

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
URANIUM RECOVERY FIELD OFFICE  
REGION IV

Inspection Report: 40-8904/92-01

Operating License: SUA-1472

Licensee: Sohio Western Mining Company  
10 East South Temple  
P.O. Box 11248  
Salt Lake City, Utah 84147

Facility Name: L-Bar Mill

Inspection At: Cebolleta County, New Mexico

Inspection Conducted: November 19, 1992

Inspectors: Raymond O. Gonzales, Project Manager  
Dawn L. Jacoby, Project Manager

Approved: \_\_\_\_\_

Ramon E. Hall, Director  
Uranium Recovery Field Office  
Region IV

12/4/92  
Date

Inspection Summary

Areas Inspected: Special, announced inspection of uranium mill tailings reclamation and site decontamination activities at the L-Bar Mill.

Results:

- Radon attenuation cover on tailings pile is continuing to settle as expected. However, the magnitude of settlement is much greater than what was originally expected by the licensee (paragraph 2).
- Radon cover is showing signs of desiccation cracking. This potential problem will have to be addressed by the licensee prior to license termination (paragraph 2).
- One of the diversion channels is showing minor erosion. Should erosion continue, the licensee will be required to provide erosion protection (paragraph 2).

Summary of Inspection Findings:

- Within the scope of this inspection, no violations or deviations were identified.
- Violations 40-8904/8903-01, 40-8904/9002-01, 40-8904/9002-02, 40-8904/9002-03, and 40-8904/9002-04 were not reviewed nor were they closed (paragraphs 3.1 to 3.5).
- Violation 40-8904/9001-01 was closed (paragraph 3.6).
- Open Item 40-8904/9101-01 was closed (paragraph 3.7).
- Three violations identified in a letter from NRC to the licensee dated May 4, 1992, were not reviewed nor were they closed (paragraph 3.8).

Attachment:

Attachment 1 - Person Contacted and Exit Meeting

DETAILS**1 SITE STATUS**

During this inspection period, the licensee performed additional cleanup of windblown tailings in the ore storage area east of the former mill site and in an area north of the haul road east of the site. Other activities performed during this inspection period included continuation of the cover settlement monitoring program, and seepage recovery efforts in conjunction with the corrective action program.

Site personnel consist of a maintenance supervisor, who is a contractor to the licensee. His presence on site is dependent on monitoring needs at the site. When no one is on site, the disposal area is secured by a locked gate.

**2 RADIOACTIVE WASTE MANAGEMENT (88035)**

The reclaimed site was toured by the inspectors. The North Diversion Channel side slope closest to the tailings showed no noticeable rills or other signs of erosion. On the side slope opposite the tailings pile, rills and erosion were minimal except for one fairly large gully. This gully is due to concentrated flows from a pre-reclamation ditch. However, the gully is on the side opposite the reclaimed tailings and therefore will not affect the stability of the tailings pile even if it increases in size.

The South Diversion Channel showed some minor rill development on the side slopes on both sides of the channel. In the reclamation plan it was anticipated by the licensee that the channel would be excavated in shale or hardpan. The licensee committed to provide erosion protection in areas of the channel excavated in soil rather than shale or hardpan. Therefore, if the erosion rills increase, erosion protection may be required. It was noted by the inspectors that vegetation is becoming well established in the diversion channels, even in areas having large riprap.

Vegetation on the reclaimed tailings pile top was considerably denser than it was at the previous inspection. However, the pile top exhibited major differential settlement which the inspectors estimated to be as much as 3 to 4 feet in some areas. It was noted by the inspectors that the largest settlement appeared to be occurring in areas between settlement monuments. Therefore the settlement monitoring data being collected by the licensee is not a true representation of the magnitude of the settlement. The differential settlement was also causing settlement cracks in the radon cover. The inspectors observed desiccation cracks approximately 1 inch wide and 18 inches deep in some areas. It is expected that settlement and cracking will continue as water continues to drain out of the tailings. Once settlement is complete, additional cover soil will be placed to bring the pile top elevations to design grade.

