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PILOT PLANT TESTING OF NON-HYDROFLUORIC
ACID REAGENT SYSTEM TO FLOAT FELDSPAR

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(Incomplete)

This report describes the results of pilot plant testing of the Duomeen TDO plus sulfuric acid system to float feldspar from a ball milled and hydrosized feed. For comparative purposes, typical results of batch tests using the HF and non-HF system, and pilot plant results using the HF system are given. In the pilot plant runs using the non-HF system, the effect of conditioning pH, reagent concentrations in conditioning, feed size, etc., were studied. Pilot plant test data indicated that, if the flotation feed was ground finer than 28 mesh (Tyler) and the conditioning pH was maintained below 2.6, there was no difficulty in the production of high grade feldspar. In two tests, where a combined mica, iron-minerals flotation in alkaline circuit was conducted, the collector consumption in feldspar flotation was reduced and the grade of quartz tails in feldspar flotation was improved.

NOTE: Dr. Malghan resigned from the Minerals Research Laboratory while this report was in the process of being completed; therefore, the report was never finished.