ID: **O2.2-029**   Type: **Oral**

Resistivity Tomography Geophysical Technique for Mapping Base Metal and Gold Mineralization Potential in Iperindo, Ilesha Schist Belt, Southwestern Nigeria

Wednesday 30 June 2021 14:20 (15 minutes)

Electrical Resistivity Tomography (ERT) geophysical technique has been applied in this study to evaluate the base metal and gold mineralization potential of Iperindo in Ilesha Schist Belt, southwestern Nigeria, where commercial exploitation capable of generating revenue and employment for the inhabitants has been challenged by lack of /inadequate subsurface geological/geophysical information. The filtered and inverted electrical resistivity data acquired by occupying five 336 m long E – W trending profiles, established 10 m apart from each other, delineate isolated near-surface but thick (> 30 m) low resistivity zones, especially at the eastern and western ends of the study area. Some of the delineated low resistivity zones (3 – 200 Ωm) present sharp vertical edges, likely created by vertical faults that flank the zones on both sides. The low resistivity signatures of these zones could be attributed to the occurrence of conductive minerals such as gold and associated base metals which probably exist in pegmatitic veins within the zones. The resistivity/conductivity distribution generated by ERT mapping of spatial distribution of base metal within the subsurface clearly demonstrates the earth imaging strength of geophysics techniques which are applicable for on-site inspection and test ban verification.

Promotional text

The resistivity/conductivity distribution such as generated by ERT mapping of spatial distribution of base metal within the subsurface clearly demonstrates the earth imaging strength of geophysics techniques which are applicable for on-site inspection and test ban verification.

Primary author: Mr OSINOWO, Olawale (University of Ibadan, Nigeria)

Co-author: Mr USMAN, Ahmed (University of Ibadan, Nigeria)

Presenter: Mr OSINOWO, Olawale (University of Ibadan, Nigeria)

Session Classification: T2.2 - Challenges of On-Site Inspection

Track Classification: Theme 2. Events and Nuclear Test Sites: T2.2 - Challenges of On-Site Inspection