2011 Minerals Yearbook

LIBERIA [ADVANCE RELEASE]

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The Mineral Industry of Liberia

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The Liberian economy grew by 6.9% in 2011; this represented a 1.4% increase from the level of growth in 2010. Economic growth was mostly driven by the agricultural sector (through an increase in rubber production) and by the mineral sector (as a result of the resumption of iron ore exports). The estimated contribution of the mineral sector to the country's gross domestic product (GDP) was about 4% in 2011 compared with 1.7% in both 2010 and 2009 (the latest years for which data were available). Mineral commodities produced in Liberia included cement, diamond, gold, and iron ore. The country's undeveloped mineral resources included base metals, such as cobalt, lead, manganese, nickel, and tin, and other industrial minerals, such as dolerite, granite, ilmenite, kyanite, phosphate rock, rutile, and sulfur. Liberia continued to make significant progress in the rehabilitation of the mining sector by opening up the sector to foreign direct investment and adhering to global standards for transparency, which included participation in the Extractive Industries Transparency Initiative (EITI) and the Kimberley Process Certification Scheme. Projects to rehabilitate mining-related infrastructure were also ongoing, and foreign companies continued to engage in gold, iron ore, and petroleum exploration activities (Central Bank of Liberia, 2012, p. 13–14).

On December 16, Liberia published its third EITI report. The report covered the period from July 1, 2009, to June 30, 2010, and contained extractive industry payment data to the Government supplied by 71 companies. The data showed that these companies paid $69.7 million in taxes, royalties, and other administrative fees. The report also included revenue data from five Government agencies, which showed total revenue of $71.9 million. The total net difference between revenues reported by the Government and payments reported by operating companies was about $2.2 million, or 3% of total receipts during the period covered by the report. The nonfuel mineral sector accounted for $38.4 million, or 53% of these Government revenues, and the fuels sector accounted for $9 million, or 13%. A total of 52 companies engaged in the extractive industries sector, which included the agriculture, forestry, and nonfuel and fuel minerals sectors, did not submit payment data and were considered noncompliant by EITI standards; they therefore were subject to sanctions. The total number of reporting companies, however, increased to 121 from 64 reported in the second EITI report, which covered the period from July 1, 2008, to June 30, 2010 (Liberia Extractive Industries Transparency Initiative, undated, p. 5).

Government Policies and Programs

The Ministry of Lands, Mines, and Energy (MLME) is the Government agency responsible for the administration of the mining sector, and it has statutory oversight of the energy, land, mineral, and water sectors. The mineral sector is regulated by the Mining and Minerals Law of 2000. A policy document known as The Mineral Policy of Liberia was created in March 2010 to complement the Mining and Minerals Law. The document outlines the Government's expectations with regard to the contributions of all stakeholders involved in the mineral sector in developing the country's mineral resources in a sustainable way. The document also establishes guidelines to ensure the proper management of these resources by the public and private sectors and promises the development of a scorecard to enable the Government to monitor the contribution of the mineral industry in nine areas. These areas included the monitoring of national revenue and foreign exchange earnings; the creation of inclusive sustainable employment; the provision of raw materials for downstream industries and national reconstruction; the improvement of social and physical infrastructure, industrial, environmental, and local community development; the development of sustainable artisanal and small-scale mining operations; improvements in human infrastructure; and technology transfer and development. It was not clear whether or not the Government had developed such a scorecard as of yearend (Ministry of Lands, Mines and Energy, 2010, p. 10, 14).

Production

In 2011, cement production decreased by 15.3% to 60,764 metric tons (t) from a revised 71,733 t produced in 2010. Based on Kimberley Process Certification Scheme statistics, rough diamond production increased by 57.7% to 41,932 carats compared with a revised 26,591 carats produced in 2010. The increase in production was reportedly driven by global demand as well as an increase in the number of local rough diamond exporters. Production of gold decreased by 29.6% to 469 kilograms (kg) compared with 666 kg produced in 2010. The Central Bank of Liberia attributed the decrease in output to an increase in gold royalty fees to 3% from 2% during the previous year. Data on mineral production are in table 1 (Central Bank of Liberia, 2012, p. 14).

Mineral Trade

Proceeds from Liberia's total exports were estimated to have increased by 33% to $295 million in 2011 compared with a revised $222 million in 2010. Preliminary data reported by the Central Bank of Liberia indicated that export earnings from the diamond sector decreased by 3% to $14.8 million from $15.3 million in 2010 and export earnings from the gold sector decreased by 19% to $16.1 million from $19.8 million. Receipts from the export of iron ore increased to $6.4 million from $3.1 million in 2010 (Central Bank of Liberia, 2012, p. 30).

