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 0800 12/1/10	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME 1400 DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 0915 12/02/10	RECEIVED BY/STORED IN FED EX

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-145	PAGE 1 OF 1
COLLECTOR FM Hall		COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 7		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HANF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 796504267445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC8		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DJ6	SOIL	11/16/10	1010 ✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11/16/10 1415	RECEIVED BY/STORED IN SSU #1 M-1109	DATE/TIME 11/16/10 1415	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10 0920	RECEIVED BY/STORED IN FM HALL	DATE/TIME 11-30-10 0920		
RELINQUISHED BY/REMOVED FROM FM HALL	DATE/TIME 11-30-10 1100	RECEIVED BY/STORED IN SSU #1	DATE/TIME 11/30/10 1100		
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker	DATE/TIME 12/1/10 0800		
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 1400	RECEIVED BY/STORED IN FED EX	DATE/TIME DEC 01 2010		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX	DATE/TIME 12/1/10 0915		
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-149	PAGE 1 OF 1
COLLECTOR FM Hall	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 8	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DC9		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DJ7	SOIL	11/16/10	10 36 ✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
FM Hall	11/16/10	SSU #1	11/16/10	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SSU #1	11-20-10	FM Hall	11-30-10	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
FM Hall	11-30-10	SSU #1	11/30/10 1100	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SSU #1	12/1/10 0800	SE Hamaker	DEC 01 2010	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SE Hamaker	1/00	CHPRC		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
CHPRC	DEC 01 2010	FED EX		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
FED EX		FF	09/15	

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-153	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 (1755)	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 9		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH surface	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR	02462		BILL OF LADING/AIR BILL NO. 796504267445	

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD0		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DJ8	SOIL	NOV 18 2010	1301 X

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0500	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME FED EX	RECEIVED BY/STORED IN FED EXPRESS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-024-008	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL <i>H4444</i>	TELEPHONE NO. 376-2858 <i>(7755)</i>	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01 DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 10		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. <i>GWS-1993</i>		FIELD LOGBOOK NO. <i>HNF-N-607-LD</i>	ACTUAL SAMPLE DEPTH <i>Surface</i>	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR <i>02462</i>	BILL OF LADING/AIR BILL NO. SEE PTR <i>79650426 7445</i>		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD1	HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DJ9	SOIL	NOV 18 2010	1314	X

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME <i>1400</i> NOV 18 2010	RECEIVED BY/STORED IN <i>SSU #1</i> 140 1109
RELINQUISHED BY/REMOVED FROM <i>SSU #1</i> 140 1109	DATE/TIME <i>0920</i> 11-30-10	RECEIVED BY/STORED IN FM HALL
RELINQUISHED BY/REMOVED FROM FM HALL	DATE/TIME <i>1100</i> 11-30-10	RECEIVED BY/STORED IN <i>SSU #2</i> 11/30/10 1100
RELINQUISHED BY/REMOVED FROM <i>SSU #2</i>	DATE/TIME <i>0800</i> 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME <i>1300</i> DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN <i>M. WATAWANA</i> 12/02/10 0915

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.



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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-012	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 11		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N507-10	ACTUAL SAMPLE DEPTH Surface	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 796504267445		
MATRIX* A=Air DL=Drum L=Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None			
		HOLDING TIME	6 Months			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	120mL			
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD1 B29DD2 12-1-10	SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B29DK0	SOIL	NOV 18 2010	1251			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN SSU #1	DATE/TIME NOV 18 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall	DATE/TIME 11-30-10		
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #2	DATE/TIME 11/30/10		
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10	RECEIVED BY/STORED IN SE Hamaker	DATE/TIME 0800		
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC	DATE/TIME DEC 01 2010		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX	DATE/TIME DEC 01 2010		
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FF-UNIT	DATE/TIME 12/02/10		

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

 ORIGINAL

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-016	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 12		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil			SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N507-10	ACTUAL SAMPLE DEPTH Surface	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 79650426 7445		
MATRIX* A=Air DL=Drum L=Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)		PRESERVATION	None		
		HOLDING TIME	6 Months			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	120mL			
		SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD3	SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B29DK1	SOIL	11-19-10	0735			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME NOV 19 2010	RECEIVED BY/STORED IN SSU #1	DATE/TIME NOV 19 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall	DATE/TIME 11-30-10		
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1	DATE/TIME 11/30/10		
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10	RECEIVED BY/STORED IN SE HANCOCK	DATE/TIME 0800		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX	DATE/TIME DEC 01 2010		
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN FED EX	DATE/TIME 12/02/10		

 ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-020	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL #14444	TELEPHONE NO. 376-2858 7755	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 13	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH surface	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum L=Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD4		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DK2	SOIL	11-19-10	0759	✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME NOV 14 2010	RECEIVED BY/STORED IN SSU #1 MO 1109
RELINQUISHED BY/REMOVED FROM SSU #1 MO 1109	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1 1100
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-024	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 14	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507- 22	ACTUAL SAMPLE DEPTH surface	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 12/10 02462 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD5	HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DK3	SOIL	11-19-10	0826	✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 19 2010	RECEIVED BY/STORED IN SSU #1 W20 109
DATE/TIME NOV 19 2010	DATE/TIME NOV 19 2010	DATE/TIME NOV 19 2010
RELINQUISHED BY/REMOVED FROM SSU #1 W20 109	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
DATE/TIME 11-30-10	DATE/TIME 11-30-10	DATE/TIME 11-30-10
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
DATE/TIME 11-30-10	DATE/TIME 11-30-10	DATE/TIME 11-30-10
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10	RECEIVED BY/STORED IN SE Hainaker
DATE/TIME 12/1/10	DATE/TIME 0800	DATE/TIME 0800
RELINQUISHED BY/REMOVED FROM SE Hainaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10	RECEIVED BY/STORED IN FEATH
DATE/TIME 12/02/10	DATE/TIME 0915	DATE/TIME 0915

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-028	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 7755	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 15	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH Surface	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD6		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DK4	SOIL	11-19-10	0746

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 11/19/10	RECEIVED BY/STORED IN SSU #1
DATE/TIME 11/19/10	DATE/TIME 11/19/10	DATE/TIME 11/19/10
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11/30/10	RECEIVED BY/STORED IN FM Hall
DATE/TIME 11/30/10	DATE/TIME 11/30/10	DATE/TIME 11/30/10
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11/30/10	RECEIVED BY/STORED IN SSU #2
DATE/TIME 11/30/10	DATE/TIME 11/30/10	DATE/TIME 11/30/10
RELINQUISHED BY/REMOVED FROM SSU #2	DATE/TIME 12/1/10	RECEIVED BY/STORED IN SE Hamaker
DATE/TIME 12/1/10	DATE/TIME 12/1/10	DATE/TIME 12/1/10
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME FED EX	RECEIVED BY/STORED IN FED EX
DATE/TIME FED EX	DATE/TIME 12/02/10	DATE/TIME 12/02/10
RELINQUISHED BY/REMOVED FROM	DATE/TIME	DATE/TIME

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-032	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 (7755)	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 16	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N507-10	ACTUAL SAMPLE DEPTH surface	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 79650426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD7		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DK5	SOIL	11-19-10	0812 ✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 19 2010	RECEIVED BY/STORED IN SSU #1 mo 1109
DATE/TIME NOV 19 2010	DATE/TIME NOV 19 2010	DATE/TIME NOV 19 2010
RELINQUISHED BY/REMOVED FROM SSU #1 mo 1109	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
DATE/TIME 11-30-10	DATE/TIME 11-30-10	DATE/TIME 11-30-10
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
DATE/TIME 11-30-10	DATE/TIME 11-30-10	DATE/TIME 11-30-10
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10	RECEIVED BY/STORED IN SE HAWARD
DATE/TIME 12/1/10	DATE/TIME 0800	DATE/TIME 0800
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010	DATE/TIME DEC 01 2010
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-024-036	PAGE 1 OF 1
COLLECTOR <i>FM Hall</i>	COMPANY CONTACT WIDRIG, DL <i>H4444</i>	TELEPHONE NO. 376-2858 <i>(7755)</i>	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 17	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>GWS-1993</i>	FIELD LOGBOOK NO. <i>HNF-N 301-10</i>	ACTUAL SAMPLE DEPTH <i>3'</i>	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR <i>02462</i>	BILL OF LADING/AIR BILL NO. SEE PTR <i>7965 0426 7445</i>			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	
		HOLDING TIME	6 Months	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	120mL	
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD8		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DK6	SOIL	<i>11-16-10</i>	<i>1214</i>	<i>X</i>

