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**CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

March 27, 2000

John C. Browne, Director  
Los Alamos National Laboratory  
P.O. Box 1663, MS A100  
Los Alamos, New Mexico 87545

Theodore Taylor, Project Manager  
DOE LAAO  
528 35th Street MS A316  
Los Alamos, New Mexico 87544

**RE: Information Request Regarding Groundwater Modeling, Los Alamos National Laboratory (NM0890010515)**

Dr. Browne and Mr. Taylor:

Resolution of fundamental startup problems associated with the implementation of Los Alamos National Laboratory's (LANL) Hydrogeologic Workplan (Workplan) have preoccupied many of our personnel, distracting us from the original objectives outlined in the Workplan. As many of the logistical problems have begun to be addressed, all parties should now be able to fully concentrate on the basic objective of the Workplan: collecting the necessary characterization data to better understand the hydrogeologic system beneath the Pajarito Plateau. One major component to understanding the hydrogeologic system is the development of a groundwater model as it relates to the fate and transport of contamination in the subsurface.

Currently only a general overview of the modeling effort is provided in the Workplan (Sections 3 and 4), dated May 22, 1998. To better understand the modeling program as well as to track data needs and collection, more specificity is required. NMED is therefore requesting that a work plan be developed for the groundwater modeling effort. One initial step should be to more clearly define the scope, objectives and ultimate purpose of the groundwater modeling program. This will allow NMED to more closely follow the progress of the modeling effort as it pertains to Workplan activities.



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At a minimum the work plan should address the following specific subjects:

- Clearly defined scope, objectives and purpose for the groundwater modeling efforts;
- A detailed description of the Finite Element Heat and Mass transport model and all other models that will be used or are being evaluated for use at LANL including examples of how they have been used for similar evaluations;
- A listing of all model input parameters and how the data for those inputs will be obtained;
- Identification of the most critical input parameters for each model (e.g., Visual Modflow requires accurate potentiometric head data) and discussion of the uncertainties associated with the available data;
- Identification of current data needs and how these data needs will be satisfied;
- Integration/linking of the various models (e.g., GoldSim) and discussion of additional uncertainties introduced by the integration/linking;
- Expected confidence level of the modeled results;
- Rationale for all assumptions made regarding input parameters;
- A discussion of whether existing data are sufficient for meaningful model calibration and how the process will be implemented;
- Schedule of any deliverables and schedule of goals (e.g., Los Alamos Canyon shallow system will be completed by the first quarter of fiscal year 2001)

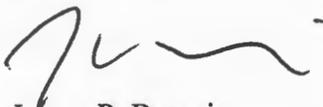
NMED believes the annual and quarterly Workplan stakeholder meetings are appropriate fora to present the status of the groundwater modeling work plan activities and discuss/resolve issues and problems encountered while the modeling and characterization programs mature.

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We would like to note that while modeling is an important aspect of the Workplan and subsurface characterization, it is not a substitute for monitoring. Models must be calibrated by actual field data.

The Annual Stakeholder Meeting, to be held March 29 through the 31, will provide a forum for further discussion and clarification of this work plan request. We look forward to working with LANL staff in the implementation of the modeling activities. LANL should present a draft of this work plan within forty-five (45) calendar days of the receipt of this letter. Should you have any questions, please feel free to contact John Young of my staff at (505) 827-1558, extension 1036.

Sincerely,



James P. Bearzi  
Chief  
Hazardous and Radioactive Materials Bureau

JPB:jry

cc:

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