

March 28, 2018

CH2M HILL Plateau Remediation Company  
 (Geotech)  
 825 Jadwin Avenue  
 Richland, WA 99352  
 Attn.: LC Sumner

**Subject: Geotechnical Laboratory Testing Services, Data Deliverable for SDG # W803078, Rev. 0**

Enclosed is the final report on geotechnical analyses performed by RJ Lee Group for Sample Delivery Group number (SDG #) W803078.

**General Set Comments**

RJ Lee Group received from CH2M-Hill Plateau Remediation Company (CHPRC) 1 sample to be tested for geotechnical analysis at the Columbia Basin Analytical Laboratories. There are no SIRs associated with this SDG.

The CHPRC sample in SDG # W803078, has been assigned a RJ Lee Group Sample number per the below table.

CHPRC Sample #	SDG #	Date Processed
B3J599	W803078	03/26/2018

This project deliverable, provided in Attachment 1, contains the reports of the requested analytical results and a copy of the associated chain of custody for the sample listed above.

The analytical results provided in this deliverable relate only to the items tested. The sample was received in acceptable condition unless otherwise noted in the attached report(s).

I certify that this analytical report is in compliance with the Hanford SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the Laboratory Director or a designee as verified by the following signature.



Robert White  
 Geologist III, Columbia Basin Analytical Laboratories

03/28/2018

Date

If you have any questions, please feel free to contact us at 509-545-4989 or email at [rwhite@rjleegroup.com](mailto:rwhite@rjleegroup.com).

**03/28/2018****REV.0****REPORT OF LABORATORY TESTING**

**Report to:** CH2M HILL Plateau Remediation Company  
 (Geotech)  
 825 Jadwin Avenue  
 Richland, WA 99352

**Date:** 3/26/2018  
**Sample Delivery Group No.:**  
**Sample Authorization No.:**

**Project:** CHPRC Laboratory

**Project No.:** B3J599

**Report of:** Grain Size Analysis - Hydrometer (ASTM D422)

**Lab Technician:**

Robert White

**Items Received:**

One sample was provided to us containing soil material obtained by you, the client.

Test performed:

Particle/Grain Size Analysis - Hydrometer (ASTM D422):

Mechanical Grain Size Analyses (wet sieve) were conducted on each of the soil samples to determine their grain size distribution. In addition, hydrometer tests were conducted on portions of the soil samples passing the No. 10 sieve. The results of the mechanical grain size analyses and hydrometer testing are plotted on the attached Figure (Particle Size Analysis Test Results - Hydrometer, pages 1 through 3).

**LABORATORY TEST RESULTS****Particle Grain Size Analysis - Hydrometer (ASTM D422) - Sieve Portion**

Customer Sample Number	Laboratory Sample Number	Percent Passing by Sieve Size											
		3-in.	1½-in.	¾-in.	½-in.	No. 4	No. 10	No. 20	No. 40	No. 60	No. 100	No. 140	No. 200
B3J599	W803078	100	100.0	100.0	100.0	100.0	99.7	99.5	87.1	41.1	21.3	14.9	10.4

SHEET 1 OF 3

REVIEWED BY:

*Nathan A. Bowles, P.E.*  
 3/27/18

**03/28/2018**

**REV.0**



**REPORT OF LABORATORY TESTING**

<b>Report to:</b> LC Sumner	<b>Date:</b> 3/26/2018	
	<b>Sample Delivery Group No.:</b> N/A	
	<b>Sample Authorization No.:</b> N/A	

<b>Project:</b> CHPRC Laboratory	<b>Project No.:</b> B3J599
<b>Report of:</b> Grain Size Analysis - Hydrometer (ASTM D422)	<b>Lab Technician:</b> Robert White

Particle/Grain Size Analysis - Hydrometer (ASTM D422):

See page 1 of 3

**LABORATORY TEST RESULTS**

**Particle Grain Size Analysis - Hydrometer (ASTM D422) - Hydrometer Portion**

Laboratory Sample Number	Hydrometer Readings													
	2 min		5min		15 min		30 min		60 min		250 min		1440 min	
	Dia. (mm)	Finer (%)	Dia. (mm)	Finer (%)	Dia. (mm)	Finer (%)	Dia. (mm)	Finer (%)	Dia. (mm)	Finer (%)	Dia. (mm)	Finer (%)	Dia. (mm)	Finer (%)
W803078	0.037	4.5	0.023	3.5	0.014	3.0	0.010	2.0	0.007	1.5	0.003	0.5	0.001	0.0

