

DCS



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OCT 8 1980

WMUR:JLK
Docket No. 40-8084

Rio Algom Corporation
ATTN: Mr. M. D. Lawton
Mine Manager
P. O. Box 610
Moab, Utah 84532

1980 NOV 6 AM 10:45
US NRC
DISTRIBUTION SERVICES
BRANCH

RECEIVED DISTRIBUTION
SERVICES UNIT

Gentlemen:

We have completed our review of your submittal dated August 22, 1980, entitled, "Report of Geotechnical Evaluation to Support the Request for a Five-Foot Dam Raise, Upper Tailings Pond Embankment System, Lisbon Valley Operations," which we received on September 3, 1980. We have concluded that this report does not yet provide a sufficient basis in fact to support a finding that the proposed five-foot dam raise will meet the safety criteria specified in U. S. NRC Regulatory Guide 3.11. Additional information, as detailed below, is required in order to fully evaluate your proposed dam raise. We request that this additional information be submitted as soon as possible. This submittal must address the following information requirements:

1. Significant differences in the foundation soils are indicated by the specification of "Natural Soil 1" and Natural Soil 2" in Plate 4, and by the use of different assumed shear strengths for these strata in the slope stability analyses. Such differences, and the assumption of uniform five-foot laminar thicknesses for these two strata, are not supported by the boring logs for Borings 1 and 2.

In order to confirm the assumed foundation soil character and geometry, please provide detailed information characterizing the natural foundation soil strata, and indicating any significant variations between the two strata. Please explain why any significant differences are not reflected in the boring logs. If possible, provide the water content and dry density data for the second triaxial test sample. Confirm the depths to bedrock for Borings 1 and 2 indicated in a September 11, 1980 letter from J. Boddy, Dames & Moore, to M. Lawton, Rio Algom Corporation.

2. The assumed shear strength values for the natural foundation soils were not substantiated with laboratory or other test data.

8011170245

C

Please provide shear strength values of the foundation soils based on laboratory or field test data. If these shear strength values are significantly different from the previously assumed values, perform and document revised slope stability analyses. Address the fact that laboratory test data presented in the Dames and Moore report, dated October 2, 1973, "Report of Consulting Services, Tailings Pond Embankment Stability and Groundwater Geohydrology and Seepage Evaluation, Lisbon Valley Mine Disposal System," indicate that shear strength values considerably lower than those that were assumed for the stability analyses may exist in the foundation soils.

3. Statements made on page 7, and information provided in Appendix B, indicate that a cutoff trench was excavated and recompacted beneath the embankment. This cutoff wall is not indicated in the critical embankment section that was analyzed (Plate 4), and the effects of the cutoff wall were not addressed in the stability analyses.

Please provide sufficient information to fully characterize the nature, extent, and geometry of the cutoff wall, if it exists. Please revise Plate 4 accordingly, and address the effects of the cutoff wall with respect to slope stability.

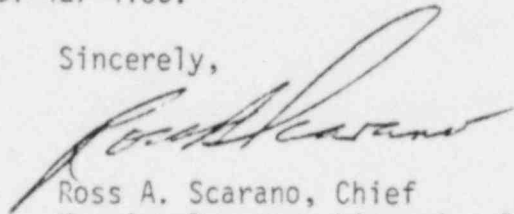
4. Both the boring logs and piezometer data indicate that the phreatic surface shown in Plate 4 is incorrect, and is actually lower.

In order to determine whether or not this condition is due to the transport of seepage through a layer in the natural foundation soils, causing a zone of high moisture content and low strength, please submit adequate sampling, and/or piezometer data for the natural foundation soils, to determine if a zone of high moisture content exists.

As indicated above, these additional information requirements must be fully satisfied before a final determination can be made as to the acceptability of your proposed five-foot dam raise. We will make every effort to expedite our review of this additional information after it is

submitted, and conclude our evaluation. Should you require any clarification of the above, or wish to otherwise discuss this matter, please contact Mr. Dan Martin of my staff at 301-427-4103.

Sincerely,



Ross A. Scarano, Chief
Urarium Recovery Licensing Branch
Division of Waste Management

cc: Senator Garn (ATTN: Ms. Justine Davis)
Senator Hatch
Dames & Moore (ATTN: J. Boddy)