



# 2013 Minerals Yearbook

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## CAMEROON

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# THE MINERAL INDUSTRY OF CAMEROON

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Mineral production, primarily aluminum and petroleum production and refining, was a small part of the economy of Cameroon. The country's nominal gross domestic product was estimated to be \$28.3 billion in 2013, of which the oil sector represented about 3.5%. In 2013, the oil sector accounted for a major portion of total exports (about 52%) and was the source of about 27% of Government revenues (International Monetary Fund, 2014a, p. 21–22; b, p. 32).

Cameroon's mineral resources belong to the Government. Prospecting, exploration, and development activities for any mineral deposit are regulated by law and require a license or permit. Mining activities are governed by the provisions of the Mining Code (law No. 001 of April 16, 2001) as amended by Decree No. 2002/648/PM of March 26, 2002, and by law No. 2010/011 of July 29, 2010. Exploration and exploitation licenses were issued subject to the Government of Cameroon having a right to receive a 10% free-carried interest in the share capital of the project operating company. Decree No. 2011/3666/PM of November 2, 2011, created a system to account for diamond production and trade in accordance with the Kimberley Process Certification Scheme. In 2013, Cameroon achieved compliant country status with the Extractive Industries Transparency Initiative (Ministry of Finance, 2013).

Decree No. 2012/432 of October 1, 2012, reorganized the Ministère des Mines, de l'Industrie et du Développement Technologique (MINMIDT) [Ministry of Mines, Industries, and Technological Development]. The MINMIDT develops and implements industrial and mining policy. The MINMIDT's Brigade Nationale de Contrôle des Activités Minières [National Brigade for the Control of Mining Activities] is responsible for enforcing mining regulations and for monitoring logging activities, mineral exploration and mining activities, and the activities of spring and mineral water companies. The MINMIDT's Direction des Mines [Department of Mines] includes the Sous-direction des Activités Minières [Division of Mining Activities], the Sous-direction des Hydrocarbures [Division of Hydrocarbons], and the Sous-direction du Cadastre Minier [Division of Mining Registry]. The Direction de la Géologie [Department of Geology] included the Sous-direction de la Prospection Géologique [Division of Geological Prospection] and the Sous-direction de la Cartographie Géologique et des Risques Naturels [Division of Geologic Mapping and Natural Hazards]. The Direction de l'Industrie [Department of Industry] included the Sous-direction de la Transformation Locale [Division of Local Transformation], which is responsible for policies and programs for the local processing of mineral production. The Cadre d'Appui et de Promotion de l'Artisanat Minier (CAPAM) [Support Framework and Promotion of Artisanal Mining] is responsible for the

support of artisanal miners and focusing on the transition of informal gold, rutile, sand and gravel, and sapphire mining operations to more formal ventures, such as mining cooperatives or more mechanized operations.

## Production

In 2013, the main mineral commodities produced in Cameroon included aggregates, aluminum, cement, and crude petroleum. Production of aluminum metal increased by 44% compared with that of 2012. Clay output was estimated to have increased by 20%, and cement production was estimated to have decreased by 10%. Artisanal mine operations recovered small amounts of diamond and gold. Diamond recovery was estimated to have decreased by 46%. A variety of other industrial minerals were produced for domestic consumption (table 1).

## Structure of the Mineral Industry

In 2013, Cameroon's gold and diamond mineral output was produced primarily by artisanal operations. The Government had issued a number of exploitation permits (mining licenses) to companies registered in Cameroon, which included Geovic Cameroon plc for cobalt-nickel, C & K Mining Co. for diamond and gold, Cam Iron SA for iron ore, Cimenteries du Cameroun for limestone, ETS Rocaglia for marble, Razel Fayat Cameroun for sand, and numerous other companies for aggregate and various types of stone.

Cameroon's mineral-processing facilities were mostly privately owned. Notable companies included Compagnie Camérounaise de l'Aluminium (Alucam), which produced aluminum, and Cimenteries du Cameroun, which produced cement. State-owned companies with mineral-related activities included Société National des Hydrocarbures (SNH), which was involved in hydrocarbon exploration and production in various joint ventures with multinational oil companies, and Société Nationale de Raffinage (SONARA), which refined crude petroleum. Table 2 is a list of the leading mineral industry facilities.

## Commodity Review

### *Metals*

**Aluminum and Bauxite and Alumina.**—Cameroon possessed significant reserves of bauxite, which is the basic raw material for the production of alumina and aluminum. At yearend, Aluvance plc of the United Kingdom formed a joint venture with Canyon Resources Ltd. of Australia through which Canyon could acquire up to 75% interest in the Birsok bauxite project. Canyon planned to continue exploration drilling on the Baoua, the Becka, the Djombi, the Fedal, and the Mbon prospects at Birsok (Aluvance plc, undated).