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS		
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11/16/10 1415</i>	RECEIVED BY/STORED IN <i>South #1 NO-1109</i>	DATE/TIME <i>11/16/10</i>	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
RELINQUISHED BY/REMOVED FROM <i>SSU #1 NO 1109</i>	DATE/TIME <i>11-30-10</i>	RECEIVED BY/STORED IN <i>FM Hall</i>	DATE/TIME <i>11-30-10</i>	
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11-30-10</i>	RECEIVED BY/STORED IN <i>SSU #1</i>	DATE/TIME <i>11/30/10 1100</i>	
RELINQUISHED BY/REMOVED FROM <i>SSU #1</i>	DATE/TIME <i>12/1/10 0800</i>	RECEIVED BY/STORED IN <i>SE Hamaker</i>	DATE/TIME <i>DEC 01 2010</i>	
RELINQUISHED BY/REMOVED FROM <i>SE Hamaker</i>	DATE/TIME <i>DEC 01 2010</i>	RECEIVED BY/STORED IN <i>FED EX</i>	DATE/TIME	
RELINQUISHED BY/REMOVED FROM <i>SSU #1</i>	DATE/TIME <i>FED EX</i>	RECEIVED BY/STORED IN <i>FED EX</i>	DATE/TIME <i>12/02/10 0915</i>	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

ORIGINAL

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-040	PAGE 1 OF 1
COLLECTOR <i>FM Hall</i>	COMPANY CONTACT WIDRIG, DL <i>H4444</i>	TELEPHONE NO. 376-2858 <i>7755</i>	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 18	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <i>GWS-1993</i>	FIELD LOGBOOK NO. <i>HNF N-509-10</i>	ACTUAL SAMPLE DEPTH <i>3'</i>	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR <i>02462</i>	BILL OF LADING/AIR BILL NO. SEE PTR <i>7965 0426 7445</i>				

MATRIX* A=Air DL=Drum L=Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DD9		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DK7	SOIL	11/16/10	1100 ✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11/16/10</i>	RECEIVED BY/STORED IN <i>SSU #1 Mo-1109</i>
RELINQUISHED BY/REMOVED FROM <i>SSU #1 Mo-1109</i>	DATE/TIME <i>11-30-10</i>	RECEIVED BY/STORED IN <i>FM Hall</i>
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME <i>11-30-10</i>	RECEIVED BY/STORED IN <i>SSU #1</i>
RELINQUISHED BY/REMOVED FROM <i>SSU #1</i>	DATE/TIME <i>12/1/10 0800</i>	RECEIVED BY/STORED IN <i>SE Hamaker</i>
RELINQUISHED BY/REMOVED FROM <i>SE Hamaker</i>	DATE/TIME <i>DEC 01 2010</i>	RECEIVED BY/STORED IN <i>FED EX</i>
RELINQUISHED BY/REMOVED FROM <i>FED EX</i>	DATE/TIME <i>12/02/10 0915</i>	RECEIVED BY/STORED IN <i>FL...</i>

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.



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

PART 2

Eberline Analytical
W.O. No. S0-12-053-7756

CH2M Hill Plateau Remediation Company
SDG H4444

Case Narrative

Page 1 of 1

1.0 GENERAL

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4444 was composed of eighteen of thirty-six solid (soil) samples designated under SAF No. F11-024 with a project designation of: 183 KW Verification Sampling and Analysis - Soil.

The samples were received as stated on the chain-of-custody documents. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.2 Isotopic Thorium Analysis

No problems were encountered during the course of the analyses. The results for both the original and duplicate Th-230 analyses were less than their respective MDA's, therefore no RPD, or statistical control limit is calculated.

3.0 Case Narrative Certification Statement

"I 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 obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



N. Joseph Verville
Client Services Manager

12/14/10

Date

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-024-044	PAGE 1 OF 1
COLLECTOR F.M. Hall	COMPANY CONTACT WIDRIG, DL HX444	TELEPHONE NO. 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 19	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445			

PART 2

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF0		SAMPLE ANALYSIS	Isotopic Thorium {Thorium-232};

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29DK8
68

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
29DK8	SOIL	11-16-10	1237	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall	DATE/TIME 11-16-10	RECEIVED BY/STORED IN SSU #1 M01107
RELINQUISHED BY/REMOVED FROM SSU #1 M01107	DATE/TIME 11-30-10	RECEIVED BY/STORED IN F.M. Hall
RELINQUISHED BY/REMOVED FROM F.M. Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10	RECEIVED BY/STORED IN FE [Signature]

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-052	PAGE 1 OF 1
COLLECTOR Fm Hall	COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 20	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-502-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 79650426 7445				

PART 2

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF1		SAMPLE ANALYSIS Isotopic Thorium (Thorium-232);	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DK9	SOIL	11-16-10	1300	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM Fm Hall	DATE/TIME 11/16/10 1415	RECEIVED BY/STORED IN SSU #1 Moll 1109
RELINQUISHED BY/REMOVED FROM SSU #1 Moll 1109	DATE/TIME 11-30-10 0920	RECEIVED BY/STORED IN Fm Hall
RELINQUISHED BY/REMOVED FROM Fm Hall	DATE/TIME 11-30-10 1100	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #2	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010 1400	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10	RECEIVED BY/STORED IN F. Kentlake
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-056	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 21	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-16	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF2		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DLO	SOIL	NOV 18 2010	0935	X

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PART 2

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0830	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME FED bx	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-060	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL H4H44	TELEPHONE NO. 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 22	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507- LO	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF3		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
29DL1	SOIL	NOV 18 2010	0905	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN Molloy SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10	RECEIVED BY/STORED IN 0915

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-064	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	74444	7756	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01 DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 23	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil	SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		METHOD OF SHIPMENT FEDERAL EXPRESS	
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	BILL OF LADING/AIR BILL NO. 7965 0426 7445		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR	02462		SEE PTR		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	
		HOLDING TIME	6 Months	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	120mL	
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF4		SAMPLE ANALYSIS Isotopic Thorium (Thorium-232);		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
29DL2	SOIL	NOV 18 2010	0809	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN SSU #1 Mollis
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10	RECEIVED BY/STORED IN 0915

* The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-068	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL #4444	TELEPHONE NO. 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 24	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507- 16	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 796504267445				

PART 2

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF5		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DL3	SOIL	NOV 18 2010	0837	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 18 2010	RECEIVED BY/STORED IN SSU #1 Mollon
RELINQUISHED BY/REMOVED FROM SSU #1 MC 1109	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 1400	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10 0915	RECEIVED BY/STORED IN 1400

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-072	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. H4444 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 25		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF6		SAMPLE ANALYSIS Isotopic Thorium (Thorium-232);	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DL4	SOIL	NOV 17 2010	0803	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 17 2010 RECEIVED BY/STORED IN SOUTHERN CO-1109 DATE/TIME NOV 17 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. <div style="border: 1px solid black; padding: 5px; display: inline-block;">ORIGINAL</div>
RELINQUISHED BY/REMOVED FROM SSU # 1	DATE/TIME 11-30-10 RECEIVED BY/STORED IN FM Hall	
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10 RECEIVED BY/STORED IN SSU # 4	
RELINQUISHED BY/REMOVED FROM SSU # 4	DATE/TIME 12/1/10 0800 RECEIVED BY/STORED IN SE Hammer	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010 RECEIVED BY/STORED IN FED EX	
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10 0915 RECEIVED BY/STORED IN MEDICAL CENTER	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-076	PAGE 1 OF 1
COLLECTOR FM Hall	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 26	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-59-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10		METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. 7965 0426 7445			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION		None	
		HOLDING TIME		6 Months	
		TYPE OF CONTAINER		G/P	
		NO. OF CONTAINER(S)		1	
		VOLUME		120mL	
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF7		SAMPLE ANALYSIS Isotopic Thorium (Thorium-232);			
57	SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
68	B29DL5	SOIL	11-16-10	134	X

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
FM Hall	11-16-10 1415	SSU #1 Mo-1109	11-16-10 1415	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SSU #1 Mo-1109	11-30-10 0920	FM Hall	11-30-10 0930	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
FM Hall	11-30-10 1100	SSU #1	11/30/10 1100	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SSU #1	12/1/10 0800	SE Hamaker	DEC 01 2010 0800	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SE Hamaker	1400	CHPRC		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
CHPRC	DEC 01 2010	FED EX	12/02/10 0915	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

