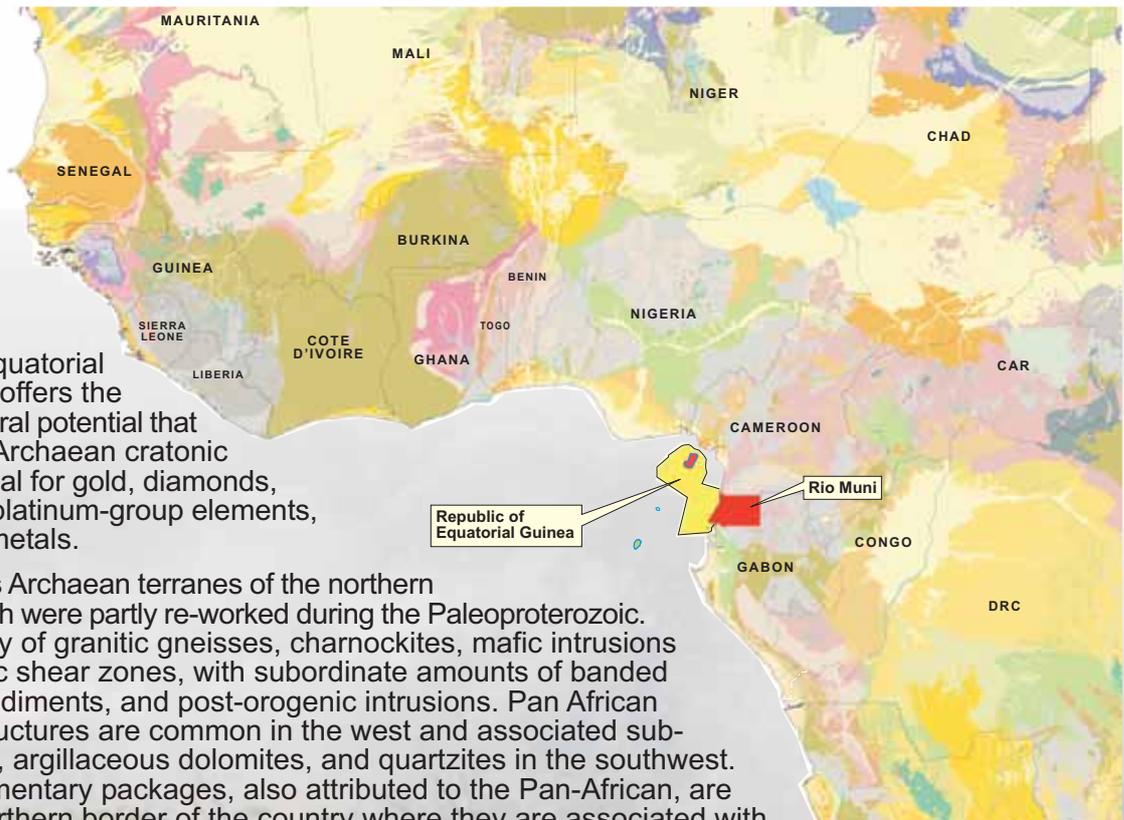


The Geology and Exploration History of Rio Muni, Equatorial Guinea



The Ministry of Mines,
Industry and Energy



GEOLOGY

The mainland of Equatorial Guinea (Rio Muni) offers the wide variety of mineral potential that is expected on an Archaean cratonic setting, with potential for gold, diamonds, columbo-tantalite, platinum-group elements, bauxite and base metals.

Rio Muni comprises Archaean terranes of the northern Congo Craton, which were partly re-worked during the Paleoproterozoic. They consist largely of granitic gneisses, charnockites, mafic intrusions and broad mylonitic shear zones, with subordinate amounts of banded ironstones, metasediments, and post-orogenic intrusions. Pan African transpressional structures are common in the west and associated sub-greenschist shales, argillaceous dolomites, and quartzites in the southwest. Higher-grade sedimentary packages, also attributed to the Pan-African, are found along the northern border of the country where they are associated with major faults and post-tectonic granitic intrusions.

The coastal strip of Rio Muni comprises Cretaceous sands, shales, and carbonates with basal conglomerates, all deposited during the rifting phase of Atlantic opening. Trans-Atlantic fracture zones link to major onshore lineaments, at least one of which shows evidence of Cenozoic rifting (the Benito Rift).

HISTORY OF EXPLORATION IN RIO MUNI

In pre-colonial times Equatorial Guinea was known for gold and iron production however there are no records of any commercial production during the Spanish era, which ended in 1968.

After independence, early investigations highlighted the potential for gold, base metals, bauxite and pegmatite minerals such as tin, tungsten and columbo-tantalite. Initial systematic surveys were conducted from 1975 by Soviet Union geologists and from 1980-1985 BRGM (France) undertook regional and follow-up alluvial heavy mineral and geochemical exploration. Between 1981-1983 GEMSA (a Spain-Equatorial Guinea joint venture) prospected for gold, iron ore, ornamental stone, molybdenite, columbo-tantalite, bauxite and diamond opportunities. In the process, GEMSA undertook airborne magnetic surveys and constructed a SLAR mosaic of the country at 1:1,400,000 scale (about 20m resolution).

From 1996 to end 2000, UMCEG (Ocean Energy) held a contract area covering the whole of Rio Muni but with operatorship from 1998 being with joint venture partner BoMc. Early investigations included data compilation and regional reconnaissance work. Detailed sampling was undertaken in the Coro gold area, around nickel anomalies in the southwest and for heavy minerals in beach sands. Programmes included soil and sediment sampling using augers and development of a GIS database.

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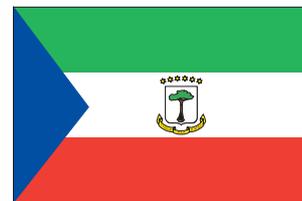
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Minerals Potential of **RIO MUNI**

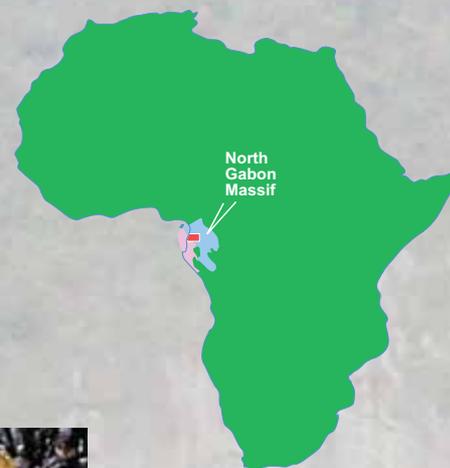
Republic of Equatorial Guinea



**AFRICA
DOWNUNDER
CONFERENCE**

Geological Setting:

- ★ **Congo Craton - Granite Greenstone Terrane**
- ★ **Eburnian/Birimian overprint**
- ★ **West Congolian Belt**
- ★ **Atlantic Margin**



Commodities:

- ★ **Gold**
- ★ **Diamonds**
- ★ **Columbo-Tantalite**



Available*:

- ★ **Full GIS Database**
- ★ **Data Archive**

** to approved explorers (subject to licences)*

