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The Mineral Exploration of the Haimur Gold-Mine in the South Eastern Desert-Egypt, by Using Geophysical Techniques

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The Haimur gold mine is located in the south Eastern Desert, Egypt, about 200 km far from Aswan city and is known as historical mine dated back to (7th–11th centuries). An evidence of ancient mining activities is manifested by excavated quartz veins and old stone tools used for gold extraction. A number of important ancient gold mines in the Allaqi area have, however, received relatively little geological and geophysical attention. Haimur area comprises a variety of Precambrian rocks including igneous and metamorphic units. It is covered by: ophiolite assemblage, metasediments and metavolcanic.

The geophysical measurements are carried out along the ancient mine where the quartz veins are concentrated. Several geoelectrical and land magnetic profiles were done perpendicular to the structure of the area, The Electrical Resistivity was acquired by using dipole-dipole configuration of electrode spacing 5, 10 and 15 m of lengths ranging from 160-240 m. In addition to magnetic profiles are applied around old mine. The results indicate that the quartz veins are accomplished with sulfide zones which refer to low resistive zones, high chargeability with moderate to high magnetic anomalies.

Key words: South Eastern Desert, Alter mineralized zone, Land magnetic, Electrical Resistivity and Induced polarization.