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

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CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-024-080	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 27	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF -N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02462	BILL OF LADING/AIR BILL NO. SEE PTR 79650426 7445			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF8	SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B29DL6	SOIL	NOV 17 2010	0830 X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1430 NOV 17 2010	RECEIVED BY/STORED IN SSU #1 M01109
RELINQUISHED BY/REMOVED FROM SSU #1 M01109	DATE/TIME 0920 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 1100 11-30-10	RECEIVED BY/STORED IN SSU #4
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 0800 12/1/10	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 1100 DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME FED EX	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-084	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 28	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-16	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None		
		HOLDING TIME	6 Months		
		TYPE OF CONTAINER	G/P		
		NO. OF CONTAINER(S)	1		
		VOLUME	120mL		
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DF9	SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);		
59 of 68	SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
DL7	SOIL		NOV 17 2010	0910	X

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1430 NOV 17 2010	RECEIVED BY/STORED IN SSU #1 Mollo	DATE/TIME 1430 NOV 17 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM 954 #1 W00 1109	DATE/TIME 0920 11-30-10	RECEIVED BY/STORED IN FM HALL	DATE/TIME 0920 11-30-10		
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 1100 11-30-10	RECEIVED BY/STORED IN SSU #2	DATE/TIME 1100 11/30/10		
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 1400 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker	DATE/TIME 0800 DEC 01 2010		
RELINQUISHED BY/REMOVED FROM SE Hamaker CHPRC	DATE/TIME 1400 DEC 01 2010	RECEIVED BY/STORED IN FED EX	DATE/TIME 0915 12/02/10		
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 0915 12/02/10	RECEIVED BY/STORED IN FED EX	DATE/TIME 0915 12/02/10		

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-088	PAGE 1 OF 1
COLLECTOR <i>FM Hall</i>	COMPANY CONTACT WIDRIG, DL <i>A4444</i>	TELEPHONE NO. 376-2858 <i>7756</i>	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 29	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <i>GWS-1993</i>	FIELD LOGBOOK NO. <i>HNF 0-507-10</i>	ACTUAL SAMPLE DEPTH <i>3'</i>	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR <i>02462</i>	BILL OF LADING/AIR BILL NO. SEE PTR <i>796504267445</i>				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DHO		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B39DL8	SOIL	11-16-10	1321	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME 11-16-10 <i>1415</i>	RECEIVED BY/STORED IN <i>SSU #1</i>
RELINQUISHED BY/REMOVED FROM <i>SSU #1</i>	DATE/TIME 11-30-10 <i>0920</i>	RECEIVED BY/STORED IN <i>FM Hall</i>
RELINQUISHED BY/REMOVED FROM <i>FM Hall</i>	DATE/TIME 11-30-10 <i>1100</i>	RECEIVED BY/STORED IN <i>SSU #1</i>
RELINQUISHED BY/REMOVED FROM <i>SSU #1</i>	DATE/TIME 12-1-10 <i>0800</i>	RECEIVED BY/STORED IN <i>SE Hamaker</i>
RELINQUISHED BY/REMOVED FROM <i>SE Hamaker</i>	DATE/TIME DEC 01 2010 <i>1400</i>	RECEIVED BY/STORED IN <i>CHPRC</i>
RELINQUISHED BY/REMOVED FROM <i>CHPRC</i>	DATE/TIME DEC 01 2010 <i>1400</i>	RECEIVED BY/STORED IN <i>FED EX</i>
RELINQUISHED BY/REMOVED FROM <i>FED EX</i>	DATE/TIME 12/02/10 <i>0915</i>	RECEIVED BY/STORED IN <i>[Signature]</i>

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.



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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-096	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days	
SAMPLING LOCATION KW Sed. Basin Sample 30	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil	SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>			
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None		
		HOLDING TIME	6 Months		
		TYPE OF CONTAINER	G/P		
		NO. OF CONTAINER(S)	1		
		VOLUME	120mL		
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH1		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);		
61	SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
9DL9	SOIL		NOV 17 2010	1331	X

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9DL9
of
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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 17 2010	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM HALL
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10	RECEIVED BY/STORED IN M. K. ...
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-100	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 31		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. SEE PTR		

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MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH2		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
620168	SOIL	NOV 17 2010	0935	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1430 NOV 17 2010	RECEIVED BY/STORED IN SSU #1 MD1109
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 1400	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 2/02/10	RECEIVED BY/STORED IN M. F. ...

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-104	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 32		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR	02462	BILL OF LADING/AIR BILL NO. SEE PTR 796504267445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	
		HOLDING TIME	6 Months	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	120mL	
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH3		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29DM1	SOIL	NOV 17 2010	1011	X

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall	NOV 17 2010 SSU #1 MCH109	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
RELINQUISHED BY/REMOVED FROM CHPRC	NOV 17 2010 FM Hall	
RELINQUISHED BY/REMOVED FROM FM Hall	11/30/10 SSU #2	
RELINQUISHED BY/REMOVED FROM SSU #1	11/30/10 SE Hamaker	
RELINQUISHED BY/REMOVED FROM SE Hamaker	DEC 01 2010 CHPRC	
RELINQUISHED BY/REMOVED FROM CHPRC	DEC 01 2010 FED EX	
RELINQUISHED BY/REMOVED FROM FED EX	1/02/10	
RELINQUISHED BY/REMOVED FROM		

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-108	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days	
SAMPLING LOCATION KW Sed. Basin Sample 33	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil	SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF -N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	BILL OF LADING/AIR BILL NO. 7965 0426 7445		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR	SEE PTR				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH4	SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
99DM2	SOIL	NOV 17 2010	1305 X

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1430 NOV 17 2010	RECEIVED BY/STORED IN SSU #1 Mollo	DATE/TIME 1430 NOV 17 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 1100 11-30-10	RECEIVED BY/STORED IN FM HALL	DATE/TIME 0920 11-30-10		
RELINQUISHED BY/REMOVED FROM FM HALL	DATE/TIME 1100 11-30-10	RECEIVED BY/STORED IN SSU #2	DATE/TIME 0800 11/30/10		
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker	DATE/TIME DEC 01 2010		
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 12/1/10 DEC 01 2010	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME FED EX	RECEIVED BY/STORED IN FED EX	DATE/TIME 12/02/10		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

CRITICAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-112	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days	
SAMPLING LOCATION KW Sed. Basin Sample 34	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF -N-507- <u>10</u>	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR	BILL OF LADING/AIR BILL NO. SEE PTR 7965 0426 7445				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH5		SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B00DM3	SOIL	NOV 17 2010	1237

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PART 2

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME NOV 17 2010	RECEIVED BY/STORED IN SSU #1 mo 1109
RELINQUISHED BY/REMOVED FROM SSU #1 mo 1109	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM HALL
RELINQUISHED BY/REMOVED FROM FM HALL	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1 11/30/10 1100
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 1400	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 0 1 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME DEC 0 1 2010	RECEIVED BY/STORED IN RE-UTAH

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

ORIGINAL

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

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-116	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC		COMPANY CONTACT WIDRIG, DL	TELEPHONE NO. 376-2858	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 35		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993		FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH 3'	COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR		BILL OF LADING/AIR BILL NO. 7965 0426 7445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION		None
		HOLDING TIME		6 Months
		TYPE OF CONTAINER		G/P
		NO. OF CONTAINER(S)		1
		VOLUME		120mL
SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH6		SAMPLE ANALYSIS		Isotopic Thorium (Thorium-232);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B0DM4	SOIL	NOV 17 2010	1040	X

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME NOV 17 2010	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM Hall
RELINQUISHED BY/REMOVED FROM FM Hall	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #1
RELINQUISHED BY/REMOVED FROM SSU #2	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker
RELINQUISHED BY/REMOVED FROM SE Hamaker	DATE/TIME 12/01/10	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME 12/02/10 0915	RECEIVED BY/STORED IN FM Hall

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.

