

# Gold in Sudan



Republic Of The Sudan  
Ministry of Minerals



Geological Research  
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(GRAS)



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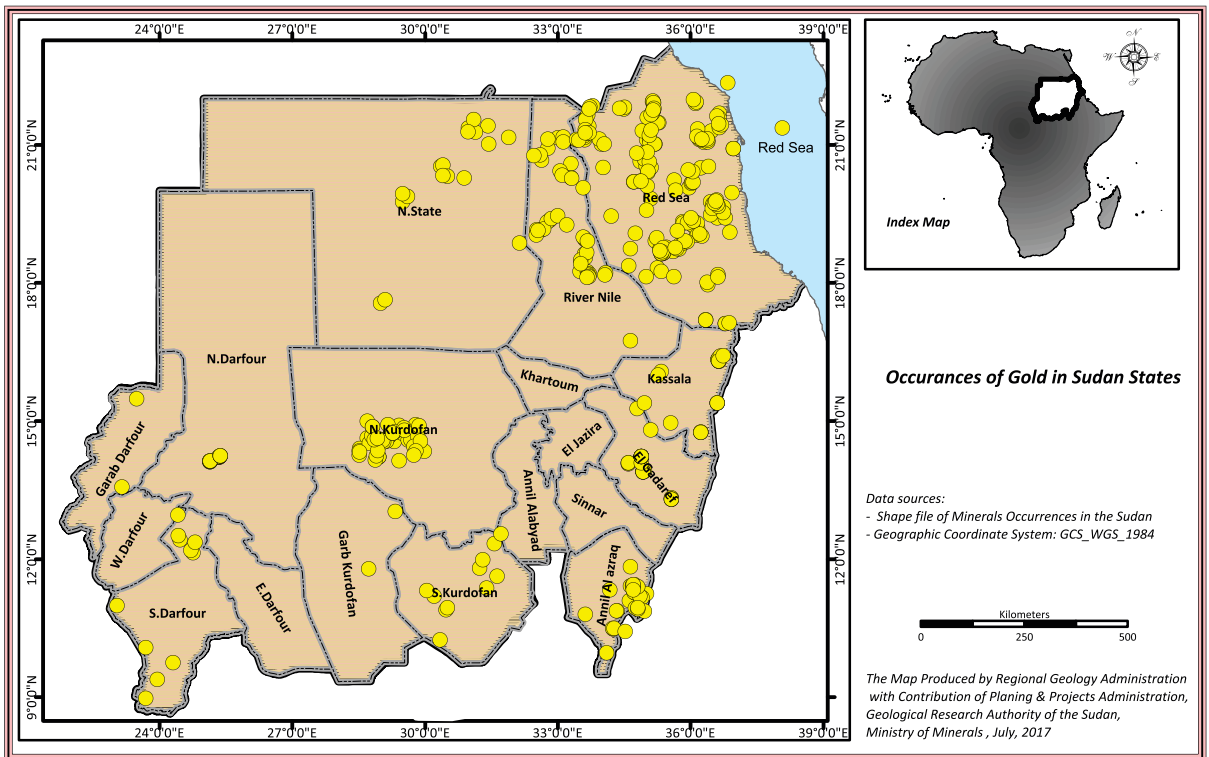
## Introduction:

The pan-African ophiolite-decorated sutures and greenstone belts in Sudan, contain over 150 gold occurrences. Three main categories of these occurrences are recognized:

- Gold in shear-related mesothermal gold deposit hosted in quartz veins.
- Gold co-precipitated and associated with massive sulphides and barite, and remobilized gold found in (oxidation zones) Gossans.
- Tertiary and Quaternary gold placers are found in the areas as terraces.

As a result of both national and joint exploration campaigns with some foreign firms, some of the gold occurrences have been explored and some mines have been opened. Now 17 small and medium-scale gold mines are operative.

The potential for economic gold deposits in the Sudan is high. It is therefore, not surprising that there is a scramble for obtaining gold exploration concessions. Many areas have now been leased but a vast land tracts are still available for investment in mining industry (see map).



