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ENVIRONMENTAL RESTORATION & WASTE MANAGEMENT

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November 1, 1995

Mr. Thomas M. Brouns
Pacific Northwest Laboratory
Battelle Boulevard
Richland, Washington 99352

RE: ResonantSonic™ Drilling

Dear Mr. Brouns:



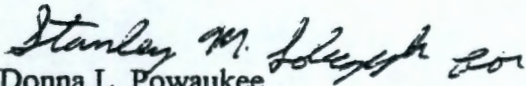
The Plume Focus Area Subgroup meeting, on October 17, discussed the performance of ResonantSonic™ drilling at 200-ZP-1. As you are aware, the Nez Perce Tribe has expressed concerns about using this drilling method at Hanford. **Geologic, Geochemical, Microbiologic, and Hydrologic Characterization at the In Situ Redox Manipulation Test Site, PNL-10633,** also documents problems encountered using ResonantSonic™ drilling for characterization or ground water production. As outlined in the meeting, the following problems encountered when using this method must be resolved:

- 1) Formation damage apparently due to the generation/mobilization of fine sediments into the surrounding borehole wall.
- 2) The inability to collect samples with a representative grain-size distribution.
- 3) The inability of ResonantSonic™ drilling method to collect undisturbed cores. "Core growth" indicates that cores are not undisturbed. The grain-size distribution of sonic cores must be evaluated.
- 4) The ability of ResonantSonic™ method to drill larger size holes. What is the work sequence? Does the amount of formation damage increase with increasing hole-size?
- 5) Is the claim of waste minimization using ResonantSonic™ drilling method valid? In particular, is waste minimization a valid claim beneath the water table.

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For ResonantSonic™ drilling to be accepted by the private sector, there must be an open exchange of information, and the baseline technology used for comparison must be commonly used offsite which precludes comparisons to cable tool drilling. After the removal of proprietary information, we want to review the Phase 1 and Phase 2 CRADA reports. Actual drilling results are not proprietary and should be readily available to substantiate claims. It would be beneficial if we could observe ResonantSonic™ drilling in the field, Tribal personnel are in Richland every Tuesday and are available to observe ResonantSonic drilling on any Monday or Wednesday.

Sincerely,


Donna L. Powaukee
Nez Perce Tribe ERWM Manager

cc: John Wagoner, DOE-RL, Site Manager
Ron Izatt, DOE-RL, Assistant Site Manager
Kevin Clarke, DOE-RL, Indian Programs Manager
Clyde Frank, DOE-OTD, Director
Bob Rosselli, DOE-RL
Roger Christensen, DOE-RL
Mike Thompson, DOE-RL
Jef Walker, DOE-OTD
Jim Wright, DOE-SR
Steve Stein, PNL
Greg McLellan, Water Development Hanford, Inc., Manager - Business Development
Stuart Harris, CTUIR
Dib Goswami, Department of Ecology
Dennis Faulk, EPA