

Ministry of Mines and Mineral Resources

Government of Sierra Leone

Key Minerals

Sierra Leone's primary mineral resources are diamonds, rutile, bauxite, gold and small amounts of iron ore and limonite.

Diamonds

The Sierra Leone diamond fields cover an area of about 7,700 square miles (about one quarter of the country) in the south-eastern and eastern parts of Sierra Leone. The diamond producing areas are concentrated in Kono, Kenema and Bo Districts and are mainly situated in the drainage areas of the Sewa, Bafi, Woa, Mano and Moa Rivers. Alluvial diamond concentrations occur in river channel gravels, flood-plain gravels, terrace gravels, gravel residues in soils and swamps. Sierra Leone is known for producing mostly gem quality diamonds including some spectacularly large stones of very high value.

The largest ever discovered (February 1972) was a 969.8 carat diamond code-named the "Star of Sierra Leone" (the third largest diamond ever found worldwide). Kimberlites, the primary host rocks for diamonds, have been discovered in the Koidu and Tongo areas. Reserves are estimated at 6.3 million carats down to a depth of 600m at Koidu and 3.2 million carats to a depth of 600m at Tongo. Artisanal and small-scale diamond mining activities are widespread in the Kono District as well as Kenema, Bo and Pujehun Districts. About 1,700 artisanal mining licenses are currently operating in these areas.

Gold

Gold was discovered in several localities in the years from 1926, in the Sula Mountains and Kangari Hills, and in the Koinadugu, Tonkolili and Bo Districts. All greenstone belts in Sierra Leone (with the possible exception of the Marampa Group and perhaps the Kambui Hills) are known to contain gold. Rivers and streams draining these areas also carry gold. The most important known lode gold deposits occur around the Lake Sonfon area, Kalmaro, Makong, Baomahun and Komahun. At present, the only gold production in Sierra Leone comes from alluvial deposits. Notwithstanding the limited gold exports in recent years, Sierra Leone is thought to be well-endowed with gold deposits.

Bauxite

Bauxite serves mainly as a feedstock for aluminium production. The global market continues to grow with global production rising from 137 million tons in 2001 to 177 million tons in 2006. Sierra Leonean production makes up just under 1% of this volume. Vast reserves of bauxite are already proven, and as is the case for rutile, demand for bauxite in the medium-term will continue to be underpinned by robust economic growth in China and India. The occurrence of bauxite in Sierra Leone was first recorded in 1920 and 1921 on the road from Falaba to Waia in northern Sierra Leone.

Other bauxite occurrences include those between Moyamba and Mano; the bauxite deposits of the Freetown Peninsular; the Krim-Kpaka deposits in Pujehun District, southern Sierra Leone; the Kamakwie and Makumre bauxite deposits in northern Sierra Leone. The Port Loko bauxite deposit is of medium grade with about 48% alumina and approximately 3 to 3.5% silica. Feasibility studies indicated a mineable deposit with reserves of over 100 million tons out of which 77.3 million tons of bauxite have been proved. The deposit is also easily accessible – it lies between 60km to 90km from the capital and at an even shorter distance to the Port of Pepel.

Rutile and Ilmenite

Rutile is a high-grade titanium ore, which is processed into titanium dioxide overseas for use mainly in paint, paper and welding rods. Sierra Leone is known for its particularly high-grade rutile. Titanium has a wide range of applications and is the metal of choice for the rapidly-growing aviation industry. In the medium-term, demand for the metal is expected to continue to be driven by the Chinese commodity boom. Rutile was discovered in Sierra Leone in 1954 in the gravels of the Lanti River south of the Gbangbama region in the Southern Province. Four groups of deposits are known to be distributed around the country: the Gbangbama Deposit, the Sembehun Deposit, the Rotifunk Deposit and the Kambia Deposit. Sierra Leone has the largest natural rutile reserves in the world and was accordingly the largest producer of natural rutile worldwide, accounting for a third of the total world production.

Iron Ore

Iron ore was discovered in the Marampa area in 1926. The primary ore has an estimated tonnage of 92 million tons at 37.8% Fe. The Marampa iron ore deposits form part of a greenstone belt with massive beds of specularite schist interstratified with quartz-mica schists. The formation has been traced as far as Kukuna near the Guinea border and to the south at Toma and Makalawa. The other deposits investigated include the Tonkolili and Bagla Hill deposits.

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