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**MEMORANDUM**

31 October 2000

**To:** Yucca Mountain File, Nye Co. N.W.R.P.O.  
**From:** Don L. Shettel  
**Subject:** Review of AMR/PMR: ANL-EBS-MD-000020 Rev 00.

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Title: Colloid-Associated Radionuclide Concentration Limits - ANL.

This is no doubt the best report that I have reviewed thus far. There should be little revision of this report in the future as most of the data has already been collected. This report is an example of the quality results that can be achieved when there is relevant data at hand. However, the existence of this data is due to the diligence of Dr. John Bates of ANL who insisted on collecting realistic, site-related data. DoE did not approve of the collection of this type of information from dripping water experiments on waste forms (waste glass and spent nuclear fuel), but did fund it and now must use it since it exists. Similar types of experiments must now be performed on metallic materials (drip shield and canister).

The experiments used eJ-13 water, which is water that has been equilibrated for a time at temperature (90°C) with Topopah Springs tuff. Although not necessarily the perfect water to use in these types of experiments, it is the closest, most realistic water composition ever used by DoE or one of its contractors.