During a previous inspection in 1989, concern was expressed by the inspectors that the riprap on the face of the tailings dam appeared to be inadequate because there were areas where soil was visible. This concern led to violation (40-8904/8903-01). During the current inspection, it was noted that

vegetation has become well established in those areas where soil is visible through the riprap. The dam face showed no signs of movement of the riprap nor any erosion.

### 3 FOLLOWUP ON CORRECTIVE ACTIONS FOR VIOLATIONS (92702)

#### 3.1 (Open) Violation (40-8904/8903-01) Failure to construct the erosion protection on the tailings pile in accordance with the approved reclamation plan in the area of riprap and bedding placement and gradation

The licensee, in a submittal dated May 31, 1990, provided a response to this violation. That response has not yet been reviewed; therefore, this violation will remain open pending review of the licensee's submittal.

#### 3.2 (Open) Violation (40-8904/9002-01) Failure of the licensee to maintain rock placement records

The licensee, in a submittal dated May 31, 1990, provided a response to this violation. That response has not yet been reviewed; therefore, this violation will remain open pending review of the licensee's submittal.

#### 3.3 (Open) Violation (40-8904/9002-02) Failure of the licensee to perform radon barrier testing as required by the reclamation plan submittal

The licensee, in a submittal dated May 31, 1990, provided a response to this violation. That response has not yet been reviewed; therefore, this violation will remain open pending review of the licensee's submittal.

#### 3.4 (Open) Violation (40-8904/9002-03) Failure of the licensee to utilize fill and rock meeting the quality specifications noted in the reclamation plan

The licensee, in a submittal dated May 31, 1990, provided a response to this violation. That response has not yet been reviewed; therefore, this violation will remain open pending review of the licensee's submittal.

#### 3.5 (Open) Violation (40-8904/9002-04) Failure of the licensee to document nuclear densometer calibration against sand cone results

The licensee, in a submittal dated May 31, 1990, provided a response to this violation. That response has not yet been reviewed; therefore, this violation will remain open pending review of the licensee's submittal.

#### 3.6 (Closed) Violation (40-8904/9001-01) Elevated gamma reading and soil sample results indicating that site decontamination has not been completed

In response to this violation, the licensee excavated contaminated soil from the areas that had been identified as having elevated gamma readings. The contaminated soil was placed in one of the evaporation ponds on top of the reclaimed tailings pile. On October 15, 1991, an NRC inspector visited the

site and collected four soil samples. The samples were analyzed for Uranium and Ra-226. Results of these analyses indicated a maximum Ra-226 concentration of 3.2 pCi/gm. Since 10 CFR 40, Appendix A requires cleanup to 5 pCi/gm above background, it was concluded that cleanup of windblown tailings was complete. Therefore this violation is considered closed.

3.7 (Closed) Open Item (40-8904/9101-01) The site perimeter fence not appropriately posted as to the presence of radioactive materials

Inspectors noted that the fence has been posted to indicate the presence of radioactive materials. Therefore this open item is considered closed.

3.8 (Open) Violation (Item A in Enclosure 1 of NRC letter to licensee dated May 4, 1992) Failure of licensee to demonstrate compliance with site ground-water standards for nickel, selenium and cyanide

(Open) Violation (Item B in Enclosure 1 of NRC letter to licensee dated May 4, 1992) Failure of licensee to submit all of the required ground-water monitoring data for the second half 1991

(Open) Violation (Item C in Enclosure 1 of NRC letter to licensee dated May 4, 1992) Failure of licensee to submit the required ground-water level data

The licensee, in a submittal dated May 29, 1992, provided a response to the violations in NRC letter dated May 4, 1992. That response was found to be responsive to the concerns raised. However, before these violations are closed, NRC will review forthcoming L-Bar ground-water monitoring reports to determine that full compliance has been achieved and will be maintained.

## ATTACHMENT 1

### 1 PERSON CONTACTED

#### 1.1 Licensee Personnel

Edward J. Michael, Maintenance Supervisor, Contractor to the Licensee

#### 1.2 NRC Personnel

R. Gonzales

D. Jacoby

The personnel listed above attended the exit meeting.

### 2 EXIT MEETING

An exit meeting was conducted on November 19, 1992. During this meeting, the inspectors reviewed the scope and findings of the inspection. The licensee did not identify as proprietary, any information provided to, or reviewed by the inspectors.

