

The stress analysis in geothermal drilling project: example in I-Lan, North-East Taiwan

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From 2015, Taiwan Geothermal Drilling Projects invested by National Energy Program-Phase II drilled two experiential boreholes to reach the geothermal reservoir in I-Lan, North-East Taiwan. This reach is focusing on the stress orientation and magnitude estimation in the deep section of HCL-2 by analyzing the Formation MicroImager (FMI) images and physical properties. This geomechanical model we proposed that the significant tensile fractures observed from 1400~2800 meters and point out the maximum horizontal principal stress is 30 degrees direction from North. The stress field in this borehole stays in the normal faulting stress regime to strike-slip regime depend on the local structure varieties.

Keywords: Stress status, Tensile fractures, Geothermal