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MEMORANDUM FOR: Myron Fliegel, Section Leader
Geotechnical Branch
Division of Waste Management

FROM: Richard Codell
Hydrology Section
Geotechnical Branch
Division of Waste Management

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SUBJECT: RESULTS OF ANALYSES FOR SILICA DISSOLUTION

I have performed several calculations to assess the fractional change in porosity of rock near a repository caused by the dissolution of silica in flowing groundwater. Results of the analyses using typical HLW repository dimensions, heat loads, and typical to conservative groundwater fluxes indicate that increase in porosity because of the solution of silica would be expected to be a small fraction of the initial rock porosity. The small change in porosity is probably negligible in defining the disturbed zone. The following report describes the models used to perform the analyses.

Dick

Richard Codell
Hydrology Section
Geotechnical Branch
Division of Waste Management

Enclosure:
Analysis of the Dissolution
of Silica Near HLW Repositories

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