<sup>1</sup>Deceased.

**Cobalt and Nickel.**—In 2013, Geovic Mining Corp. of the United States agreed to divest its 60.5% interest in Geovic Cameroon plc (GeoCam) to Jiangxi Rare Metals Tungsten Holdings Group Company Ltd. of China, subject to appropriate conditions and required approvals. The agreement also indicated Jiangxi's interest to acquire an offtake agreement to secure 100% of the output from the proposed Nkamouna cobalt and nickel project (Geovic Mining Corp., 2013).

**Iron and Steel.**—Construction continued on a steel plant at Ombe for Guff Steel Industries of Cameroon. The Guff Steel facility was to produce steel from remelted steel scrap. Also in 2013, POSCO of the Republic of Korea signed memoranda of understanding (MOUs) with the Government to develop a 500,000-metric-ton-per-year (t/yr)-capacity steel plant near Kribi and to assist the Government's Industrial Naval Shipyard of Cameroon with funding and technical training for the development of an offshore oil facility repair service. Société les Aciéries du Cameroun signed an MOU with the Government to build a steel minimill with a concrete reinforcing-bar plant. The facility would use iron ore from the Mbalam iron ore project to produce steel (Eneke, 2013; Nana, 2013).

**Iron Ore.**—In 2013, Afferro Mining Inc. of the United Kingdom continued exploration and drilling for iron ore in Cameroon and released a mineral resource estimate and a preliminary economic assessment for the Nkout project, which was located within the Djoum III license area, and a mineral resource estimate for the Ntem project. Afferro's other iron ore projects in Cameroon included the Akonolinga and the Essong exploration permits [SRK Consulting (UK) Ltd., 2013a, b].

In February, Jindal Steel and Power Ltd. of India discontinued discussions on the acquisition of equity interest in Afferro, citing low-grade magnetite reserves. Subsequent test work on the iron ore projects in Cameroon by Afferro, however, resulted in the production of an iron-ore concentrate with up to 68.5% iron content. In late February, Afferro signed an MOU with POSCO Africa (Proprietary) Ltd., which was a subsidiary of POSCO of the Republic of Korea, to enter negotiations concerning a significant investment in Afferro's Cameroon projects. The MOU subsequently lapsed, and in December, International Mining & Infrastructure Corporation plc of the United Kingdom acquired Afferro (Afferro Mining Inc., 2013a, b; Economic Times, 2013).

Aluvance plc of the United Kingdom continued preliminary exploration activity on the Bikoula iron ore project in south-central Cameroon. West African Mineral Corp. continued exploration on the Binga, the Lele, and the Djadom permits. Both companies were expected to release initial mineral resource estimates for their respective projects in 2014 (West African Minerals Corp., 2013; Aluvance plc, undated).

Sundance Resources Ltd. of Australia continued the development of the Mbalam-Nabeba iron ore project, which straddles the border of Cameroon and the Republic of the Congo [Congo (Brazzaville)]. Cam Iron SA, which was owned by Sundance (90%) and Hold Co. SA of Cameroon (10%), was responsible for the Mbalam operations in Cameroon. Contracts and financing for the Mbalam-Nabeba project were expected to be finalized by 2016, when construction of the mines could begin. Commercial ore

production was expected to begin in 2019. The binational project included a proposed mining capacity of 35 million metric tons per year (Mt/yr) of direct-shipping ore (DSO) from the Mbalam iron ore deposit in Cameroon and the Nabeba iron ore deposit in Congo (Brazzaville). The hematite ore contained about 62.6% iron (Sundance Resources Ltd., 2014b, p. 5–6, 8, 16–18).

The project included the construction of a 510-kilometer (km) rail line from the Mbalam Mine in Cameroon to the coast and a 70-km rail spur to the Nabeba Mine in Congo (Brazzaville). It also included the construction of an iron ore export terminal at the to-be-developed deepwater terminal at Lolabe, which is located about 40 km south of Kribi, and was part of the new Kribi deepwater seaport complex that was under construction about 30 km south of Kribi (Sundance Resources Ltd., 2014a, p. 2–4).

Camina SA of Cameroon, in which Legend Mining Ltd. of Australia owned a 90% interest, held the Ngovayang iron ore prospect. The project, which was located about 90 km northeast of Kribi, consisted of several prospects that had a magnetite ore with 20% to 40% iron content; DSO had not been discovered at Ngovayang. The MOU that covered the negotiation of an exploration joint venture on the Ngovayang project between Legend Mining and POSCO Africa expired in February 2013. In November, Legend Mining agreed to sell its interest in Camina to Jindal Steel and Power (Legend Mining Ltd., 2012, 2013; Business in Cameroon, 2014).

