

## Post-Panafrican tectonic effect of the Bouskour-Tagmout mineralization (Eastern Anti-Atlas, Morocco) using remote sensing and structural interpretation

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Remote Sensing data have become more important for the study of geology, structural geology and extraction of lineament which give us an overview of the tectonic events.

The aim of this work is to identify the post-panafrican tectonic effect of the polymetallic mineralization in the Bouskour-Tagmout district (central part of Saghro inlier, eastern Anti-Atlas, Morocco), through a well detailed geological mapping. To achieve this goal, different processing techniques were applied on the Landsat 8\_OLI and Sentinel-2 Satellite images of the study area (acquired successively on January and March, 2017). Several techniques such as radiometric calibration, atmospheric correction, principal component analysis, and directional filters were applied to improve the localization of geological structures and mapping of the geological lineaments with a refined and precised manner. The results obtained are validated by the regional geological map, and confirmed by structural observation and measurements through a fieldwork on the Bouskour-Tagmout deposit.

The statistical analysis of the structural result indicates that the study area is affected by several structural trends: NNW-SSE and the NE-SW to ENE-WSW (dominant orientation),

The principal mineralized veins (Pb-Zn-Cu) are hosted by the NW-SW faults system and shows mainly dextral shears,

The NE-SW to ENE-WSW fault system represents the dominant one, which intersects the mineralized structures and rhyolitic dykes of the Bouskour deposit showing dextral and sinistral shears,

The analysis of fracturation-mineralization reports indicate that the main mineralized veins (Pb-Zn-Cu) of Bouskour are probably controlled by the remobilization of pre-existing stock metal (El Azmi et al., 2014) during the post-panafrican events (Hercynian & Atlasic).

**Keywords:** Saghro inlier, Bouskour-Tagmout district, post-panafrican, Remote Sensing, Lineaments

### Reference

El Azmi D, Aissa M, Ouguir H, Mahdoudi ML, El Azmi M, Ouadjo A, Zouhair M, 2014. Magmatic context of Bouskour copper deposit (eastern Anti-Atlas, Morocco): petrography, geochemistry and alterations. *J Afr. Earth Sci.*, 97, 40-55.