RECEIVED MARCH 09, 2011

0099098

Shaw
Shaw Environmental & Infrastructure, Inc.

Geotechnical Laboratory
304 Directors Drive
Knoxville, TN 37923
(865) 690-3211

EBER 021106 3
KB 3-31-11

CERTIFICATE OF ANALYSIS

Mr. Michael Neely
CH2M Hill Plateau Remediation Company
P.O. Box 1600
Mail Stop – B6-06
Richland, WA 99352

March 9, 2011

This is the Certificate of Analysis for the following samples:

Shaw Project ID: Eberline Analytical
Shaw Project Number: 139736
Date Received by Lab: 02/23/11
Number of Samples: Eight (8)
Sample Type: Soil

I. Introduction/Case Narrative

Eight (8) soil samples were received by the Shaw Geotechnical Laboratory on February 23, 2011. The samples were submitted for determination of moisture content, particle size, and cation exchange capacity (CEC) as listed on the Chain of Custody/Sample Analysis Request. The sample numbers for the received samples were B2BW00, B2BW01, B2BVY4, B2BVY5, B2BVY6, B2BVY7, B2BVY8, and B2BVY9.

Please see Appendix A, Sample Number Cross Reference List; Appendix B, Analysis Results; and Appendix C, Chain-of-Custody/Sample Receipt Records

"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 contained in this hardcopy data package has been authorized by the laboratory manager or a designee, as verified by the following signature."

Reviewed and Approved:

R. Gregory Bennett
Geotechnical Laboratory Manager, Technology Applications Group

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II. Analytical Results/Methodology

REFERENCES: United Nations, *Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria*, third ed. New York, 1999. United States Army Corps of Engineers (USACE), Engineer Manual 1110-2-1906, *Laboratory Soils Testing*, appendix II, 1970; United States Environmental Protection Agency, SW846, *Test Methods for Examining Solid Waste, Physical/Chemical Methods*, 3rd ed., Nov 1986 (EPA SW-846). Annual Book of ASTM Standards, Section 4, Construction, Volume 04.08, *Soil and Rock (I)*, and Volume 04.09, *Soil and Rock (II)*, 2008. Shaw Environmental and infrastructure, Standard Operating Procedures.

Moisture Content.....	**ASTM D 2216**
Particle Size (sieve only).....	**ASTM D 422**
Cation Exchange Capacity.....	**SW-846 9081**

III. Quality Control

Quality control checks such as duplicates and spikes (QC samples), are not normally applicable to geotechnical testing. This is due largely to the inability of obtaining samples with known characteristics, the heterogenous nature of the samples, and quality control procedures built-in to the analytical method.

QC measures to ensure accuracy and precision of test results include the following:

- 100% verification of all numerical results - raw data entries, transcriptions and calculations entered by lab technicians are checked, recalculated and verified. Most data calculations are performed by computer programs.

- Data validation through test reasonableness - summaries of all test results for individual reports are reviewed to determine the overall reasonableness of data and to determine the presence of any data that may be considered outliers.

- Quality control procedures are built into most standardized geotechnical procedures. For example, liquid limit and plastic limit analyses call for re-analyses and specify acceptance criteria.

- Routine instrument calibration - instruments, gauges and equipment used in testing are calibrated on a routine basis. All instrument calibration follows ASTM or manufacturer guidelines.

- Maintenance of all past calibration records - calibration records and certification documents of all instruments, gauges and equipment are updated routinely and maintained in the Quality Control Coordinators Quality/Operations files.

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- Certified and trained personnel - all technicians are trained in the application of standard laboratory procedures for geotechnical analyses as well as the quality assurance measures implemented by Shaw.

- Quantitative analyses frequently used in geotechnical/physical testing programs do not use QC tools common to wet chemistry or radiochemistry laboratories. Measures not employed in the analysis of samples reported in this report include: laboratory control samples (LCS), blanks, matrix spikes (MS), duplicate analyses, dilutions, digestions, correction factors, surrogate sample analyses, detection limit determinations, control charts, and/or tentatively identified compounds (TICs).