SHEET 2 OF 3

REVIEWED BY: *Nathan A. Bowles, P.E.*  
*3/27/18*

03/28/2018

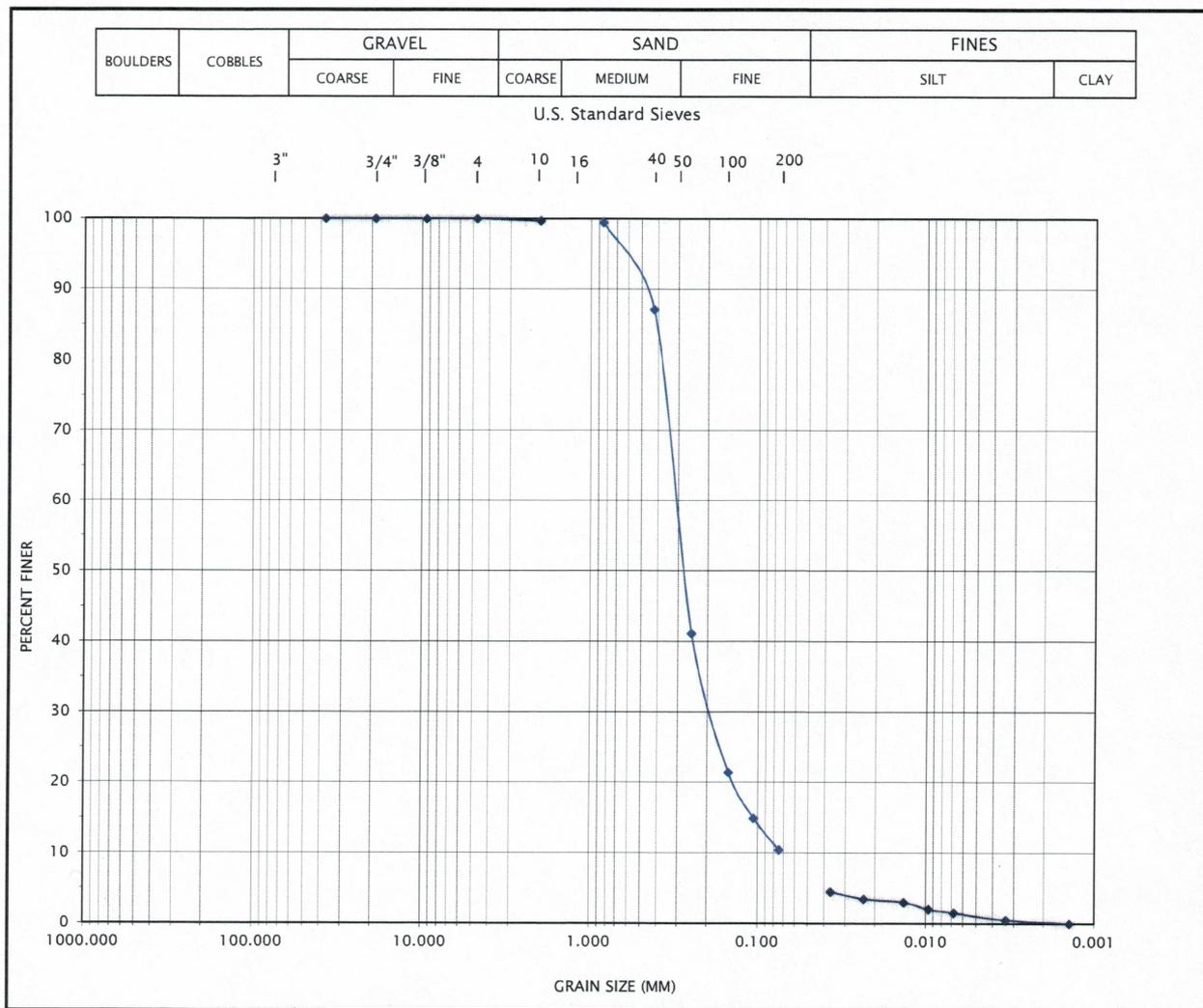
REV.0

MECHANICAL GRAINSIZE ANALYSIS - HYDROMETER

Testing Method: ASTM D422

Project Name: CHPRC-Geotechnical  
 Project Number: Modu Tank Sludge  
 Sample Location: Modu Tank Sludge  
 Sample Depth: N/A  
 Sample Description: B3J599

Work Order ID: W803078  
 Lab Tech: Robert White  
 Date Completed: 3/26/2018



KEY	SAMPLE NUMBER	MOISTURE CONTENT (PERCENT)	PARTICLE-SIZE (MM)					GRAVEL (PERCENT)	SAND (PERCENT)	FINES (PERCENT)
			D60 (MM)	D50 (MM)	D30 (MM)	D10 (MM)	D5 (MM)			
*	B3J599	37.6	0.3	0.28	0.2	0.075	0.037	0	90.2	9.8

NOTES:

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Reviewed By: *Nathan A. Bowles* / Nathan A. Bowles, P.E. Date: *3/27/18*

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REV 0  
03/28/2018

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			F18-022-003	PAGE 1 OF 1
<b>COLLECTOR</b> Malcom Chunn CHPRC	<b>COMPANY CONTACT</b> SUMNER, LC	<b>TELEPHONE NO.</b> 376-3922	<b>PROJECT COORDINATOR</b> SUMNER, LC		REQUIRED TAT 15-Days 7 <b>ORIGINAL</b>	
<b>SAMPLING LOCATION</b> Modutank Sludge Sample	<b>PROJECT DESIGNATION</b> Modu Tank - Sludge Sampling		<b>SAF NO.</b> F18-022			
<b>ICHEST NO.</b>	<b>FIELD LOGBOOK NO.</b> HNF-N-507-40.1	<b>ACTUAL SAMPLE DEPTH</b> N/A	<b>PURCHASE ORDER/CHARGE CODE</b> 303607		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> RJ LEE - GEOTECHNICAL		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>  13.1°C		

<b>MATRIX*</b> 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	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	None
		<b>HOLDING TIME</b>	None
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	500mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

W803078

SAMPLE NO.	FILTERED	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B33599	N/A	OTHER SOLID	MAR 15 2018	0922	✓

<b>CHAIN OF POSSESSION</b>	<b>SIGN/ PRINT NAMES</b>	<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	TRVL-18-099 (1) D422_PARTICLE SIZE (Dry Sieve): COMMON {Percent passing 1.5 inch sieve, Percent passing 3 inch sieve, Percent passing 3/4 inch sieve, Percent passing 3/8 inch sieve, Percent passing No. 10 sieve, Percent passing No. 100 sieve, Percent passing No. 140 sieve, Percent passing No. 20 sieve, Percent passing No. 200 sieve, Percent passing No. 4 sieve, Percent passing No. 40 sieve};
Malcom Chunn CHPRC	MR Chunn MAR 15 2018 03/15/18 Jeanne Stoy Jeanne Stoy	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>