

April 16, 2015

CH2M HILL Plateau Remediation Company
2420 Stevens Center Place
P.O. Box 1600
Richland, WA 99352
Attn.: Tracey A. Burch

Subject: Geotechnical Laboratory Testing Services, Data Deliverable for SDG # WA111220140001, 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 #) WA111220140001.

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 # WA111220140001, has been assigned a PBS Geotechnical Lab Sample number per the below table.

CHPRC Sample #	SDG #	Geotechnical Lab Sample #
B2YRK5	WA111220140001	H-0003

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.

April 16, 2015

Dr. Heinz Huber
Laboratory Manager, Columbia Basin Analytical Laboratories

Date

If you have any questions, please feel free to contact us at 509-545-4989 or email at hhuber@rjleegroup.com.

Attachment 1

PBS Geotechnical laboratory Testing Results, SDG # WA111220140001,
dated March 13, 2015

April 16, 2015



Engineering +
Environmental

March 13, 2015

RJ Lee Group, Inc.
Attn: Mr. Larry Lockrem
Columbia Basin Analytical Laboratories
2710 North 20th Avenue
Pasco, Washington 93301

Re: Geotechnical Laboratory Testing Results
Sample Delivery Group No. WA111220140001
PBS Project No. 63737.000

Dear Mr. Lockrem:

In accordance with your request, PBS Engineering and Environmental Inc. (PBS) is providing you with the results of our recent geotechnical laboratory testing. Our services were provided in accordance with the request provided with Sample Delivery Group (SDG) number WA111210140001.

We performed the following test:

- Hydraulic Conductivity – Constant Head (ASTM D2434)

The appropriate permeability/hydraulic conductivity test (ASTM D2434 or D5084) was selected based on the texture characteristics of the sample received, per section 3.2.2 of the contract. The test was performed in general accordance with the above-mentioned ASTM Standards, except for the following cases:

- **Hydraulic Conductivity – Constant Head (ASTM D2434):** The sample was not tested in a permeameter cylinder appropriately sized based on the maximum particle size of the soil due to the lack of adequate sample volumes provided. The test was performed in the closest appropriately sized cylinder available for the volume of sample provided, per the direction of RJ Lee and CHPRC.

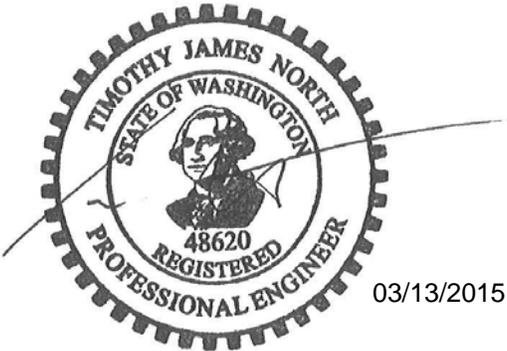
400 Bradley Boulevard, Suite 300, Richland, WA 99352
509.942.1600 Main
866.727.0140 Fax
www.pbsenv.com

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Mr. Larry Lockrem
Re: Geotechnical Laboratory Testing Results – WA111220140001
March 13, 2015
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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,
PBS Engineering and Environmental, Inc.



Timothy J. North, P.E.
Project Geotechnical Engineer

A handwritten signature in black ink, appearing to read "N.A. Bowles".

Nathan A. Bowles, P.E.
Senior Engineer/Operations Manager

TN/NB

Attachments: Report of Laboratory Testing – Hydraulic Conductivity – Constant Head
Chain of Custody

April 16, 2015



Geotechnical Laboratory Sample Receipt

Date/Time Received: 12-11-14

SDG#: WA 1112 2014 0001

Work Order Number: 300085

SAF# F13-046-073

Shipping Container Identification: _____

- 1. Custody Seals on shipping container intact? Yes No []
- 2. Custody Seals dated and signed? Yes No []
- 3. Chain-of-Custody record present? Yes No []
- 4. Cooler temperature _____
- 5. Vermiculite/packing materials is Wet [] Dry
- 6. Number of samples in shipping container: _____
- 7. Samples have:
 - tape _____ hazard labels
 - custody seals appropriate sample labels
- 8. Samples are:
 - in good condition for the geotechnical tests required _____ leaking/desiccated
 - _____ broken or disaggregated
- 9. Were any anomalies identified in sample receipt? Yes [] No
- 10. Description of anomalies (include sample numbers):
- 11. Rad Screen Performed: NA
- 12. Chain of Custody # F13-046-073

Comments: _____

Sample Custodian/Laboratory: Christina Lopez Date: 12-11-14

Telephoned to: _____ On _____ by _____ 7 of 7