



2015 Minerals Yearbook

LIBERIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF LIBERIA

By Staff

In 2015, Liberia's mineral sector continued to face many of the same challenges that had persisted from the previous year. The 2014 Ebola virus disease (EVD) outbreak continued throughout 2015, and although the World Health Organization (WHO) declared the country free of Ebola virus transmission and discontinued travel restrictions in September, new Ebola virus cases were identified in November. Additionally, the global price of iron ore continued to decrease throughout the year as a result of a continuing decline in demand from China coupled with increases in new supply. The Metal Bulletin Iron Ore Index listed the 2015 yearend price at \$43.57 per metric ton, which was a significant drop from the \$71.26 per metric ton price in 2014. Residual effects of the EVD outbreak, as well as the low global iron ore prices, contributed to decreases in the production of several of Liberia's main exporting commodities, and no new mining sector concession agreements were signed in 2015. China-based Wuhan Iron and Steel Corp., which was one of the major iron ore producers in Liberia, acknowledged that, although it was losing money on every ton produced, it had not decreased production; also, that as of August 2015, it was still financially viable and was not facing bankruptcy or closure, despite conflicting reports. Both Wuhan and Luxembourg-based ArcelorMittal S.A., however, which had decreased iron ore production in Liberia between 2014 and 2015, reported that cost reductions and (or) company restructuring would be necessary to adjust for low global prices. This could result in future decreases in production capacity and changes in the structure of their workforce in Liberia (American Metal Market, 2015, p. 13; 2016, p. 17; Monrovia Inquirer, 2015; ArcelorMittal S.A., 2016c, p. 30; Centers for Disease Control and Prevention, 2016; Ministry of Finance and Development Planning, 2016, p. 22, 23).

Liberia produced barite, cement, diamond, small amounts of gold, iron ore, sand, and crushed stone. Cement was manufactured from imported raw materials at a plant in Monrovia; diamond and gold were produced by artisanal miners from alluvial deposits at various locations throughout the country; and iron ore was produced from the Bong and Western Range Project (WRP) Mines in the northern and western parts of the country (tables 1, 2; Export.gov, 2017).

On December 15, the Ministry of Lands, Mines, and Energy (MLME) launched an online data portal to make information regarding the activities of mining companies, mining licenses and concessions, mining rights, and payments to the Government publicly available (Revenue Development Foundation, 2016).

Minerals in the National Economy

In 2015, mining accounted for 11.4% of Liberia's gross domestic product (GDP), which was down from a revised 13.7% in 2014. Since 2010, Liberia had attempted to diversify its exports, which used to consist primarily of rubber. Although overall export diversification still remained relatively low,

development of the mineral industry had led to greater increases, accounting for 17% of growth in 2013. Volatility in China's stock market and an increasing supply of iron ore had a substantial negative effect on iron ore exports. Although iron ore exports decreased to \$124.10 million in 2015 from \$299.06 million in 2014, the commodity remained the leading source of export revenue, accounting for about 43% of total commodity export receipts. Diamond and gold made up 8.3% and 2.6% of commodity export revenue, respectively. In large part owing to decreased export receipts as a result of decreased commodity prices, the country's real GDP rate of growth was estimated to be only 0.3% (International Monetary Fund, 2016, p. 5; Ministry of Finance and Development Planning, 2016, p. 1, 19, 39).

Government Policies and Programs

The MLME is the primary governmental body that administers the mineral sector in Liberia. The MLME grants mining licenses; has statutory oversight of the energy, land, minerals, and water sectors; and regulates the oil and gas industry. The Mineral Policy of Liberia was implemented in 2010 in an effort to revive the mineral sector, which had largely been beleaguered during the preceding years of civil unrest. The policy's stated objectives are to enhance the mineral sector's contribution to Government revenues, foreign exchange earnings, employment creation, ancillary economic activities, human resources and technology development, and improvement of social and physical infrastructure. Liberia is a participant in the Extractive Industries Transparency Initiative. Its mineral sector is regulated by the Mining and Minerals Law of 2000. The NOCAL Act of 2000 and the 2002 Petroleum Law created the National Oil Company of Liberia, which is an independent, state-owned enterprise that coordinates the development of the country's petroleum sector. The New Petroleum Exploration & Production (E&P) Reform Law of 2014 and the National Oil Company of Liberia Act of 2014, which were designed to replace, respectively, the Petroleum E&P Law of 2002 and the NOCAL Act of 2002, were still pending passage by Liberia's legislature at the end of 2015 (Ministry of Lands, Mines, and Energy, 2010, p. 6; National Oil Company of Liberia, 2016b; Extractive Industries Transparency Initiative, 2017).

