

ABSTRACT

GEOTHERMAL RESERVOIR 3D MODELLING BASED ON REDUCTION TO THE POLE MAGNETIC ANOMALY DATA IN ULUBELU AREA, TANGGAMUS

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3D Modelling of Total Anomaly Magnetic Data is results from reduction to the pole transformation to decide the geothermal reservoir position in Ulubelu area, Tanggamus. Basically, magnetic method is measuring total of magnetic fields on the surface as a magnetic respons (susceptibility) from rocks in the subsurface. Applying the diurnal correction, IGRF (*International Geomagnetic Reference Field*) correction, to measured field's data generate total anomaly magnetic's field data which is anomaly respond from geothermal reservoir rocks and the surrounding rocks. Reduction to the North Pole of Earth magnetics transformation applied to total anomaly magnetic data to reconstruction the anomaly magnetic's field data from dipole to monopole. 3D inversion modelling of reduction to the pole magnetics anomaly gave the depth information in average is 2500m above mean sea level. Signal analysis with applying FFT (*Fast Fourier Transform*) generates spectrum energy as a subsurface rock anomaly responds and generates average of reservoir depth in 700m above mean sea level.

Keywords:

Ulubelu, Magnetic Anomaly, *Reducion to the Pole*, Susceptibility, Spectrum Analysis.