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Hydrogeology • ~~WATER DOCKET CONTROL~~ Waste Management • Geological Engineering • Mine Hydrology
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April 4, 1986
Contract No. NRC-02-85-008
Fin No. D-1020
Communication No. 44

Mr. Jeff Pohle
Division of Waste Management
Mail Stop 623-SS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

WMI-RES
WMI-RES FILE
D-1020
W+FA

WM Project 10, 11, 16
Docket no. _____
PDR ✓
LPDR (B, N, S)

Distribution:

Pohle

(Return to WM, 623-SS)

RE: NTS

Dear Jeff:

We have read the review by Water, Waste and Land of the document entitled "Conceptual Hydrologic Model of Flow in the Unsaturated Zone, Yucca Mountain, Nevada."

In my opinion, there are no basic disagreements between our review and that of the personnel of Water, Waste and Land. We place stronger emphasis and greater strength in some of our criticisms than they do. In some cases we have made more detailed comments than they have.

An example of the strong statements that we have made is in relation to the effect of the sloping contact between several units. We state that under unsaturated conditions such sloping contacts will have no effect on downward flow and will not divert the flow in a lateral direction. Water, Waste and Land state that diversion is doubtful. This concept should be investigated by modeling because it is so fundamental to the idea that flow is diverted around the repository location through fault zones. We propose to model this problem with UNSAT2. As you probably are aware this program simulates the unsaturated flow of water but does not consider the flow of air or vapor. We feel that this simulation could address with finality the question of whether the sloping contact does influence the downward movement of water. Sufficient data are available on hydraulic properties of the tuff to permit this simulation to be conducted. We estimate that the simulation would require about one man-week of time.

Sincerely,

George Bloomsburg
George Bloomsburg

Roy E. Williams
Roy E. Williams

GB:REW:s1

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