

40-8681



State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF RADIATION CONTROL

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November 29, 1999

John J. Surmeier, Chief
Uranium Recovery and Low-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington D.C. 20555-0001

**SUBJECT: Environmental Assessment For The White Mesa Uranium Mill Reclamation Plan:
State Comments**

Dear Mr. Surmeier:

On November 15, 1999 the Utah Department of Environmental Quality (DEQ), Division of Radiation Control (DRC) received the Draft Environmental Assessment (EA) for the White Mesa Uranium Mill Reclamation Plan under your cover letter dated November 11, 1999. In your cover letter you requested that the Utah DEQ review the EA and provide comments within 30 days of receipt. After a review of the EA by DRC staff, we have prepared the following comments which are listed in the order that they appear in the EA.

1. In the last sentence of the second paragraph of Section 1.1, Background, it is stated that *"These [FUSRAP] materials have similar chemical, physical, and radiological composition to conventional mill tailings."* The State of Utah does not agree with this statement and has filed a Petition For Review of LBP-99-5 regarding the Ashland 2 alternate feed material approved by the NRC, which is currently under review by the Commission. Pending a Commission decision on this appeal, we do not think the above referenced statement is appropriate for use in the EA and should be struck or reworded.
2. In the first bullet list in Section 1.2, Proposed Action, Cell 1 is parenthetically referred to as *"evaporative"* implying that it contains wastewater. However, Cell 1 contains waste solution from the uranium extraction process which includes sulfuric acid leaching, solvent extraction, and uranium oxide precipitation by ammonium sulfate solution. Please correctly describe Cell 1 as containing process solution wastes instead of *"evaporative"*.
3. In the second bullet list in Section 1.2, Proposed Action, beneath the statement *"The reclamation of the above facilities will include the following:"*, remediation of groundwater contamination (i.e. potential areas affected by tailings impoundments) should be included in the list. This is supported by the recently documented chloroform contamination identified by the May 1999 split groundwater sampling program conducted by International Uranium

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Corporation (IUC) and Utah DEQ. Even without documented groundwater contamination attributed to site operations, groundwater remediation activities should at least be identified as a potential reclamation activity.

4. In the last paragraph of Section 3.0, OPERATIONS, it is stated that "*These constituents [chloride, potassium, nickel, and uranium] are good indicator parameters to detect potential groundwater impact.*" The Utah DEQ disagrees with this statement as indicated in our legal briefs and testimonies in opposition of the Ashland 2 alternate feed approval. With the exception of uranium, we believe there are better key leakage indicators for detecting tailings leachate such as ammonia, nitrate, nitrite, and molybdenum. We also question the characterization of these parameters as "*good indicator parameters to detect potential groundwater impact*" given the current chloroform contamination recently documented by the May 1999 split sampling program conducted by IUC and Utah DEQ.

5. In the first two sentences in the third paragraph of Section 4.0, ENVIRONMENTAL EFFECTS, it states, "*Based on the groundwater detection monitoring program, no groundwater contamination from the tailings cells has occurred. Therefore, no groundwater corrective action measures are considered in the reclamation plan.*" The Utah DEQ disagrees with these statements based on results of groundwater modeling conducted for the White Mesa Mill and documented contamination in monitoring wells at the Mill. First of all, according to the modeling results of IUC and its predecessor operators of the Mill, not enough time has elapsed for tailings leachate potentially leaking from the impoundments to reach the perched aquifer. In a ground water study conducted by Umetco Minerals Corporation (Umetco, 1992), a travel time ranging from 29 to 57 years was estimated for leakage from the tailings impoundment to reach the perched aquifer. In another ground water study conducted for Energy Fuels Nuclear (Titan, 1994) a travel time ranging from 50 to 150 years was estimated for leakage from the tailings impoundment to reach the perched aquifer. In another study conducted for IUC (Knight Piesold, 1998) a travel time of 1,300 years was estimated for tailings fluid to reach the perched aquifer. Given these estimated travel times ranging from 29 to 1,300 years by three different operators of the White Mesa Mill, coupled with the fact that the detection monitoring program at the Mill has been in place for only 20 years, one would not expect groundwater contamination to be detected yet by the detection monitoring program. Therefore, it is premature to exclude groundwater corrective action measures in the reclamation plan.

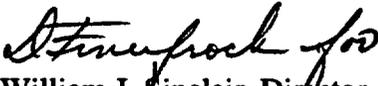
Secondly, groundwater contamination has been recently documented by the May 1999 split sampling program conducted by IUC and Utah DEQ. Pending the completion of the Groundwater Contaminant Investigation associated with the Utah DEQ Notice of Violation and Groundwater Corrective Action Order (Utah DEQ, 1999), we believe the above-referenced statements in Section 4.0 are inappropriate.

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6. The Utah DEQ is currently in the process of preparing a Ground Water Quality Discharge Permit for the White Mesa Mill. The tailings impoundments at the Mill will be regulated by this Permit, which will also include a Reclamation and Post-Closure Monitoring Plan. The NRC may want to acknowledge this in the subject EA.

We appreciate the opportunity to comment on the subject EA for the White Mesa Mill. If you have any questions, please call me or Loren Morton at (801) 536-4250.

Sincerely,


William J. Sinclair, Director
Division of Radiation Control

cc: Harold Roberts, IUC

References

- Knight Piesold, 1998. Evaluation of Potential for Tailings Cell Discharge - White Mesa Mill, prepared for International Uranium Corporation. November 23, 1998.
- Titan Environmental Corporation (Titan), 1994. Hydrogeologic Evaluation of the White Mesa Uranium Mill, prepared for Energy Fuels Nuclear, Inc. July 1994.
- Umetco Minerals Corporation (Umetco), 1992. Ground Water Study of the White Mesa Mill, Blanding, Utah. License SUA 1358, Docket No. 40-8681.
- Utah Department of Environmental Quality (Utah DEQ), 1999. White Mesa Uranium Mill: Notice of Violation and Groundwater Corrective Action Order, Docket No. UGW20-01. August 23, 1999.