

Breakout Stress Analysis of the crust in Hokkaido

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Horizontal crustal stress directions in Hokkaido can be determined from the orientations of stress-induced and stress-related borehole enlargements by using 4-arm caliper logs. The data were obtained from 8 selected wells in different tectonic areas both onshore and offshore Hokkaido. Stress-induced borehole elongations (breakouts) can develop in a wide variety of rock types in regions with differing tectonic histories. The crustal stress orientations in Hokkaido show systematic changes of their characteristics due to the locality. The stresses estimated from the breakout orientations coincide with focal mechanism solutions of seismicity.