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Mr. John Young  
LANL Corrective Action Project Leader  
New Mexico Environment Department  
Hazardous Waste Bureau  
2044 A Galisteo  
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Santa Fe, New Mexico 87502-6110



**SUBJECT: SCHEDULE OF GROUNDWATER CHARACTERIZATION PROGRAM  
ACTIVITIES FOR FY 2001 AND FY 2002**

Dear Mr. Young:

This letter is written to satisfy a commitment made during the March 19, 2001 Senior Managers meeting (the first day during the week-long Annual Groundwater Characterization Program meeting). At that time, it was hoped that the scope for well drilling could be agreed upon in the spring prior to the coming fiscal year to allow effective planning to take place through the summer. It is still our hope to use this approach next year, however this year's budget uncertainties made it impossible to provide realistic drilling targets this last spring. Although many of the budget uncertainties still persist, this letter is provided to describe the FY 02 proposed scope regarding implementation of the Hydrogeologic Workplan.

**FY 02 PROPOSED SCOPE**

Due to the successful completion of the wells in FY 01, the proposed drilling schedule for FY 02, continuing implementation of the Hydrogeologic Workplan, includes the following regional aquifer wells: Well R-8 completion (Los Alamos Canyon), Well R-13 completion (lower Mortandad Canyon), Well R-14 drilling and completion (Ten Site Canyon/Mortandad Canyon), and drilling Well R-20 (vicinity of Technical Area 54). This proposed scope of drilling activities is based on budget requests that have been made through DOE's Defense Program (DP) and Environmental Management (EM) Program. If the Laboratory's Environmental Restoration (ER) Project experiences program cost efficiencies during FY 02, an additional regional aquifer well will be pulled into FY 02 from the FY 03 baseline scope. This additional well is tentatively proposed as either well R-18 or R-21 dependent on NMED/HWB input on well prioritization. As stated in more detail in this letter, the Laboratory is confident that all activities required for the site-wide characterization of the Laboratory's hydrogeologic setting, conducted pursuant to the iterative approach detailed in the Hydrogeologic Workplan, will be completed prior to the end of the seven (7) year Workplan schedule.

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During FY 02 the Laboratory will continue to perform activities related to Information Management, including: Module Development; ER/ESH data exchange; GIS/Spatial Water Quality Database User Interface; Project Management; and System Maintenance and Administration.

During FY 02 the Laboratory will continue to perform activities related to modeling, including: Linkage of Los Alamos Canyon/Mortandad Canyon Output to the Regional Model; Examination of the Effect of Local Recharge on the Regional Aquifer; Continue to Develop and Test New Models for the Regional Aquifer; Incorporate New Data in Model Calibration; begin to Define Zones of Capture for Wells on the Pajarito Plateau; and Update and Maintain the 3-D Geologic Model.

During FY 02 the Laboratory will continue to perform activities related to the Groundwater Integration Team (GIT), including the conduct of Quarterly and Annual Meetings with NMED. The use of the External Advisory Group (EAG) will be continued also. Subsequent to the Quarterly Meeting scheduled for October 16, 2001, the Laboratory will work with a NMED Core Team to negotiate the remaining data quality objectives for the life cycle of the Hydrogeologic Workplan, and define the nature of the final deliverable(s) anticipated to close out the Workplan.

In addition to providing FY 02 scope, this letter also serves as a response to your letter dated January 24, 2001 approving the scope of groundwater characterization activities for FY 01, as a result of the Laboratory's proposals made during the March 29-31, 2000 Annual Workplan meeting. Responses and clarifications regarding the specific contents and expectations stated in your letter are addressed in the next section of this letter, confirming the FY 01 scope.

## **FY 01 PROPOSED SCOPE**

Your letter stated that the number of wells the Hazardous Waste Bureau...

"agreed to and expects completed this fiscal year (FY 2001) was presented in the October 3-5, 2000 Quarterly Workplan meeting and is as follows: R-5, R-7, R-8, R-13, R-22, and R-27. An additional regional aquifer well located at Technical Area (TA)-37, identified as CdV-R37-2, is also expected for completion this fiscal year...Additionally, two intermediate depth wells (600-700 feet) in Mortandad Canyon are also to be completed."

The above-mentioned scope with the exception of well R-27, which was pushed out of the FY 01 baseline, was successfully accomplished during FY 01, and the Laboratory appreciates your efforts and those of your NMED colleagues supporting these accomplishments. As a point of clarification, please note that during the October 3, 2000 Quarterly Workplan meeting the above work scope was articulated, as mentioned in your letter. The minutes from that meeting reflect that what was stated regarding well R-8 was that due to Defense Program funding limitations, well R-8 would only be started in FY 01 and would have to be completed in early FY 02. Please be aware that drilling activities for well R-8 began the second week of September, and it is anticipated that the borehole will be completed during October 2001.