IV. Data Qualification

None

Appendix A
Sample Cross-Reference List

Report No.: EBER0211063
Mr. Michael Neely
Client: CH2M Hill Plateau Remediation Company
Shaw Project Name: Eberline Analytical
Shaw Project No.: 139736

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SAMPLE NUMBER CROSS-REFERENCE LIST

Lab Sample ID	Client Sample ID	MATRIX
SEK 5473	B2BW00	SOIL
SEK 5474	B2BW01	SOIL
SEK 5475	B2BVY4	SOIL
SEK 5476	B2BVY5	SOIL
SEK 5477	B2BVY6	SOIL
SEK 5478	B2BVY7	SOIL
SEK 5479	B2BVY8	SOIL
SEK 5480	B2BVY9	SOIL

Appendix B
Data Results

Report No.: EBER0211063
Mr. Michael Neely
Client: CH2M Hill Plateau Remediation Company
Shaw Project Name: Eberline Analytical
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MOISTURE CONTENT
ASTM D 2216

PROJECT NAME
Eberline Hanford

PROJECT NUMBER
139736.12800000

LAB SAMPLE NO.	CLIENT SAMPLE NO.	MOISTURE, % ASTM D 2216	MOISTURE , % SW846	SOLIDS, % SW846
SEK 5473	B2BW00	6.8	6.4	93.6
SEK 5474	B2BW01	9.1	8.3	91.7
SEK 5475	B2BVY4	8.4	7.7	92.3
SEK 5476	B2BVY5	6.8	6.4	93.6
SEK 5477	B2BVY6	6.0	5.6	94.4
SEK 5478	B2BVY7	6.1	5.7	94.3
SEK 5479	B2BVY8	6.5	6.1	93.9
SEK 5480	B2BVY9	6.8	6.4	93.6

ASTM D 2216 results are based on dry sample weight.
SW846 results are based on wet sample weight.
Solids content is determined by subtracting the SW846 moisture (%) from 100.

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Mr. Michael Neely
Client: CH2M Hill Plateau Remediation Company
Shaw Project Name: Eberline Analytical
Shaw Project No.: 139736

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name Eberine

Project No. 139736.12800000

Field Sample No. B2BW00

Lab Sample No. SEK 5473

Moisture Content = 6.7%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	99.1%
	0.375"	9.500	98.9%
	#4	4.750	97.9%
	#10	2.000	96.4%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	89.1%
	#40	0.425	74.9%
	#60	0.250	67.4%
	#100	0.149	54.2%
	#140	0.106	39.7%
	#200	0.075	22.9%

2.1% Gravel 75.0% Sand 22.9% Silt/Clay

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name Eberine

Project No. 139736.12800000

Field Sample No. B2BW01

Lab Sample No. SEK 5474

Moisture Content = 9.0%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	96.4%
	#4	4.750	93.8%
	#10	2.000	87.4%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	70.4%
	#40	0.425	59.5%
	#60	0.250	56.0%
	#100	0.149	50.0%
	#140	0.106	41.6%
	#200	0.075	28.4%

6.2% Gravel 65.4% Sand 28.4% Silt/Clay

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name Eberine

Project No. 139736.12800000

Field Sample No. B2BVY4

Lab Sample No. SEK 5475

Moisture Content = 8.0%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	100.0%
	#4	4.750	100.0%
	#10	2.000	99.0%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	96.9%
	#40	0.425	91.6%
	#60	0.250	80.4%
	#100	0.149	57.3%
	#140	0.106	36.5%
	#200	0.075	16.9%

0.0% Gravel 83.1% Sand 16.9% Silt/Clay

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Client: CH2M Hill Plateau Remediation Company
Shaw Project Name: Eberline Analytical
Shaw Project No.: 139736

