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R. B. Chitwood, Chief, Technical Support Branch, L

REVIEW OF ENVIRONMENTAL REPORT OF TAILINGS POND EMBANKMENT SYSTEM FOR
ATLAS MINERALS, MOAB, UTAH - DOCKET NO. 40-3453

In response to your request dated December 7, 1973, the above environmental report was reviewed by the Technical Assistance Branch of RO and the following comments are submitted.

1. The dike around the tailings pond can be broken up into five different embankment configurations. These sections vary in length from 600 to 2600 feet. In order to determine the foundation conditions only one cross section was established for each of the sections.
2. Considering the length of each of the embankments, it is our opinion that the foundation conditions and the embankment materials can not be adequately described with only seven borings.
2. In the description of the starter dikes the material used is described and the method of compaction described. (Page 7 D&M report, 3rd paragraph)

The lack of test compaction data and the total apparent lack of compaction control makes these starter dikes of questionable reliability. The cohesive and frictional values used in the stability analyses are not described nor is there adequate test data to establish any confidence in the factors of safety described in the report. Additional stability analyses should be conducted on more cross sections using valid test data. Additional test data should be furnished to support the analyses work done.

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3. The construction of embankment from the tailings only a minimum of compaction effort is to be expended. The relative density of the coarse tailings was reported to range from 56 to 63 percent.

The above values are not conservative. To ensure against liquefaction the minimum relative density should be 85 percent. A discussion on the possibility of piping through the embankment or the foundation is lacking in the report.

4. The cover material which is used to protect the embankment is not adequately described.

A discussion of the size distribution and durability of the material should be included in the report.

Original signed by
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