## Gold in the Blue Nile State, southeastern Sudan



Gold has been mined in the Upper Blue Nile in the Valley by natives for more than two centuries. Gold is found in the areas of Fazoughli, Qeissan, Kurmuk, Yabus, Ingessana Hills, Belguwa, El Seraifa and Jebel Dul. Geographically, the region is known as Bani Shangul, which now includes central west Ethiopia.

Gold occurs mainly in quartz veins along shear zones as well as in paleo-terraces or as alluvium, alluvial fans and residual soils. Preliminary exploration work shows that eluvial and alluvial samples from Belguwa, east of the Roseries Dam returned gold

grade about 3.8g Au/m<sup>3</sup>. Kurmuk gold paleo-terrace samples reveal a grade of about 3g Au/m<sup>3</sup> gold whereas Qeissan placer samples return up to 8g Au/m<sup>3</sup>. Samples of the primary gold in the quartz veins in those mentioned areas return up to 32g Au/ton.

Infrastructure such as the hydroelectric power at El Roseiris Dam, the railway line and asphaltic road that connects Damazin to Khartoum, in addition to availability of water and semi-skilled gold miners all make the Blue Nile gold attractive to invest in.

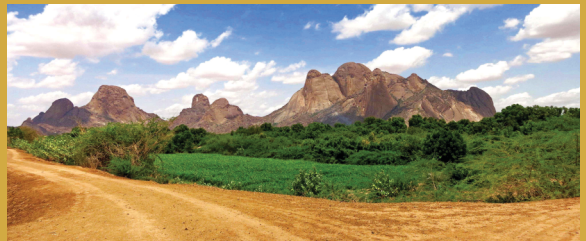
## Gold in the Northeastern Sudan

Most of the gold occurrences in the northeastern Sudan lie along four main tectonic belts:

- Ariab-Arbaat,
- Gebeit-Serakoit,
- Aberkateib-Hamissana, and
- Derudeb-Sinkat.

The majority of gold mineralization in those belts are hosted in quartz veins that lie mainly along shear zones. Ariab-Hassai gold mineralization, as an exception is associated with massive sulphide ores.

The veins measure up to 3 meters in widths, and up to 2 kilometers in strike lengths. They often occur as discontinuous lenses, fragments, and vein-lets of varying colors and gold contents. The gold grades in the quartz veins may reach up to 60g/t. Gebeit and Gabgaba domains comprise over 25 and 40 ancient gold mines, respectively. In Gebeit, Oyo, Um Nabardi, WadiAllagi, and Nabaaoold mines, gold is found mainly in quartz veins hosted by the Pan-African low-grade volcano-sedimentary sequences. The quartz veins are up to 3 in meters thick and up to 800 meters strike length. The veins are oriented N-S, NE-SW, or NW-SE. Similarly, there are lenticular veins fragments, and stringers. The gold grades



are variable reaching up to 15 g/t.

The gold associated with massive sulphide bodies in volcanogenic island arc environment or exhalative extensional regimes is found at HadalAuatib, Hassai, Oderuk, and Baderuk in the Ariab District and is indicated by gossans. They are gold occurs commonly as native electrum; fine-grained and of marginal grades (0.52 g/t averaging 1to 2 g/t). When associated with massive barite and silica-barite, occasionally gold grades could reach up to 200 g/t.

Ariab district gold is generally fine-grained. This type of gold mineralization is the backbone reserve of the Ariab gold mines. Since inception of gold production in 1991, Ariab mine produced 81 metric of gold and over 400 metric of silver.

## Gold in the Nuba Mountains, South Kordufan



Several gold occurrences are found in a narrow greenstone belt of eastern Nuba Mountains of south Kordufan State, central Sudan extend in the NE-SW direction along the northeastern part of the Nuba Mountains. There, gold mineralization is associated with Pb, Zn and Cu sulphides and ironstones believed to be gossaneous.

The results of sampling of the gossans in 8 localities at the eastern foothills of Nuba Mountains yield rather low-grade gold ores. For example, at J. Agbash, J. Tumluk, J. Kurun, J. Uro, J. Fladida, and J. Um Zalata gold grade is about 0.2

g/t. Surface samples from the other gossans assay less than 0.1 g/t. However, some samples from one deep trench assay 1 g Au/t. This result may suggest an increase of gold grade with depth.



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