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A1756  
SNL

WM Project 10, 1 '86  
Docket No. 10, 1 '86  
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OCT 29 1984

Dr. Malcolm D. Siegel  
Division 6431  
Sandia National Laboratories  
Albuquerque, NM 87185

Dear Dr. Siegel:

SUBJECT: CONTRACT NO. NRC 50-19-03-01/FIN A-1756, "GEOCHEMICAL SENSITIVITY ANALYSIS"

I have reviewed the September, 1984 monthly progress report for the above contract, dated October 10, 1984. Based on my review of this report, I have the following comments:

Task 1 - Uncertainty in Integrated Radionuclide Discharge

- Progress to date is satisfactory
- As you requested in our October 15 conversation, here is a more detailed discussion of comments concerning your August 29 trip to Oak Ridge National Laboratory.

There is concern that the two data base tasks you are undertaking are somewhat unfocused at present, especially for the sorption data--the specific gains to SNLA, ORNL, and the NRC are not well defined. The frequency of utilization of the data in such a data base is not evident. An additional comment concerning the thermodynamic data base is that, although a single, internally-consistent, verified thermodynamic data base is supported, there is uncertainty that the task at the SNLA will provide such a data base in a reasonable amount of time or cost. A concern regarding estimation of actual costs is the the effort required by the technical staff to prepare the input and by the support staff for input and maintenance has been neglected. For example, support staff time for input and maintenance for the document data base at ORNL is one half man-year.

I hope this clarifies the comments that have been made previously regarding data base compilation. Do not hesitate to contact me for further clarification.

Task 2 - Evaluation of Error Due to Organics and Colloids

- Progress to date is satisfactory

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- Some work has been done on colloid formation for a natural analog in Australia that you might want to be aware of. The project is supported by NRC RES (G.F. Birchard is Project Manager) and P.L. Airey is the principal investigator. Some of their initial findings are that less than 1% of uranium present in the groundwater system is associated with colloids, while up to 39% of the Th-230 is associated with colloids. The radionuclides are not in isotopic equilibrium with those in solution.

Task 3 - Representation of Geochemical Processes in Models

- No activity anticipated until FY 87

Task 4 - Short-Term Technical Assistance

- Progress to date is satisfactory.

Additional Comments

- Regarding the anticipated problems with rising computer costs, there is nothing that we can do at the present to procure additional funds. No increase in the anticipated budget for FY 85 for this project is expected at this time. If computer costs become a problem, the scope of the project may have to be redefined. I will probably be writing you a separate letter on this issue soon.

The action taken by this letter is considered to be within the scope of the current contract A-1756. No changes to costs 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 contracted products.

Sincerely,

Walton R. Kelly  
Geochemistry Section  
Geotechnical Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

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