

MONTANA BUREAU OF MINES AND GEOLOGY

BUTTE, MONTANA 59701

*Chouteau Co.
Gen.*

February 12, 1969

Mr. Charles W. Heber
Montana Highway Commission
P. O. Box 1359
Great Falls, MT 59401

Dear Mr. Heber:

I have your letter of recent date regarding general geology of T. 21 N., R. 7 E. I regret that we cannot give you exact information on the excavation and compaction of the surface of this area, but we can make some generalized remarks.

According to the geologic map in Bulletin 806, a portion of which has been Xeroxed and enclosed, T. 21 N., R. 7 E. is mostly underlain by the Colorado Formation which dips north-northeast at the rate of about 85 feet per mile. The Cretaceous rocks may be covered by surficial material, glacial drift, and terrace gravels. The southern limit of glacial drift is shown on the Xerox map as a red line. The glacial drift compacts readily to an impervious material. The impervious core of the Fort Peck Dam is made of glacial drift compacted to about 150 pounds per cubic foot. If not compacted, however, it will form a gumbo soil. The geological map shows that the Mosby Sandstone member follows along the crest line east of Highwood Creek, and it crosses the sag somewhere about $2\frac{1}{2}$ miles from Highwood. It is shown as a blue line on the Xerox map.

I have sketched a geologic section from Four Corners to the area just north of Highwood showing the relation of these beds. The line of the section shows as a faint line on the Xerox map. You will note that the **Kootenai** Formation (Kk) outcrops in Belt Creek east of Four Corners. The contours of the top of the Kootenai have been plotted on the section and