

SUMMARY REPORT ON SUB-SURFACE WATERS ON HORSE SHOE
CREEK, NEAR GLENDO, WYOMING

Geological Survey of Wyoming
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This report is based on a field examination made by Professor Horace D. Thomas and Mr. David Love on May 31, 1934. Owing to the drought emergency, sufficient time was not available to make a complete and comprehensive survey of all phases of the problem, which involves the determination of areas in which artesian water may be developed.

CONCLUSIONS

- (1) - Shallow wells yielding a relatively large flow of artesian water may be drilled along Horse Shoe Creek.
- (2) - The most promising location for wells is in the land listed as follows:

N $\frac{1}{2}$ Sec. 26 - 29 - 69

SE $\frac{1}{4}$ NW $\frac{1}{4}$; SW $\frac{1}{4}$; NE $\frac{1}{4}$ Sec. 24 - 29 - 69

N $\frac{1}{2}$ Sec. 19 - 29 - 68

A good location on state land is indicated on the accompanying map.

- (3) - Wells drilled in the foregoing area may be expected to yield a flow of 1 to 3 cu. ft. per sec.
- (4) - The depth of the wells should range between 400 to 500 feet.

DEVELOPED WATER

A well drilled for oil in Sec. 20 - 29 - 68 struck artesian water at a depth of about 400 feet. An unsuccessful attempt was made to shut off the water but drilling was continued to a total depth of about 1500 feet, encountering no additional water. No well log is available and the data

regarding the well are not known to be accurate. The flow of this well is estimated by residents of Glendo to range between 1.91 to 2.0 cu. ft. per sec., the water rising between the 10 inch and 12 inch casing. The upper part of the Tensleep sandstone (Hartville formation) is the probable horizon in which the flow was encountered.

GEOLOGY

Horse Shoe Creek cuts across the nose of a plunging anticline and flows most of the distance through T. 29 N., R. 68 and 69 W., across red-beds of the Chugwater formation (Opeche, Minnekahta and Spearfish). Spring Creek, to the north, flows at a much higher elevation than Horse Shoe Creek. In a canyon cut by Spring Creek the Tensleep sandstone is exposed and it is probably at this point that the water enters the outcrop of the sandstone and migrates down the dip of the bed toward the south and east.

Several outcrops of the Tensleep sandstone are found to the southwest of Spring Creek Canyon. Lack of knowledge regarding the relative elevations of the Tensleep outcrops makes uncertain the practicability of the drilling of artesian wells along Horse Shoe Creek west of Sec. 26 - 29 - 69. Should the outcrop of the sandstone in the State Land in Sec. 28 - 29 - 69 occur at an elevation higher than the outcrop of the Tensleep in Spring Creek Canyon, wells drilled in that section would not flow. This area is not precluded as being a potential producer of artesian water, but additional field studies are necessary in order to determine the feasibility of drilling west of Section 26.