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name Eberine

Project No. 139736.12800000

Field Sample No. B2BVY5

Lab Sample No. SEK 5476

Moisture Content = 7.0%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	100.0%
	#4	4.750	99.9%
	#10	2.000	99.8%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	99.2%
	#40	0.425	96.1%
	#60	0.250	85.6%
	#100	0.149	60.6%
	#140	0.106	38.3%
	#200	0.075	17.2%

0.1% Gravel 82.7% Sand 17.2% Silt/Clay

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Shaw Project No.: 139736

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name Eberine

Project No. 139736.12800000

Field Sample No. B2BVY6

Lab Sample No. SEK 5477

Moisture Content = 6.0%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	100.0%
	#4	4.750	100.0%
	#10	2.000	100.0%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	98.4%
	#40	0.425	93.8%
	#60	0.250	84.7%
	#100	0.149	63.3%
	#140	0.106	41.4%
	#200	0.075	18.3%

0.0% Gravel 81.7% Sand 18.3% Silt/Clay

Report No.: EBER0211063
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Shaw Project Name: Eberline Analytical
Shaw Project No.: 139736

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name Eberine

Project No. 139736.12800000

Field Sample No. B2BVY7

Lab Sample No. SEK 5478

Moisture Content = 7.0%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	100.0%
	#4	4.750	100.0%
	#10	2.000	100.0%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	99.8%
	#40	0.425	97.5%
	#60	0.250	89.7%
	#100	0.149	66.9%
	#140	0.106	41.5%
	#200	0.075	15.1%

0.0% Gravel 84.9% Sand 15.1% Silt/Clay

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Mr. Michael Neely
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Shaw Project Name: Eberline Analytical
Shaw Project No.: 139736

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name Eberine

Project No. 139736.12800000

Field Sample No. B2BVY8

Lab Sample No. SEK 5479

Moisture Content = 6.9%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	100.0%
	#4	4.750	100.0%
	#10	2.000	99.9%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	97.3%
	#40	0.425	78.5%
	#60	0.250	66.9%
	#100	0.149	48.8%
	#140	0.106	32.8%
	#200	0.075	16.5%

0.0% Gravel 83.5% Sand 16.5% Silt/Clay

Report No.: EBER0211063
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Client: CH2M Hill Plateau Remediation Company
Shaw Project Name: Eberline Analytical
Shaw Project No.: 139736

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PARTICLE-SIZE DISTRIBUTION
ASTM D 422

Project Name: Eberine

Project No.: 139736.12800000

Field Sample No.: B2BVY9

Lab Sample No.: SEK 5480

Moisture Content = 7.3%

SIEVE ANALYSIS

	Sieve No.	Diameter mm	Percent Finer
COARSE	3"	75.000	100.0%
	1.5"	37.500	100.0%
	0.75"	19.000	100.0%
	0.375"	9.500	99.4%
	#4	4.750	98.6%
	#10	2.000	97.1%

	Sieve No.	Diameter mm	Percent Finer
FINE	#20	0.850	89.9%
	#40	0.425	75.6%
	#60	0.250	68.1%
	#100	0.149	55.0%
	#140	0.106	41.0%
	#200	0.075	24.1%

1.4% Gravel 74.4% Sand 24.1% Silt/Clay

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CATION EXCHANGE CAPACITY
EPA SW-846

PROJECT NAME: Eberline PROJECT NUMBER: 139736.128

SHAW LAB SAMPLE NUMBER	CLIENT SAMPLE NUMBER	WEIGHT OF SAMPLE, GRAMS	SODIUM CONCENTRATION, MG/L	CATION EXCHANGE CAPACITY, MEQ/100 GRAMS	RPD % *
SEK5473	B2BW00	6.28	125.0	6.28	
SEK5473DUP.	B2BW00	6.25	119.0	8.28	4.5
SEK5474	B2BW01	6.40	149.0	10.13	
SEK5475	B2BVY4	6.25	117.0	8.14	
SEK5476	B2BVY5	6.56	101.0	6.70	
SEK5477	B2BVY6	6.12	120.0	8.53	
SEK5478	B2BVY7	6.12	116.0	8.24	
SEK5479	B2BVY8	6.53	109.0	7.27	
SEK5480	B2BVY9	6.32	133.0	9.16	

