

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION  
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April 12, 1982

Mr. James R. Rosel  
Ranchers Exploration and  
Development Corporation  
P.O. Box 6217  
Albuquerque, NM 87197

Dear Mr. Rosel:

Re: Environmental Improvement Division letter dated February 16,  
1982 to Ranchers Exploration and Development Corporation  
concerning shutdown of the Johnny M. Mine.

Reference letter stated that radiation standards for the reclamation  
of the Johnny M. Mine area would be provided after determination of  
radiation background levels.

Thomas B. Christiansen and Theodore Brough of the EID visited the  
Johnny M. Mine site on March 31, 1982 and observed the cleanup progress.  
The standards listed below which are derived in part from Part 4 of the  
New Mexico Radiation Protection Regulations are believed achievable in  
regards to the Johnny M. Mine site reclamation plan and adequate to  
protect public health and safety and the environment.

The background radiation level as measured with our field survey  
instrumentation of the Johnny M. Mine site averages about 10 micro-  
rentgen per hour. The results of EID earth samples at specific locations  
throughout the area have not been received at this time but sufficient  
information from surrounding areas is now available to establish the  
following cleanup standards for the Johnny M. Mine site.

The cleanup standards for the Johnny M. Mine site are as follows:

- a) Gamma radiation in air, one meter above the ground  
should not exceed 25 microrentgens per hour (includes  
background).
- b) The average concentration of radium-226 attributable to  
residual radioactive material from the site in any 5 cm  
thickness of soils on open lands within 1 foot of the  
surface, or in any 15 cm thickness below 1 foot shall  
not exceed 10 pCi/gm.

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- c) The measured radon-222 air concentration at the five foot level shall not exceed an annual average of 3 pCi/l excluding background.
- d) Average annual indoor radon decay product concentration excluding background shall not exceed 1/30 WL in any building that is left on the site after reclamation.

The application of alternative standards and the disposition of additional small hot spots exceeding the standards after extensive effort to lower the radiation levels will be determined on a case by case basis by Ranchers Exploration and the NMEID.

A termination report shall be provided to EID documenting the reclamation action with results of radiological surveys and monitoring compared to the above standards. A land survey plot showing contours should be included along with photos of the reclaimed site. EID will evaluate the termination report, conduct a site inspection and take samples for confirmation prior to releasing the site and terminating the license.

If you require additional information please contact the Radiation Protection Bureau.

Sincerely,

  
Thomas B. Christiansen  
Environmental Scientist  
Uranium Licensing Section

TBC/dm

cc: Groundwater Section - EID  
Phil Morton - Gulf Mineral Resources Co.  
Roger Kauffman - Ranchers