



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 # W706049, 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 #) W706049.

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 # W706049, has been assigned a PBS Geotechnical Lab Sample number per the below table.

CHPRC Sample #	SDG #	Geotechnical Lab Sample #	Date Processed
B39L38	W706049	H-0164	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.

Attachment 1

PBS Geotechnical Laboratory Testing Results, SDG # W706049,
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. W706049
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 W706049.

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**

Report to: CH2M-Hill - Plateau Remediation
2420 Stevens Center Place
PO Box 1600
Richland, WA 99354

Date: 6/30/2017
Sample Delivery Group No.: W706049
Sample Authorization No.: F16-026

Project: CHPRC Laboratory

Project No.: 63797.000

Report of: Grain Size Analysis (ASTM D422)

Lab Technician: 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
B39L38	H-0164	100	93.7	68.7	36.7	14.8	5.5	2.9	1.4	0.8	0.1	0.0	0.0

SHEET 1 OF 2

REVIEWED BY: A. Swenson, P.E.



PARTICLE-SIZE ANALYSIS TEST RESULTS

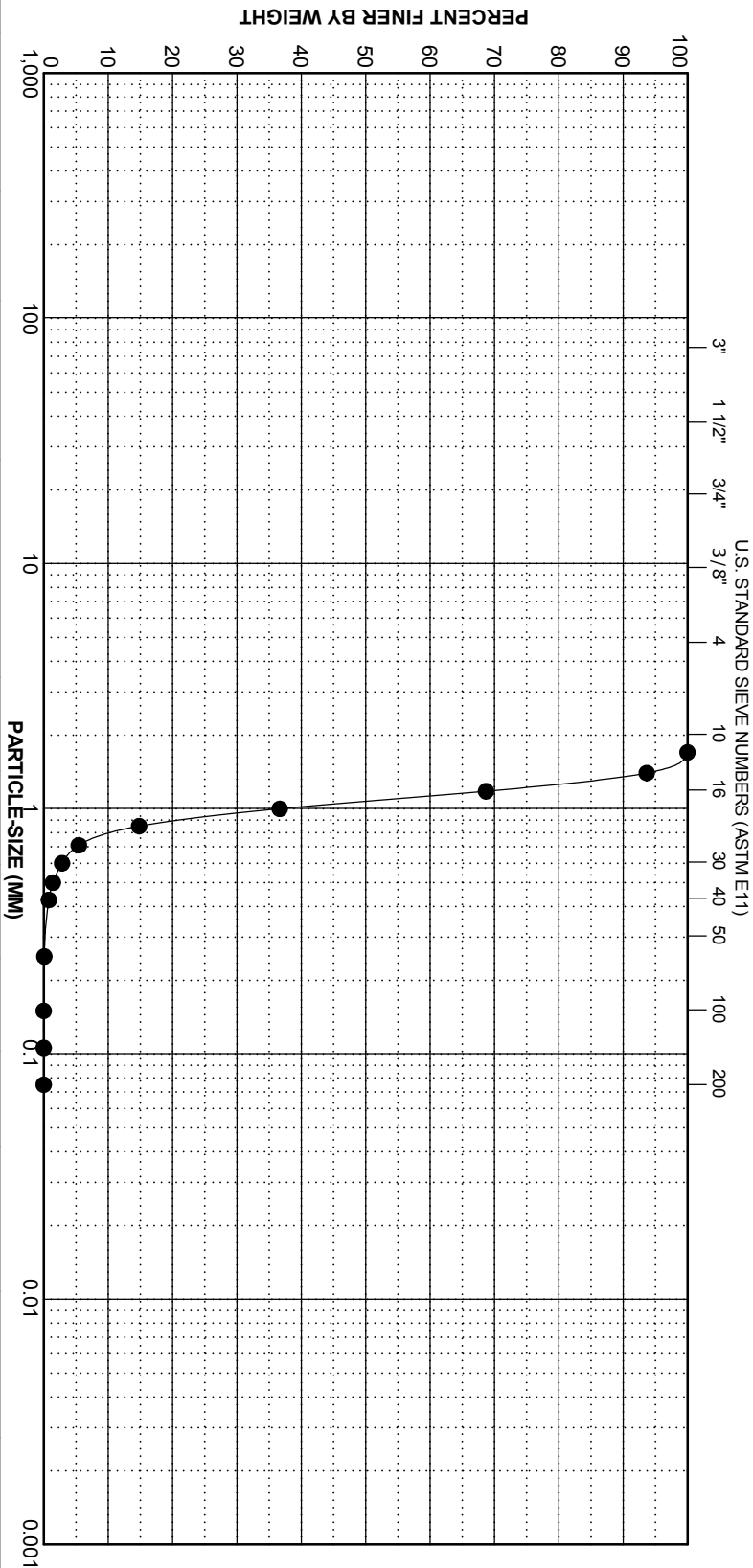
CHPRC - GEOTECHNICAL LABORATORY

PBS PROJECT NUMBER:
63797

PARTICLE-SIZE ANALYSIS-BLLEE GBP 63797 RESULTS.GPJ PBS DATATMP1 GEOGDT PRINT DATE: 6/30/17:BP6

TEST METHOD: ASTM D422

	GRAVEL		SAND			FINES	
	COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY
Boulders							
Cobbles							

[illegible]

07/10/2017

CH2M Hill Plateau Remediation Company

COLLECTOR

K. Patterson

SAMPLING LOCATION

289T TANK 1 #1

ICE CHEST NO.

SHIPPED TO

RILEE - GEOTECHNICAL

MATERIAL* POSSIBLE SAMPLE HAZARDS/ REMARKS

A=Air
DL=Drum
L=Liquid
S=Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegetation
W=Wipe
X=Other

*Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.

SPECIAL HANDLING AND/OR STORAGE

SAMPLE NO.

MATRIX*

B39L38 OTHER SOLID

SAMPLE DATE SAMPLE TIME

4.18.17 1228

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COMPANY CONTACT

SUMNER, LC

TELEPHONE NO.

376-3922

PROJECT DESIGNATION

200 West Pump & Treat Sieve Analysis - GAC

FIELD LOGBOOK NO.

HNF-N-507 38

ACTUAL SAMPLE DEPTH

N/A

PROJECT COORDINATOR

SUMNER, LC

F17-026-001

PAGE 1 OF 1

PRICE CODE

9C

DATA TURNAROUND

15 Days / 15 Days

AIR QUALITY

F17-026

SAF NO.

304233

COA

304233

METHOD OF SHIPMENT

GOVERNMENT VEHICLE

ORIGINAL

OFFSITE PROPERTY NO.

N/A

BILL OF LADING/AIR BILL NO.

N/A

PRESERVATION

None

HOLDING TIME

None

TYPE OF CONTAINER

G/P

NO. OF CONTAINER(S)

2

VOLUME

1L

SAMPLE ANALYSIS

D422 PARTICULATE SIZE (Dry Sieve): COMMON;

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

TRVL-17-110

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

TRVL-17-110

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

RELINQUISHED BY/REMOVED FROM

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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

PRINTED ON 4/5/2017

FSR ID = FSR43665

TRVL NUM = TRVL-17-110

A-6003-618 (REV 2)

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