Liberia's total exports to the United States were valued at about $158 million in 2011 compared with about $180 million in 2010 and $80 million in 2009; rough diamond accounted for $86,000 of these exports. Imports from the United States were valued at $195 million in 2011 compared with $191 million in 2010 and $95 million in 2009. These included nearly $11 million worth of excavating machinery, $8 million worth of drilling and oilfield equipment, $1.2 million worth of fuel oil, $360,000 worth of specialized mining equipment, $276,000 worth of petroleum products, and $157,000 of iron and steel mill products (U.S. Census Bureau, 2012a, b).

Commodity Review

Metals

Gold.—In April, Aureus Mining Inc. acquired African Aura Mining Inc.'s 100% interest in the 457-square-kilometer (km^2) New Liberty gold property, which is located about 90 kilometers (km) north of the capital city of Monrovia. Aureus Mining expected to begin the construction of a mine at the New Liberty property in late 2012. The mine would have a production capacity of 3,700 kilograms per year of gold and was expected to be commissioned by 2014. The New Liberty Mine would be Liberia's first commercial gold mine and, once in operation, was expected to employ between 300 and 500 people. The total updated resource estimate for New Liberty was reported to be 651,000 t of ore at an average grade of 4.77 grams per metric ton (g/t) gold in the measured category, 9.1 million metric tons (Mt) of ore at an average grade of 3.55 g/t gold in the indicated category, and 5.7 Mt of ore at an average grade of 3.2 g/t gold in the inferred category, all calculated on the basis of a 1.0 g/t cutoff grade. Aureus Mining also held interest in other exploration properties within Liberia's Bea Mountain Range (African Aura Mining Inc., 2011a; b; Aureus Mining Inc., 2012, p. 10–18).

Iron Ore.—On September 27, Luxembourg-based ArcelorMittal began commercial iron ore production from its $800 million Nimba County iron ore project. The project included the redevelopment of the western iron ore deposits of an abandoned mine and related infrastructure in Nimba County; the reconstruction of a 240-km rail track, which connects the old Yekepa Mine in Nimba County with the city of Buchanan in Grand Bassa County; and the dredging of the Buchanan Port. Iron ore was to be sourced from three deposits within the project collectively known as the Western Range Project, which are located about 300 km northeast of the capital city of Monrovia. Beginning in 2012, these deposits were expected to produce 4 million metric tons per year (Mt/yr) of direct-shipping iron ore. ArcelorMittal's mining development agreement with the Government of Liberia was for 25 years, and the company had the right to renew its mining license for an additional period of 25 years. The mine was operated by ArcelorMittal's subsidiary, ArcelorMittal (Liberia) Ltd., which held a 70% interest in the project (ArcelorMittal, 2011; 2012, p. 29, 206).

Vedanta Resources plc. of India through its subsidiary Sesa Goa Ltd. acquired a 51% stake in Western Cluster Ltd. at a cost of $90 million. Western Cluster was a subsidiary of Elenilto Minerals of Israel, which was the company that held the mining rights for the development of Liberia's Western Cluster Iron Ore project (WCIO). The WCIO project included the Bea Mountain, the Bomi Hills, and the Mano River iron ore deposits, which are located between 70 and 140 km northwest of the capital city of Monrovia. The total estimated resource for these deposits was about 1 billion metric tons (Gt) of iron ore, of which the Bea Mountain deposit held 923 Mt, the Bomi Hill deposit held 50 Mt, and the Mano River deposit held 80 Mt. The deposits were to be developed in stages, beginning with the development of the Bomi Hills deposit, which is a brownfield project that had been formerly mined by the Liberia Mining Co. during the 1980s. Iron ore was to be transported to the Monrovia Port using an existing rail line, and first production of the ore was expected to be shipped by the company in 2014 (Vedanta Resources plc., 2012, p. 45).

OAO Severstal of Russia (61.5% interest), through its subsidiary Severstal Liberia Iron Ore Ltd. and in joint venture with London-based African Aura Mining Inc. (38.5% interest) continued to work on the development of the Putu Range iron ore project. The project included the Putu iron ore deposit, which is a 13-km-long iron-rich ridge located 130 km inland from the deepwater shoreline of eastern Liberia. On July 11, the joint-venture partners announced the results of a new mineral resource estimate for the Putu deposit conducted by SRK Consulting Ltd. of the United Kingdom. The study yielded a 36% increase in the deposit's mineral resource estimate to 3.25 Gt of iron ore at an average grade of 34.3% Fe. This was divided into a measured and indicated resource of 1.89 Gt of iron ore at a grade of 33.9% Fe, 44.5% SiO_2, 0.98% Al_2O_3, and 0.07% P, and an inferred mineral resource of 1.36 Gt of iron ore at a grade of 34.7% Fe, 43.3% SiO_2, 1.37% Al_2O_3, and 0.07% P. Of this resource estimate, about 224 Mt of iron ore grading 36.8% Fe was within the surface of the oxidized zone of the deposit and 1.13 Gt grading 34.3% Fe was within the magnetite itabirite zone. A bankable feasibility study for the Putu Range was expected to be completed by 2014, and first iron ore production was to begin between 2017 and 2018 at a rate of from 20 to 30 Mt/yr (Afferro Mining Inc., 2011; OAO Severstal 2011; 2012, p. 2).

