IN NORTHEASTERN MISSISSIPPI, FALL 1982

The U.S. Geological Survey, in cooperation with the Mississippi Department of Natural Resources, Bureau of Land and Water Resources, prepared this potentiometric map of the Eutaw-McShan aquifer to show the potentiometric surface and direction of ground-water movement in the aquifer. This map, the second in a series for the Eutaw-McShan aquifer, follows a map that delineated the potentiometric surface of the aquifer in 1976 (Wasson, 1980).

The Eutaw-McShan aquifer is composed of interbedded clays and sands that overlie the Gordo Formation and the Tombigbee Sand Member of the Eutaw Formation. The basal part of the aquifer is the McShan Formation. Both formations are Cretaceous age. The Eutaw-McShan aquifer, about 60 miles long, is about 400 feet thick in Noxubee County to 1,000 feet thick in Monroe Counties, southeastern Mississippi.

The McShan Formation consists of thin-bedded sands and siltstone in the upper part and thin-bedded siltstone and clay in the lower part. The Eutaw Formation consists of thin-bedded sands and siltstone in the upper part and thin-bedded siltstone and clay in the lower part. The McShan and Eutaw formations together form the Eutaw-McShan aquifer.

The potentiometric surface of the Eutaw-McShan aquifer in northeastern Mississippi is shown on this map. The potentiometric surface was determined from water-level measurements of about 250 wells, in the Eutaw-McShan aquifer in fall 1982, and on the results of flow models that simulated regional ground-water movement, ground-water movement in the Eutaw-McShan aquifer in northeastern Mississippi, and static water levels in wells in 20 counties. The aquifer is the source of ground water for many domestic wells in the study area.

The potentiometric surface of the aquifer has remained generally stable since 1978 because of a reduction in pumpage. The largest decline occurred about 12 feet per year between 1972 and 1978 in the West Point area, between 1978 and 1982 in the Tupelo area, and about 3 feet per year in other areas of the aquifer.

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