

Terrestrial Heat Flow Study of Northern Songliao Basin, NE China



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Abstract: Terrestrial heat flow distribution in the northern Songliao Basin are studied based on both observed data and three-dimensional static modeling. New thermo-physical data are acquired from the cores of 7018 meters deep scientific drilling SK-2, 4 shallow gas wells and outcrop samples. Steady-state temperature measurements in SK-2, shallow water wells and temperature data from Drilling Stem Test are applied to determine the terrestrial heat flow in the northern Songliao Basin. We also build a three-dimensional model of the northern Songliao Basin based on drilling data, seismic profile and measured thermo-physical data to simulate the present temperature field of the area. Eventually, the implication of the terrestrial heat flow observations is made and the effects of regional structures and tectonic events on terrestrial heat flow are discussed.

Key words: heat flow, SK 2 Scientific drilling, geothermal resource, Songliao Basin

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