

Depth to Basement Determination Sculpting of a Magnetic Mineral Using Magnetic Survey

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Abstract : This study was carried out to delineate possible structures that may favour the accumulation of tantalite, a magnetic mineral. A ground based technique was employed using proton precision magnetometer G-856 AX. A total of ten geophysical traverses were established in the study area. The acquired magnetic field data were corrected for drift. The trend analysis was adopted to remove the regional gradient from the observed data and the resulting results were presented as profiles. Quantitative interpretation only was adopted to obtain the depth to basement using Peter half slope method. From the geological setting of the area and the information obtained from the magnetic survey, a conclusion can be made that the study area is underlain by a rock unit of accumulated minerals. It is therefore suspected that the overburden is relatively thin within the study area and the metallic minerals are in disseminated quantity and at a shallow depth.

Keywords : basement, drift, magnetic field data, tantalite, traverses

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