



July 10, 2017

CH2M HILL Plateau Remediation Company  
 2420 Stevens Center Place  
 P.O. Box 1600  
 Richland, WA 99354  
 Attn.: Tracey A. Burch

**Subject: Geotechnical Laboratory Testing Services, Data Deliverable for SDG # W706047, Rev. 0**

Enclosed is the final report on geotechnical analyses performed by RJ Lee Group in conjunction with PBS Engineering and Environmental, Inc. (PBS) for Sample Delivery Group number (SDG #) W706047.

**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 is one (1) SIR associated with this SDG.

The CHPRC sample, in SDG # W706047, has been assigned a PBS Geotechnical Lab Sample number per the below table.

CHPRC Sample #	SDG #	Geotechnical Lab Sample #	Date Processed
B39L40	W706047	H-0162	06/30/2017

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.

Donald Smith  
 Laboratory Director, Columbia Basin Analytical Laboratories

07/10/2017

Date

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

**Attachment 1**

PBS Geotechnical Laboratory Testing Results, SDG # W706047,  
Dated July 10, 2017



June 30, 2017

Mr. Larry Lockrem  
RJ Lee Group, Inc.  
2710 North 20th Avenue  
Pasco, Washington 99301

Via email: llockrem@rjleegroup.com

Regarding: Geotechnical Laboratory Testing Results  
CH2M HILL Plateau Remediation  
Sample Delivery Group No. W706047  
PBS Project No. 63797.000

Dear Mr. Lockrem:

PBS Engineering and Environmental Inc. (PBS) is pleased to present the results of our recent geotechnical laboratory testing in accordance with the request provided with Sample Delivery Group (SDG) number W706047.

PBS performed the following tests in general accordance with the relevant ASTM Standards:

- Grain Size Analysis (ASTM D422)

We trust this letter meets your current needs. If you have any questions, or wish to further discuss our observations, conclusions, and recommendations, please contact us at 509.942.1600.

Sincerely,



06/30/2017

Adam M. Swenson, PE  
Project Geotechnical Engineer

Attachment(s): Report of Laboratory Testing – Grain-size Analysis  
Chain of Custody



**REPORT OF LABORATORY TESTING**

<b>Report to:</b> CH2M-Hill - Plateau Remediation 2420 Stevens Center Place PO Box 1600 Richland, WA 99354	<b>Date:</b> 6/30/2017
	<b>Sample Delivery Group No.:</b> W706047
	<b>Sample Authorization No.:</b> F16-026

<b>Project:</b> CHPRC Laboratory	<b>Project No.:</b> 63797.000
<b>Report of:</b> Grain Size Analysis (ASTM D422)	<b>Lab Technician:</b> P. Brice

**Items Received:**

One sample was provided to us containing soil material obtained by you, the client. PBS performed the following test:

Particle/Grain Size Analysis (ASTM D422):

Mechanical Grain Size Analyses (wet sieve) were conducted on each of the soil samples to determine their grain size distribution. The results of the mechanical grain size analyses are plotted on the attached Figure (Particle Size Analysis Test Results, pages 1 and 2).

**LABORATORY TEST RESULTS**

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

Customer Sample Number	Laboratory Sample Number	Percent Passing by Sieve Size											
		No. 12	No. 14	No. 16	No. 18	No. 20	No. 25	No. 30	No. 35	No. 40	No. 60	No. 100	No. 140
B39L40	H-0162	100	91.2	65.9	33.2	12.7	3.9	1.7	0.8	0.5	0.1	0.0	0.0