Production

Production of iron ore and gold—two of Liberia's most important export commodities—decreased in 2015. Gold production decreased particularly sharply—by 22% to 482 kilograms (kg) from 620 kg in 2014. Iron ore production decreased to 4.3 million metric tons (Mt) from 5.3 Mt in 2014. The decrease in the production of iron ore was attributed to the decrease in global prices stemming from weakening global demand and oversupply. Although Canada-based Aureus Mining Inc. opened the New Liberty gold mine midway through the

year, it was still in the preproduction phase at yearend, and the mine's output was not enough to offset the decrease in production attributed to the lingering effects of the EVD outbreak as well as weak global demand. Liberia produced 298,437 t of cement in 2015 compared with 295,353 t in 2014. Rough diamond production as reported by the Kimberley Process Certification Scheme (KPCS) was not available for 2015. The Central Bank of Liberia, however, projected rough diamond production to be about 73,700 carats, which represented a 12% increase from the 65,822 carats produced in 2014. Data on mineral production are in table 1 (Aureus Mining Inc., 2016a, p. 12; Central Bank of Liberia, 2016, p. 15; Ministry of Finance and Development Planning, 2016, p. 15, 22).

Structure of the Mineral Industry

All major mining operations in Liberia were privately owned. Artisanal and small-scale miners produced gold and diamond in various counties throughout the country. Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Gold.—Although gold in Liberia had previously been produced exclusively by artisanal mining, the New Liberty Mine located within the Bea Mountain Mineral Development Agreement property in Grand Cape Mount County, began preproduction during the second half of 2015. The mine, which was 100% owned by Aureus Mining Inc. of Canada, was expected to produce 3,273 kilograms per year (kg/yr) during an anticipated 8-year life (Aureus Mining Inc., 2016a, p. 18; 2016b, p. 4–5; Avesoro Resources Inc., 2016, p. 4; 2017; Central Bank of Liberia, 2016, p. 15–16).

Owing to the 2014 EVD outbreak, concerns regarding the viability of Aureus' project arose. In response, Aureus implemented Ebola screening procedures, including cordoning off the mine site, screening temperatures at checkpoints, and keeping health professionals on site. The WHO declared the outbreak in Liberia over on May 9, 2015, and none of the mine's workers contracted EVD, but the project was ultimately delayed by 2 months (Globe and Mail, The, 2015).

Hummingbird Resources PLC of the United Kingdom signed a mineral development agreement with the Government in 2015 for a 25-year term in order to explore at the Dugbe project, which, according to the company, was the largest gold deposit in Liberia. A preliminary economic assessment showed that the Dugbe project could have a 20-year life and produce 3,544 kg/yr of gold, once operational. A definitive feasibility study was underway in 2015, and the company reported that areas where further optimization and development could be targeted to improve the overall project economics had been identified (Hummingbird Resources plc, 2016, p. 12–13).

Iron Ore.—In 2015, production of iron ore from ArcelorMittal's WRP Mine decreased by 12% to 4.3 Mt from 4.9 Mt in 2014. In August 2014, contractors working on the company's phase 2 expansion project declared force majeure owing to the EVD outbreak but resumed production in 2015.

Initially, the phase 2 expansion was budgeted for \$1.7 billion and was to increase production capacity to 15 million metric tons per year (Mt/yr). As a result of the declining global iron ore prices since the declaration of force majeure, ArcelorMittal reassessed the project and was considering transitioning production to a higher grade sinter fines product but in a phased approach rather than the major stepup from 15 to 20 Mt/yr as originally envisioned (ArcelorMittal S.A., 2016a, p. 219, 221; 2016b, p. 224, 227).

Severstal, which had been granted a mining license in July 2014 for the Putu Range project, announced in April that it would be unable to fully develop the \$3.5 billion project and begin production without a partner to help with investment and to share the risk. Severstal, which was the sole owner of the project, estimated that the Putu Range deposit contains iron ore resources of up to 4.4 billion metric tons (Steel Times International, 2014; Reuters Africa, 2015).

China-based China Union Investment (Liberia) Bong Mines Co., which operated the Bong Mine in Liberia, came under scrutiny in 2015 and refuted reports that it had gone bankrupt and was selling assets in Liberia. Concerned employees called on the Government to investigate because the mine's closure would result in significant job losses. Despite the financial pressure resulting from declining iron ore prices, China Union reported that it was still able to operate and discussed reforming its structure to cut costs and improve efficiency at the mine, including reducing the number of Chinese expatriates working at the Bong Mine, as Chinese laborers were paid more than Liberian laborers. The company also reported that monthly production in 2015 fluctuated between 60,000 and 90,000 metric tons. The Bong Mine is located in the Fuamah District, Bong County, and it had an annual production capacity of 1 Mt (Monrovia Inquirer, 2015).

Industrial Minerals

Diamond.—U.S.-based Sunergy Inc. continued to explore for diamond in the vicinity of the Lofa River. In 2015, the company acquired a wash plant and loader capable of processing between 50 and 350 metric tons per hour of diamond- and gold-bearing gravel. The company also entered into an agreement with local artisanal miners to share equipment and expertise, which would allow the miners to recover gold and diamond more quickly and efficiently (Marketwired.com, 2015; Central Bank of Liberia, 2016, p. 15; Sunergy Inc., 2017).

