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CAMEROON AND CAPE VERDE

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The Mineral Industries of Cameroon and Cape Verde

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CAMEROON

Further development of Cameroon's mineral industry continued to be delayed in 2012 owing to inadequate infrastructure, insufficient electrical power, and a lack of financing. Cameroon also had hydropower potential that remained undeveloped.

The Mining Sector Capacity Building Project was signed by the Government and the World Bank in mid-year 2012. The purpose of this $30 million technical assistance project was to improve efficiency and transparency in the mining sector and to provide the framework for sustainable development in the sector. The project would focus on strengthening institutions and promoting regional integration of mining activities. The project was intended to inform interested parties about Cameroon's mining potential as well as interested investors about the status of projects underway (World Bank, The, 2012).

All 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) and Decree No. 202/548/PM of March 2002. The Institute for Geological and Mining Research (IRGM) of the Ministry of Industries, Mines and Technological Development is the agency responsible for oversight of the mineral sector (Ministère de l'Industrie des Mines et du Développement Technologique, 2012). The IRGM is also responsible for all geologic and mining activities. These include conducting geologic exploration programs and mechanized drilling operations; overseeing the mining of mineral deposits; and preventing unauthorized exploitation of mines and quarries (GIS.mapsofworld.com, 2012).

Production

In 2012, the main mineral commodities produced in Cameroon included aluminum from alumina (which was mainly imported from Guinea), cement, petroleum, and sand and gravel. Artisanal mine operations recovered small amounts of diamond and gold. A variety of industrial minerals were produced for domestic consumption; however, the volume of output of these minerals and the location of facilities were not reported. The data on mineral production in table 1 were mostly estimated.

Structure of the Mineral Industry

Cameroon's mineral industry facilities were modest and mostly privately owned. The signifiant private companies were the Société Camérounaise de l'Aluminium (Alucam), which produced aluminum, and the Cimentaries du Cameroon, which produced cement. State-owned Société National des Hydrocarbures [National Hydrocarbons Corp.] (SNH) was involved in hydrocarbon exploration and production with various joint ventures. The Société Nationale de Raffinage refined crude petroleum. Table 2 is a list of the leading mineral industry facilities.

Commodity Review

Metals

Bauxite and Alumina and Aluminum.—Cameroon possessed significant reserves of bauxite, which is the basic raw material for the production of alumina and aluminum. Aluvance plc of the United Kingdom's subsidiary Alucam SARL was exploring the 986-square-kilometer (km^2) Birsok license and the 476-km^2 Mandoum license located in north-central Cameroon. In 2012, exploration efforts delineated four distinct bauxite targets; the Baoua prospect in the center of the Birsok license; the Beka prospect also in the center of the Birsok license; the Djombi prospect northwest of the Birsok license; and the Mbon prospect to the north of the Mandoum license. These prospects have a total area of 202 km^2. Grab samples for bauxite yielded material of up to 63% alumina (aluminum trioxide) and a low contaminant content. A 1,500-meter reconnaissance drill program was scheduled to begin after the rainy season in the last quarter of 2013 (Aluvance plc, 2012).

Cameroon Alumina Ltd. [a subsidiary of the joint venture of Dubai Aluminum Co. of the United Arab Emirates (45%), Hindalco Industries of India (45%), and Hydromine Inc. of the United States (10%)] was continuing with plans to establish a bauxite mining and alumina refining project based on the 554-million-metric-ton (Mt) bauxite reserves of the Minim-Martap and Ngaoundal deposits located in the Adamawa region in northern Cameroon. Initially, mining would be carried out at the Danielle plateau (Minim-Martap deposit) and at the Simone plateau (Ngaoundal deposit). The combined bauxite projects were planned to supply an estimated 7.5 million metric tons per year (Mt/yr) of bauxite to the proposed 3-Mt/yr alumina refinery. The project was delayed owing to the lack of a mining permit. The company planned to start building the refinery in 2015 and to commence commercial production in 2018, assuming that the required mining permit from the Government is approved (Thomson Reuters, 2012c).

