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# 2012 Minerals Yearbook

## GUINEA [ADVANCE RELEASE]

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# The Mineral Industry of Guinea

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Guinea's real gross domestic product growth was estimated by the International Monetary Fund (IMF) to be 4% in 2012, which was 0.8% below the projected target for the year. The IMF reported that the shortfall in relation to the target was owing mainly to the weakness in the recovery of the mining sector, which was caused mainly by the interruption of operations at the Friguia alumina refinery and the decrease in investments in large-scale iron ore mining projects. Guinea was a leading world producer of bauxite and rough diamond, and had the potential to become a leading world producer of iron ore. Other mineral commodities produced in the country included alumina, cement, crude construction materials, gold, and salt. Undeveloped mineral resources included graphite, iron ore, limestone, manganese, nickel, and uranium (International Monetary Fund, 2013, p. 27).

**Government Policies and Programs**

The Ministère des Mines, et de la Géologie was the Government agency in charge of overseeing the implementation of Guinea's Mining Code, and Société Guinéenne du Patromoine Minier (Soguipami) was the company in charge of acting on behalf of the Government in all mining ventures and of promoting Guinea's mineral sector abroad. On March 26, 2012, the Government announced the creation of a National Committee on Mining (Commission Nationale des Mines) to review all mining contracts in the country. The members of the Committee included representatives from various Government agencies, including the office of the Prime Minister, the Ministry of Mines and Geology, the Office of Public Accounts and Budget, the Ministry of Health, the Public Works Administration, the Ministry of Economy and Finance, the Ministry of Justice, the National Institute for Geography, the Ministry for the Environment, the Ministry of Land Management, and the Ministry of Transportation and Public Works. The Committee also included a representative from civil society (meaning from a nongovernmental organization) and a representative from Guinea's trade unions. The Committee was to bring all mining contracts in line with the new Mining Code, which was passed into law on September 9, 2011 (Mines de Guinée, 2012).

In July 2012, Guinea published its Extractive Industries Transparency Initiative (EITI) reports covering the years 2007 to 2010. On October 26, Guinea's EITI candidate status was renewed for 18 months until April 24, 2014, at which time the country would be eligible to request a second EITI validation. Guinea's status as an EITI candidate country had been temporarily suspended in December 2009 owing to political instability, but the suspension was lifted in March 2011 (Extractive Industries Transparency Initiative, 2012).

**Production**

Bauxite production increased slightly to 17.8 million metric tons (Mt) in 2012 from 17.6 Mt in 2011; alumina production, however, decreased by 74% to 150,000 metric tons (t) from 574,000 t. The decrease in alumina production was attributed to the closure on April 3, 2012, of the Friguia alumina refinery as a result of a trade union strike. The refinery remained closed throughout the year (Thomson Reuters, 2012b; United Company RUSAL plc, 2013, p. 32). Cement production decreased by about 13% to 317,000 t, and gold production, by 5.8% to about 14,800 kilograms (kg). Based on Kimberley Process Certification Scheme statistics, rough diamond production decreased by 12.2% to 267,000 carats compared with 304,000 carats in 2011 (Kimberley Process Certification Scheme, 2013). Data on mineral production are in table 1.

**Structure of the Mineral Industry**

Table 2 is a list of major mineral industry facilities

**Mineral Trade**

Exports of bauxite, diamond, and gold have traditionally accounted for more than 90% of the value of Guinea's total exports. The European Union was the main destination for Guinea's products. Guinea's total exports to the United States in 2012 were valued at about \$103 million compared with \$80.7 million in 2011; about 91% or \$93.4 million worth of these exports were bauxite and alumina; \$3 million, gold; and \$773,000, gem-quality rough diamond. Imports from the United States were valued at about \$155 million in 2012 compared with \$256 million in 2011; these included \$21.3 million in fuel oil; \$16 million in excavating machinery; \$4.9 million in drilling and oilfield equipment; \$1.3 million in railway transportation equipment; \$1.9 million in specialized mining equipment; \$1.2 million each in petroleum products and iron and steel products; and \$54,000 in natural gas liquids (U.S. Census Bureau, 2013a, b).

