



**AGENCY FOR NUCLEAR PROJECTS
NUCLEAR WASTE PROJECT OFFICE**

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July 6, 1993

Mr. Carl P. Gertz
Program Manager
Yucca Mountain Project Office
U.S. Department of Energy
P.O. Box 98608
Las Vegas, NV 89193-8608

Dear Mr. Gertz:

As you may be aware, the Defense Nuclear Agency proposes to conduct a one kiloton chemical explosion test on Rainier Mesa - Nevada Test Site in mid-September, 1993. A number of universities and national laboratories are planning to take advantage of this unique opportunity to collect a variety of geophysical information on the earth's structure in the southwestern United States. The State hopes that the Yucca Mountain Project will also take advantage of this opportunity to enhance the available site characterization data base.

At the June 8, 1993, NRC/DOE Technical Exchange on Geophysics, a DOE representative, when questioned, indicated that no firm plans were in place for experiments related to this chemical explosion test. A U.S. Geological Survey representative indicated the Geological Survey would be a participant but separate from the Yucca Mountain Project. Does the Yucca Mountain Project now have any plans relative to the proposed test?

We and our technical contractors have discussed some experiments which we believe the DOE should conduct relative to its characterization of the Yucca Mountain area. Suggested experiments associated with the proposed explosion are as follows:

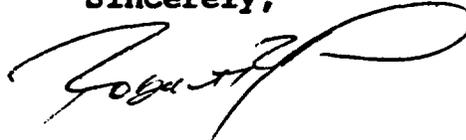
1. A line of geophones at a 1/2 kilometer spacing from the explosion site southerly through Yucca Mountain to Amargosa Valley. The line would provide subsurface structure and rock velocity information.

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2. A closely-spaced line of geophones perpendicular to the steep hydraulic gradient north of Yucca Mountain. Velocity differences across the gradient could assist in characterizing the gradient, which as yet is unexplained and not scheduled for investigation by DOE until a few years from now.
3. A series of closely-spaced lines of geophones on Yucca Mountain to collect subsurface structure and velocity information. A north-south line and two east-west lines are suggested. The velocity information could be helpful in interpreting future seismic reflection surveys in the Yucca Mountain area.

From the State's perspective, this is a unique opportunity to collect geophysical data pertinent to the characterization of Yucca Mountain at relatively minimal cost. We are anxious to hear that the Yucca Mountain Project intends to respond to this opportunity, and is considering conducting the data collection which we have suggested.

Sincerely,



Robert R. Loux
Executive Director

RRL:cs

cc: Lake Barrett, DOE-OCRWM
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