

Analisis Data Gravitasi GGMplus Sistem Geotermal Wilayah AM Dengan Teknik First Horizontal Derivative (FHD) dan Second Vertical Derivative (SVD) untuk Identifikasi Struktur Bawah Permukaan = GGMplus Gravity Data Analysis in AM Geothermal Field with First Horizontal Derivative (FHD) and Second Vertical Derivative (SVD) Filtering Technique to Identify the Subsurface Geological Structures

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Abstrak

Daerah penelitian AM merupakan salah satu daerah prospek geotermal yang berlokasi di Kabupaten OKU Selatan, Provinsi Sumatera Selatan. Potensi geotermal pada daerah penelitian ditandai dengan kemunculan manifestasi berupa lima mata air panas bersuhu 44,4o – 92,5oC dan pH antara 8,19 – 9,43. Penelitian ini bertujuan untuk mengidentifikasi struktur geologi bawah permukaan melalui gravitasi satelit GGMplus serta data pendukung geologi dan geokimia. Struktur pada peta geologi didominasi oleh sesar regional berarah barat laut-tenggara. Hasil analisis slicing lintasan First Horizontal Derivative (FHD) dan Second Vertical Derivative (SVD) menunjukkan adanya enam patahan pada area penelitian dan dikonfirmasi dengan data geologi. Perkiraan temperatur reservoir daerah penelitian AM berdasarkan geotermometer geokimia Na-K berkisar antara 146o - 176oC.

.....The research area AM is one of the geothermal prospect area located in South OKU Districts, South Sumatera. The existence of the geothermal system in the research area is indicated by the presence of five hot springs with a temperature of 44.4 – 92.5°C and a pH between 8.19 – 9.43. This study aims to be able to identify the subsurface geological structures through GGMplus satellite gravity, as well as geological and geochemical supporting data. The structures on the geological map are dominated by northwest – southeast regional fault. The results of the First Horizontal Derivative (FHD) and Second Vertical Derivative (SVD) slicing analysis indicate six faults in the research area and confirmed with geological data. The reservoir temperature in the research area AM is estimated around 146o – 176°C based on Na-K geothermometer.