**Commodity Review**

***Metals***

**Bauxite and Alumina.**—Production of bauxite from the Friguia Mine (in wet tons) decreased by 74% to 491,000 t from about 1.9 Mt produced in 2011. The Friguia Mine was 100% owned by Channel Islands-registered company United Company RUSAL plc (RUSAL), which also owned and operated the Debele Mine in Kindia and the Friguia alumina refinery in Fria. During the year, production from the Debele Mine increased by about 11% to 3.33 Mt from 3 Mt in 2011. Production was exported to RUSAL's smelters in Russia and Ukraine (United Company RUSAL plc, 2013, p. 31–33).

In December 2012, RUSAL signed Annex 11 of the Dian-Dian concession agreement, which granted the company the rights to develop the Dian-Dian bauxite deposit. The project included the construction of a bauxite mine and alumina refinery and was to be developed in four phases to be completed by the end of 2019. RUSAL announced that the access road to the Balaya deposit (Kindia-2) had been completed and that the development of the deposit had begun. The first phase of the project, which was expected to be completed by the end of 2015, included the construction of 3-million-metric-ton-per-year (Mt/yr) bauxite mine, the construction of a 1.2-Mt/yr alumina refinery, and the completion of a feasibility study to increase the capacity at the mine to 9 Mt/yr. The second phase of the project included the ramping up of bauxite production to 6 Mt/yr by the end of 2019, and the third phase included the construction of the alumina refinery (also expected to be completed by the end of 2019). The final phase of the project, which was dependent upon favorable global economic conditions, would include a capacity expansion at the alumina refinery to up to 2.4 Mt/yr, and of the bauxite mine, to 12 Mt/yr. During the construction of the access road to the Balaya deposit, the company discovered a new deposit estimated to contain about 1.5 Mt of bauxite (United Company RUSAL plc, 2012; 2013, p. 33).

Beijing-based China Power Investment Corp. (CPI) received the Government's final approval to proceed with the development of its bauxite and alumina project in the Boffa prefecture. The project, which was to be developed at a cost of about \$6 billion, included the construction of a 12-Mt/yr-capacity bauxite mine, a 4-Mt/yr-capacity alumina refinery, a 270-megawatt powerplant, and a deepwater port in Bel Air (Thomson Reuters, 2012a).

**Gold.**—Gold production decreased at all three of Guinea's active gold mines. Gold production from the Lefa Mine decreased by 12.3% to 5,347 kg, and that from the Kiniero Mine, by 12.8% to 423 kg. Production from the Siguiri Mine decreased slightly to 9,020 kg from 9,113 kg in 2011. Nord Gold N.V. of the Netherlands, which was the company that operated the Lefa Mine, reported that the decrease in output was owing to the recovery of lower head grades and to the processing of lower volumes as a result of scheduled work at the mine aimed at eliminating bottlenecks and at increasing production capacity. The decrease in production at the Kiniero Mine was based on the production of about 9 months given that mining operations had been suspended in 2011 as a result of civil unrest and did not resume until the second quarter of 2012 (Nord Gold N.V., 2013, p. 41; Semafo Inc., 2013, p. 6, 40).

**Iron Ore.**—On May 22, 2012, the Government granted joint-venture partners Bellzone Mining plc of Australia and China International Fund Ltd. a mining license to begin commercial production of iron ore from the Forécariah project. The project is located about 160 kilometers (km) southeast of the capital city of Conakry near the border with Sierra Leone and 76 km from the Port of Konta. Iron ore was to be sourced from the Marampa and the Yomboyeli deposits. On December 27, Bellzone announced that the first shipment of iron ore had been dispatched, but the announcement did not include the disclosure of how many tons were shipped. A statement regarding the details of the amount shipped was to be announced on January 3, 2013. The production forecast for the Forécariah project was revised downwards to 1 Mt/yr of iron ore at an average grade of 58% Fe from the previously estimated 2 Mt/yr at a grade of greater than 55% Fe for 2013 through 2015. Bellzone and China International each held a 42.5% interest in the project, and the Government held a 15% interest. The joint-venture partners also signed an offtake agreement with Switzerland-based Glencore International AG for 50% of the production from the Yomboyeli deposit within the Forécariah project (Bellzone Mining plc, 2012a–c).

