

INTRODUCTION

The surficial aquifer is the major source of freshwater in the Upper East Coast Planning Area. To evaluate the aquifer and its geologic framework, a cooperative program with the South Florida Water Management District was begun by the U.S. Geological Survey in 1976. The purpose of this report is to display the geologic framework of this aquifer to provide water-management officials with a better understanding of the natural restraints that may be imposed on future development. Lithologic and geophysical logs of 76 wells penetrating the aquifer system were compiled and interpreted for this purpose.

LITHOLOGY OF THE SURFICIAL AQUIFER AND ITS BASE

were discontinuous and can tensor at conjoining units. The uppermost clayey sandstone (calcareous clays) of the Tamiari and Hawthorn Formations (Miocene unconformably underlie the surficial aquifer and form its base (Lichter, 1960, p. 18). Contour lines showing the altitude of the base of the aquifer (relative to the National Geodetic Vertical Datum of 1929) indicate extensive erosion of the Miocene sediments prior to deposition of the aquifer materials. Lithologic logs of wells in the area (Miller, 1979, table 2) show that in some locations, sediments of the Tamiari Formation may have been removed by erosion, and the materials forming the aquifer were deposited directly on the Hawthorn Formation. The upper part of the Upper East Coast Planning Area, lithologic logs indicate that the base of the surficial aquifer is formed by fluvial deposits containing erosional materials from both the Tamiari Formation and the Hawthorn Formation.

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Base from South Florida Water Management District, 1976

GEOLOGIC ASPECTS OF THE SURFICIAL AQUIFER IN THE UPPER EAST COAST PLANNING AREA, SOUTHEAST FLORIDA

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