### *Industrial Minerals*

**Cement.**—For the past few years, there has been a flurry of activity in the cement sector. In 2013, Afko Cement Production Company S.A., which was a subsidiary of AFKO Korea Inc. of the Republic of Korea, started construction of an 800,000-t/yr-capacity plant at Limbe in southwestern Cameroon. Ciments de l'Afrique was building a 500,000-t/yr-capacity plant at Bonaberi, which was north of Douala; initial production was expected in 2014. Sinoma International Engineering Co. of China was building a 1.2-Mt/yr-capacity plant at Douala for the Dangote Group of Nigeria; initial production was expected in 2014. The G Power Cement Group of Germany was building an 800,000-t/yr-capacity cement plant in Limbe, which was expected to start production by yearend 2015 (Musa and Felix, 2013; Chongwang, 2013a, b; Endong, 2013b).

Two additional cement projects in Cameroon had been proposed. In 2008, CATIR of China had proposed to build a 1- to 3-Mt/yr-capacity cement plant at Mintom. Cimenteries du Cameroun, which was Cameroon's only cement producer, operated two plants in 2013 and had initiated the construction of a third plant in 2011, but reported that there was no activity at the site (Djaligué, 2013; Endong, 2013a).

**Diamond.**—Diamond was recovered by artisanal miners throughout the country. Cameroon gained membership as a participant in the Kimberley Process Certification Scheme (KPCS) in 2012, which allowed diamond production from Cameroon to be sold in the international market where KPCS-certified diamonds are required by member countries.

## Outlook

The Government is expected to maintain its efforts to increase international interest in exploration for petroleum and nonfuel minerals. Ongoing investment in the southern rail line, the Kribi Port complex, and electrical power generation was expected to provide a basic level of infrastructure that could contribute to positive funding decisions for the development of the bauxite and iron ore projects, which were clustered in the southern part of the country. Excess capacity of the southern railroad and the new port facilities could be used to foster the development of mineral projects in northern Congo (Brazzaville).

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TABLE 1  
CAMEROON: ESTIMATED PRODUCTION OF MINERAL COMMODITIES<sup>1,2</sup>

(Metric tons unless otherwise specified)

Commodity <sup>3</sup>	2009	2010	2011	2012	2013	
Aluminum metal, primary	73,000 <sup>r,4</sup>	76,000 <sup>r,4</sup>	69,000 <sup>4</sup>	52,000 <sup>r,4</sup>	75,000 <sup>4</sup>	
Cement, hydraulic	1,100,000	1,000,000	1,146,000 <sup>r,4</sup>	1,275,000 <sup>r,4</sup>	1,400,000	
Clay	10,000	12,000	12,000	10,000	12,000	
Diamond <sup>5</sup>	carats	8,000	6,000	6,000	5,000	2,723 <sup>4</sup>
Gold, mine output, Au content <sup>5</sup>	kilograms	1,800	1,600	1,600	1,500	1,600
Lime		1,000	1,000	1,157 <sup>4</sup>	1,251 <sup>4</sup>	1,200
Marble		100	100	105 <sup>4</sup>	145 <sup>4</sup>	150
Petroleum:						
Crude	thousand 42-gallon barrels	28,000	23,324 <sup>4</sup>	22,046 <sup>4</sup>	22,995 <sup>4</sup>	24,275 <sup>4</sup>
Refinery products	do.	12,000	10,000	10,000	10,000	10,000
Pozzolan, ash for cement		550,000	600,000	600,000	600,000	600,000

do. Ditto. <sup>1</sup>Revised.

<sup>1</sup>Estimated data are rounded to no more than three significant digits.

<sup>2</sup>Table includes data available through August 8, 2014.

<sup>3</sup>In addition to the commodities listed, a variety of industrial minerals and construction materials, such as aggregate, gypsum, sand and gravel, silica sand, and stone, may be produced, but available information is inadequate to make reliable estimates of output.

<sup>4</sup>Reported figure.

<sup>5</sup>From artisanal mining.

TABLE 2  
CAMEROON: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
Aluminum	Compagnie Camérounaise de l'Aluminium (Alucam) (Rio Tinto Alcan Group., 46.7%)	Plant at Edea	100	
Cement	Cimenteries du Cameroun (Lafarge Group, 55%; Government, 43%; Cimenteries du Cameroun staff, 2% )	Plant at Bonaberi near Douala	1,600	
Do.	do.	Grinding plant at Figuil	100	
Diamond	carats	Artisanal	Various locations	12,000
Gold	kilograms	do.	do.	1,500
Limestone	Cimenteries du Cameroun (Lafarge Group, 55%; Government, 43%; Cimenteries du Cameroun staff, 2% )	Figuil	275	
Petroleum:				
Crude	barrels per day	Various	Offshore and onshore	NA
Refined	do.	Société Nationale de Raffinage (SONARA) (Government, 100%)	Refinery at Limbe	45,000

Do., do. Ditto. NA Not available.