NUMERICAL MODELING OF THE INITIAL STATE AND MATCHING OF WELL TEST DATA FROM THE ZUNIL GEOTHERMAL FIELD, GUATEMALA

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ABSTRACT

A significant amount of geoscientific and reservoir engineering data have been collected from the Zunil geothermal field since 1973. The data have been used to define a conceptual model for the field, which has formed the basis for the construction of a three dimensional numerical simulation model. The numerical model has successfully matched both the initial state of the reservoir, as indicated by subsurface temperature and pressure distributions within the presently drilled area, and available well test data. The well test data include short and long term discharge tests and a comprehensive pressure interference test. Calibration of the model will continue during 1991 when the results from drilling and testing of three additional deep wells are available. The model will then be used to study various long-term production scenarios for the proposed 15 MW power development.

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