ABSTRACT

ANALYSIS OF STRUCTURE AND SYSTEMS GEOTHERMAL SUMANI - WEST SUMATRA ON MODELLING GRAVITY DATA ANOMALY

By
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Has conducted research in the area of geothermal prospects Sumani, Solok regency, West Sumatra using the gravity method. Gravity method is one of the geophysical methods used to determine subsurface conditions by measuring variations in the gravity field of the earth.

Data processing is performed in this study include the SVD Untik determine fault in the research area, and 3D inversion modeling to determine subsurface structures and the existence of geothermal reservoirs in the study area.

AB residual area of research has anomalous values of -8 to 9 mgal mgal. Low anomaly located in the central part of trending NW-SE, dangkan high anomaly located in an area with a bunch SW SW-NE direction.

Map SDV AB residual geothermal area Sumani shows the fault which has a direction and a position corresponding to a geological map. Fault structure in the area of geothermal Sumani has a direction NE-SE in accordance with the pattern of the main struktur Sumatra Fault. 3D inversion modeling results show the value of density contrast study area ranged from 1.87 g / cc to 3.74 g / cc. Sumani geothermal prospect areas were at the research areas with low density values between 1.49 g / cc to 1.85 g / cc which is a geothermal reservoir, located at 800 meters above mean sea level up to 1000 meters below mean sea level.

Keywords: gravity, geothermal, Sumani.