

ABSTRAK

IDENTIFIKASI STRUKTUR PATAHAN DAN PROSPEK RESERVOIR PANASBUMI SEKINCAU LAMPUNG BARAT BERDASARKAN ANALISIS DAN INTERPRETASI DATA GRAVITY

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Telah dilakukan penelitian dengan judul “Identifikasi Struktur Patahan Dan Prospek Reservoir Panasbumi Sekincau Lampung Barat Berdasarkan Analisa Dan Interpretasi Data Gravity”. Penelitian ini dilakukan di daerah Sekincau, Kabupaten Lampung Barat, provinsi Lampung. Data yang digunakan dalam penelitian ini menggunakan GGMPlus 2013 sebanyak 1.945 data. Tujuan dari penelitian ini yaitu penentuan kedalaman anomali regional dan residual melalui analisis spektrum, penentuan nilai anomali Bouguer Lengkap, identifikasi struktur patahan menggunakan metode *second vertical derivative* (SVD), pembuatan model struktur geologi 3 dimensi, dan penentuan lokasi prospek reservoir panas bumi Sekincau melalui analisis distribusi densitas. Analisis spektrum dilakukan menggunakan 5 lintasan *slice* mendapatkan nilai rata-rata kedalaman regional sebesar 3842.92 m dan nilai rata-rata kedalaman residual sebesar 157.932 m. Anomali Bouguer Lengkap memiliki rentang nilai berkisar antara 36 mGal sampai 74 mGal. Pada kontur SVD memiliki rentang nilai sebesar -8 mGal sampai 20 mGal. Didapatkannya model 3D distribusi dengan kedalaman 2000 m dibawah *sea mean level* dengan nilai sebaran densitas berkisar 2 gr/cc sampai 2,9 gr/cc dengan prospek reservoir ditandai dengan adanya *caprock* dengan densitas 2,3 gr/cc sampai 2,6 gr/cc pada daerah penelitian. Daerah yang diindikasikan sebagai prospek reservoir berada pada arah utara gunung Sekincau memiliki rentang nilai densitas 2gr/cc sampai 2,3gr/cc berada pada kedalaman 2500 m dari permukaan.

Kata kunci: GGMplus, Gayaberat , panasbumi, sesar, SVD, reservoir, Sekincau

ABSTRACT

IDENTIFICATION OF FRACTURE STRUCTURES AND PROSPECTS FOR THE SEKINCAU WEST LAMPUNG HOT RESERVOIR BASED ON ANALYSIS AND INTERPRETATION OF GRAVITY DATA

By

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A study entitled "Identification of Fault Structures and Geothermal Reservoir Prospects in Sekincau, West Lampung Based on Analysis and Interpretation of Gravity Data" has been conducted. This study was conducted in the Sekincau area, West Lampung Regency, Lampung Province. The data used in this study used GGMPlus 2013 as many as 1,945 data. The objectives of this study were to determine the depth of regional and residual anomalies through spectrum analysis, determine the value of Complete Bouguer anomalies, identify fault structures using the second vertical derivative (SVD) method, create a 3-dimensional geological structure model, and determine the location of Sekincau geothermal reservoir prospects through density distribution analysis. Spectrum analysis was performed using 5 slice trajectories obtaining an average regional depth value of 3842.92 m and an average residual depth value of 157.932 m. Complete Bouguer anomalies have a range of values ranging from 36 mGal to 74 mGal. The SVD contour has a range of values from -8 mGal to 20 mGal. The 3D distribution model was obtained with a depth of 2000 m below sea mean level with a density distribution value ranging from 2 gr/cc to 2.9 gr/cc with reservoir prospects marked by the presence of caprock with a density of 2.3 gr/cc to 2.6 gr/cc in the research area. The area indicated as a reservoir prospect is in the north direction of Mount Sekincau with a density value range of 2gr/cc to 2.3gr/cc at a depth of 2500 m from the surface.

Keywords: GGMplus, Gravity, geothermal, fault, SVD, reservoir, Sekincau