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WELL LOGGING CASE HISTORY OF THE RAFT RIVER GEOTHERMAL SYSTEM, IDAHO

J. K. Applegate, P. R. Donaldson, and T. A. Moens

Boise State University

ABSTRACT

Drilling to evaluate the geothermal resources in the Raft River Valley began in 1974, and resulted in the discovery of a geothermal resource at a depth of approximately 1700 m. Numerous organizations and companies have been involved in the well logging program. There is no comprehensive report on the well logging, nor has there been a complete interpretation. The objective of this study was to make an integrated interpretation of the available data and compile a case history. Emphasis has been on developing a simple interpretation scheme from a minimum of data sets.

The Raft River geothermal system occurs in the Raft River Valley which is a portion of the Basin and Range geomorphic province located in south central Idaho, south of the Snake River Plain. The valley is a late Cenozoic structural downwarp bounded by faults on the west, south, and east (Williams et al, 1975). The downwarp is filled with Tertiary and Paleozoic sediments and volcanics which overlie Precambrian rocks.

The variety of rock types, the presence of alteration products and the variability of fracturing make reliable interpretations difficult. However, the cross plotting of various parameters has allowed a determination of rock types, and an analysis of the degree of alteration and the density of fractures. Thus it is felt that one can thus determine the relevant data to assess a geothermal reservoir in similar rock types.