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November 15, 1993

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Mr. Allen J. Tiedman,
Assoc. Director for Operations
Los Alamos National Laboratory
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Los Alamos, New Mexico 87545

RE: AIP comments concerning implications of the apparent ³H
in intermediate zone groundwater and main aquifer

Dear Sirs:

On October 19 New Mexico Environment Department staff were briefed by Ken Hargis, Dennis Armstrong and Alan Stoker regarding the apparent identification of tritium in various groundwater monitoring and production wells in the Los Alamos area.

The technical comments which follow pertain to the information presented during this briefing.

1. We agree that resampling, particularly of the deep aquifer wells which evidenced low ³H levels, should be done at the earliest possible date.
2. Prior to the attempt to obtain discrete depth samples from PM-3 using a straddle packer, tests of casing integrity should be done to ensure that the sections sampled can be isolated with the packer.
3. Existing 'test' wells represent an integral part of LANL's monitoring system yet their construction does not enable them to produce uncompromised data; therefore they should be scheduled for replacement with wells that can serve their intended purpose. Prior to siting of replacement wells, the direction of main aquifer and intermediate zone groundwater flow as influenced by pumping of production wells must be determined. AIP technical staff suggest that plans be made for the siting of a system of piezometers installed to make this

LANL/ER/MISC

LANL TA-74 (Fuehls Canyon, Grandduster, TW-1 and TW-1a)



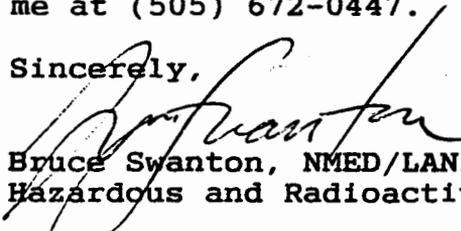
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determination.

4. As intermediate zone and main aquifer wells without adequate annular seals provide a migration pathway for surface or alluvial aquifer contamination, they should be considered candidates for plugging and abandonment (P&A). P&A plans should be provided to NMED for review and comment.
5. Test Well 1 is completed in the main aquifer and screened from approximately 632 feet to 642 feet below ground surface. Test Well 1A is completed in the perched intermediate zone and screened from approximately 215 feet to 225 feet below ground surface. Temperature records at TW-1 and TW-1A during the May 1993 sampling event were 14.1°C and 15.1°C, respectively. The observation that cooler water was encountered in deeper zones raises questions regarding the potential for mixing of shallower, cooler water with main aquifer water. It is suggested that in-situ temperature and conductivity probes be installed in all test wells. The data collected from such installations would provide low-cost yet useful data.

If you have any questions regarding these matters, please contact me at (505) 672-0447.

Sincerely,



Bruce Swanton, NMED/LANL Point of Contact
Hazardous and Radioactive Materials Bureau

BJG/bas/td

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