Bellzone's leading project in Guinea, however, was the Kalia iron ore project, for which the company was granted a mining license in August 2012. The Kalia project consists of an oxidized and supergene enriched banded iron formation area hosting a 19-km-long deposit known as Kalia I and a 20-km-long deposit known as Kalia II. The project is located about 300 km east of Conakry and is adjacent to Bellzone's other iron ore exploration concession in the country, the Faranah project. As of December 20, 2012, a new Joint Ore Reserves Committee-compliant study reported indicated and inferred mineral resource estimates for Kalia to be 822.6 Mt of iron ore at an average grade of 36.8% Fe and a cutoff grade of more than 20% Fe for the project's oxide and supergene banded iron formation deposit; 87.5 Mt at an average grade of 54% iron of direct shipping ore resources, and 4.6 billion metric tons (Gt) of iron ore at a grade of 25.9% Fe of measured, indicated, and inferred magnetite resources. Bellzone planned to develop the Kalia project in three stages, the first of which would include the completion of a bankable feasibility study, the raising of funds to develop the project, and the construction of a mine with a capacity to produce 46 Mt/yr of high-grade iron oxide. The mine was expected to be commissioned in the fourth quarter of 2014 and to reach full capacity by 2018. Bellzone also explored for chromium, cobalt, copper, manganese, nickel, and platinum at its Sadeka concession, which is located 150 km southeast of the Kalia iron ore project. The development of the Kalia project would be governed by Guinea's former 1995 Mining Code. The Forécariah project, however, would be administered under the 2011 Mining Code, which came into effect in 2012. Bellzone held a 100% interest in the Kalia project (Bellzone Mining plc, 2013, p. 2, 7–8, 12).

United Kingdom-listed Sable Mining Africa Ltd. was in the process of developing the Nimba iron ore project, which is located in southeastern Guinea near the border with Liberia and Côte d'Ivoire. The Nimba project consists of a near-surface hematite banded iron formation deposit with an estimated preliminary mineral reserve of 53.96 Mt at a grade of 61.6% Fe. Sable planned to conduct a bankable feasibility study for the project during the second half of 2014 and to begin production at a rate of 1.5 Mt/yr of iron ore during the first quarter of 2016. Production was expected to ramp up to 3 Mt/yr by 2017. Iron ore would be hauled 65 km by road to a transfer yard near Yekepa, Liberia, where the ore would be stockpiled and then loaded onto rail wagons. From Yekepa, the ore would be transported 18 km by rail to the existing shared rail line at Tokadeh in Liberia and from there to the Port of Buchanan for export. The segment of the railway from Yekepa to Tokadeh was in need of repair, and the repairs were expected to be completed at the time of commissioning of the Nimba Mine (Sable Mining Africa Ltd., undated a, b).

In June 2012, joint-venture partners Rio Tinto plc of the United Kingdom and Aluminum Corp. of China Ltd. (Chalco) committed a further investment of $1 billion for the construction of rail and port infrastructure associated with the development of Blocks 3 and 4 of the southern concession of the Simandou iron ore mining project. This investment completed the formation of the Rio Tinto-Chalco joint venture under which Rio Tinto would hold a majority interest in the project of 50.35%; Chalco, 44.65%; and the International Finance Corp., 5%. During the year, a social and environmental impact assessment for the project was submitted to the Government for its review and approval. In October, the Government issued a presidential decree to protect the land area needed to develop the rail and port infrastructure from being acquired or developed by third parties (Rio Tinto plc, 2013, p. 27).

The development of the Zogota Mine and Simandou Blocks 1 and 2 was put on hold during the year. Vale S.A. of Brazil reported that a technical committee established by the Government of Guinea was reviewing the terms of the project. On July 30, local villagers opposing the development of the project allegedly entered the premises of the Zogota Mine and damaged equipment and facilities; the cost of the damages was estimated to be $50 million to $100 million (Thomson Reuters, 2012c; Vale S.A., 2013, p. 137).

## Outlook

The World Bank estimates that the proposed investments in Guinea's bauxite, alumina, and iron ore sectors have the potential to greatly enhance the prospects for the country's GDP growth during the next 5 years. It also estimates that if Rio Tinto's Simandou project moves forward by 2015 as projected, this project, together with the other bauxite and alumina projects in the pipeline, will likely result in the doubling of Guinea's nominal and real GDP by 2015. The World Bank also estimates that this growth is likely to continue into 2020. New projects are expected to account for 20% of the nominal GDP in 2016 and 27% of the GDP by 2017. Upcoming mining projects are also likely to have a positive effect on employment, as many direct and indirect jobs are expected to be created during the construction and operational phases of these projects. Social tensions surrounding the development of the Zogota Mine, however, are likely to continue to hinder the development of iron ore mining operations in the Zogota region if community concerns regarding the project are left unaddressed (World Bank, The, 2012, p. 2–3).

