

# Identifikasi Struktur Geologi berupa Patahan Dengan Penggunaan Analisis Derivative Gravitasi Di Wilayah Kerja Panas Bumi Seulawah Agam, Aceh = Identification Of Geological Structures In The Form Of Faults Using Gravity's Derivative Analysis In The Seulawah Agam Geothermal Working Area, Aceh

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## Abstrak

Ditemukannya keberadaan manifestasi panas bumi berupa sumber air panas dan fumarole di wilayah Gunung Api Seulawah Agam, serta adanya upaya pemerintah dalam mengembangkan energi alternatif, mendorong dilakukannya kegiatan penelitian guna mengetahui keberadaan dan sebaran struktur geologi di daerah tersebut. Kegiatan ini dilakukan dengan memanfaatkan penggunaan metode gravitasi dengan analisis derivatif berupa First Horizontal Derivative dan Second Vertical Derivative yang berguna sebagai penguat dugaan awal terkait keadaan bawah permukaan daerah penelitian. Data gravitasi yang digunakan berasal dari data satelit GGMplus. Hasil penelitian berhasil mengidentifikasi sebanyak 7 struktur geologi berupa patahan dengan 1 (satu) sesar yang diduga berperan dalam mengontrol keberadaan manifestasi. Hasil ini selanjutnya dapat dikorelasikan dengan kenampakan di daerah penelitian guna dilakukannya tahap penelitian lebih lanjut.

.....The discovery of geothermal manifestations in the form of hot springs and fumaroles in Seulawah Agam Volcano area, as well as the government's efforts to develop alternative energy, have encouraged research activities to determine the existence and distribution of geological structures in the area. This activity was carried out by utilizing the gravity method with derivative analysis in the form of First Horizontal Derivative and Second Vertical Derivative which are useful as reinforcement of initial assumptions regarding the subsurface conditions in the study area. The gravity data used comes from the GGMplus satellite data. The results of the study succeeded in identifying as many as 7 geological structures in the form of faults with 1 (one) fault which is thought to play a role in controlling the presence of manifestations. These results can then be correlated with the appearance in the study area for further research.