



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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October 31, 2018

Meseret C. Ghebreslassie
Installation Restoration Program Manager
Department of the Army
Headquarters, Joint Base Lewis-McChord
1010 Liggett Avenue – Box 339500, Mail Stop 14A
Joint Base Lewis-McChord, WA 98433-9500

**Subject: Comments – Draft Final Work Plan for Remedial Investigation at the
Former Landfill Complex Joint Base Lewis-McChord Yakima Training Center
Washington**

Dear Meseret:

Thank you for the submitting the Draft Final Work Plan for Remedial Investigation at the Former Landfill Complex Joint Base Lewis-McChord Yakima Training Center, Washington. This Draft Remedial Investigation (RI) Work plan prepared by EA Engineering Science, and Technology, Inc., PBC for Joint Base Lewis McChord Public Works – Environmental Division, dated October 2018, was received by Ecology on October 23, 2018. My review has resulted in a number of comments that I would like to discuss with you and EA Engineering, Science, and Technology. Based upon my review, I offer the following comments:

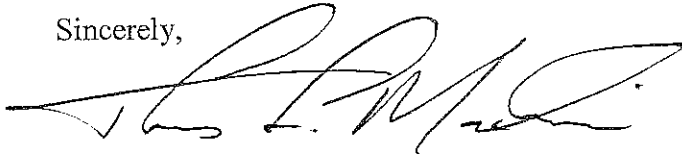
1. Page 21, Section 2.5.3, - It is unclear what is meant by depth to the top the “fold belt”. Isn’t basalt near the ground surface in the vicinity of SWMU #57. Might just delete this sentence.
2. Pages 21, Section 2.5.4, - Groundwater aquifers within the Columbia River Basalts are best developed within interflow zones. Interflow zones consist of fractured, flow tops, flow bottoms and any sediments that may have accumulated between eruptions.
3. Pages 28, Section 3.2, paragraph 4, This paragraph mentions the Roza Irrigation Canal. Is the Roza Canal lined in the section that is adjacent to the study area? If it is not, the potential for contribution of groundwater from the canal to the study area should be evaluated in the RI.
4. Page 20, Step 2 – Ecology would like to see three additional principle study questions:
 1. What is the nature and extent of the “hardpan” (use existing and to be collected data to put together a top of hard pan map),
 2. is precipitation and/or canal leakage in contact with and mobilizing contaminants in the landfill material, and
 3. is the hardpan acting as an aquitard (like a landfill liner) and directing the flow (or the perching) of subsurface water?

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5. Page 32, Section 14.2 – Can the depth to the top of the hardpan be sufficiently evaluated if test pits are limited to 10 foot depth?
6. Page 32, Section 14.2 – Soil moisture in samples from the test pits should be evaluated, especially samples from the soil/refusal interface (refusal = hardpan and/or basalt).

If you have any questions regarding the comments, please contact me at (509) 575-2803.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. L. Mackie', written over a horizontal line.

Thomas L. Mackie, LHG
Hydrogeologist - Site Manager
Hazardous Waste and Toxics Reduction Program
Central Regional Office
Washington State Department of Ecology