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

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CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-120	PAGE 1 OF 1
COLLECTOR FM Hall CHPRC	COMPANY CONTACT WIDRIG, DL H4444	TELEPHONE NO. 376-2858 7756	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 36		PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-1993	FIELD LOGBOOK NO. HNF-N-507-16	ACTUAL SAMPLE DEPTH 3'		COA 301962ES10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services		OFFSITE PROPERTY NO. SEE PTR 02462		BILL OF LADING/AIR BILL NO. SEE PTR 796504267445		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	None	
		HOLDING TIME	6 Months	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	120mL	
	SPECIAL HANDLING AND/OR STORAGE RADIOACTIVE TIE TO: B29DH7	SAMPLE ANALYSIS	Isotopic Thorium (Thorium-232);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B9DM5	SOIL	NOV 17 2010	1211	X

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM FM Hall CHPRC	DATE/TIME 1430 NOV 17 2010	RECEIVED BY/STORED IN SSU#1 Mollo	DATE/TIME 1430 NOV 17 2010	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.	
RELINQUISHED BY/REMOVED FROM SSU#1	DATE/TIME 11-30-10	RECEIVED BY/STORED IN FM HALL	DATE/TIME 11-30-10		
RELINQUISHED BY/REMOVED FROM FM HALL	DATE/TIME 11-30-10	RECEIVED BY/STORED IN SSU #2	DATE/TIME 11/30/10 1100		
RELINQUISHED BY/REMOVED FROM SSU #1	DATE/TIME 12/1/10 0800	RECEIVED BY/STORED IN SE Hamaker	DATE/TIME 0800		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME DEC 01 2010	RECEIVED BY/STORED IN FED EX	DATE/TIME DEC 01 2010		
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN KUNTA SKAN	DATE/TIME 12/02/10 0915		

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

Eberline Analytical
W.O. No. S0-12-143-7759

CH2M Hill Plateau Remediation Company
SDG H4456

Case Narrative

Page 1 of 1

1.0 GENERAL

CH2M Hill Plateau Remediation Company (CHPRC) Sample Delivery Group H4456 was composed of two solid (soil) samples designated under SAF No. F11-024 with a Project Designation of: 183 KW Verification Sampling and Analysis – Soil.

The samples were received as stated on the chain-of-custody document. Any discrepancies are noted on the Eberline Analytical Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analysis

No problems were encountered during the course of the analyses.

2.2 Isotopic Thorium Analysis

No problems were encountered during the course of the analyses. The results for both the original and duplicate Th-230 analyses were less than their respective MDA's, therefore no RPD, or statistical control limit is calculated.

2.3 Gamma Spectroscopy

No problems were encountered during the course of the analysis.

3.0 Case Narrative Certification Statement

"I 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 obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."



N. Joseph Verville
Client Services Manager

12/20/10

Date

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-024-154	PAGE 1 OF 1
COLLECTOR F. Hall	COMPANY CONTACT WIDRIG, DL 4456	TELEPHONE NO. 376-2858 (7759)	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 10 SPLIT	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024		AIR QUALITY <input type="checkbox"/>	
TIE CHEST NO. GWS-52121	FIELD LOGBOOK NO. HNF-N-507-10	ACTUAL SAMPLE DEPTH N/A	COA 94 12/6/10 30192ES10 302682	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PTR 02495		BILL OF LADING/AIR BILL NO. SEE PTR 7941 8991 7581			

MATRIX*
A=Air
DL=Drum
L=Liquids
DS=Drum
S=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
RADIOACTIVE TIE TO: B29DD1

PRESERVATION	None	None
HOLDING TIME	6 Months	6 Months
TYPE OF CONTAINER	G/P	G/P
NO. OF CONTAINER(S)	1	1
VOLUME	500ml 60ml 94	250ml 60ml 12/6/10
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS

35
08
37

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
109RL3	SOIL	12/7/10	0745	✓	✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES
RELINQUISHED BY/REMOVED FROM F. Hall	RECEIVED BY/STORED IN L.D. Wall
DATE/TIME DEC 07 2010	DATE/TIME DEC 07 2010 0900
RELINQUISHED BY/REMOVED FROM L.D. Wall	RECEIVED BY/STORED IN FEDEX
DATE/TIME DEC 07 2010 1400	DATE/TIME 10:50
RELINQUISHED BY/REMOVED FROM FEDEX	RECEIVED BY/STORED IN Alex Keelson
DATE/TIME	DATE/TIME 12/07/10
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN
DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN
DATE/TIME	DATE/TIME
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN
DATE/TIME	DATE/TIME

SPECIAL INSTRUCTIONS
** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.
(1) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Radium-228};
(2) Gross Alpha {Gross alpha}; Gross Beta {Gross beta};

 ORIGINAL

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

RECEIVED DECEMBER 20, 2010

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F11-024-158	PAGE 1 OF 1
COLLECTOR F. HALL	COMPANY CONTACT WIDRIG, DL H4456	TELEPHONE NO. 376-2858 (7759)	PROJECT COORDINATOR WIDRIG, DL	PRICE CODE C01	DATA TURNAROUND 12 Days / 12 Days
SAMPLING LOCATION KW Sed. Basin Sample 31 DUP	PROJECT DESIGNATION 183 KW Verification Sampling and Analysis - Soil		SAF NO. F11-024	AIR QUALITY <input type="checkbox"/>	
TCF CHEST NO. 6WS-121	FIELD LOGBOOK NO. HNF-N-502-10	ACTUAL SAMPLE DEPTH N/A	COA 302682 301962ES10 12/6/10	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SEE PFR 12/17/10 02495	BILL OF LADING/AIR BILL NO. SEE PFR 12/17/10 7941 8991 7581			

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

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

PRESERVATION	None
HOLDING TIME	6 Months
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	120mL 600mL 12/6/10

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B29DH2

SAMPLE ANALYSIS
Isotopic Thorium (Thorium-232);

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SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B29VX1	SOIL	12/17/10	0730	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F. HALL	DATE/TIME DEC 07 2010 0900	RECEIVED BY/STORED IN R.D. Wall	DATE/TIME DEC 07 2010 0900	
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME DEC 07 2010 1400	RECEIVED BY/STORED IN FED EX	DATE/TIME	
RELINQUISHED BY/REMOVED FROM FED EX	DATE/TIME	RECEIVED BY/STORED IN KELENKOS	DATE/TIME 12/08/10	
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	

 ORIGINAL

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

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RECEIVED DECEMBER 20, 2010

Appendix 5

Data Validation Supporting Documentation

Data Validation for Radiochemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

Appendix B - Radiochemical Data Validation Checklist

RADIOCHEMICAL DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 183 KW			DATA PACKAGE: VSR11-032		
VALIDATOR: Eyda Hergenreder		LAB: TestAmerica, Eberline		DATE: 03-14-2011	
			SDG: W06065, W06073, H4436, H4443, H4444, H4456		
ANALYSES PERFORMED					
Gross Alpha/Beta <input checked="" type="checkbox"/>	Strontium-90	Technetium-99	Alpha Spectroscopy <input checked="" type="checkbox"/>	Gamma Spectroscopy <input checked="" type="checkbox"/>	
Total Uranium	Radium-22	Tritium	C-14	I-129	
<p>SAMPLES/MATRIX Water and soil samples</p> <p>SDG W06065: B29DM6</p> <p>SDG W06073: B29RL4</p> <p>SDG H4436: B29DN0</p> <p>SDG H4443: B29D34</p> <p>SDG H4444: B29DJ0, B29DJ1, B29DJ2, B29DJ3, B29DJ4, B29DJ5, B29DJ6, B29DJ7, B29DJ8, B29DJ9, B29DK0, B29DK1, B29DK2, B29DK3, B29DK4, B29DK5, B29DK6, B29DK7, B29DK8, B29DK9, B29DL0, B29DL1, B29DL2, B29DL3, B29DL4, B29DL5, B29DL6, B29DL7, B29DL8, B29DL9, B29DM0, B29DM1, B29DM2, B29DM3, B29DM4, B29DM5</p> <p>SDG H4456: B29RL3, B29VX1</p>					

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

Data Validation for Radiochemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

Comments:

- 3. Continuing Calibration (Levels D, E).....~~X~~ 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)~~X~~ 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:

Data Validation for Radiochemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

- 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:

SDG H4436: Equipment blank B29DN0: Th-228 0.269 pCi/L

- 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: None

Data Validation for Radiochemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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: None

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: None

Data Validation for Radiochemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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: None

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:

SDG W06073: Duplicate analysis not preformed with sample

Data Validation for Radiochemical Analyses

Published Date: 08/16/10

Effective Date: 08/16/10

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:

