Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

September 26, 2007

Tom Hamann
Otak, Inc.
17355 SW Boones Ferry Road
Lake Oswego, OR 97035

Re: Draft Reconnaissance Summary
Little Hyatt Dam
Lane County, Oregon
1408-00

Dear Mr. Hamann,

We are submitting this letter to summarize the field visit made to the subject site on September 18, 2007 with Mr. Craig Totten of KPFF Consulting Engineers. The dam structure was evaluated in 1999 by Otak, Inc. and a team that included KPFF and AGRA Earth and Environmental. Mr. Stuart Albright of Ash Creek Associates was the engineer in charge of that project for AGRA. The purpose of our work was to review the 1999 report and make observations of the current dam condition in order to report on the state of the structure and its foundation from a geotechnical and geologic perspective.

A detailed description of the geology and foundation for the dam is included in the 1999 report. In accordance with that report and our recent observations, it is our conclusion that the abutments and outlet structure for the dam are supported by massive and tightly fractured basalt bedrock. As an exception, a portion of the right abutment was cast on a combination of intact basalt and basalt talus. The talus consisted of a pile of angular basalt boulders that had eroded off of the basalt face, into the creek channel. The talus material was subsequently eroded away, leaving a portion of the abutment in an overhang situation. The exposed material that remained generally consisted of intact basalt.

The results of the 1999 study concluded that the dam and bypass foundations were generally stable and not susceptible to catastrophic failure. We concur with that conclusion. However, the 1999 report did recommend that the right abutment be repaired to alleviate the previously described overhang situation. This recommendation was based on the potential that if the downstream channel were deepened, it could result in a further undermining of the basalt that supports the abutment. If this were to occur, the abutment could be undermined to the point of tipping. The deepening of the downstream channel has not been observed as an ongoing process. However, the potential exists that during a flood event, such deepening could occur. Since the tipping of the abutment would likely lead to catastrophic failure of the dam and the abutment can be fixed relatively easily, we recommend that this repair be undertaken.

Since the 1999 report was issued, no structural repairs have been undertaken. It is our understanding that the dam has been regularly observed for changes in performance. It is also our understanding that the most recent concerns relative to the dam have arisen due to observed changes in seepage. Specifically, representatives of BLM have noted increased seepage through the dam and around the right abutment. We are addressing the seepage that occurs below the right abutment, through the basalt formation.

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At the time of our site visit, the pool of the dam was drained and seepage was at a minimum. However, based on discussions with BLM personnel and evidence of past seepage (staining, moss growth, etc.) we noted that seepage appeared to be occurring both between the concrete abutment and the bedrock and through fractures in the bedrock.

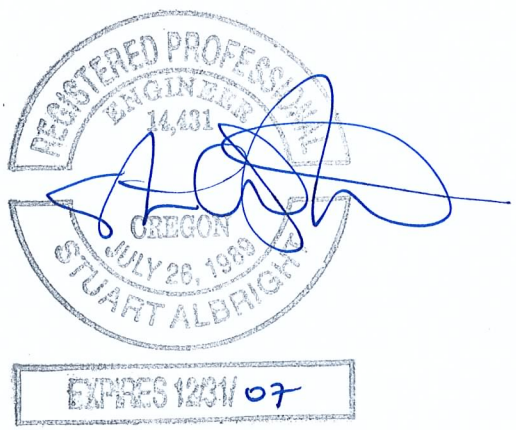
Seepage through the bedrock around the structure of the dam is to be expected. Intersecting fractures in the basalt allow for water to flow around the concrete dam structure, ultimately resulting seeps downstream of the dam structure. For large, high head dams, the bedrock is typically grouted tight to eliminate this seepage. Such work was not undertaken here and is not common for modest height dams.

Increases in seepage through the basalt could result from a number of mechanisms. One mechanism would be erosion of soil material that fills the joints in the basalt. Another mechanism would be changes in the stresses within the rock. Based on our review of KPFF's 1999 structural report, the modeling work completed documents that the dam is subject to expansion and contraction. These changes would result in differing stresses on the abutment. Changes in rock stress would result in opening and closing joints in the rock, further resulting in changes in seepage. Both of these mechanisms are consistent with the geologic conditions documented in the 1999 report and observed during our site visit. Neither of these mechanisms is likely to result in a loss of support for the structure or foundation failure of the dam.

Based on our observations, it is our opinion that the conclusions and recommendations of the 1999 report are still valid for the structure. Our observations of the geologic and geotechnical conditions did not reveal any changes or conditions that conflict with those discussed in the 1999 report. We have discussed the repair alternatives with KPFF. Based on these discussions, the two most likely repair schemes are those documented in the 1999 report. Although a final solution would be refined during a final design, it is our opinion that the solutions proposed remain the most viable. If the dam is not repaired or replaced, we continue to support the need to repair the right abutment. This repair is relatively simple and would provide a higher level of support for the structure.

We hope that this letter meets your needs at this time. If you have any questions or need anything else, please contact me at your convenience.

Sincerely,



Stuart Albright, P.E.
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