London-based Sable Mining Africa Ltd. held exploration licenses for three areas prospective for iron ore; these areas are located in the metamorphosed Archaean granitoid-gneiss-greenstone terrain of the Kenema-Man domain on the West African Shield. The West African Shield is a 2.7- to 3.4-billion-year-old rock formation made of granite, schist, and gneiss, which is interspersed with iron-bearing formations known as itabirites. The company's three areas under exploration included the 532-km^2 Kpo prospect, the 308-km^2 Bopolu prospect, and the 349-km^2 Timbo prospect. Sable Mining conducted a 13,260-km high-resolution airborne geophysical survey for these areas, which yielded 12 highly prospective targets for iron ore mineralization. The company planned to complete a 12,000-meter (m) 34-hole drilling program for these targets by the first quarter of 2012 (Hadden, 2006, p. 4; Sable Mining Africa Ltd., 2011a, b).

Mineral Fuels

Petroleum.—Liberia did not produce or refine petroleum and was dependent upon imports for its petroleum requirements. The discovery in 2007 of the Jubilee oilfield offshore Ghana had, over the past several years, triggered the interest of international petroleum companies in exploring along a new hydrocarbon province offshore West Africa, also known as the West Africa transform margin (WATM). The WATM stretches 1,500 km between two tectonic plates along the coasts of eastern Ghana, Côte d'Ivoire, Liberia, and Sierra Leone. At least two companies—Texas-based Anadarko Petroleum Corp. and California-based Chevron Corp.—explored for petroleum along the Sierra Leone-Liberia basin within the WATM (Brownfield, 2011).

Anadarko Petroleum Corp. operated four blocks totaling about 3.3 million exploration acres in the Liberian basin. During the year, Anadarko drilled the Montserrado exploration well on Block LB–15 to a total depth of 5,400 m. The company reported that the well had encountered good-quality water-bearing sands in the main objective and 8 m of pay in a secondary objective and that the results of the drilling program were to be incorporated into the company's geologic data for future exploration in the Liberian basin. Anadarko was the operator of Block LB–15 and held a 47.5% interest in the block. The remaining working interest was held by Repsol Exploración S.A. (27.5%) and Tullow Liberia B.V. (25%). In 2012, the company planned to incorporate drilling results into its three-dimensional (3–D) seismic survey on Blocks 15, 16, and 17, and in its evaluation of newly acquired 3-D seismic data for Block LB–10 (Anadarko Petroleum Corp., 2011; 2012, p. 10).

Chevron was the operator of and held a 70% interest in deepwater blocks LB–11, LB–12 and LB–14 offshore Liberia, which covered a total area of 9,600 km^2. During the year, the company conducted exploration drilling and, based on 3–D seismic data, identified several prospects within its Liberia deepwater exploration concession area. The company planned to drill two other exploration wells in 2012 (Chevron Corp., 2012, p. 24).

Outlook

Foreign direct investment in Liberia's iron ore sector is likely to increase in the next 3 to 5 years as major iron ore projects come online. Iron ore exports are expected to support growth in the GDP in the short run as iron ore production is likely to become the mineral commodity with the largest potential to generate fiscal revenues for Liberia. Although no major petroleum discoveries have been made in the country, the increasing interest of multinational petroleum companies in conducting petroleum exploration along the West Africa transform margin suggest there is potential for oilfields to be discovered offshore Liberia; however, exploration was still at an early stage.

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TABLE 1
LIBERIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2007	2008	2009	2010	2011
Cement, hydraulic		157,200	94,037	70,584	71,733 r	60,764 p, 2
Diamond[3]	carats	21,700	47,007	28,368	26,591 r	41,932
Gold, mine output, Au content	kilograms	311	624	524	666 r	469
Iron ore[4]	thousand metric tons	--	--	--	--	1,300
Sand[5]		260,000	160,000	120,000	110,000	103,000
Stone, crushed[5]		6,500	4,000	3,000	3,000	2,600

[p]Preliminary. [r]Revised. -- Zero.
[1]Table includes data available through August 16, 2012.
[2]Preliminary data as estimated by the Central Bank of Liberia.
[3]Kimberley Process Certification Scheme.
[4]Direct-shipping ore.
[5]Estimated based on cement production.

TABLE 2
LIBERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2011

(Thousand metric tons)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement	Liberia Cement Corp. Ltd. (Scancem International ANS, 62%, and Government, 29%)	Monrovia	220
Diamond	Artisanal and small-scale mining	NA	NA
Gold	do.	NA	NA
Iron ore	ArcelorMittal (Liberia) Ltd. (ArcelorMittal, 70%)	New Liberty Mine, 90 kilometers north of Monrovia	4,000

do. Ditto. NA Not available.