MDCs > CRDLs for associated non-detect sample results

H4456: CRDLs/MDCs for sample B29RL3

Co-60 0.05 pCi/g/0.15 pCi/g

Cs-137: 0.05 pCi/g/0.141 pCi/g

Eu-152/Eu-154/Eu-155 CRDLs 1/1/1 pCi/g, B29RL3 MDCs 0.28/0.42/0.25 pCi/g

Appendix 6

Additional Documentation Requested By Client

FORM II

Date: 28-Dec-10

DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: W06065

Collection Date: 11/17/2010 8:30:00 AM

Lot-Sample No.: J0L020426-1

Report No. : 45382

Received Date: 12/1/2010 1:15:00 PM

Client Sample ID: B29DM6 DUP

COC No. : F11-024-124

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0344397	THISO_JE_PRECIP_AEA		Work Order: MAQMH1AD		Report DB ID: MAQMH1DR		Orig Sa DB ID: 9MAQMH20					
TH-228	5.14E-01		1.9E-01	2.0E-01	1.22E-01	pCi/g	27%	(4.2)	12/17/10 04:15 p		2.0	ALP113
	6.15E-01		RPD 17.9			1.00E+00		(5.)			g	
TH-230	6.91E-01		2.1E-01	2.4E-01	7.70E-02	pCi/g	27%	(9.)	12/17/10 04:15 p		2.0	ALP113
	6.29E-01		RPD 9.5			1.00E+00		(5.9)			g	
TH-232	7.36E-01		2.2E-01	2.5E-01	7.70E-02	pCi/g	27%	(9.6)	12/17/10 04:15 p		2.0	ALP113
	5.77E-01		RPD 24.2			1.00E+00		(6.)			g	

Alpha Spec Result Sum = 1.9E+00

No. of Results: 3 Comments:

TestAmerica RPD - Relative Percent Difference.

rptSTLRchDupV5.2 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

.9 A2002

FORM II
BLANK RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica

SDG: W06065

Matrix: SOIL

Report No. : 45382

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0344397	THISO_IE_PRECIP_AEA		Work Order: MA7ND1AA		Report DB ID: MA7ND1AB							
TH-228	6.71E-02		3.4E-02	3.5E-02	2.13E-02	pCi/g	99%	(3.2)	12/17/10 04:15 p		2.03	ALP117
					4.86E-03	1.00E+00		(3.8)			g	
TH-230	4.10E-02		2.6E-02	2.7E-02	1.66E-02	pCi/g	99%	(2.5)	12/17/10 04:15 p		2.03	ALP117
					2.72E-03	1.00E+00		(3.1)			g	
TH-232	4.10E-02		2.6E-02	2.7E-02	1.66E-02	pCi/g	99%	(2.5)	12/17/10 04:15 p		2.03	ALP117
					2.72E-03	1.00E+00		(3.1)			g	

No. of Results: 3

Comments:

FORM II
LCS RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica
Matrix: SOIL

SDG: W06065
Report No. : 45382

Parameter	Result	Count Qual	Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 0344397	THISO_IE_PRECIP_AEA					Work Order: MA7ND1AC		Report DB ID: MA7ND1CS					
TH-230	1.12E+00		1.4E-01	2.2E-01	1.85E-02	pCi/g	77%	1.16E+00	3.48E-02	97%	12/17/10 04:16 p	1.98	ALP118
							Rec Limits:	70	130	0.0		g	

No. of Results: 1 Comments:

FORM II
BLANK RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica
Matrix: SOIL

SDG: W06073
Report No. : 45391

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 0341310			7196_CR6	Work Order: MA06P1AA			Report DB ID: MA06P1AA					
HEXCHROME	1.55E-01	U	0.0E+00	1.55E-01	mg/kg	N/A	1.	12/7/10 02:25 p	2.5	g		
					1.55E-01			N/A				
Batch: 0354388			THISO_IE_PRECIP_AEA	Work Order: MCLHG1AA			Report DB ID: MCLHG1AB					
TH-228	5.63E-03	U	1.4E-02	1.4E-02	3.22E-02	pCi/g	94%	0.17	12/22/10 08:36 p	2.01	ALP113	
					9.76E-03	1.00E+00		0.81		g		
TH-230	1.39E-02	U	1.6E-02	1.6E-02	2.21E-02	pCi/g	94%	0.63	12/22/10 08:36 p	2.01	ALP113	
					4.81E-03	1.00E+00		(1.7)		g		
TH-232	-9.25E-04	U	9.4E-03	9.4E-03	2.21E-02	pCi/g	94%	-0.04	12/22/10 08:36 p	2.01	ALP113	
					4.81E-03	1.00E+00		-0.2		g		
No. of Results: 4			Comments:									

FORM II
LCS RESULTS

Date: 28-Dec-10

Lab Name: TestAmerica

SDG: W06073

Matrix: SOIL

Report No. : 45391

Parameter	Result	Count Qual	Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 0341310	7196_CR6					Work Order: MA06P1AC		Report DB ID: MA06P1AC					
HEXCHROME	1.95E+01			0.0E+00	1.55E-01	mg/kg	N/A	2.00E+01		97%	12/7/10 02:25 p	2.5	
							Rec Limits:	80	120	0.0		g	
Batch: 0354388	THISO_IE_PRECIP_AEA					Work Order: MCLHG1AC		Report DB ID: MCLHG1CS					
TH-230	1.03E+00		1.3E-01	2.0E-01	1.68E-02	pCi/g	100%	1.15E+00	3.46E-02	89%	12/22/10 08:36 p	2.0	ALP116
							Rec Limits:	70	130	-0.1		g	

No. of Results: 2 Comments:

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.

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V5.2.9 A2002

EH
3/14/11

EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4436

7746-003

Method Blank

M E T H O D B L A N K

SDG <u>7746</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4436</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S011163-03</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7746-003</u>	Material/Matrix <u>WATER</u>	
	SAF No <u>F11-026</u>	

ANALYTE	CAS NO	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.067	0.13	0.213		U	TH
Thorium 230	14269-63-7	-0.067	0.18	0.376	1.00	U	TH
Thorium 232	TH-232	0.022	0.044	0.170	1.00	U	TH

QC-BLANK #76110

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4436

7746-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7746</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4436</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S011163-02</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7746-002</u>	Material/Matrix <u>WATER</u>	
	SAF No <u>F11-026</u>	

ANALYTE	RESULT pCi/L	2 σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ADDED pCi/L	2 σ ERR pCi/L	REC %	3 σ LMES (TOTAL)	PROTOCOL LIMITS
Thorium 230	9.91	1.2	0.339	1.00		TH	11.3	0.45	88	80-120	80-120

QC-LCS #76109

LAB CONTROL SAMPLES

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>12/01/10</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4436

7746-004

B29DNO

DUPLICATE

SDG <u>7746</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4436</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S011163-04</u>	Lab sample id <u>S011163-01</u>	Client sample id <u>B29DNO</u>
Dept sample id <u>7746-004</u>	Dept sample id <u>7746-001</u>	Location/Matrix <u>KW Sed. Basin Sample 37 WATER</u>
	Received <u>11/18/10</u>	Collected/Volume <u>11/16/10 08:35</u> <u>1 L</u>
		Custody/SAF No <u>F11-026-004</u> <u>F11-026</u>

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ TOT	DER σ
Thorium 228	0.118	0.14	0.260		U	TH	0.269	0.18	0.215		78	178	1.3
Thorium 230	<u>-0.164</u>	0.14	0.396	1.00	U	TH	-0.089	0.18	0.378	U	-		0.7
Thorium 232	0.023	0.047	0.179	1.00	U	TH	0.022	0.045	0.171	U	-		0

QC-DUP#1 76111

183 KW Verification Sampling and Analysis -QC Sampling

DUPLICATES

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>12/01/10</u>

EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4443

7754-003

Method Blank

METHOD BLANK

SDG <u>7754</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4443</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S011241-03</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7754-003</u>	Material/Matrix _____	<u>SOLID</u>
	SAF No <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Gross Alpha	12587-46-1	-0.560	1.7	3.98	10.0	U	93A
Gross Beta	12587-47-2	0.144	3.0	5.16	15.0	U	93B
Tin 126	15832-50-5	U		0.018		U	GAM
Beryllium 7	13966-02-4	U		0.065		U	GAM
Potassium 40	13966-00-2	U		0.114		U	GAM
Cobalt 60	10198-40-0	U		0.011	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.056		U	GAM
Antimony 125	14234-35-6	U		0.020		U	GAM
Cesium 134	13967-70-9	U		0.011		U	GAM
Cesium 137	10045-97-3	U		0.008	0.100	U	GAM
Europium 152	14683-23-9	U		0.024	0.100	U	GAM
Europium 154	15585-10-1	U		0.032	0.100	U	GAM
Europium 155	14391-16-3	U		0.025	0.100	U	GAM
Niobium 94	14681-63-1	U		0.010		U	GAM
Radium 226	13982-63-3	U		0.018		U	GAM
Radium 228	15262-20-1	U		0.039		U	GAM

QC-BLANK #76233

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/10/10</u>

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EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4443

7754-002

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7754</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4443</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S011241-02</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7754-002</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-024</u>	