Cobalt.—Geovic Mining Corp. (Geovic) of the United States through its subsidiary Geovic Cameroon plc (GeoCam) had mining licenses for the Mada and the Nkamouna near-surface cobalt and nickel deposits in Cameroon, which were scheduled to be the first cobalt deposits to be developed in Cameroon. Geovic announced that completion of additional drilling on these deposits had increased the company's estimated measured

and indicated reserves and that a new mining plan for open pit mining, with no blasting required, had been devised that would reduce the mining and reclamation costs. Estimated ore reserves by rock type were 57,097 Mt of ferralite ore reserves grading 0.23% cobalt, 0.69% nickel, and 1.30% manganese. Breccia ore reserves were 11,035 Mt of ore grading 0.26% cobalt, 0.54% nickel, and 2.37% manganese. GeoCam's mining permit covered the entire cobalt province in southeastern Cameroon (Geovic Mining Corp., 2012).

Iron Ore.—In 2012, Afferro Mining Inc. of the United Kingdom announced that a preliminary economic assessment (PEA) for its Nkout iron ore project had indicated that the project was economically viable. The Nkout project is located on the 489-km^2 Djoum license. The PEA considered various material handling and production scenarios from 15 to 35 Mt/yr. The Nkout deposit is composed of three distinct areas, which are suitable for an open pit, truck-and-shovel mining method. The pit volume consisted of 1.7 billion metric tons of plant-feed iron ore material, which would yield about 703 Mt of iron ore. This plan would result in a 21- to 45-year mine life, depending on the annual output of the mine (African Mining, 2012).

Sundance Resources Ltd. of Australia continued with efforts to exploit iron ore at its $4.7 billion Mbalam-Nabeba iron ore project, which straddles the border of Cameroon and the Republic of the Congo [Congo (Brazzaville)]. The company announced an updated estimate of resources for the project, including estimated indicated and inferred hematite resources, that totaled 436 Mt of ore grading an average of 62% iron. The project would mine 35 Mt/yr from the deposits in both Cameroon and Congo (Brazzaville) and would include construction of a 510-kilometer (km) rail line from the Mbalam Mine in Cameroon and a 70-km rail line to connect with the Nabeba Mine in Congo (Brazzaville), and as well as the construction of a new deepwater iron ore export terminal at Kribi (Sundance Resources Ltd., 2012).

Industrial Minerals

Cement.—Cameroon continued to have a shortage of cement in 2012. In the northern region of the country, the shortages led to an increase in cement prices. The G Power Cement Group of Germany announced that it would invest about $90 million to build an 800,000-metric-ton-per-year (t/yr) cement plant in Limbe in southwestern Cameroon. Once construction is started, it was expected to take between 24 and 36 months to complete. G Power stated that it expected to start producing cement by yearend 2015 (Thomson Reuters, 2012b).

G Power was the third cement company, following the Addoha Group of Morocco and the Dangote Group of Nigeria, to set up in Cameroon in the previous 2 years. Addoha's plant was expected to produce about 500,000 t/yr, and Dangote's plant was expected to produce about 1.5 Mt/yr. Construction at both plants was ongoing in 2012. Cimentaries du Cameroon produced about 1.1 Mt cement in 2012 which fell short of demand by about 3 Mt/yr (Thomson Reuters, 2012c).

Diamond.—Diamond was recovered by artisanal miners throughout the country, although most of the diamond recovered was from the Yakadouma region. Annual production was not reported; however, it was estimated to be about 5,000 carats per year. The Government announced that it planned to become a diamond exporter after gaining membership in the Kimberley Process Certification Scheme (KPCS). Membership would ensure that Cameroon diamond production could be sold in the international market where KPCS-certified diamonds are required by member countries (Thomson Reuters, 2012a).

In 2012, Botswana Diamonds plc. of Ireland announced its first industrial diamond recovery at its Libongo project. It was a near-gem-quality 2-carat diamond, which Botswana Diamonds thought confirmed the diamondiferous potential of the deposit. The diamond was found in a paleoplacer conglomerate. Processing of a 300-metric-ton sample was continuing (Jamasmie, 2012).

Mineral Fuels and Other Sources of Energy

Hydroelectric Energy.—The Government of Cameroon announced that it intended to develop a $1 billion 450-megawatt hydroelectric project on the Katsina-Ala River in northwestern Cameroon. Joule Africa (a subsidiary of the Joule Investment Group of the United States) stated that when the project is completed, it would significantly increase Cameroon's installed power-generation capacity. The project was expected to take about 6 to 7 years to become operational. Demand for electricity was expected to triple during the coming decade, which would require an estimated 3 gigawatts of additional generating capacity and associated energy infrastructure by 2020 (African Energy Journal, 2012, p. 9).