There are several additional responses and clarifications that the Laboratory wishes to make regarding your letter of January 24, 2001. For example, your letter stated the expectations that well CdV-R37-2 and two intermediate wells located in Mortandad Canyon would be completed during FY 01. As previously noted, these wells have been completed during FY 01, however they were not installed as part of the scope of the Laboratory's Hydrogeologic Workplan. These wells are within the scope of the Environmental Restoration (ER) project, and were installed pursuant to a RCRA Facility Investigation Workplan for Mortandad Canyon and a Corrective Measure Study being conducted at Technical Area 16. However, all of the hydrogeologic data and information collected from these ER wells is being integrated into the characterization activities conducted under the Hydrogeologic Workplan.

On page two of your letter you stated that the Workplan was to be completed by FY 2002, and that ... "LANL must make every effort to complete the Workplan by the original (FY 2002) schedule." The Laboratory does not agree with the stated expectation that the Workplan will be completed by FY 02. For the sake of clarifying the record, the original draft of the Laboratory's Hydrogeologic Workplan (dated December 6, 1996) that was submitted to NMED/HWB for review and approval did originally contain a four (4) year drilling schedule from FY 99 thru FY 02. However, by the time NMED/HWB approved the Workplan in March 1998, the drilling schedule had been amended to reflect seven (7) years, from FY 99 thru FY 05, and this is the schedule that was approved by NMED/HWB and published in the final Hydrogeologic Workplan, dated May 22, 1998.

Your letter states that recent proposed changes in the drilling strategy should allow the Laboratory to accelerate the FY 05 completion of the Workplan, and the Laboratory does agree. Despite scope and schedule changes that have occurred throughout the first four years of Workplan implementation regarding individual wells (each change discussed and negotiated with NMED), the Laboratory is still on schedule to complete the Workplan within the approved seven (7) year schedule. In this respect, it is our expectation that the on-going re-iteration on the Data Quality Objectives and "bounding" of the remaining scope of the Hydrogeologic Workplan, which will be presented and discussed at the Quarterly Meeting in October, 2001 and finalized following further discussions with you and other NMED staff with an agreement with NMED/HWB during November/December, will provide sound rationale and technical support for early completion of the Workplan prior to end of FY 05.

A review of the meeting minutes for the Groundwater Characterization Program Quarterly and Annual meetings since October 3, 2000 (the meeting referenced by your letter) indicates that several scope changes have been made throughout FY 01, as follows:

Quarterly Meeting January 30, 2001 No changes from October 3, 2000;

Annual Meeting March 20-23, 2001 FY 01 activities include installation  
of R-22, R-7, R-5, and ER wells in  
Mortandad Canyon and CdV-R37-2;

Quarterly Meeting June 27, 2001

Plan to drill ER well CdV-R37-2;  
ER intermediate wells in Mortandad;  
Current prioritized well list for FY 01  
and FY 02 is: ER R-13, R18, R21;  
DP R-8, R-14, R-20. FY 02 scope is  
Drill and complete R-13, R-8, and R-20;  
Could exchange R-14 for R-20.

Due to ER Program cost efficiencies during FY 01, the baseline schedule for drilling well R-13 was accelerated and work from FY 02 has been pulled into FY 01. Well R-13 is presently being drilled. Also, additional DP funding has been allocated by the Nuclear Weapons Infrastructure, Facilities and Construction Program for FY 01 in mid-August, allowing the more scope for drilling well R-8 to be pulled into the FY 01 baseline. Construction of well R-8 was started the second week of September.

Your letter of January 24, 2001 also included the requirement that a Field Implementation Plan, or similar document describing the data quality objectives for prospective wells be submitted to NMED/HWB at least two weeks prior to the drilling of each well. The Laboratory intends to meet this requirement. In addition, the Laboratory will provide you with weekly drilling updates via email per your request, documenting progress and any problems encountered during drilling. Likewise, the Laboratory will notify the HWB and NMED Department of Energy-Oversight Bureau (DOE-OB) within six (6) hours of when water is encountered during drilling so that NMED may split screening samples with the Laboratory. Finally, pursuant to your request, within thirty (30) days of a wells completion the Laboratory will submit a Well Completion Summary document to NMED.

Your letter also requested a complete data package including all physical and chemical analytical results and measurements (data without interpretation) resulting from borehole installation and groundwater screening samples to be submitted to NMED within sixty (60) days of well completion. The Laboratory understands the desire for this information in a more timely manner, yet believes that due to circumstances often beyond the Laboratory's control a commitment cannot be reliably made regarding that timeframe. However, the Laboratory agrees to provide information such as: borehole water chemistry, cuttings and core contaminant analyses, geophysical logs, and water level readings within a reasonable amount of time, not to exceed ninety (90) days from the date of well completion.

Should you have any questions regarding this letter, please contact Charlie Nylander, Water Quality & Hydrology Group (ESH-18) at (505) 665-4681.

Sincerely,



Charles L. Nylander, Program Manager  
Groundwater Characterization Program  
Los Alamos National Laboratory

Sincerely,



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