HERMOSA QUADRANGLE: Ground Water Production by Aquifer

In the 56 square-mile area of the Hermosa Quadrangle, ground water is produced chiefly from the Cretaceous-age Fall River and Lakota Formations (with a maximum flow of 150 gallons per minute). A few wells produce from alluvial deposits or from the Cretaceous shale (3 gallons per minute).

Information given in the following figures is taken from the website of the South Dakota Geological Survey [http://www.sdgs.usd.edu/](http://www.sdgs.usd.edu/). The values for private wells, as reported in Well Drillers Reports of the South Dakota Water Rights Commission, indicate the flow rates at the time of completion of the wells.

**FALL RIVER FORMATION**

The Fall River sandstone reservoir is the first substantial aquifer encountered in drilling within the quadrangle. Drill depths increase to the east, but in the area of Hermosa and west of Highway 79, reach maximum values of 800 feet. Water production is generally less that 25 gallons per minute, but is 180 gallons per minute in rare cases.

![Figure 1. Water production for wells in the Fall River Formation, Hermosa Quadrangle.](image)

The base line indicates total depth of the well. The vertical axis is for gallons per minute initial water flow.

**LAKOTA FORMATION**

The Lakota Formation also contains abundant sandstone layers which may contain ground water. This formation underlies the Fall River Formation and, therefore, excepting along the western margin of the quadrangle, drilling depths will be greater.

Drill depths increase to the east, but in the area of Hermosa and west of Highway 79, reach maximum values of 1,300 feet. Water production varies from 10 to 95 gallons per minute and, as illustrated in Figure 2, for the wells reported, appears to be greater with greater depth.
Figure 2. Water production for wells in the Lakota Formation, Hermosa Quadrangle. The base line indicates total depth of the well. The vertical axis is for gallons per minute initial water flow.