Natural Gas and Petroleum.—Cameroon was the fifth-ranked petroleum producing country in the sub-Sahara region, and the petroleum sector continued to be the most significant segment of Cameroon's mineral industry. Cameroon's two main hydrocarbon provinces, the Douala basin and the Rio de Rey basin, are located offshore Cameroon. Natural gas reserves were thought to be substantial; however, they have not been exploited owing to a lack of a market and infrastructure. Most of the petroleum reserves were located in the Rio de Rey basin (Bowleven Oil and Gas plc, 2012).

SNH announced that it would invest $1 billion in oil exploration and production in 2012. SNH forecasted that petroleum output would increase from 63,000 barrels per day (bbl/d) in 2012 to between 90,000 and 100,000 bbl/d as new wells in the Rio del Rey basin start producing. SNH managed and marketed Cameroon's crude petroleum. SNH and Perenco Group reached an agreement to buy a crude-oil floating storage and offloading tanker to help with shipments to world markets. The 1.8-million-barrel-capacity tanker would be located in the Atlantic coastal waters of Rio del Rey and operated by the Cameroon Oil Terminal SA (Tumanjong, 2012).

Victoria Oil and Gas plc of the United Kingdom reported that it had produced natural gas and condensates from its Logbaba onshore field. Output increased to 227,000 cubic meters per day and 160 bbl/d by yearend 2012 and was expected to plateau at rates of 1.25 million cubic meters per day of natural gas and 880 bbl/d of condensate by yearend 2014. Natural gas is sold to industrial users in Douala, and the condensate is sent to the Limbe refinery (Petroleum Economist, 2012).

Outlook

Interest and activities in the exploration for metals and petroleum is expected to continue in Cameroon. The petroleum sector is likely to remain a significant part of the mineral industry. The Government is expected to continue its efforts to increase interest in offshore and onshore petroleum exploration. Energy and infrastructure development efforts are also expected to continue.

References Cited

African Energy Journal, 2012, Investment in hydro: African Energy Journal, April, 36 p.

African Mining, 2012, Economic assessment proves project viable: African Mining, v. 17, no. 5, September–October, p. 20.

Aluvance plc, 2012, Mandoum & Birsok: Aluvance plc. (Accessed July 1, 2013, at http://www.aluvance.com/s/MandoumBirsok.asp.)

Bowleven Oil and Gas plc, 2012, Cameroon: Bowleven Oil and Gas plc. (Accessed July 2, 2013, at http://www.bowleven.com/Cam-Gab.asp.)

Geovic Mining Corp., 2012, Cameroon cobalt—Nkamouna: Geovic Mining Corp. (Accessed July 1, 2013, at http://www.geovic.net/projects.php.)

GIS.mapsofworld.com, 2012, Institute for Geological and Mining Research (IRGM) Cameroon: GIS.mapsofworld.com. (Accessed June 30, 2013, at http://gis.mapsofworld.com/government/government-agencies/institute-for-geological-and-mining-research-cameroon.html.)

Jamasmie, Cecilia, 2012, Botswana Diamonds recovers first gem at Libongo project: Mining.com. (Accessed July 2, 2013, at http://www.mining.com/botswana-diamonds-recovers-first-gem-at-libongo-project-in-cameroon/?utm_source=digest-en-diamond-120131.)

Ministère de l'Industrie des Mines et du Développement Technologique, 2012, Cameroon in Africa—The destination for mining: Ministère de l'Industrie, des Mines et du Développement Technologique, 4 p.

Petroleum Economist, 2012, Cameroon: Petroleum Economist, v. 79, no. 11, p. 21.

Sundance Resources Ltd., 2012, The Mbalam-Nabeba project: Sundance Resources Ltd. (Accessed July 1, 2013, at http://www.sundanceresources.com.au/irm/content/the-mbalam-nabeba-project.aspx?0RID=2.)

Thomson Reuters, 2012a, Cameroon obtains diamond certification, eyes exports: Thomson Reuters. (Accessed July 2, 2013, at http://in.reuters.com/assets/print?aid=INL6E8JLJ6020120821.)

Thomson Reuters, 2012b, German cement company to build plant in Cameroon: Thomson Reuters. (Accessed July 2, 2013, at http://www.reuters.com/assets/print?aid=USL6N0B17EQ20130218.)

Thomson Reuters, 2012c, Mining permit delays Cameroon alumina project: Thomson Reuters. (Accessed June 26, 2013, at http://www.reuters.com/assets/print?aid=USL6E816A5P20120706.)

