

عنوان مقاله:

Fault Trend Detection Using Three-Dimension Survey A Case Study in Central Iran

محل انتشار:

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نویسندگان:

Mojgan Ostovari - Islamic Azad University, Science And Research Branch

Mir Sattar Meshinchi Asl

خلاصه مقاله:

Resistivity electrical changes in vertical, horizontal and in the direction that is perpendicular to the survey line, is measured in 3D surveys. 3D electric data illustrate a 3D image from subsurface layers, therefore combination of 3D electric results and surface geology is appreciated as helpful technique in electric data interpretation. What is carried out for performing a 3D survey is as follows: first a 2D survey is carried out in the survey field and then collected data are interpreted. When the subsurface layers are defined clearly, an area is selected and a suitable grid for 3D survey is designed. After data acquisition, by using a 3D interpretation software, data points are interpreted. Finally, the results are compared with the result of 2D configuration. In this study, the main objective is the detection of a fault trend by using pole-pole electrode array which is commonly used for 3D surveys. This survey method by using a 3D interpretation model gives accurate results of subsurface structures. In order to confirm the abilities of this method for fault detection, after checking the final results of 2D Schlumberger array on a fault trend in Anarak area in Esfahan province, an square grid with a 60 meters long, was designed and data acquisition was carried out. Then potential values (476 datapoints) were inserted into a provided program in MATLAB software for calculation the apparent resistivity. After data interpretation by using RES3DINV software, the fault trend was detected in vertical and horizontal sections. The results show considerable ability of 3D surveys for fault detection

کلمات کلیدی:

Geo electrical 3D surveys; Pole-Pole array; Fault trend detection

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