

Los Alamos

NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: January 12, 1999
In Reply Refer To: ESH-18/WQ&H:99-0009
Mail Stop: K497
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John Young
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

SUBJECT: COMPLETION PLANS FOR R-25

Dear Mr. Young:

The purpose of this letter is to provide the New Mexico Environment Department (NMED) with an update on our thinking as regards completion of Well R-25. Current plans call for a multiple completion and the installation of a Westbay Instruments, Inc. monitoring system. We have selected six screened/monitoring intervals (see figure enclosed). Placement of these may be adjusted after the target depth of 1550 feet is reached and hydrochemical and hydrogeologic conditions in the entire borehole are reviewed.

We have chosen this multiple completion technology for several reasons:

1. Such a completion will not only provide for sampling the ground water, but will also permit measuring hydraulic pressure at multiple points.
2. Both saturated and unsaturated intervals were encountered during drilling. Screens and Westbay ports can be located in both settings for completeness.
3. The concentration of chemical constituents, including high explosive (HE) constituents has varied with depth during construction of the borehole. Sampling at multiple monitoring points will enhance surveillance of any geochemical changes over time e.g. HE, now that most potential surface recharge sources of HE wastewater have been eliminated due to the consolidation of HE treatment in a single treatment plant.
4. The hydraulic conditions (head, vertical gradient, etc.) can also be better defined by means of such a multiple completion system.
5. Should water level decline with time, there will be a means to continue monitoring. The alternative solution to dropping water levels is to install an unreasonably long single screen, from which chemical and water-level data would be suspect.



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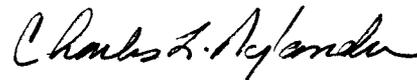
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6. R-25 is the only deep well in the western recharge area of the Laboratory and thus its potential for providing hydrochemical and hydrogeologic data should be maximized. We feel that this is best accomplished with a multiple completion as described here.

This installation will also serve as a pilot test for the possible use of multiple completions at other regional wells.

If there are any questions, please call me at (505) 665-4681.

Sincerely,



Charles Nylander
Water Quality and Hydrology Group

CN/rj

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R-25 RDX Distributions (ppb), Hydrogeologic Features, and Proposed Westbay Ports