*RPD=RELATIVE PERCENT DIFFERENCE FOR ORIGINAL & DUPLICATE SAMPLES

Appendix C
Chain of Custody Records

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F11-068-420

COLLECTOR: Scales	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG	PRICE CODE: 8C
SAMPLING LOCATION: Control 9 DUP	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils		SAF NO.: F11-068	AIR QUALITY: ☐
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HNF-N-427-16	ACTUAL SAMPLE DEPTH: 0-12"	COA: 302427ES10	METHOD OF SHIPMENT: FEDERAL EXPRESS
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ 2/22/11 0982		BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ 2/22/11 7967 8966 3657	

DATA TURNAROUND: 15 Days / 15 Days

ORIGINAL

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

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

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B2BVL4

PRESERVATION	None	None	None
HOLDING TIME	None	None	None
TYPE OF CONTAINER	G/P	G/P	Moisture Resistant Cont
NO. OF CONTAINER(S)	1	1	1
VOLUME	1000mL	1L	200g
SAMPLE ANALYSIS	Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR (Cation Exchange Capacity);	Moisture Content - D2216;

5.5 lbs

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BW00	SOIL	2-17-11	0850	X	X	X

SEK 5473

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Scales	DATE/TIME: 2-17-11 1500	RECEIVED BY/STORED IN: SSU #1	DATE/TIME: 2-17-11 1500
RELINQUISHED BY/REMOVED FROM: SSU #1	DATE/TIME: FEB 22 2011 1000	RECEIVED BY/STORED IN: L.D. Wall CHPRC	DATE/TIME: FEB 22 2011 1000
RELINQUISHED BY/REMOVED FROM: L.D. Wall CHPRC	DATE/TIME: FEB 22 2011 1400	RECEIVED BY/STORED IN: FEDEX	DATE/TIME:
RELINQUISHED BY/REMOVED FROM:	DATE/TIME:	RECEIVED BY/STORED IN:	DATE/TIME:
RELINQUISHED BY/REMOVED FROM:	DATE/TIME:	RECEIVED BY/STORED IN:	DATE/TIME:
RELINQUISHED BY/REMOVED FROM:	DATE/TIME:	RECEIVED BY/STORED IN:	DATE/TIME:
RELINQUISHED BY/REMOVED FROM:	DATE/TIME:	RECEIVED BY/STORED IN:	DATE/TIME:

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION	RECEIVED BY: Stephen Rick	TITLE: SCIENTIST	DATE/TIME: 2-23-11 / 12:00
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD:	DISPOSED BY:	DATE/TIME:

PRINTED ON 2/8/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F11-068-285

COLLECTOR: JS Scales CHPRC	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG
PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days		
SAMPLING LOCATION: Control 10	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils	SAF NO.: F11-068	AIR QUALITY: ☐
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HNF-N-507-16	ACTUAL SAMPLE DEPTH: 0-1 ft.	COA: 302427ES10
METHOD OF SHIPMENT: FEDERAL EXPRESS	ORIGINAL		
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ 2282 JW 2/22/11	BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ 7967896636 57 JW 2/22/11	

6.0 lbs

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

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

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B2BVL5

PRESERVATION			None	None	None	
HOLDING TIME			None	None	None	
TYPE OF CONTAINER			G/P	G/P	Moisture Resistant Cont	
NO. OF CONTAINER(S)			1	1	1	
VOLUME			100CmL	1L	200g	
SAMPLE ANALYSIS			Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR {Cation Exchange Capacity};	Moisture Content - D2216;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BW01	SOIL	02/17/11	0912	X	X	X