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	111	13	3.65	10.0		93A	101	4.0	110	60-140	70-130
Gross Beta	86.0	7.1	5.07	15.0		93B	87.8	3.5	98	67-133	70-130
Cobalt 60	0.260	0.024	0.014	0.050		GAM	0.267	0.011	97	82-118	80-120
Cesium 137	0.308	0.022	0.014	0.100		GAM	0.285	0.011	108	83-117	80-120

QC-LCS #76232

LAB CONTROL SAMPLES

Page 1

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>12/10/10</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4443

7754-004

B29D34

DUPLICATE

SDG <u>7754</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4443</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S011241-04</u>	Lab sample id <u>S011241-01</u>	Client sample id <u>B29D34</u>
Dept sample id <u>7754-004</u>	Dept sample id <u>7754-001</u>	Location/Matrix <u>KW Sed. Basin Sample 39 SOLID</u>
	Received <u>11/30/10</u>	Collected/Weight <u>11/18/10 09:35 958 g</u>
% solids <u>94.1</u>	% solids <u>94.1</u>	Custody/SAF No <u>F11-024-128 F11-024</u>

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI- FIERS	RPD %	3σ TOT	DER σ
Gross Alpha	4.96	3.7	4.58	10.0		93A	7.86	4.2	4.48		45	138	1.0
Gross Beta	15.6	4.1	5.36	15.0		93B	15.9	4.6	6.48		2	73	0.1
Tin 126	U		0.039		U	GAM	U		0.125	U	-		1.3
Beryllium 7	U		0.150		U	GAM	U		0.160	U	-		0.1
Potassium 40	9.79	0.46	0.229			GAM	9.90	0.51	0.237		1	18	0.2
Cobalt 60	U		0.021	0.050	U	GAM	U		0.025	U	-		0.2
Ruthenium 106	U		0.158		U	GAM	U		0.166	U	-		0.1
Antimony 125	U		0.040		U	GAM	U		0.044	U	-		0.1
Cesium 134	U		0.028		U	GAM	U		0.041	U	-		0.5
Cesium 137	U		0.018	0.100	U	GAM	U		0.022	U	-		0.3
Europium 152	U		0.047	0.100	U	GAM	U		0.053	U	-		0.2
Europium 154	U		0.065	0.100	U	GAM	U		0.068	U	-		0.1
Europium 155	U		0.051	0.100	U	GAM	U		0.056	U	-		0.1
Niobium 94	U		0.018		U	GAM	U		0.020	U	-		0.1
Radium 226	0.346	0.041	0.037			GAM	0.351	0.044	0.041		1	30	0.1
Radium 228	0.620	0.096	0.091			GAM	0.538	0.12	0.114		14	43	1.0

QC-DUP#1 76234

183 KW Verification Sampling and Analysis - Soil

Lab id EBRINE
Protocol CHPRC
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 12/10/10

PART 1

REVISION 1

EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-020

Method Blank

METHOD BLANK

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG_H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-20</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7755-020</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0	0.22	0.454	1.00	U	TH
Thorium 230	14269-63-7	-0.037	0.30	0.653	1.00	U	TH
Thorium 232	TH-232	0	0.074	0.282	1.00	U	TH

QC-BLANK #76301

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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PART 1

REVISION 1

EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4444

7755-023

Method Blank

METHOD BLANK

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG_H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012052-23</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7755-023</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.198	0.24	0.380	1.00	U	TH
Thorium 230	14269-63-7	-0.277	0.32	0.730	1.00	U	TH
Thorium 232	TH-232	0.040	0.079	0.303	1.00	U	TH

QC-BLANK #76706

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

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EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

7755-019

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012052-19</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7755-019</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-024</u>	

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Thorium 230	18.4	2.3	0.684	1.00	TH	18.9	0.76	97	78-122	80-120

QC-LCS #76300

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

7755-022

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012052-22</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7755-022</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-024</u>	

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Thorium 230	15.0	2.0	0.684	1.00		TH	18.9	0.76	<u>79</u>	81-119	80-120

QC-LCS #76705

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

7755-021

B29DJ0

DUPLICATE

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S012052-21</u>	Lab sample id <u>S012052-01</u>	Client sample id <u>B29DJ0</u>
Dept sample id <u>7755-021</u>	Dept sample id <u>7755-001</u>	Location/Matrix <u>KW Sed. Basin Sample 1</u> <u>SOLID</u>
	Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 10:15</u> <u>142 g</u>
% solids <u>91.2</u>	% solids <u>91.2</u>	Custody/SAF No <u>F11-024-004</u> <u>F11-024</u>

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI- FIERS	RPD %	3σ TOT	DER σ
Thorium 228	0.624	0.33	0.363	1.00		TH	0.764	0.45	0.430		20	122	0.5
Thorium 230	0.262	0.39	0.627	1.00	U	TH	0.359	0.45	0.795	U	-		0.3
Thorium 232	0.557	0.27	0.251	1.00		TH	0.718	0.36	0.343		25	107	0.7

QC-DUP#1 76302

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

7755-024

B29DJ9

DUPLICATE

SDG <u>7755</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S012052-24</u>	Lab sample id <u>S012052-10</u>	Client sample id <u>B29DJ9</u>
Dept sample id <u>7755-024</u>	Dept sample id <u>7755-010</u>	Location/Matrix <u>KW Sed. Basin Sample 10</u> <u>SOLID</u>
	Received <u>12/02/10</u>	Collected/Weight <u>11/18/10 13:14</u> <u>134 g</u>
% solids <u>90.2</u>	% solids <u>90.2</u>	Custody/SAF No <u>F11-024-008</u> <u>F11-024</u>

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI- FIERS	RPD %	3σ TOT	DER σ
Thorium 228	0.559	0.35	0.412	1.00		TH	0.757	0.40	0.382		30	122	0.7
Thorium 230	0.043	0.43	0.761	1.00	U	TH	0	0.40	0.734	U	-		0.1
Thorium 232	0.774	0.35	0.329	1.00		TH	0.518	0.32	0.305		40	112	1.1

QC-DUP#10 76707

183 KW Verification Sampling and Analysis - Soil

DUPLICATES

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SUMMARY DATA SECTION

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>01/14/11</u>

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

Test TH Matrix SOLID
 SDG 7755
 Contact N. Joseph Verville

Client CHPRC
 Contract No. 33677
 Contract SDG H4444

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN SOLIDS
 ALPHA SPECTROSCOPY

METHOD PERFORMANCE

LAB	RAW	SUF-	MAX MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-				
SAMPLE ID	TEST	FIX	CLIENT	SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7270-185			2σ prep error 8.0 %			Reference Lab Notebook No. 7270 pg.185											
S012052-01	B29DJ0		0.795	0.250			83		152		21	12/09/10	12/09				SS-031
S012052-02	B29DJ1		0.704	0.250			94		152		21	12/09/10	12/09				SS-032
S012052-03	B29DJ2		0.837	0.250			73		152		23	12/09/10	12/09				SS-033
S012052-04	B29DJ3		0.729	0.250			83		152		23	12/09/10	12/09				SS-034
S012052-05	B29DJ4		0.656	0.250			95		152		21	12/09/10	12/09				SS-035
S012052-06	B29DJ5		0.651	0.250			91		152		21	12/09/10	12/09				SS-036
S012052-07	B29DJ6		0.711	0.250			90		152		23	12/09/10	12/09				SS-037
S012052-08	B29DJ7		0.730	0.250			93		152		23	12/09/10	12/09				SS-038
S012052-09	B29DJ8		0.688	0.250			95		153		21	12/09/10	12/09				SS-039
S012052-11	B29DK0		0.726	0.250			75		153		21	12/09/10	12/09				SS-047
S012052-12	B29DK1		0.627	0.250			90		153		20	12/09/10	12/09				SS-048
S012052-13	B29DK2		0.610	0.250			98		153		20	12/09/10	12/09				SS-049
S012052-14	B29DK3		0.632	0.250			89		153		20	12/09/10	12/09				SS-050
S012052-15	B29DK4		0.676	0.250			92		161		21	12/09/10	12/10				SS-030
S012052-16	B29DK5		0.690	0.250			98		161		21	12/09/10	12/10				SS-031
S012052-17	B29DK6		0.668	0.250			93		161		24	12/09/10	12/10				SS-032
S012052-18	B29DK7		0.693	0.250			95		161		24	12/09/10	12/10				SS-033
S012052-19	Lab Control Sample		0.684	0.250			92		161			12/09/10	12/10				SS-034
S012052-20	Method Blank		0.653	0.250			88		159			12/09/10	12/10				SS-035
S012052-21	Duplicate (S012052-01)		0.627	0.250			97		159		22	12/09/10	12/10				SS-036
Preparation batch 7270-185A			2σ prep error 8.0 %			Reference Lab Notebook No. 7270 pg.185											
S012052-10	A1	B29DJ9	0.734	0.250			89		152		48	01/05/11	01/05				SS-031
S012052-22		Lab Control Sample	0.684	0.250			99		152			01/05/11	01/05				SS-032
S012052-23		Method Blank	0.730	0.250			91		153			01/05/11	01/05				SS-033
S012052-24		Duplicate (S012052-10)	0.761	0.250			88		153		48	01/05/11	01/05				SS-034
Nominal values and limits from method			1.00	0.250			30-110		150								180