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TABLE 1
GUINEA: PRODUCTION OF MINERAL COMMODITIES[1]

(Thousand metric tons unless otherwise specified)

| Commodity[2] | | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|
| Alumina | | 593 | 530 | 597 | 574 | 150 |
| Bauxite: | | | | | | |
| Mine production: | | | | | | |
| Wet basis[3] | | 18,400 | 15,600 | 17,633 | 17,641 | 17,823 |
| Dry basis[e, 4] | | 16,000 | 13,600 | 15,300 | 15,300 | 16,041 |
| Shipments (dry basis), metallurgical[5] | | 16,200 r | 13,900 r | 15,600 r | 15,600 r | 17,800 e |
| Cement | | 381 [6] | 298 [6] | 237 [6] | 365 r | 317 |
| Diamond[7, 8] | thousand carats | 3,098 | 697 | 374 | 304 | 267 |
| Gold, mine output, Au content[9] | kilograms | 19,945 | 18,091 | 15,217 | 15,695 | 14,790 |

[e]Estimated data are rounded to no more than three significant digits. [r]Revised.
[1]Table includes data available through January 29, 2014.
[2]In addition to the commodities listed, Guinea produced modest quantities of crude construction materials (clays, sand and gravel, and stone), iron ore, and salt, but information is inadequate to make reliable estimates of output.
[3]Metallurgical ore estimated to be 13% water.
[4]Data are for wet-basis ore estimated to be 13% water reduced to dry basis estimated to be 7% water.
[5]Data are for shipments of bauxite ore as reported by importing countries.
[6]Reported figure by Banque Centrale, Ministères du Plan, de l'Économie et des Finances.
[7]Production is approximately 70% to 80% gem quality.
[8]Includes artisanal production.
[9]Does not include artisanal gold mining production, which has historically ranged between 1,500 and 5,000 kilograms per year.

TABLE 2
GUINEA: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Metric tons unless otherwise specified)

| Commodity | | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|---|---|---|---|---|
| Alumina | | Alumina Company of Guinea (ACG) (United Company RUSAL plc, 100%) | Friguia refinery, Fria | 650,000 |
| Bauxite | | Compagnie des Bauxites de Guinée (CBG) [Halco Mining Inc. (Alcoa Inc., 45%; Rio Tinto Alcan Inc., 45%; and Dadco Group, 10%) through Boké Investment Co., 51%, and Government, 49%] | Sangaredi Mine, Kamsar | 14,000,000 |
| Do. | | Compagnie des Bauxites de Kindia (CBK) (United Company RUSAL plc, 100%) | Debele Mine, Kindia | 3,300,000 |
| Do. | | Alumina Company of Guinea (United Company RUSAL plc, 100%) | Friguia Mine, Fria | 2,100,000 |
| Cement | | Ciments de Guinée (Holcim Ltd., 60%, and Government, 40%) | Conakry grinding plant, 35 kilometers from Conakry Port | 500,000 |
| Diamond | carats | Association pour la Recherche et l'Explotation du Diamant et de l'Or (Batax Bouna International Mining Corp.) | Aredor Mine | 38,000 |
| Do. | do. | Artisanal miners | Mainly in Banankoro | NA |
| Gold | kilograms | Société Ashanti de Guinée (AngloGold Ashanti Ltd., 85%, and Government, 15%) | Siguiri Mine, 850 kilometers northeast of Conakry | 10,300 |
| Do. | do. | Société Minière de Dinguiraye (Nord Gold N.V., 85%, and Government, 15%) | Lefa Mine, 700 kilometers northeast of Conakry | 6,100 |
| Do. | do. | Semafo Guinée S.A. (Semafo Inc., 85%, and Government, 15%) | Kiniero Mine, 650 kilometers east of Conakry | 500 |
| Iron ore | | Forécariah Guinea Mining S.A. (Bellzone Mining plc, 42.5%; China International Fund Ltd., 42.5%; Government, 15%) | Forécariah Mine, 160 kilometers southeast of Conakry | 1,000 |

Do., do. Ditto. NA Not available.