SEK 5474

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: JS Scales CHPRC	DATE/TIME: 02/17/11 1500	RECEIVED BY/STORED IN: SSU#1	DATE/TIME: 02/17/11 1500
RELINQUISHED BY/REMOVED FROM: SSU#1	DATE/TIME: FEB 2 2 2011 1000	RECEIVED BY/STORED IN: L.D. Wall CHPRC	DATE/TIME: FEB 2 2 2011 1000
RELINQUISHED BY/REMOVED FROM: L.D. Wall CHPRC	DATE/TIME: FEB 2 2 2011 1400	RECEIVED BY/STORED IN: FEDEX	DATE/TIME:
RELINQUISHED BY/REMOVED FROM	DATE/TIME:	RECEIVED BY/STORED IN	DATE/TIME:
RELINQUISHED BY/REMOVED FROM	DATE/TIME:	RECEIVED BY/STORED IN	DATE/TIME:
RELINQUISHED BY/REMOVED FROM	DATE/TIME:	RECEIVED BY/STORED IN	DATE/TIME:
RELINQUISHED BY/REMOVED FROM	DATE/TIME:	RECEIVED BY/STORED IN	DATE/TIME:

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION	RECEIVED BY: Stephen E Chase	TITLE: SCIENTIST	DATE/TIME: 2-23-11 / 12:00
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 2/8/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

55 lbs

F11-068-376

COLLECTOR: KC Patterson, CHPRC	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG
SAMPLING LOCATION: Control 4	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils		SAF NO.: F11-068
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HNF-N-507-16	ACTUAL SAMPLE DEPTH: 0-12"	COA: 302427ES10
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ KW 2/22/11 3282		BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ KW 2/22/11 7967896636 50

PRICE CODE: 8C

AIR QUALITY: [ ]

DATA TURNAROUND: 15 Days / 15 Days

METHOD OF SHIPMENT: FEDERAL EXPRESS

ORIGINAL

5.0 lbs

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

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

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO: B2BVK8

PRESERVATION	None	None	None
HOLDING TIME	None	None	None
TYPE OF CONTAINER	G/P	G/P	Moisture Resistant Cont...
NO. OF CONTAINER(S)	1	1	1
VOLUME	1000mL	1L	200g
SAMPLE ANALYSIS	Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR (Cation Exchange Capacity);	Moisture Content - D2216;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BVY4	SOIL	FEB 17 2011	1003	X	X	X

SEK 5475

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CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
KC Patterson, CHPRC	FEB 17 2011 1500	SSU #1	FEB 17 2011 1500
SSU #1	FEB 22 2011 1000	L.D. Wall, CHPRC	FEB 22 2011 1000
L.D. Wall, CHPRC	FEB 22 2011 1400	FEDEX	

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION — RECEIVED BY: Stephen E. Pine — TITLE: SCIENTIST — DATE/TIME: 2-23-11 / 12:00

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

PRINTED ON 2/8/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F11-068-383

COLLECTOR: Scales	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG
PRICE CODE: 8C	DATA TURNAROUND: 15 Days / 15 Days		
SAMPLING LOCATION: Control 5	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils	SAF NO.: F11-068	AIR QUALITY: ☐
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HWF-N-507-16	ACTUAL SAMPLE DEPTH: 0-7 ft	COA: 302427ES10
METHOD OF SHIPMENT: FEDERAL EXPRESS	ORIGINAL		
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ LW 2/22/11 2282	BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ LW 2/22/11 7967 8916 3657	

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)

5.0 lbs

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B2BVK9

PRESERVATION	None	None	None			
HOLDING TIME	None	None	None			
TYPE OF CONTAINER	G/P	G/P	Moisture Resistant Cont			
NO. OF CONTAINER(S)	1	1	1			
VOLUME	1000mL	1L	200g			
SAMPLE ANALYSIS	Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR (Cation Exchange Capacity);	Moisture Content - D2216;			

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BVY5	SOIL	2-17-11	1000	X	X	X

