



EXPLANATION

Outcrop of Lower Cretaceous or older rocks

Aquifer basins

Generalized potentiometric contour shows altitude, in feet above mean sea level, times if water had a density of 1.00 g/cm³ (gram per cubic centimeter). Dashed lines indicate where it is approximately 1,000 feet above the surface. Contour interval is 1,000 feet. Contours between 800 and 2,000 feet. Data available in recharge areas and oil-field data do not define the hydraulic heads accurately enough to contour on a 200-foot interval above the 2,000-foot contour.

This map is one of a series of preliminary potentiometric-surface maps of selected rock units in the Northern Great Plains of Montana, North Dakota, South Dakota, and Wyoming. The maps were prepared as part of a study to define the water resources of the West. The maps were prepared as part of a study to define the water resources of the West. The maps were prepared as part of a study to define the water resources of the West.

where h is the altitude of the water surface, in feet above mean sea level; $PSIP$ is the final potentiometric surface; C_1 is the dissolved-solids correction; PSD is the pressure head, in feet above the datum; $PSD + PSD$ is the pressure head, in feet above the datum; $PSD + PSD$ is the pressure head, in feet above the datum.

Most of the data are from drill-stem tests of exploration and development wells drilled by the petroleum industry from 1946 to 1978. The altitudes of water levels at production wells and the altitudes of streams crossing outcrops were also used in contouring. The locations of all well-head points used in contouring have been plotted on the map.

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REFERENCES

Miller, R. W., 1976. Water in carbonate rocks of the Madison Group in southeastern Montana - a preliminary examination. U.S. Geological Survey Water Supply Paper 2043, 51 p.

Schow, R. A., 1971. Geology and hydrology of the Dakota Formation in South Dakota. South Dakota State Geological Survey Report of Investigation no. 10.

SCALE 1:1,000,000

COUNTY INTERVAL 90 FEET
GENERALIZED POTENTIOMETRIC SURFACE
ROCKS IN THE NORTHERN GREAT PLAINS OF MONTANA, NORTH DAKOTA, SOUTH DAKOTA, AND WYOMING

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Geologic contacts modified from U.S. Geological Survey Geologic Maps of Montana, North Dakota, South Dakota, and Wyoming, and from Schow (1971).