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Chemical Quality of Ground Water in Aquifers of the Black Creek Formation, Horry County, South Carolina

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ABSTRACT

More than 900 chemical analyses of water from the Black Creek Formation in Horry County, S.C. have been examined. The ground water generally is a sodium bicarbonate type with concentrations of the major constituents increasing toward the coast. The greatest concentrations were found in the eastern half of the coastal strip, with total dissolved solids, sodium, and chloride generally greater than 900, 350, and 175 milligrams per liter, respectively. Concentrations are least in the inland, northeastern half of the county.

Regional variations suggest relationships among the major water-quality characteristics and chemical species. Correlation analysis showed that the values of specific conductance, total dissolved solids, sodium, and chloride are closely associated. These relationships permit estimation of the concentration of major ions from related characteristics.

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