**PARTICLE-SIZE ANALYSIS TEST RESULTS**

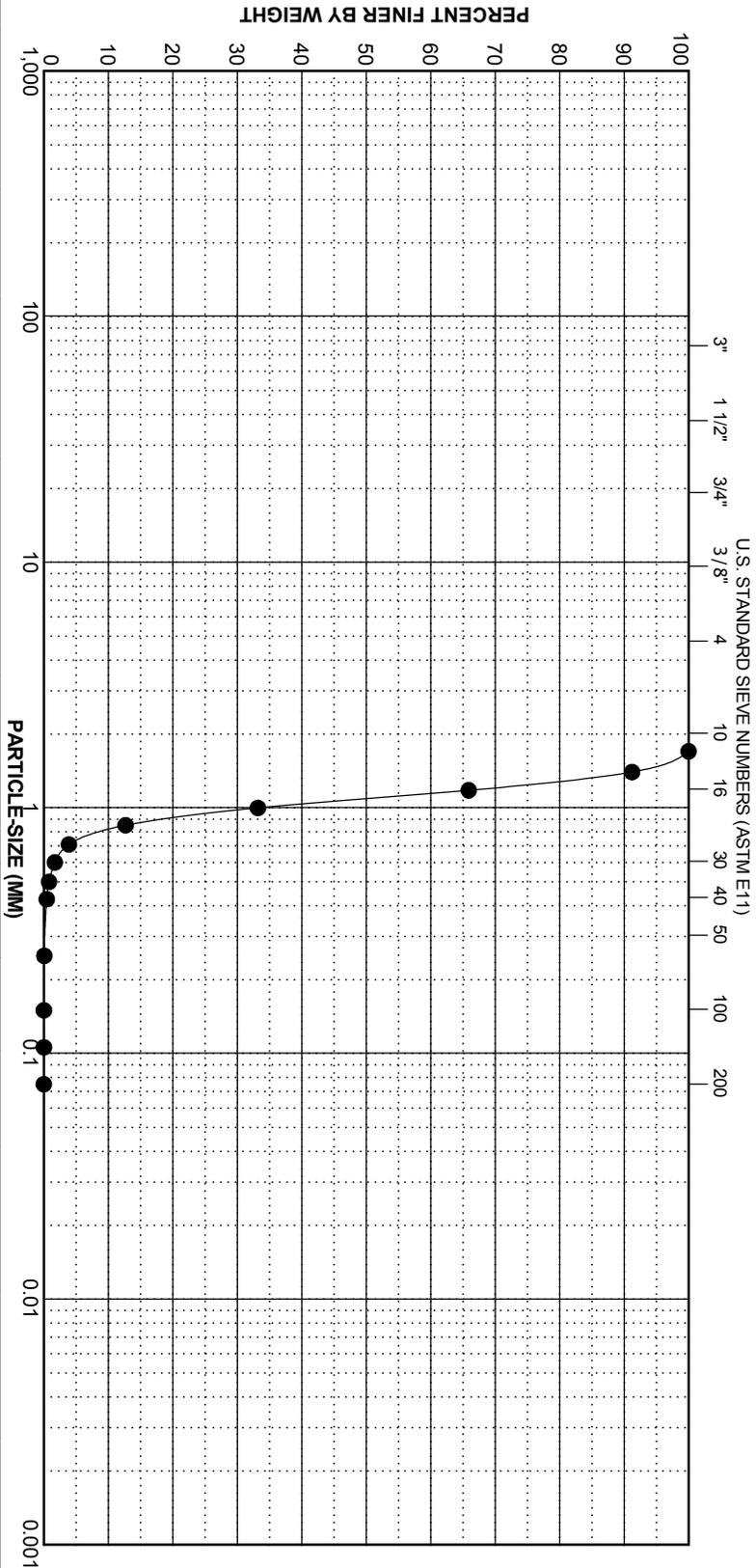
CHPRC - GEOTECHNICAL LABORATORY

PBS PROJECT NUMBER:  
63797

PARTICLE-SIZE ANALYSIS-RJ LEE GRP 63797 RESULTS.GPJ PBS DATA\TPL\_GEO.GDT PRINT DATE: 6/30/17.RPG

TEST METHOD: ASTM D422

BOULDERS	COBBLES	GRAVEL				SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY		



KEY	EXPLORATION NUMBER	SAMPLE NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60 (MM)	D50 (MM)	D30 (MM)	D10 (MM)	D5 (MM)	GRAVEL (PERCENT)	SAND (PERCENT)	FINES (PERCENT)
●	H-162	B39L40	0.0	5	1.1	1.1	1.0	0.8	0.7		100	0

Columbia Basin Analytical Laboratories | 2710 North 20th Avenue, Pasco, WA 99301 | 509.545.4989

[WWW.RJLEEGROUP.COM](http://WWW.RJLEEGROUP.COM)



**SAMPLE ISSUE RESOLUTION**

**SIR NUM** SIR17-715  
**REV NUM** 0  
**DATE INITIATED** 5/24/2017

**SAMPLE EVENT INFORMATION**

**SAF NUM(S)** F17-026  
**OPERABLE UNIT(S)** NONE  
**PROJECT(S)** 200W P&T  
**SAMPLE EVENT TITLE(S)** 200 West Pump & Treat GAC  
**LABORATORY** RJ LEE - GEOTECHNICAL

**SAMPLING INFORMATION**

**NUMBER OF SAMPLES** 3  
**SAMPLE NUMBERS** B39L38, B39L39, B39L40  
**SAMPLE MATRIX** OTHER SOLID  
**COLLECTION DATE** 4/18/2017 - 4/18/2017

**SDG NUM****ISSUE BACKGROUND**

**CLASS** Sample Management Issues  
**TYPE** Incorrect Analyte Requested  
**DESCRIPTION** CHPRC inadvertently shipped GAS samples for sieve analysis to RJ Lee under the routine sieve service list and before RJ Lee had the required sieves to perform the specialty sieve analysis needed.

**DISPOSITION**

**DESCRIPTION** CHPRC request that RJ Lee perform a second sieve analysis on the GAC samples (listed above) using the Service list name "D422\_PARTICLE SIZE (Dry Sieve): COMMON (GAC)" and the following CON\_IDs and CON\_LONG\_NAMES

CON_ID	CON_LONG_NAME
PAS#12	Percent passing No. 12 sieve
PAS#14	Percent passing No. 14 sieve
PAS#16	Percent passing No. 16 sieve
PAS#18	Percent passing No. 18 sieve
PAS#20	Percent passing No. 20 sieve
PAS#25	Percent passing No. 25 sieve
PAS#30	Percent passing No. 30 sieve
PAS#35	Percent passing No. 35 sieve

**JUSTIFICATION** Final Disposition: Accept proposed resolution. Note: the new results can be run under a new work order.

SUBMITTED BY: Scot Fitzgerald DATE: 05/24/2017  
ACCEPTED BY: JJ Furlong DATE: 05/24/2017