PROCEDURES REFERENCE THISO_IE_PLATE_AEA
 SPP-070 Soil Dissolution, < 1.0g Aliquot, rev 1
 CP-900 Thorium in Water and Dissolved Solid Samples by
 Extraction Chromatography, rev 5
 CP-008 Heavy Element Electroplating, rev 13

AVERAGES ± 2 SD MDA 0.696 ± 0.109
 FOR 24 SAMPLES YIELD 90 ± 13

Lab id EBRLNE
 Protocol CHPRC
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 01/14/11

PART 2

E B E R L I N E A N A L Y T I C A L / R I C H M O N D
S A M P L E D E L I V E R Y G R O U P H 4 4 4 4

7756-020

Method Blank

M E T H O D B L A N K

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4444</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012053-20</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7756-020</u>	Material/Matrix _____	<u>SOLID</u>
	SAF No <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Thorium 228	14274-82-9	0.117	0.18	0.322	1.00	U	TH
Thorium 230	14269-63-7	0.058	0.35	0.574	1.00	U	TH
Thorium 232	TH-232	0.029	0.058	0.222	1.00	U	TH

QC-BLANK #76304

METHOD BLANKS
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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>12/14/10</u>

PART 2

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

7756-019

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
Lab sample id <u>S012053-19</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7756-019</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-024</u>	

ANALYTE	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS TEST	ADDED pCi/g	2 σ ERR pCi/g	REC %	3 σ LMTS (TOTAL)	PROTOCOL LIMITS
Thorium 230	21.6	2.4	0.644	1.00	TH	22.7	0.91	95	80-120	80-120

QC-LCS #76303

LAB CONTROL SAMPLES

Page 1

SUMMARY DATA SECTION

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Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>12/14/10</u>

PART 2

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

7756-021

B29DK8

DUPLICATE

SDG <u>7756</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4444</u>
Contact <u>N. Joseph Verville</u>	Contract <u>No. 33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S012053-21</u>	Lab sample id <u>S012053-01</u>	Client sample id <u>B29DK8</u>
Dept sample id <u>7756-021</u>	Dept sample id <u>7756-001</u>	Location/Matrix <u>KW Sed. Basin Sample 19 SOLID</u>
	Received <u>12/02/10</u>	Collected/Weight <u>11/16/10 12:37 130 g</u>
% solids <u>91.3</u>	% solids <u>91.3</u>	Custody/SAF No <u>F11-024-044 F11-024</u>

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI- FIERS	RPD %	3σ TOT	DER σ
Thorium 228	1.01	0.35	0.319	1.00		TH	0.942	0.37	0.347		7	80	0.3
Thorium 230	0.144	0.35	0.586	1.00	U	TH	0.072	0.36	0.690	U	-		0.3
Thorium 232	0.719	0.29	0.220	1.00		TH	0.831	0.37	0.276		14	93	0.5

QC-DUP#1 76305

183 KW Verification Sampling and Analysis - Soil

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>12/14/10</u>

PART 2

EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4444

Test TH Matrix SOLID
 SDG 7756
 Contact N. Joseph Verville

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN SOLIDS

ALPHA SPECTROSCOPY

Client CHPRC
 Contract No. 33677
 Contract SDG H4444

METHOD PERFORMANCE

LAB	RAW	SUF-	MAX MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-				
SAMPLE ID	TEST	FIX	CLIENT	SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 7270-188			2σ prep error 8.0 %		Reference Lab Notebook No. 7270 pg.188												
S012053-01	B29DK8		0.690	0.250			92		171			26	12/10/10	12/12			SS-031
S012053-02	B29DK9		0.437	0.250			90		373			24	12/10/10	12/10			SS-031
S012053-03	B29DL0		0.407	0.250			102		373			22	12/10/10	12/10			SS-032
S012053-04	B29DL1		0.437	0.250			91		373			22	12/10/10	12/10			SS-033
S012053-05	B29DL2		0.416	0.250			97		373			22	12/10/10	12/10			SS-034
S012053-06	B29DL3		0.390	0.250			98		373			22	12/10/10	12/10			SS-035
S012053-07	B29DL4		0.410	0.250			89		373			23	12/10/10	12/10			SS-036
S012053-08	B29DL5		0.419	0.250			89		373			24	12/10/10	12/10			SS-037
S012053-09	B29DL6		0.418	0.250			94		373			23	12/10/10	12/10			SS-038
S012053-10	B29DL7		0.426	0.250			94		373			23	12/10/10	12/10			SS-039
S012053-11	B29DL8		0.427	0.250			84		373			24	12/10/10	12/10			SS-040
S012053-12	B29DL9		0.390	0.250			85		374			23	12/10/10	12/10			SS-047
S012053-13	B29DM0		0.370	0.250			94		374			23	12/10/10	12/10			SS-048
S012053-14	B29DM1		0.363	0.250			98		375			23	12/10/10	12/10			SS-049
S012053-15	B29DM2		0.408	0.250			82		375			23	12/10/10	12/10			SS-050
S012053-16	B29DM3		0.633	0.250			96		171			25	12/10/10	12/12			SS-032
S012053-17	B29DM4		0.693	0.250			90		171			25	12/10/10	12/12			SS-033
S012053-18	B29DM5		0.647	0.250			96		171			25	12/10/10	12/12			SS-034
S012053-19	Lab Control Sample		0.644	0.250			81		167				12/10/10	12/13			SS-049
S012053-20	Method Blank		0.574	0.250			93		167				12/10/10	12/13			SS-048
S012053-21	Duplicate (S012053-01)		0.586	0.250			96		167			27	12/10/10	12/13			SS-050
Nominal values and limits from method			1.00	0.250			30-110		150			180					

PROCEDURES REFERENCE THISO_IE_PLATE_AEA
 SPP-070 Soil Dissolution, < 1.0g Aliquot, rev 1
 CP-900 Thorium in Water and Dissolved Solid Samples by
 Extraction Chromatography, rev 5
 CP-008 Heavy Element Electroplating, rev 13

AVERAGES ± 2 SD MDA 0.485 ± 0.231
 FOR 21 SAMPLES YIELD 92 ± 11

METHOD SUMMARIES
 Page 2
 SUMMARY DATA SECTION
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Lab id EBRLNE
 Protocol CHPRC
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 12/14/10

RECEIVED DECEMBER 20, 2010

EBERLINE ANALYTICAL / RICHMOND
SAMPLE DELIVERY GROUP H4456

7759-004

Method Blank

METHOD BLANK

SDG <u>7759</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4456</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
Lab sample id <u>S012143-04</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7759-004</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F11-024</u>	

ANALYTE	CAS NO	RESULT pCi/g	2 σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Gross Alpha	12587-46-1	-0.022	1.5	3.80	10.0	U	93A
Gross Beta	12587-47-2	-1.24	2.7	4.92	15.0	U	93B
Thorium 228	14274-82-9	0.081	0.16	0.387	1.00	U	TH
Thorium 230	14269-63-7	-0.121	0.32	0.714	1.00	U	TH
Thorium 232	TH-232	0	0.081	0.309	1.00	U	TH
Tin 126	15832-50-5	U		0.035		U	GAM
Beryllium 7	13966-02-4	U		0.166		U	GAM
Potassium 40	13966-00-2	U		0.280		U	GAM
Cobalt 60	10198-40-0	U		0.023	0.050	U	GAM
Ruthenium 106	13967-48-1	U		0.187		U	GAM
Antimony 125	14234-35-6	U		0.056		U	GAM
Cesium 134	13967-70-9	U		0.029		U	GAM
Cesium 137	10045-97-3	U		0.022	0.100	U	GAM
Europium 152	14683-23-9	U		0.062	0.100	U	GAM
Europium 154	15585-10-1	U		0.065	0.100	U	GAM
Europium 155	14391-16-3	U		0.056	0.100	U	GAM
Niobium 94	14681-63-1	U		0.020		U	GAM
Radium 226	13982-63-3	U		0.056		U	GAM
Radium 228	15262-20-1	U		0.102		U	GAM