Tumanjong, Emmanuel, 2012, Cameroon state oil company investing $1B in E&P: Rigzone. (Accessed July 16, 2012, at http://www.rigzone.com/news/oil_gas/a/119287/Cameroon_State_Oil_Company_Investing_1B_in_EP.)

World Bank, The, 2012, Cameroon strengthens capacity in the mining sector: The World Bank. (Accessed June 26, 2013, at http:www.worldbank.org/en/news/press-release/2012/06/28/cameroon-strengthens-capacity-in-mining-sector.)

CAPE VERDE

Cape Verde is an archipelago of 10 islands located about 600 km off the western coast of Africa. All islands except Santa Luzia are inhabited. Mining's contribution to the country's economy was minimal. Most of the country's mineral requirements were imported. Production of mineral commodities was limited mainly to cement and salt for local consumption, although clay, gypsum, limestone, and pozzolana may also have been produced. Production amounts were not reported, however, and available information was inadequate to make reliable estimates of output. The mineral resource situation is not expected to change in the near future (U.S. Department of State, 2012).

The Cabeólica wind farm project of Cabeólica S.A. involves the construction, operation, and decommissioning of four wind farms on four of the nine inhabited islands on the Cape Verde archipelago. The islands are Boa Vista, Sao Vicente, Sal, and Santiago. The $90 million project comprises 30 class-I V52 turbines, four substations, and 33 km of power cable. The project will be designed to provide up to 26 megawatts of generating capacity, resulting in Cape Verde reaching its renewable energy goals of achieving 25% of local needs from renewable sources of energy (InfraCo Africa, 2012).

References Cited

InfraCo Africa, 2012, Cape Verde—Cabeolica wind: InfraCo Africa. (Accessed July 2, 2013, at http://www.infracoafrica.com/projects-capeverde-cabeolicawind.asp.)

U.S. Department of State, 2012, Cape Verde: U.S. Department of State background note. (Accessed July 16, 2012, at http://www.state.gov/r/pa/ei/bgn/2835.htm.)

TABLE 1
CAMEROON: ESTIMATED PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity[3]		2008	2009	2010	2011	2012
Aluminum metal, primary		89,700	57,287 [4]	59,593 [4]	69,000	69,000
Cement, hydraulic		1,000,000	1,100,000	1,000,000	1,100,000	1,100,000
Clay		10,000	10,000	12,000	12,000	10,000
Diamond[5]	carats	10,000	8,000	6,000	6,000	5,000
Gold, mine output, Au content[5]	kilograms	1,800	1,800	1,600	1,600	1,500
Petroleum:						
Crude	thousand 42-gallon barrels	29,685	28,000	23,324 [4]	22,046 [4]	22,995 [4]
Refinery products	do.	12,000	12,000	10,000	10,000	10,000
Pozzolana, ash for cement		550,000	550,000	600,000	600,000	600,000

do. Ditto.
[1]Estimated; estimated data are rounded to no more than three significant digits.
[2]Table includes data available through June 30, 2013. Data for Cape Verde were removed from the table because mineral production data are not reported and available information was inadequate to make reliable estimates of output.
[3]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.
[4]Reported figure.
[5]From artisanal mining.

TABLE 2
CAMEROON AND CAPE VERDE: STRUCTURE OF THE MINERAL INDUSTRIES IN 2012

(Thousand metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location	Annual capacity
CAMEROON				
Aluminum		Société Camérounaise de l'Aluminium (Rio Tinto Alcan Group., 46.7%)	Plant at Edea	95
Cement		Cimentaries du Cameroon (Lafarge Group, 57%)	Plant at Bonaberi near Douala	1,200
Diamond	carats	Artisanal	Various locations	12,000
Gold	kilograms	do.	Various locations	1,500
Limestone		Cimentaries du Cameroon (Lafarge Group, 57%)	Figuil	275
Petroleum, refinery	barrels per day	Société Nationale de Raffinage (SoNaRa) (Government, 66%)	Refinery at Limbe	45,000
Pozzolana		do.	Sud-Quest and Littoral Regions	750
CAPE VERDE				
Cement	metric tons	Cimentos de Cabo Verde S.A. (Cimentos de Portugal S.A., 86%)	Plant at Santiago	160,000
Salt	do.	Artisanal	Various locations	1,600

do. Ditto.