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MARK E. WEIDLER
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October 24, 1996

Rich Sena, Director
UMTRA Environmental Restoration Division
Department of Energy
P.O. Box 5400
Albuquerque, NM 87185-5400

Re: Post Closure Monitoring, Tres Hermanos B, Ambrosia Lake UMTRA Site

Dear Mr. Sena:

On September 19, 1996, Dale Doremus and Richard Ohrbom of the Ground Water Quality Bureau (GWQB), of the New Mexico Environment Department (NMED) met with Don Metzler, DOE's Ambrosia Lake UMTRA Project Manager, regarding NMED's letter dated July 16, 1996, and concerns relating to ground water contamination in the Tres Hermanos B Sandstone at the Ambrosia Lake UMTRA Site. The GWQB believes that further investigation and post closure monitoring should be included in the Long Term Surveillance Plan (LTSP) for the Ambrosia Lake UMTRA site. It was the GWQB's understanding during their discussions with Mr. Metzler that the LTSP had not been finalized and that GWQB's concerns would be reviewed by DOE staff and discussed with GWQB prior to the final LTSP. GWQB learned through a copy of Mr. Abrams' September 25, 1996, letter to Norma Silva that the LTSP rev 1 has been issued.

Mr. Abrams' letter refers to "wide-spread ambient contamination" at Ambrosia Lake which makes ground water monitoring impractical. The GWQB disagrees with this conclusion. GWQB's July 16, 1996, letter clearly documents ground water contamination in the Tres Hermanos B downgradient of the tailings pile, while up gradient and off gradient Tres Hermanos B wells contain concentrations which are near ground water standards. This information was discussed with Mr. Metzler during the September 19, 1996, meeting with GWQB and Mr. Metzler concurred with the GWQB's position and recommended that GWQB formally request DOE to incorporate these concerns in the LTSP for Ambrosia Lake. However, Mr. Abrams' letter indicates a different position than Mr. Metzler's. NMED is concerned that there is little coordination within the DOE on this issue and other

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issues relating to the Ambrosia Lake site.

To address this downgradient contamination, NMED recommends resampling of the existing wells as follows: Ground water from the three Tres Hermanos B wells (wells 678, 681, and 777) be sampled and analyzed for nitrate as nitrogen (NO₃-N), sulfate (SO₄), chloride (Cl), and total dissolved solids (TDS). Prior to purging, water levels in each well should be calculated to Mean Sea Level (MSL). NMED will reserve it's request to amend the LTSP contingent on results of this sampling effort.

If contaminant levels in well # 678 remain at or near the levels recorded in January 1993, the contaminant source needs to be identified to determine further investigation strategies and post closure requirements of the LTSP. As discussed in our September 19, 1996 meeting, there are two possible causes for the ground water contamination in well # 678; poor well construction which has allowed contaminants to migrate down the bore hole-casing annulus or seepage of tailings effluent through the vadose zone to the Tres Hermanos B Sandstone. Poor well construction most likely would restrict contamination to a limited area immediately surrounding well # 678, whereas contamination from the tailings pile could be expected to create a contaminant plume extending some distance downgradient from well # 678.

NMED requests that the following investigations and post closure monitoring be performed under the Ambrosia Lake LTSP:

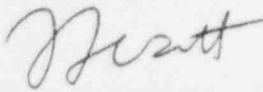
- A. Install a monitor well downgradient of well # 678 in the Tres Hermanos B. If information gained from this well indicates that the contaminant source is the tailings, then the downgradient extent of the Tres Hermanos B plume should be delineated by drilling one or more "step-out" monitor wells.
- B. Complete a monitor well in the Dakota Sandstone northeast of the tailings pile to determine if tailings seepage has impacted the Dakota. Ground water quality for the Dakota should be based on upgradient Dakota well # 680. If the Dakota has been impacted, additional "step-out" wells should be drilled to establish the boundary of the Dakota plume.
- C. Annual monitoring of all Tres Hermanos and Dakota monitoring wells for nitrate as nitrogen (NO₃-N), sulfate (SO₄), chloride (Cl), total dissolved solids (TDS), and MSL water elevations.
- D. After 5 years of post closure monitoring, if water level data indicates that the aquifers are recharging and ground water quality is improving, post closure monitoring should continue until WQCC standards are achieved. If ground water quality

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has not returned to WQCC standards or shown a decline in concentrations, NMED requests that DOE perform a Baseline Risk Assessment.

GWQB believes these concerns are appropriately addressed as a component of the ground water strategy in the LTSP. If you have any questions please call Richard Ohrbom at (505) 827-0219 or Dale Doremus, Program Manager, Ground Water Pollution Prevention Section at (505) 827-2945.

Sincerely,



Marcy Leavitt, Chief
Ground Water Quality Bureau

cc: Don Metzler, Project Manager, Ambrosia Lake UMTRA Site, DOE,
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Junction, CO 81502-2567
Michael F. Abrams, Site Manager, Environmental Restoration
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Norma Silva, Program Manager, HRMB