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Reconnaissance of the Ground-Water Resources of Clarendon and Williamsburg Counties, South Carolina

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ABSTRACT

Water-bearing sands of the Black Creek Formation, the principal zones tapped for ground-water supplies in Clarendon and Williamsburg Counties, will yield 150 to 500 gallons per minute to wells. The water is soft, low in dissolved solids concentration (about 200 milligrams per liter or less), and is generally of good quality. Total iron in the water is locally greater than the recommended limits of 300 micrograms per liter. Fluoride concentrations exceed the proposed limit of 1.6 milligrams per liter in eastern Williamsburg County. Fluoride minerals associated with sandstone interbedded with water-bearing sand are the possible source of the excessive fluoride in the water.

The Peedee Formation overlies the Black Creek Formation and will yield 50 to 150 gallons per minute to wells. The water is probably similar in quality to that of the Black Creek Formation but is not believed to contain excessive iron or fluoride.

The Middendorf Formation (Tuscaloosa Formation equivalent) is mostly unexplored as a source of water in the area. Only the upper 100 feet or so of the formation has been tapped by a few wells. It is estimated that the water-bearing sands in the formation, in conjunction with overlying aquifers, will yield as much as 1,200 gallons per minute to wells.

A water-table aquifer consisting of Pleistocene-Holocene deposits, the Santee Limestone, and the Black Mingo Formation will yield as much as 50 gallons per minute to wells, although the usual yield is probably about 10 gallons per minute. The maximum thickness of the water-table aquifer is about 200 feet.

The ground-water resources of the area are relatively untapped. Ground-water use in 1970 was estimated to be 9 million gallons per day.

Copies of this report are available in the SCDNR's Columbia office.