

Rio Algom Mining Corp.

May 20, 1994

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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Re: Lisbon Facility
License SUA-1119, Docket No. 40-8084
Reporting Requirement 10 CFR §40.60 (c)(2)

To Whom It May Concern:

This report is being prepared and submitted pursuant to the reporting requirements of 10 CFR §40.60 (c)(2). The following report presents the events leading to Rio Algom Mining Corp.'s 24 hour notification to the NRC which occurred on April 20, 1994. The Lisbon facility, located near La Sal, Utah, is a source material licensee which processes conventionally mined uranium ore (source material).

1. Description of the Event, Including Probable Cause

On April 20, it was observed by the facility's Radiation Safety Officer, Mr. Frank Fossey, that embankment material on the facility's upper tailings evaporation cell was moist and the surface area deflected upon equipment movement over the embankment area. At the time, it was not sure if the moisture was due to high winds in the area which could have caused the spraying of solutions onto the embankment or due to damage to the clay in-slope liner caused by wind-wave notching. The upper tailings evaporation cell is used to contain and evaporate groundwater solutions associated with the facility's approved Corrective Action Plan associated with groundwater remediation at the site.

As a check to determine the extent of moisture, several core holes were established in the embankment. The core hole locations are shown in Figure 1.

Core holes noted as #1 and #2 were placed on the in-slope of the evaporation cell. Both holes of these core holes indicated the earthen material beneath the clay liner was moist. Core hole #3, was placed near the center of the embankment berm. It also indicate the underlying material was also moist. To help determine the extent of moisture, another core hole that is marked as #4, was placed on the out-slope of evaporation cell. The result indicated the underlying material on the outslope of the embankment was dry.

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With this information, Mr. Bill Ferdinand, Rio Algom's Manager of Radiation Safety, Licensing, and Regulatory Compliance, based in Oklahoma City, was notified of the circumstances at the Lisbon facility by Mr. Fossey. Although the evaporation cell was deemed to be structural stable and in no danger of any failure, due to the circumstances and moisture noted within the embankment at the Lisbon facility, Mr. Ferdinand then telephoned Mr. Ramon Hall (Director, Uranium Recovery Field Office, Denver) on April 20 at approximately 3:10 pm (CST).

After a brief discussion with Mr. Hall and his subsequent telephone conversation with Ms. Sandra Wastler, Project Manager for the Lisbon facility, Mr. Hall informed Mr. Ferdinand that pursuant to the provision at 10 CFR §40.60 (b)(2)(iii) which states, "*No redundant equipment is available and operable to perform the required safety function.*", it was necessary for Rio Algom to notify the NRC Operation Center. Mr. Ferdinand contacted and notified the NRC Operation Center at approximately 3:30 pm (CST). The necessary information regarding this notification was provided to Mr. Chauncey Gould.

2. The Exact Location of the Event

The upper tailings evaporation cell is located within the restricted area of the Lisbon facility. The evaporation cell is constructed on top of the reclaimed surface of the upper tailings impoundment. The upper tailings evaporation cell is utilized in conjunction with the facility's NRC approved Corrective Action Plan to remediate groundwater at the site.

The moisture associated with the wind wave notching was first noted at approximately the area noted on Figure 1 as core hole location #1.

3. The Isotopes, Quantities, and Chemical and Physical Form

The material within the upper tailings evaporation cell is groundwater that is being pumped from Corrective Action Plan pump wells at the facility. The isotope of concern is soluble natural uranium. The concentration of natural uranium from the groundwater within the evaporation cell typically ranges from 29 to 44 mg/l.

4. Date and Time of the Event

The date of the event and notification to NRC was April 20, 1994. After preliminary investigation by on-site personnel to determine the extent and nature of the event, NRC was initially notified by Mr. Bill Ferdinand at approximately 3:10 pm (CST).

5. Corrective Actions Taken or Planned and the Results of Any Evaluation or Assessments

Upon notification to NRC, plans were implemented to reduce the groundwater solutions in the upper tailings evaporation cell by siphoning to the lower tailings evaporation cell. Two (2) three (3) inch siphon hoses were utilized to removed the groundwater solutions from the upper to lower tailings evaporation cell.

To assist in the facilitation of solution removal from the upper tailings evaporation cell, Mr. Ferdinand on April 21 contacted Ms. Sandra Wastler, requesting NRC's approval to temporarily discontinue the pumping of solutions from Corrective Action Plan into the upper tailings evaporation cell. Based on NRC's evaluation of the request, Rio Algom was informed on April 26 to continue to pump solutions from the facility's Corrective Action Plan into the upper tailings evaporation cell.

As of May 18, the water level within the upper tailings evaporation cell has been lowered 1.9 feet. Rio Algom plans to continue lowering the solutions so that repairs to the clay liner caused by the wind-wave notching can be implemented. It is presently estimated that approximately 0.5 to 1 feet of additional water may need to be removed from the cell prior to initiation of work to repair the clay liner.

Since the report period, approximately two (2) to six (6) feet of the original berm outslope has been replaced with acceptable silt material. The re-construction of the berm and outslope utilized previous construction parameters approved by NRC to construct the lower tailings evaporation cell dated February 24, 1993, included conducting a compaction test a minimum of every 500 yard³ at 95% standard Proctor. Other construction specifications utilized during the construction included using $\pm 2\%$ optimum moisture and performing; (1) a five point proctor every 5,000 yards³; (2) a one point proctor every 2,500 yards³; (3) an Atterberg Limit Test once per day when a minimum of 150 yards³ is placed and; (4) a soil gradation each 1,000 yards³.

The re-constructed outslopes of the upper tailings have maintained their approved 3:1 grade with the width of the berm approximately 15 feet. The elevation of the berm remains at 6696 ft (msl).

Subsequent to Rio Algom's reporting, on May 16, Mr. Ted Johnson and Daniel Rom (NRC Washington D.C.) visited the facility to review the situation and inspect the corrective measures being implemented by Rio Algom. It was concluded based on discussions with the NRC personnel, the measures being implemented by Rio Algom were appropriate.

An additional assessment was conducted by Mr. Ken Klebba, an outside consultant from EarthFax Engineering. Mr. Klebba visited the site on May 2 and concluded there was no stability or potential failure problems associated with the embankments and that Rio Algom's corrective measures were acceptable. Mr. Klebba's assessment will be included

within the facility's Annual Tailings Technical Evaluation which is presently being prepared by EarthFax. Upon completion, this report will be submitted to NRC pursuant to license condition #44(E).

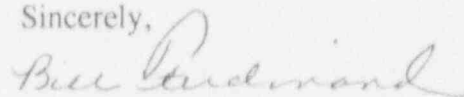
Rio Algom plans to repair the clay in-slope liner upon removal of the necessary groundwater solutions that remain in the upper tailings evaporation cell. The clay will be appropriately protected against future wave-notch action with the potential application of; (1) rip-rap; (2) a synthetic liner covered with earth; (3) other energy dissipation mechanisms; (4) through a gentler in-slope grade or; (5) a combination of these items. Pending final determination of the extent of repair to the clay liner, the most appropriate application will be determined.

6. Extent of Exposure

No solutions were released from the upper tailings evaporation cell. There were no exposures of individuals to radiation.

If you have any further questions or need further information regarding this report, please contact me at (405) 842-1773.

Sincerely,



Bill Ferdinand, Manager
Radiation Safety, Licensing &
Regulatory Compliance

xc: F. Fossey
M. Freeman
S. Wastler (NRC)
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FIGURE 1

