

MEMORANDUM REPORT ON THE HORSE CREEK DAMSITE
LARAMIE COUNTY

Location: - SW 1/4, NE 1/4, Sec. 27, T. 17 N., R. 70 W.

Date of Examination: - May 16, 1955, in the company of Paul Rechar, Natural Resources Board

Geology

The damsite lies in a narrow gorge near the confluence of three small tributaries to Horse Creek. It is several hundred yards west of the waste dumps of the Great Western Sugar Company limestone mine.

The Casper formation, which consists of a sequence of gray to white dense limestones, red shale and sandstones, crops out at the damsite. Here the rocks strike northwest and are overturned at an angle of 45° - 80° to the southwest. Approximately one-quarter mile north of the site, the Casper formation is right-side-up and dips 80° NE. A short distance upstream, the Casper formation lies in fault (?) contact with coarse-grained pre-Cambrian biotite granite. In addition, a small fault is reported to strike a short distance downstream (Gray, 1947, Plate 3). No definite offset or brecciation of beds was noted by the writer, however.

In spite of the faults, there should be no difficulty in supporting a dam in this location. No outstanding joint pattern or solution channels which would cause serious leakage were noted at the site. Further, the fact that the beds dip upstream and that the water level of the dam will

be lower than the lowest levels of the limestone mine lends support to the adequacy and stability of the damsite. It should be noted, however, that since the dam fill will consist of waste from the limestone mine, an impermeable barrier such as a clay retaining wall should be used to prevent serious leakage through the dam.

William H. Wilson
Assistant State Geologist
Geological Survey of Wyoming
June 1, 1955

Reference

Gray, L. O., 1947, "Geology of the East Flank of the Laramie Range in the vicinity of Horse Creek, Laramie County, Wyoming", unpublished M. A. thesis, Univ. of Wyo., Plate 3.