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426.1/B0290/JWB/85/10/1

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OCT 0 8 1985

Ms. Susan K. Whatley
 Oak Ridge National Laboratory
 P.O. Box X
 Chemical Technology Division
 Building 4500N, MS 211
 Oak Ridge, TN 37831

WM-RES
 WM Record File
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 ORNL

WM Project 10/16/85
 Docket No. _____
 PDR
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 (Return to WM, 623-SS)

Dear Ms. Whatley:

SUBJECT: REVIEW OF AUGUST 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 August, 1985 Monthly Progress Report dated September, 9,
 1985 for the subject contract. Based on my review, progress to date is
 satisfactory.

Considerable effort has gone into solving the problem of ²³³Pa contamination of
²³⁷Np solutions. The past three monthly reports have included discussions on
 this work. However, no mention is made about the size of the error in sorption
 parameters introduced by this contamination. Does this problem occur in systems
 containing radionuclides other than neptunium and is the error large enough
 that the DOE should consider it in its experimental methodologies? As you have
 mentioned to me earlier, your counting equipment is archaic in comparison to
 that used by the DOE contractors. My concern is that, lacking state-of-the-art
 equipment, your findings might have little effect on the DOE strategies. We
 can discuss this further at the contract review meeting this month.

Apparently, some work at LANL has involved Pu and Am sorption. I suggest that,
 prior to initiating our own experimental studies, we take a trip out to Los

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Alamos and, under the Appendix 7 Agreement, look at the details of the experiments involving these two elements. Otherwise, there may be a duplication of effort.

The experimentalists at LANL assume that it is conservative to allow the pH of the liquid in sorption experiments to increase during the course of the experiment. I suggest this is one assumption that we should test.

The action taken by this letter is considered to be within the scope of the current contract FIN B-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,

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

DFC	: WMGT <i>JWB</i>	:	:	:	:	:	:
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