

# Analisis Efektivitas Metode Pemisahan Anomali Regional dan Residual Data Gravitasi, Studi Kasus Daerah "X" = Analysis of the Effectiveness of Regional and Residual Anomaly Separation Methods of Gravity Data, A Case Study of Area "X"

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## Abstrak

Dalam melakukan interpretasi struktur bawah permukaan menggunakan data gravitasi, perlu dilakukan pemisahan anomali residual dan regional. Metode yang umum digunakan untuk melakukan pemisahan antara lain yaitu metode analisis spektrum, trend surface analysis (TSA), dan upward continuation. Dalam tulisan ini digunakan ketiga metode tersebut untuk memisahkan anomali regional dan residual. Penelitian dilakukan menggunakan data gravitasi daerah "X" dengan objek penelitian berupa patahan. Data gravitasi yang diperoleh diolah hingga mendapatkan data CBA (Complete Bouguer Anomaly), lalu dilakukan proses separasi. Dari data-data tersebut kemudian dilakukan inversi dan forward modeling 2D. Analisis dilakukan untuk melihat perbedaan hasil pemodelan anomali gravitasi tanpa dilakukan separasi (CBA) dibandingkan dengan pemodelan anomali residual hasil separasi. Hasil analisisnya memperlihatkan bahwa dari data CBA dan anomali residual metode analisis spektrum tidak dapat mendeteksi adanya patahan. Sedangkan dari data anomali residual metode TSA dan upward continuation sudah mampu mendeteksi adanya patahan.

.....In interpreting subsurface structures using gravity data, it is necessary to separate residual and regional anomalies. The methods commonly used to perform separation include spectrum analysis, trend surface analysis (TSA), and upward continuation. In this paper, these three methods are used to separate regional and residual anomalies. The study was conducted using gravity data for area "X" focusing on fault structures as the object of interest. The obtained gravity data is processed to obtain CBA (Complete Bouguer Anomaly) data, then the separation process is carried out. From these data, 2D inversion and forward modeling are then performed. The analysis was carried out to see the differences in the results of the modeling of the gravity anomaly without separation (CBA) compared to the modeling of the residual anomaly resulting from the separation. The results of the analysis show that from CBA and residual anomaly using spectrum analysis method, were not able to detect the faults. Meanwhile, the faults can be detected in residual anomaly from TSA and upward continuation methods.