

RECEIVED OCTOBER 29, 2008



Shaw Environmental & Infrastructure, Inc.

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CERTIFICATE OF ANALYSIS

Stephen Trent
Fluor Hanford, Inc.
825 Jadwin Avenue
Richland, Washington 99352

October 30, 2008

This is the Certificate of Analysis for the following samples:

Shaw Project ID:	Eberline - Hanford
Shaw Project Number:	100846.7400000
Client SDG Number:	H3736
Date Received by Lab:	May 19, 2008
Number of Samples:	One (1)
Sample Type:	Soil

I. Introduction/Case Narrative

Two soil samples were received by the Shaw Geotechnical Laboratory on May 19, 2008. Samples were submitted for determination of moisture content. Sample numbers received were B1V2J3 and B1V2J4. The latter sample is covered in another SDG report.

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:

A handwritten signature in black ink, appearing to read "Ralph Cole", written in a cursive style.

Ralph Cole
Laboratory Manager, Geotechnical Services

II. Analytical Results/Methodology

REFERENCES: 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 of Soil and Rock**ASTM D 2216**

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.
- 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

The entire contents of the sample container was used to determine the moisture content of the sample.

Appendix A
Sample Cross-Reference List

SAMPLE NUMBER CROSS-REFERENCE LIST

LAB SAMPLE NO.	CLIENT SAMPLE NO.	MATRIX
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BC1377	B1V2J3	Soil
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Appendix B

Data Results

Appendix C
Chain of Custody Records

Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F08-056-110	PAGE 1 OF 1	
COLLECTOR NCO Sampler - <i>MOLLEN/CHACOM</i>		COMPANY CONTACT TRENT, SJ		TELEPHONE NO. 373-5869	PROJECT COORDINATOR WIDRIG, DL		PRICE CODE 8N DATA TURNAROUND 45 Days / 45 Days	
SAMPLING LOCATION C5935, I-SSP1		PROJECT DES. GW Monitoring Wells at 100-HR-3 (100-D OU)			SAF NO. F08-056	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <i>GRP-08-01</i>		FIELD LOGBOOK NO.		ACTUAL SAMPLE DEPTH <i>83'5-85'</i>	COA 122577ES10	METHOD OF SHIPMENT FEDERAL EXPRESS		
SHIPPED TO Shaw Group		OFFSITE PROPERTY NO. See PTR			BILL OF LADING/AIR BILL NO. 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 are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)		PRESERVATION None				BC 1377	
			TYPE OF CONTAINER Moisture Resistant Cont					
			NO. OF CONTAINER(S) 1					
			VOLUME 200g					
	SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS Moisture Content - D2216;					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B1V2J3	SOIL	<i>4/30/8</i>	<i>1400</i>					
CHAIN OF POSSESSION				SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** Samples are being collected by Fluor Hanford for Washington Closure Hanford. They will be placed in the bottles labeled "Generic Testing". Sample @ 83 to 85 Feet				
<i>S. Molloy</i>	<i>4/30/8-1500</i>	<i>MO-745 REF 1</i>	<i>4/30/8-1500</i>					
<i>MO-745 REF #1</i>	<i>5/15/08 11:00</i>	<i>Bea Meen / DWB</i>	<i>5/15/08 11:00</i>					
<i>Bea Meen / B. S. S.</i>	<i>5/15/08 13:00</i>	<i>FED EXP</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					
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
LABORATORY SECTION	RECEIVED BY <i>Don Haskey</i>	TITLE <i>SR. LAB TECH.</i>		DATE/TIME <i>5/19/08 0930</i>				
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD <i>SHAW E+I/ETDC</i>	DISPOSED BY		DATE/TIME				