

Los Alamos National Laboratory

Earth and Environmental Sciences
EES-1, Geology and Geochemistry
P.O. Box 1663, Mail Stop D462
Los Alamos, New Mexico 87545
(505) 667- /FAX: (505) 665-3285

April 8, 1998

John Young
State of New Mexico
Environment Department
Hazardous & Radioactive Materials Bureau
2044 Galisteo
P.O. Box 26110
Santa Fe, NM 87502

Dear John:

Subject: Use of Water To Facilitate Circulation in R-12

I am writing to request that NMED approve the use of water to improve circulation of drill cuttings in clay-rich zones in R-12. We are encountering frequent clay-rich beds between basaltic lava flows, and the moist clay is clogging drill bits and air-circulation return lines. Cleaning the clogged drilling equipment requires repeated trips in and out of the hole, and the newly-cleaned equipment quickly becomes clogged again due to the sticky nature of the formation materials. If a remedy is not effected, this situation will significantly escalate the costs of drilling this hole.

We propose to introduce small amounts of municipal well water into R-12 to facilitate circulation through the clay-rich zones. We expect to introduce water at a rate of 2-3 gal/min and will not exceed 5 gal/min. We will kept an account of the water introduced into the hole and characterize its water quality before and after the zones are penetrated (i.e. two water samples for R-12) so that impacts to natural groundwater systems can be assessed. Because of the impermeable nature of clay-rick formations, we expect most of the water to circulate out of the hole with the returns. As soon as we penetrate the clay-rich zones, we will return to air circulation.

Thank you for your prompt response to this request.

Sincerely,



David Broxton

Cy: B. Gallaher, ESH-18, MS K497
B. Koch, DOE LAAO, MS A316
P. Longmire, CST-7, MS J534
C. Nylander, ESH-18, MS K497
A. Pratt, EES-13, MS J521
S. Yanicak, NMED DOE-OB, MS J993
EES-1 File
BUS-4, MS A190



4/10/98/0/c-00007
HSWA LANC

TL