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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-NBS-HS-000007 Rev 00.

Title: Natural Analogs for the Unsaturated Zone.

This one is a work in progress and will warrant further review as work progresses and is finished. On the plus side, it covers many natural analogs including one study supported by the State: Papoose Lake sill on the Test Site.

Geothermal sites are being used to confirm and validate thermodynamic data such as is used in geochemical modeling codes. This is all well and good scientifically, but these sites have been active for hundreds of thousands, if not millions, of years (e.g., New Zealand) and exist at higher temperatures than will be seen at Yucca Mountain. Yucca Mountain will presumably only be above boiling for less than a thousand years. Thus, the appropriateness of some of these studies to Yucca Mountain is open to question on this basis.