
Geothermics of the Malaysian Sedimentary Basins

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A geothermics study was carried out on the Malay, Sarawak and Sabah basins. Establishing the thermal regimes and heat flow distribution in these sedimentary basins will assist in improving the geological knowledge and the evaluation of hydrocarbon resources potential.

A geothermal gradient database was constructed from well data and temperature data of over 400 exploration wells. Measured thermal conductivity data from previous work were revised, while recently measured thermal conductivities of post-1980 wells were incorporated into the database. In addition, the measured thermal conductivities were correlated with neutron porosity index, sonic interval transit time, bulk density and gamma ray, to obtain calculated thermal conductivities. This method was found to be viable in deriving thermal conductivities from well logs.

Geothermics maps, consisting of geothermal gradient, thermal conductivity and heat flow, were produced. Results reveal a decreasing heat flow trend, with the Malay basin showing the highest heat flow and the lowest in the Sabah basin. These results are consistent with previous work done by other authors.

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