ROB ROY RESERVOIR SITE, ALBANY COUNTY

Location:- Sec. 10, T. 14 N., R. 79 W., on Douglas Creek, Site examined is o.9 mile (by road) north-northeast of Horse Creek crossing.

Date Examined:- September 26, 1956.

Storage:- An earth-fill dam 90 feet high will impound 13,500 acre-feet of water (J. Banner, oral communication).

Geology

The reservoir site is a relatively flat glaciated valley that is drained by Douglas Creek. The rocks exposed on both sides of the reservoir basin are gneisses and schists of pre-Cambrian age.

The rocks cropping out on the east abutment consist of a dark gray fine-grained quartz-biotite schist with irregular lenses of pink quartz-feldspar gneiss and irregular pods of epidote. The foliation varies in strike from N. 22° W. to N. 20° E. with respective dips of 26° SW. and 37° NW. Small lenses and pods of quartz are observed parallel to the foliation. In addition, pinkish quartz-feldspar gneissic dikes varying from 1/2 to 3 inches in width are intruded parallel to the foliation and also cut across the foliation in random orientation. Two major joint sets are exposed here with the following strike and dip respectively, E-W, 84° S.; and N. 10° W., 75° E.

In general the rock exposures adjoining the west abutment are similar to those described above except that the foliation is more constant in attitude with a N-S strike and 20° W. dip. Major joint sets noted here have the following strikes and dips respectively, N. 20° W., 70° NE.; N. 72° E., 73° SE.; and N. 77° W., vertical.

It should be noted that the outcrops adjacent to the road are moderately fractured which may either have been induced by blasting during road construction, by geological factors, or by both.

Between both abutments is an alluvial mantle of unknown thickness and about 600 to 750 feet wide. This consists essentially of gravels, sand and silt of pre-Cambrian origin.

Conclusion

The area is geologically adequate for the construction of a dam and reservoir. No serious seepage is anticipated. The writer recommends that one or two drill holes be located in the alluvial mantle between both abutments to determine the depth to bedrock. Another hole might be justified just west of the road to determine the extent and nature of the fracturing at the west abutment.

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