Enclosure 1

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From: Kelmers

PROGRESS REPORT FOR APRIL 1987

PROJECT TITLE: Technical Assistance in Geochemistry

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ACTIVITY NUMBER: ORNL #41 88 54 92 4 (FIN No. B0287)/NRC #50 19 03 01

OBJECTIVE:

The objective of this project is to provide technical assistance to the NRC in the evaluation of geochemical information pertinent to the candidate high-level waste geologic repository sites. The project emphasizes the collection and review of key information to provide input to the NRC analysis of technical issues regarding the geochemical aspects of high-level waste geologic isolation and review of site selection and repository licensing documentation.

TECHNICAL HIGHLIGHTS:

Geochemistry Issues:

Draft Letter Reports analyzing the geochemistry issues for the Yucca Mountain site and The Hanford Site are being prepared. Six issues have been defined that cover all regulatory aspects of site characterization and selection, and of repository construction, operation, and closure. Major report sections for the six issues at each site will be: (1) Regulatory Rationale, (2) Data and Information Needed to Analyze the Issue, (3) Methods, Strategies, and Approaches Available to Acquire the Needed Data and Information, and (4) Precision and Accuracy Necessary, or Uncertainty Acceptable, for the Data and Information Needed to Analyze the Issue. The draft Letter Report for the Yucca Mountain Site containing the sections on rational and on data needs is transmitted with this progress report. We are now working on the parallel draft Letter Report for the Hanford Site.

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General:

A transcript of the luncheon address given by NRC Commissioner Asselstine at the Second Topical Conference on Nuclear Waste Management Quality Assurance is transmitted with this progress report. A report of this meeting (MR-287-10) was included with the February Progress Report. Commissioner Asselstine makes a number of significant recommendations concerning the repository program. He recommends: (1) reopening the DOE site selection guidelines, (2) elimination of the second round of repository sites, and (3) suspension of all work on the first round of repository sites and conducting a national review of all potential sites.

As requested previously, we are updating our project records quarterly. Transmitted with this report are updated lists of the products prepared under this project.

As requested, we have checked our computer-based information library and transmit with this progress report a complete printout of all documents located by the set selectors "BWIP" and ("mineralogy" or "petrology"). A total of 21 documents were located. We also checked to locate all Letter Reports we have prepared on Hanford Site mineralogy or petrology. Only one was located, LR-287-65, and a copy is transmitted with this progress report. Most of our review and evaluation of BWIP work has been focused on waste package and radionuclide interaction with basalt in the engineered facility, or on retardation of released radionuclides by the geologic site.

The topical review on the solubility of radionuclides (NUREG/CR-4024) is in final preparation on mats. We expect to be able to forward it to the NRC Project Manager with the May Progress Report. The topical review on matrix diffusion, being prepared in conjunction with Jerry Grisak of Intera Technologies Inc., is being revised and expanded to include a discussion of the relationship between performance measurement and matrix diffusion parameters. The topical review on the geochemical conditions at the Hanford Site will be revised when the review of the draft manuscript by the NRC is received.

MEETINGS AND TRIPS:

G. K. Jacobs attended the NRC RES/National Laboratories meeting held in Rockville, Maryland, on April 9-10. The agenda, summary of the meeting, and list of participants are included with this progress report. G. K. Jacobs obtained views from the National Laboratories on the key issues for research and presented this information at the meeting (see summary by D. E. Bessette).

REPORTS AND PUBLICATIONS:

None

PROBLEM AREAS:

None

COST/BUDGET REPORT:

Expenditures for April were not available at this time. A detailed cost/budget report will be forwarded under separate cover.