

426.1/B0290/JWB/85/12/30

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DEC 31 1985

(Return to WM, 623-SS)

Dr. Gary K. Jacobs
Environmental Sciences Division
Building 1505/Room 312
P.O. Box X
Oak Ridge National Laboratory
Oak Ridge, TN 37831

Enclosures are in DCC

Dear Dr. Jacobs:

SUBJECT: REVIEW OF NOVEMBER MONTHLY PROGRESS REPORT FOR B0290, "LABORATORY EVALUATION OF DOE RADIONUCLIDE SOLUBILITY DATA AND SELECTED RETARDATION PARAMETERS, EXPERIMENTAL STRATEGIES, LABORATORY TECHNIQUES AND PROCEDURES"

I have reviewed the November, 1985 Monthly Progress Report dated December 10, 1985 for the subject contract. Based on my review, progress to date is satisfactory.

I am pleased to see that some interesting results are coming out of the sorption work. Although the effect of pH on Cs and Sr sorption is "not unexpected", your findings do not support the statements made by the people at LANL during the Appendix 7 Visit about controlled atmosphere tests. They contended that little or no change occurred between controlled and uncontrolled tests. I think another Appendix 7 Visit, where we look over the laboratory records describing experimental protocol, would be both informative and useful.

The results of the experiments with europium are rather disturbing. If europium is expected to pose fewer problems than americium in sorption experimentation and we cannot keep europium in solution, even in pH ranges where colloid formation is not favored, we are in for an uphill battle. Experimental protocol will probably take on increased significance. Possibly, experimental methods based on closer simulation of repository conditions and conceptual models of radionuclide release could improve applicability of the results. Is the centrifuge tube made of the same material as is normally used in batch experiments?

Enclosed for your information is a copy of NUREG/CR-4110, "Repository Site Data Report for Unsaturated Tuff, Yucca Mountain, Nevada". This document contains sorption data up to February, 1985. It is interesting to note that the sorption ratios you measured were generally not within the ranges determined by LANL. Also, I have also enclosed four recent NNWSI Monthly Reports. If you think there is any information in these reports of interest to you, I will make sending these reports to you a regular practice.

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The action taken by this letter is considered to be within the scope of the current contract FIN N-0290. No change to cost or delivery of contract products is authorized. Please notify me immediately if you believe this letter would result in changes to costs or delivery of contract products.

Sincerely,

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John W. Bradbury
Geochemistry Section
Geotechnical Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosures:
As Stated

DFC :WMGT JWB :	:	:	:	:	:	:
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