Mineral Fuels

Petroleum.—Although Liberia's Central Bank reported that revenue from the petroleum sector increased significantly in 2015, the increase derived almost exclusively from surface rental as the country did not produce petroleum during the year and depended on imports of petroleum and petroleum refinery products to meet domestic consumption. Between 2000 and 2010, NOCAL hired TGS Nopec Geophysical Co. of the United States to carry out two-dimensional and three-dimensional seismic data surveys for most of Liberia's offshore petroleum acreage. This led to the establishment of Liberia's

existing 30 concessionary blocks; 17 of these blocks are within the continental shelf to water depths of between 2,500 to 4,000 meters (m), and 13 are ultra-deep blocks with water depths of as much as 4,500 m (Liberia Extractive Industries Transparency Initiative, 2015, p. 11; Central Bank of Liberia, 2016, p. 23; National Oil Company of Liberia, 2016a).

On August 5, 2014, NOCAL announced the opening of the 2014 Liberia basin competitive bidding round for four offshore petroleum exploration blocks, which included Blocks LB-6, LB-7, LB-16, and LB-17. At yearend 2015, four operators in Liberia were working through petroleum agreements with NOCAL, including European Hydrocarbons Ltd. (EHL) of the United Kingdom, and Anadarko Petroleum Corp., Chevron Corp., and ExxonMobil Corp. of the United States (Liberia Extractive Industries Transparency Initiative, 2015, p. 13; National Oil Company of Liberia, 2016a, b).

Outlook

In 2015, much of the recent EVD crisis had subsided in Liberia, allowing for a return towards normal operations in the mining sector. Even after the epidemic, however, declining global prices for gold and iron ore, which were two of the country's major mineral export commodities, resulted in decreased production. Although iron ore production did not decrease as dramatically as other mineral commodities, financial pressures continued to pose challenges for producers, as oversupply and weak demand from China contributed to stagnation in the industry and could lead to substantial decreases in iron ore output in the future. The Government faces several limitations in promoting future foreign direct investment. Transportation infrastructure in Liberia was in need of repair; only 10% of the roads were paved. Other factors, including limited access to financing, weak institutional capacity, and a low-skilled labor force, also adversely affect the business environment. The declining global price of iron ore was a major disincentive for investment in Liberia, as ArcelorMittal, China Union, and Severstal all stated that the price affected production and plans to move forward with new projects. The Ministry of Finance and Development Planning anticipated improvements in 2016, although it forecasted a real growth rate of less than 1% in the mining sector. Despite the challenges faced by the national economy, a real GDP rate of growth of 3.9% and a single-digit inflation rate in Liberia were projected for 2016. Additionally, gold and diamond production will likely increase as the industries transition from strictly artisanal to artisanal and commercial mining. The new data portal launched in 2015 will help the Government increase transparency in the mineral sector (Monrovia Inquirer, 2015; ArcelorMittal S.A., 2016b, p. 148–149; Ministry of Finance and Development Planning, 2016, p. 1, 17, 23; Revenue Development Foundation, 2016).

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TABLE 1
LIBERIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity		2011	2012	2013	2014	2015
Barite ^c		--	8,000 ^e	24,000 ^{e,r}	23,000 ^{e,r}	20,000 ^e
Cement, hydraulic ²		80,594	121,592	193,993 ^r	295,353 ^r	298,437 ^p
Diamond ^{3,4}	carats	41,932 ^{3,4}	41,985 ^{3,4}	53,699 ^{3,4}	65,822 ^{r,3,4}	73,700 ^e
Gold, mine output, Au content ^{2,5}	kilograms	448	641	587 ^r	620 ^r	482
Iron ore: ⁶						
Gross weight	thousand metric tons	1,300	3,300	4,698 ²	5,250 ^e	4,900
Fe content ^e	do.	780	1,980	2,800	3,000	2,753
Sand		103,000	201,800	200,000 ^e	200,000 ^e	200,000 ^e
Stone, crushed ^{e,7}		2,600	4,400	7,800	11,800	11,900

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^pPreliminary. ^rRevised. do. Ditto. -- Zero.

¹Table includes data available through March 31, 2017.

²Reported by the Central Bank of Liberia.

³Production estimated to be approximately 60% gem quality.

⁴Reported by the Kimberley Process Certification Scheme.

⁵Production of gold was by artisanal miners.

⁶Direct-shipping ore.

⁷Estimated based on cement production.

TABLE 2
LIBERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Barite	Steinbock Minerals (Liberia) Ltd.	Margibi County	NA
Cement	Liberia Cement Corp. Ltd. (HeidelbergCement AG, 81.76%)	Cemenco cement plant, Monrovia	700
Diamond	Artisanal and small-scale mining	Various counties	NA
Gold	kilograms Bea Mountain Mining Corp. (Aureus Mining Inc., 100%)	New Liberty Mine, 90 kilometers northwest of Monrovia, Grand Cape Mount County	2,000
Do.	do. Artisanal and small-scale mining	do.	NA
Iron ore	ArcelorMittal (Liberia) Ltd. (ArcelorMittal, 85%)	Western Range Project, 300 kilometers northeast of Monrovia	5,000
Do.	China Union Investment (Liberia) Bong Mines Co. [Wuhan Iron and Steel (Group) Corp. (WISCO)]	Bong Mine, Fuamah District, Bong County	1,000

Do., do. Ditto. NA Not available.