

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION

REGION IV

URANIUM RECOVERY FIELD OFFICE

NRC Inspection Report: 40-8903/90-01
Docket: 40-8903

License: SUA-1471

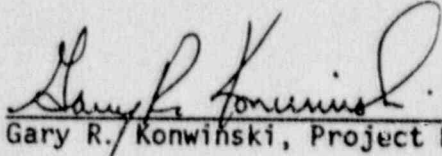
Licensee: Homestake Mining Company
P.O. Box 98
Grants, New Mexico 87020

Facility: Milan Mill

Inspection At: Cibola County, New Mexico

Inspection Conducted: February 6, 1990


Inspector:


Gary R. Konwinski, Project Manager

2-12-90

Date

Approved by:


Ramon E. Hall
Director

2/12/90

Date

Inspection Summary

Inspection conducted on February 6, 1989 (Report 40-8903/90-01).

Areas Inspected: Special announced inspection of uranium milling operations and radiation safety program including: Management Organization and Controls/Operations Review; and Radioactive Waste Management.

The inspection involved a total of six inspector hours onsite by one inspector.

Results: Within the two areas inspected, no apparent violations or deviations were identified; however, two open items were identified.

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DETAILS1. Persons Contacted

Fred Craft, Resident Manager
*Richard Farrell, Radiation Protection Administrator
*Mark Hiles, Reclamation Engineer
Ken Skiff, Metallurgist

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

Due to the special nature of this inspection, as well as the fact that the licensee is currently responding to the NRC on the previous inspection findings, no previous inspection findings were reviewed.

3. Management, Organization and Controls/Operations Review

The Milan Mill is currently operating; however, it is not processing ore. The mill was placed on a standby status shortly after the first of the year. Uranium production continued with stope leaching and ion exchange of mine water at a rate of 1800 to 1900 gpm, as well as ion exchange of approximately 1190 gpm of seepage collection water. These activities are expected to produce 5000 to 6000 pounds of U_3O_8 per month. As a result of this yellowcake production, the yellowcake roaster will operate approximately 12 days monthly, while the drying/packaging facilities will function 4-6 days monthly. These activities will require approximately 32 employees. Six people will work in the mill, 7 at the mine, and the remainder will be maintenance and administrative personnel.

The licensee described the organization of the radiation safety staff. The Resident Manager is the highest corporate official onsite. The Radiation Protection Administrator (RPA) serves as the facility Radiation Safety Officer. The RPA reports directly to the Resident Manager. The RPA is assisted by a staff of two radiation safety technicians, the Reclamation Engineer (RE) and two mechanics that maintain the seepage collection systems.

4. Radioactive Waste Management

The tailings management system at the Milan Mill consists of a single tailings impoundment that is divided into two cells. With the current shutdown status of the mill, there are plans, as a ground-water protection technique, to dewater one side of the tailings. Liquid wastes from the mill are discharged not only to the tailings impoundment, but also to scavenger ditches and the brine evaporation pond.

Solutions that enter the scavenger ditch, flow several hundred feet to a low point, where they are pumped to the tailings impoundment. The scavenger ditch receives mill wash-down water, floor drain solutions, as

well as overflows from various mill components. This ditch is unlined and flows over the alluvial materials, which are the current target of a corrective action program. The necessity of discharging byproduct solutions to an unlined earthen ditch is a questionable practice when considering the ALARA concept. Piping these solutions to the tailings impoundment would decrease recharge to the alluvial materials. Due to this, this situation was identified as an open item (40-8904/9001-01).

The licensee's tailings dam inspection records were reviewed. The months of April, May, June, July, and August, were observed in detail. They indicated that no unusual circumstances had taken place that could have jeopardized the tailings impoundment or caused a release from the scavenger ditch or brine evaporation pond.

The brine evaporation pond is incorporated in Source Material License SUA-1471 by License Condition No. 31. This condition indicates that the pond shall be operated according to Ground Water Discharge Plan DP-339, and revision thereof. The discharge plan indicates that three waste streams may enter the brine pond: (1) backwash from the ion exchange facility (5 gpm), (2) spent brine and backwash from the main water softeners (2 gpm), and (3) barren solution from the low sodium extraction (6 gpm). The brine pond is utilized to reduce the amount of salts that are discharged to the tailings impoundment. However, because byproduct solutions are entering the pond, it should be incorporated into the licensee's compliance monitoring program. This situation was identified as an open item (40-8903/9001-02).

To verify the nature of the solutions that exist in the brine evaporation pond, the inspector collected six, one-liter samples as shown below:

Location of sample	Analysis	Lab pH	Temp °C	ml 80% nitrite
East brine evap cell	Radionuclides	6.9	4	1.5
	Metals	6.9	4	1.5
East brine evap cell input	Radionuclides	7.3	4	2.0
	Metals	7.6	4	2.5
West brine evap cell	Radionuclides	6.9	4	2.5
	Metals	6.9	4	2.5

The samples were unfiltered, preserved, and shipped by overnight service to the NRC contract laboratory for analysis. The laboratory results will be docketed when they are received.

No violations, deviations, and two open items were identified by the inspector.

3. Exit Interview

The inspector conducted an exit briefing with licensee personnel to discuss inspection findings. The inspector summarized the finding of the two open items.

8903/GRK/90/02/08/INSP

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Docket File No. 40-8903

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