

عنوان مقاله:

Structural interpretation of the Mangochi-Makanjira area (Southern Malawi) from an aeromagnetic analysis:
Implications for gold exploration

محل انتشار:

مجله بین المللی معدن و مهندسی زمین, دوره 57, شماره 3 (سال: 1402)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Joshua Chisambi - *Department of Mining Engineering, School of Engineering, Malawi University of Business and Applied Sciences, Blantyre, Malawi*

Joahua Chisambi - *Department of Mining Engineering, Malawi University of Business and Applied Sciences Private Bag ۳۰۳*

خلاصه مقاله:

Malawi's geology has not been mapped in detail and there is no detailed geological and structural assessment in relation to gold mineralization. Mangochi-Makanjira area in southern Malawi is endowed with abundant gold mineral resources but there is a scarcity of precise knowledge on the structures that control primary mineralization. This study used aeromagnetic data to provide a structural framework of the Makanjira area and delineated potential areas for further gold exploration. Many analytic approaches were applied to the aeromagnetic data, including reduction to the pole, Euler deconvolution, Tilt, and Vertical Derivatives filtering. Euler deconvolution was used to determine the depth of magnetic sources. Geophysical data interpretations identify the dominant linear trends present in the area to be faults, dykes and deep level basement shear zones as structures responsible for fluid flow and gold mineralization in the area. Gold in this area is structurally controlled by N-S structures that were derived during the Pan African orogeny and it is during in this event that the area got mineralized. These fractures and faults served as channel ways for hydrothermal solutions, resulting in the emplacement of gold mineralization within the fractures. Mineralization occurs from the surface and goes deep and ranges in depth from ۰.۵ km to ۲.۴ km. Exploration for gold should focus on these structures.

کلمات کلیدی:

Gold Mineralization, Makanjira, Aeromagnetic anomaly, Mineral exploration

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1789173>

