Pengembangan software analisis spektrogram dan studi tomografi data MRQ untuk delineasi zona rekahan di Daerah Geotermal = spectrogram analysis software development and tomography study of MEQ data to delineate fracture zone in geothermal area

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Abstrak

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Penentuan zona rekahan reservoar di daerah Geotermal sangat penting untuk keperluan penentuan titik pemboran. Penentuan zona rekahan tersebut dapat dilakukan dengan menerapkan metode geofisika, salah satunya adalah metode microearthquake (MEQ). Metode MEQ dapat memberikan informasi yang berkaitan dengan struktur permeabilitas reservoar, pola pergerakan fluida injeksi, dan batas reservoar pada lapangan Geotermal. Terdapat beberapa metode penting yang dilakukan untuk analisis zona rekahan dari data MEQ, yaitu relokasi menggunakan metode double difference, tensor momen dan tomografi. Dalam hal ini penulis berupaya untuk melakukan penelitian pengembangan software terkait penentuan waktu tiba menggunakan spektrogram. Setelah lokasi hiposenter diperoleh, maka langkah berikutnya adalah melakukan analisis tensor momen dan tomografi. Dari berbagai analisis yang dilakukan tersebut, penentuan zona rekahan di daerah Geotermal dapat dilakukan dengan baik. Diharapkan penelitian ini memberikan hasil yang terbaik sehingga metode yang dilakukan tersebut dapat diterapkan dalam penentuan zona rekahan yang lebih tepat.
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ABSTRACT
Determination of the reservoir fracture zone in Geothermal areas are very important for the purposes of determining the drilling point. Determination of the fracture zone can be performed by applying geophysical methods, one of which is a microearthquake (MEQ) method. MEQ method may provide information relating to the structure of the reservoir permeability, patterns of fluid injection movement, and boundary the field of Geothermal reservoir. There are several important methods to analyze fracture zone performed on the data MEQ, relocation using the double difference method, moment tensor and tomography. In this case the author seeks to conduct research related to the development of software such methods can be used to process and analyze the MEQ data. In this case I do research related to software development related to the timing of arrival using the spectrogram. After the location of the hypocenter is obtained, then the next step is to analyze the moment tensor and tomography. From the various analyzes performed, the determination of the fracture zone in the Geothermal area can be done well. It is expected that this study provides the best results so the methods can applied in the determination of a more precise fracture zone.;Determination of the reservoir fracture zone in Geothermal areas are very important for the purposes of determining the drilling point. Determination of the fracture zone can be performed by applying geophysical methods, one of which is a microearthquake (MEQ) method. MEQ method may provide information relating to the structure of the reservoir permeability, patterns of fluid injection movement, and boundary the field of Geothermal reservoir. There are several important methods to analyze fracture zone performed on the data MEQ, relocation using the double difference method, moment tensor and tomography. In this case the author seeks to conduct research related to the development of software such methods can be used to process and analyze

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