SEK 5476

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

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
T. Scales	2-17-11 1500	SSU #1	2-17-11 1500
SSU #1	FEB 22 2011 1000	L.D. Wall CHPRC	FEB 22 2011 1000
L.D. Wall CHPRC	FEB 22 2011 1400	FEDEX	

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION	RECEIVED BY: Stephen F. Crowe	TITLE: SCIENTIST	DATE/TIME: 2-23-11 / 12:00
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 2/8/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F11-068-390

COLLECTOR: J. Scales	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG
SAMPLING LOCATION: Control 6	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils		SAF NO.: F11-068
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HNF-N-507-16	ACTUAL SAMPLE DEPTH: 0-12"	COA: 302427ES10
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ KW 2/22/11 2282		BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ KW 2/22/11 79678966 3657

PRICE CODE: 8C

AIR QUALITY: ☐

DATA TURNAROUND: 15 Days / 15 Days

METHOD OF SHIPMENT: FEDERAL EXPRESS

ORIGINAL

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

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

4.5 lbs

PRESERVATION	None	None	None
HOLDING TIME	None	None	None
TYPE OF CONTAINER	G/P	G/P	Moisture Resistant Cont
NO. OF CONTAINER(S)	1	1	1
VOLUME	1000mL	1L	200g
SAMPLE ANALYSIS	Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR (Cation Exchange Capacity);	Moisture Content - D2216;

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B2BVL0

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BVY6	SOIL	02/17/11	1040	X	X	X

SEK 5477

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CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
J. Scales	02/17/11 1500	SSU #1	02/17/11 1500
SSU #1	FEB 22 2011 1000	L.D. Wall CHPRC	FEB 22 2011 1000
L.D. Wall CHPRC	FEB 22 2011 1400	FEDEX	

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION	RECEIVED BY: Stephen F. Crane	TITLE: SCIENTIST	DATE/TIME: 2-23-11 / 12:00
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 2/8/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F11-068-397 | PAGE 1 OF 1

COLLECTOR: Scott	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG
SAMPLING LOCATION: Control 7	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils		SAF NO.: F11-068
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HNF-N-302-16	ACTUAL SAMPLE DEPTH: 0-12"	COA: 302427ES10
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ KW 2/22/11 2082		BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ KW 2/22/11 7967 8966 3657

PRICE CODE: SC | AIR QUALITY: ☐ | DATA TURNAROUND: 15 Days / 15 Days

METHOD OF SHIPMENT: FEDERAL EXPRESS

ORIGINAL

5.0 lbs

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

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

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B2BVL1

PRESERVATION	None	None	None
HOLDING TIME	None	None	None
TYPE OF CONTAINER	G/P	G/P	Moisture Resistant Cont
NO. OF CONTAINER(S)	1	1	1
VOLUME	1000mL	1L	200g
SAMPLE ANALYSIS	Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR (Cation Exchange Capacity);	Moisture Content - D2216;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BVY7	SOIL	2-17-11	1025	X	X	✓

SEK 5478

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CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Scott	2-17-11 1500	SSU#1	2-17-11 1500
SSU#1	FEB 22 2011 1000	L.D. Wall CHPRC	FEB 22 2011 1000
L.D. Wall CHPRC	FEB 22 2011 1400	FEDEX	

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS
** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION	RECEIVED BY: Stephen B Cox	TITLE: SCIENTIST	DATE/TIME: 2-23-11 / 12:20
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 2/8/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F11-068-404 PAGE 1 OF 1

COLLECTOR: JS Scales CHPRC	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG
SAMPLING LOCATION: Control 8	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils		SAF NO.: F11-068
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HNF-N-507-14	ACTUAL SAMPLE DEPTH: 0-1 ft	COA: 302427ES10
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ AO 2/22/11 2282		BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ AO 2/22/11 7967 8966 3657

PRICE CODE: 8C

AIR QUALITY: [ ]

