

# SEG 2022 Conference: Minerals For Our Future

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## The Milingui Iron Ore Deposit in Tchibanga, Gabon

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The Milingui iron ore deposit is located some 80 km from the Mayumba deep sea Port, southwest of Tchibanga in Nyanga Province, which mineralisation consists of magnetite and hematite along approximately 20km of strike length and 1km width forming part of the Mayombe ridge. It occurs over two magnetic blocks (I and II) within the lease area totalling 996 km<sup>2</sup>. Most historic exploration activities were focused on Block I which consists of 4 mineralized zones (A, B, C and D). The exploration work, carried out by BRGM (1952-1959), included pitting, trenching, Reverse Circulation (RC) and diamond drilling, resources evaluation and port development planning and BHP-Billiton (2007-2009) of airborne geophysical survey with limited grab-sampling.

Our recent work consisted of identification, re-mapping, sampling and geochemical analysis of the old pits and trenches, grab-sampling of the orebody outcrops, geophysical reinterpretation, metallurgical testing and feasibility studies. The main Fe mineralization types included laminated hematite (average 64% Fe), canga (58% Fe), itabirite (49% Fe) being developed on top of primary magnetite orebody (45% Fe) at the bottom. The current iron ore reserve is 178 Mt of ordinary iron ore and 20 Mt of high-grade direct shipping ore (DSO) (61-67% Fe) with an upside potential for economically beneficial Fe ore resources (>500 Mt).

The advantages of the deposits are: 1) Only 80 km to the planned Mayumba deep sea port; 2) No existing community and relocation issues; 3) Good exposure of orebodies on the mountain ranges; 4) Enough water supply for mineral processing in the area; 5) Enrichment of oil and gas supply for energy; and 6) Little issue of acid mine drainage due to the shortage of sulphides. Furthermore, there are other minerals such as marble and aggregates which can be co-developed in the lease and its surrounding areas.