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16302

# Geo Electric Three-Dimension Surveys for Detection of Subsurface Structures

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## SUMMARY

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 of3D 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 interpretated. When the subsurface layers are defined clearly, an area is selected and a suitablegrid for 3D survey is designed. After data acquisition, by using a 3D interpretation software, data points areinterpretated. Finally, the results are compared with the result of 2D configuration. In this study, the mainobjective is the detection of a fault trend by using pole–pole electrode array which is commonly used for 3Dsurveys. 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 Shlumbergerarray on a fault trend in Anarak area in Esfehan province, an square grid with a 60 meters long, .