QC-BLANK #76388

METHOD BLANKS
Page 1
SUMMARY DATA SECTION
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Lab id EBRLNE
Protocol CHPRC
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 12/17/10

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EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4456

7759-003

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7759</u> Contact <u>N. Joseph Verville</u> Lab sample id <u>S012143-03</u> Dept sample id <u>7759-003</u>	Client/Case no <u>CHPRC</u> <u>SDG H4456</u> Contract <u>No. 33677</u> Client sample id <u>Lab Control Sample</u> Material/Matrix <u>SOLID</u> SAF No <u>F11-024</u>
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ANALYTE	RESULT	2 σ ERR	MDA	RDL	QUALI-	ADDED	2 σ ERR	REC	3 σ LMTS	PROTOCOL
	pCi/g	(COUNT)	pCi/g	pCi/g	FIERS	TEST	pCi/g	pCi/g	%	(TOTAL) LIMITS
Gross Alpha	104	12	3.38	10.0		93A	101	4.0	103	63-137 70-130
Gross Beta	79.9	6.8	5.30	15.0		93B	87.8	3.5	91	69-131 70-130
Thorium 230	19.2	2.4	0.678	1.00		TH	18.9	0.76	102	77-123 80-120
Cobalt 60	2.82	0.25	<u>0.144</u>	0.050		GAM	2.96	0.12	95	83-117 80-120
Cesium 137	3.33	0.21	<u>0.117</u>	0.100		GAM	3.16	0.13	105	84-116 80-120

QC-LCS #76387

LAB CONTROL SAMPLES

Page 1

SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol CHPRC
 Version Ver 1.0
 Form DVD-LCS
 Version 3.06
 Report date 12/17/10

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EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4456

7759-005

B29RL3

DUPLICATE

SDG <u>7759</u>	Client/Case no <u>CHPRC</u>	SDG <u>H4456</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S012143-05</u>	Lab sample id <u>S012143-01</u>	Client sample id <u>B29RL3</u>
Dept sample id <u>7759-005</u>	Dept sample id <u>7759-001</u>	Location/Matrix <u>KW Sed.Basin Sample 10 S SOLID</u>
	Received <u>12/08/10</u>	Collected/Weight <u>12/07/10 07:45 123 g</u>
% solids <u>90.3</u>	% solids <u>90.3</u>	Custody/SAF No <u>F11-024-154 F11-024</u>

ANALYTE	DUPLICATE	2σ ERR	MDA	RDL	QUALI-	ORIGINAL	2σ ERR	MDA	QUALI-	RPD	3σ	DER	
	pCi/g	(COUNT)	pCi/g	pCi/g	FIERS		TEST	pCi/g	(COUNT)	pCi/g	FIERS	%	TOT
Gross Alpha	4.76	3.4	4.28	10.0		93A	5.22	3.0	3.74	9	143	0.2	
Gross Beta	13.7	4.1	5.61	15.0		93B	10.6	4.9	7.95	26	90	0.8	
Tin 126	U		0.231		U	GAM	U		0.206	U	-	0.2	
Beryllium 7	U		1.06		U	GAM	U		0.945	U	-	0.2	
Potassium 40	9.34	2.5	1.67			GAM	12.3	2.4	0.196		27	50	1.6
Cobalt 60	U		<u>0.166</u>	0.050	U	GAM	U		<u>0.154</u>	U	-	0.1	
Ruthenium 106	U		1.10		U	GAM	U		0.968	U	-	0.2	
Antimony 125	U		0.286		U	GAM	U		0.274	U	-	0.1	
Cesium 134	U		0.171		U	GAM	U		0.146	U	-	0.2	
Cesium 137	U		<u>0.138</u>	0.100	U	GAM	U		<u>0.141</u>	U	-	0	
Europium 152	U		<u>0.277</u>	0.100	U	GAM	U		<u>0.282</u>	U	-	0	
Europium 154	U		<u>0.483</u>	0.100	U	GAM	U		<u>0.418</u>	U	-	0.2	
Europium 155	U		<u>0.282</u>	0.100	U	GAM	U		<u>0.247</u>	U	-	0.2	
Niobium 94	U		0.124		U	GAM	U		0.121	U	-	0	
Radium 226	0.359	0.18	0.211			GAM	0.405	0.18	0.183		12	101	0.4
Radium 228	1.07	0.60	0.621			GAM	0.751	0.52	0.560		35	132	0.8

QC-DUP#1 76389

183 KW Verification Sampling and Analysis - Soil

DUPLICATES

Page 1

SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol CHPRC
 Version Ver 1.0
 Form DVD-DUP
 Version 3.06
 Report date 12/17/10

RECEIVED DECEMBER 20, 2010
EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4456

7759-006

B29VX1

DUPLICATE

SDG <u>7759</u>	Client/Case no <u>CHPRC</u>	<u>SDG H4456</u>
Contact <u>N. Joseph Verville</u>	Contract No. <u>33677</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>S012143-06</u>	Lab sample id <u>S012143-02</u>	Client sample id <u>B29VX1</u>
Dept sample id <u>7759-006</u>	Dept sample id <u>7759-002</u>	Location/Matrix <u>KW Sed.Basin Sample 31 D SOLID</u>
	Received <u>12/08/10</u>	Collected/Weight <u>12/07/10 07:30 47.6 g</u>
% solids <u>93.1</u>	% solids <u>93.1</u>	Custody/SAF No <u>F11-024-158 F11-024</u>

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI- FIERS	RPD %	3σ TOT	DER σ
Thorium 228	0.348	0.31	0.370	1.00	U	TH	0.573	0.28	0.302		49	137	1.1
Thorium 230	0.502	0.47	0.711	1.00	U	TH	0.082	0.33	0.573	U	-		1.5
Thorium 232	0.425	0.23	0.295	1.00		TH	0.546	0.22	0.209		25	100	0.7

QC-DUP#2 76390

183 KW Verification Sampling and Analysis - Soil

DUPLICATES

Page 2

SUMMARY DATA SECTION

Page 10

Lab id <u>EBRLNE</u>
Protocol <u>CHPRC</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>12/17/10</u>

RECEIVED DECEMBER 20, 2010
EBERLINE ANALYTICAL/RICHMOND

SAMPLE DELIVERY GROUP H4456

LAB METHOD SUMMARY

THORIUM, ISOTOPIC IN SOLIDS
 ALPHA SPECTROSCOPY

Test TH Matrix SOLID
 SDG 7759
 Contact N. Joseph Verville

Client CHPRC
 Contract No. 33677
 Contract SDG H4456

RESULTS

LAB	RAW	SUF-						
SAMPLE ID	TEST FIX	PLANCHET	CLIENT SAMPLE ID	Thorium 228	Thorium 230	Thorium 232		
Preparation batch 7270-195								
S012143-02		7759-002	B29VX1	0.573	U	0.546		
S012143-03		7759-003	Lab Control Sample		ok			
S012143-04		7759-004	Method Blank	U	U	U		
S012143-06		7759-006	Duplicate (S012143-02)	ok U	- U	ok		
Nominal values and limits from method				RDLs (pCi/g)	1.00	1.00	1.00	

METHOD PERFORMANCE

LAB	RAW	SUF-		MAX MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID		pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD PREPARED	YZED DETECTOR
Preparation batch 7270-195			2σ prep error 8.0 %	Reference Lab Notebook No. 7270 pg.195										
S012143-02		B29VX1		0.573	0.250			90	188				7 12/14/10	12/14 SS-050
S012143-03		Lab Control Sample		0.678	0.250			96	153				12/14/10	12/14 SS-031
S012143-04		Method Blank		0.714	0.250			92	153				12/14/10	12/14 SS-032
S012143-06		Duplicate (S012143-02)		0.711	0.250			97	153				7 12/14/10	12/14 SS-033
Nominal values and limits from method				1.00	0.250			30-110	150				180	

PROCEDURES REFERENCE THISO_IE_PLATE_AEA
 SPP-070 Soil Dissolution, < 1.0g Aliquot, rev 1
 CP-900 Thorium in Water and Dissolved Solid Samples by
 Extraction Chromatography, rev 5
 CP-008 Heavy Element Electroplating, rev 13

AVERAGES ± 2 SD MDA 0.669 ± 0.132
 FOR 4 SAMPLES YIELD 94 ± 7

Lab id EBRLNE
 Protocol CHPRC
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 12/17/10