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## Geophysical Investigation of Shallow Surface Geology and Groundwater Condition at Al Foah Area, Al-Ain, United Arab Emirates

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Electrical Resistivity Tomography (ERT) survey across the study area provides accurate and consistent technique of estimating the resistivity/conductivity values utilizing six ERT profiles. Several shallow features of geotechnical concern potentially related to underground highly conductive, loose soil and poorly cemented conglomerates have been identified and an attempt has been made to evaluate the spatial variability of the depth of such features and quality of the bedrock beneath the site. According to geophysical ERT results, surface outcropping earth materials can be classified into: Highly resistive/low conductive surficial dry soils and other materials exposed on the surface and extended to approximate depth of 5 m below ground surface. Very low resistive/highly conductive layer encountered under the above layer at about 5 m and extended to approximate depth of 8 m-12 m below natural ground surface. Few isolated anomalies of low resistivity zones in the bedrock have been detected within ERT profiles at the interface between the bedrock layers and were interpreted to represent zones of high water saturated weathering/soft fractured bedrocks and confirms that the water level and the saturation zone in the area. This study may help in the groundwater management across the area.

### Biography:

Dr. Amir Gabr has obtained his Ph.D in Applied Geophysics from Ain Shams University, Cairo, Egypt in 2001. He has more than 20 Years of industry and academic experiences at GUPCO –AMOCO Petroleum Company in 1989 for 10 years. His experience in the petroleum industry include multiple positions like Well site Geologist, Exploration Geologist in Potential Field Division and Section head in Geophysics division and he has a practical teaching experience in the UAEU for Geoscience – Geophysical methods application and teaching of several courses Applied Geophysics, Geophysical Exploration, Petrophysics and Well Logging.