

## Application of 2D and 3D geoelectrical resistivity method for engineering site investigation

**Abdalla Mohamed M. Musbahi**

Department of geological and mining research, Industrial Research Center, Tajora, Libya (Alhatmi7@hotmail.com)

Orthogonal set of 2D geoelectrical resistivity field data in Zone 16 were studied. In this locality, the establishment of complex multi-floored buildings for residential and commercial purposes was planned. This locality was divided into seven sub-zones.

In each sub-zones, orthogonal profiles were collected by Schlumberger soundings array. ID layering information and supplement to the orthogonal 2D profiles were also provided. The observed 2D apparent resistivity data were first processed individually and then collated into 3D data set which was processed using a 3D inversion code. The 3D model resistivity images obtained from the inversion are presented as horizontal depth slices. Some distortions observed in the 2D images from the inversion of the 2D profiles are not observed in the 2D images extracted from

the 3D inversion. The survey was conducted with the aim of investigating the degree of weathering and fracturing or cavities in the area under investigation.

The weathered profile and thereby ascertaining the suitability of the site for engineering constructions is presented, as well as the determination of its groundwater potential.

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