

PROJECT MODESTHI: A MULTIDISCIPLINARY APPROACH TO ASSESS THE GROUNDWATER POTENTIAL OF RESENDE BASIN, BRAZIL.

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Project Modesthi: a Multidisciplinary Approach to Assess the Groundwater Potential of Resende Basin, Brazil. 1BETTINI, C., 1MELLO, C.L., 1BORGHI, L., 1SILVA JR., G.C. and 1MADEIRA, C.V. 1Universidade Federal do Rio de Janeiro, Departamento de Geologia. Rio de Janeiro, RJ 21949-900, Brasil. The project MODESTHI started in September, 1998, under sponsorship of a Brazilian federal agency (PADCT-III/FINEP), with two objectives: (1) to develop a methodology for integrating stratigraphic, structural, geomorphologic, geophysical and hydrogeologic data with the aid of numerical modeling techniques; and (2) to assess the water resources of Resende Basin, Brazil. From an academic standpoint, several geologic problems remain to be solved at this basin, such as the thickness of potentially water-bearing sediments, the extent of some stratigraphic units and the interaction of Paraíba do Sul River with main aquifers. Geophysical and petrographic problems arise from the vicinity of alkaline massifs in marginal areas. From a social perspective, the interest in evaluating the basin's groundwater potential stems from an increasing demand for water, caused by the installation of industrial districts and consequent local population growth. This project should contribute to public policies in two ways: (1) identifying the areas with highest potential to supply groundwater of good quality at low costs and (2) identifying the recharge areas to be protected from inappropriate land use. The results of the project in its first year include a geologic map (1:50,000), a complete gravity and electromagnetic survey with processing and modeling, geologic sections and hydrologic (hydrochemical, potentiometric and hazard assessment) surveys.