KERFOOT DAMSITE, NATRONA COUNTY

Location: Sec. 26, T. 30 N., R. 79 W.

Date Examined: May 27, 1957

Storage: A 110 foot dam will impound a maximum of 8107 acre-feet of water.

Introduction

The damsite is located just upstream from a narrow gorge, and at the confluence of Bates and Kerfoot Creeks. The reservoir basin is relatively deep compared to areal extent and is ideal from a topographic standpoint.

Geology

The general geology of the area consists of pre-Cambrian granite unconformably overlain by Cambrian (?), Mississippian, and Pennsylvanian sedimentary rocks that strike north-south and dip three degrees west. Overlying these are scattered remnants of Tertiary rocks that had evidently been deposited on an old erosion surface.

The oldest sedimentary rock is a relatively thin, dull pink quartzite and sandstone that is believed to be Cambrian in age. A covered interval (which may be a thin glauconitic limestone interbedded with a limey shale) separates the sandstone from a light gray, massive, somewhat cavernous limestone which is believed to be the Madison formation of Mississippian age. This is overlain by rocks of Pennsylvanian age.

The damsite is concerned principally with the pre-Cambrian rocks; however, the top of the dam may reach the Cambrian (?) quartzite. The north abutment adjoins a well-exposed granite outcrop that tends to weather into subrounded blocks. The south abutment is on a poorly exposed granite

hill that is covered with a veneer of angular to rounded rock fragments of Paleozoic and pre-Cambrian age.

The granite is a pink to medium gray, medium- to coarse-grained rock composed essentially of quartz, feldspar, and minor biotite. Major joint sets exposed in the rock have the following attitude: N. 10° W., 7° W.; N. 13° W., vertical; N. 40° W., vertical; strike and dip respectively.

Bates Creek flows on, or very close to bedrock at the damsite.

Conclusion

The damsite is excellent from a geological and topographical standpoint. The only limiting factor is the joint set in the granite which strikes N. 10° W., and dips 7° W. (downstream). Possible seepage may develop along this plane and it may require grouting to inhibit it.

Favorable factors concerning the reservoir include minimum surface area compared to depth which would reduce evaporation, and the high hills surrounding the reservoir which would trend to minimize wave action.

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