DATA TURNAROUND: 15 Days / 15 Days

METHOD OF SHIPMENT: FEDERAL EXPRESS

ORIGINAL

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

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

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B2BVL2

PRESERVATION	None	None	None
HOLDING TIME	None	None	None
TYPE OF CONTAINER	G/P	G/P	Moisture Resistant Cont.
NO. OF CONTAINER(S)	1	1	1
VOLUME	1000mL	1L	200g
SAMPLE ANALYSIS	Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR (Cation Exchange Capacity);	Moisture Content - D2216;

5.5 lbs

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BVY8	SOIL	02/17/11	0945	X	X	X

SEK 5479

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CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
JS Scales CHPRC	02/17/11 1500	SSU#1	02/17/11 1500
SSU #1	FEB 22 2011 1000	L.D. Wall CHPRC	FEB 22 2011 1000
L.D. Wall CHPRC	FEB 22 2011 1400	FEDEX	

SPECIAL INSTRUCTIONS

** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.☐** The laboratory shall report only the requested constituents of concern in all final data reports, and EDDs. QC results for non-requested constituents need not be reported, but samples chosen for matrix spike, and all spike compounds shall be identified in the final data report case narrative. No TICs shall be reported.

LABORATORY SECTION — RECEIVED BY: Stephen F Crane — TITLE: SCIENTIST — DATE/TIME: 2-23-11 / 12:00

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

PRINTED ON 2/8/2011

A-6003-618 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F11-068-411	PAGE 1 OF 1
COLLECTOR: Scales	COMPANY CONTACT: BAUER, R	TELEPHONE NO.: 373-3931	PROJECT COORDINATOR: BAUER, RG	PRICE CODE: 8C	DATA TURNAROUND
SAMPLING LOCATION: Control 9	PROJECT DESIGNATION: Ecological Baseline Risk Assessment - Soils		SAF NO.: F11-068	AIR QUALITY:	15 Days / 15 Days
ICE CHEST NO.: GWS-257	FIELD LOGBOOK NO.: HNE-N-50-1	ACTUAL SAMPLE DEPTH: 0-12"	COA: 302427ES10	METHOD OF SHIPMENT: FEDERAL EXPRESS	ORIGINAL
SHIPPED TO: Shaw Group	OFFSITE PROPERTY NO.: ~~SEE PTR~~ 2282. 2/22/11			BILL OF LADING/AIR BILL NO.: ~~SEE PTR~~ 7967 8966 3657 2/22/11	

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

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

SPECIAL HANDLING AND/OR STORAGE
RADIOACTIVE TIE TO: B2BVL3

5.5 lbs

PRESERVATION	None	None	None	
HOLDING TIME	None	None	None	
TYPE OF CONTAINER	G/P	G/P	Moisture Resistant Cont.	
NO. OF CONTAINER(S)	1	1	1	
VOLUME	1000mL	1L	200g	
SAMPLE ANALYSIS	Particle Size (Dry Sieve) - D422;	CATIONEXCH_TR (Cation Exchange Capacity);	Moisture Content - D2216;	

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B2BVY9	SOIL	2-17-11	0850	X	X	X

SEK 5480

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Scales	DATE/TIME: 2-17-11 1500	RECEIVED BY/STORED IN: SSU #1	DATE/TIME: 2-17-11 1500
RELINQUISHED BY/REMOVED FROM: SSU #1	DATE/TIME: FEB 22 2011 1000	RECEIVED BY/STORED IN: L.D. Wall CHPRC	DATE/TIME: FEB 22 2011 1000
RELINQUISHED BY/REMOVED FROM: L.D. Wall CHPRC	DATE/TIME: FEB 22 2011 1400	RECEIVED BY/STORED IN: FEDEX	DATE/TIME:
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS
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LABORATORY SECTION	RECEIVED BY: Stephen E. Pace	TITLE: SCIENTIST	DATE/TIME: 2-23-11 1200
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 2/8/2011

A-6003-618 (REV 2)