



2013 Minerals Yearbook

CÔTE D'IVOIRE AND TOGO

THE MINERAL INDUSTRIES OF CÔTE D'IVOIRE AND TOGO

By Omayra Bermúdez-Lugo

CÔTE D'IVOIRE

Mineral commodities produced in Côte d'Ivoire in 2013 included crude petroleum, gold, manganese ore, natural gas, petroleum products, and silver. In addition to these commodities, the country also produced industrial minerals, such as cement, crushed stone, and sand and gravel. Although rough diamond exports continued to be under a United Nations embargo, on May 30 the Government signed a Ministerial decree that allowed for the production of diamond within mining areas managed by Société pour le Développement Minier de la Côte d'Ivoire (SODEMI). SODEMI is the Government agency in charge of overseeing all prospecting and exploration activities in the mining sector. The country also produced sulfuric acid, but available information was inadequate to make reliable estimates of output. Côte d'Ivoire was a participant in the Extractive Industries Transparency Initiative (EITI) and has been compliant with EITI standards since it became a candidate country in 2008 (United Nations Security Council, 2013, p. 19–20; Extractive Industries Transparency Initiative, 2014).

The Bonikro, the Ity, and the Tongon Mines together produced 12,862 kilograms (kg) of gold in 2013, an increase of about 16.7% compared with production in 2012. Production from the Tongon Mine was expected to increase by 12% in 2014, to reach nearly 8,000 kg. Production from the Yaoure Mine was discontinued in 2012, and the mine remained closed in 2013, as Amara Mining plc of the United Kingdom focused on the development of a mineralized sulfide zone underlying the mine's lower grade oxides. A preliminary economic assessment of the Yaoure Mine's gold sulfide deposits yielded indicated resources of 20.3 million metric tons (Mt) with an average grade of 1.2 grams per metric ton (g/t) gold at a cutoff grade of 0.5 g/t gold. Yaoure Mine's inferred resources were estimated to be 133 Mt with an average grade of 1.29 g/t gold at a cutoff grade of 0.5 g/t gold. Based on the results of this assessment, Amara Mining reported that the Yaoure Mine had the potential to produce more than 10,000 kilograms per year (kg/yr) of gold. If the envisioned production is realized, the Yaoure Mine could become one of West Africa's top 10 gold mines in terms of output capacity. An infill drilling program for Yaoure was scheduled for 2014, and a preliminary feasibility study was expected to be completed in the first quarter of 2015 (Amara Mining plc, 2014, p. 5; Newcrest Mining Ltd., 2014, p. 17; Randgold Resources Ltd., 2014, p. 39).

Construction work at the Agbaou gold mine was completed on November 29. Precommercial production for the months of November and December was reported to be 190 kg of gold. Full commercial production was scheduled to begin in January 2014. The Agbaou Mine was expected to produce between 2,600 and 3,000 kg/yr of gold and to have a mine life of 12 years.

Endeavour Mining Corp. of Canada, which operated the mine, held an 85% interest in the mine through its subsidiary Agbaou Gold Operations S.A. (Endeavour Mining Corp., 2014, p. 1, 7).

Manganese ore production increased by 119% to 220,300 metric tons, mostly as a result of the resumption and ramping up of production at the Lauzoua/Mokta Mine. Plans to build a 50,000-metric-ton-per-year (t/yr) manganese beneficiation plant in the Grand Lahou region were put on hold as the region was experiencing problems with shortages of electricity supply (Africa Mining Intelligence, 2013a, b).

International mining companies continued to carry out exploration activities for gold, iron ore, manganese, and nickel. Tata Steel Ltd. of India explored for iron ore within the subprefectures of Bangolo and Logouale in the region of Man in partnership with SODEMI. Sama Resources Inc. of Canada explored for cobalt, copper, and nickel in northwestern Côte d'Ivoire. Several Australian companies including Apollo Consolidated Ltd., Perseus Mining Ltd., and Taruga Gold Ltd. explored for gold in northern and central Côte d'Ivoire near the towns of Bonikro, Mankono, Seguela, Tengrela, and Tongon (Apollo Consolidated Ltd., 2013; Golden Rim Resources Ltd., 2013; Mieu, 2013; Taruga Gold Ltd., 2013; Sama Resources Inc., 2014, p. 2–8).

Table 1 provides data on the principal mineral commodities produced in Côte d'Ivoire from 2009 to 2013, and table 2 provides a list of major mineral industry facilities in 2013. More-extensive coverage of the mineral sector of Côte d'Ivoire can be found in the 2011 and 2012 U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International—Africa and the Middle East, which are available at <http://minerals.usgs.gov/minerals/pubs/country/>.

References Cited

- Africa Mining Intelligence, 2013a, Manganese—Chinese back in a big way: Africa Mining Intelligence, no. 300, February 25, 1 p.
- Africa Mining Intelligence, 2013b, Restart for Lauzoua manganese with lower target: Africa Mining Intelligence, no. 292, February 26, 1 p.
- Amara Mining plc, 2014, Annual report and accounts 2013: London, United Kingdom, Amara Mining plc, 52 p. (Accessed August 1, 2014, at <http://www.amaramining.com/DocumentDownload.axd?documentresourceid=347>.)
- Apollo Consolidated Ltd., 2013, Significant trench program commences Seguela project, Côte d'Ivoire: West Perth, Western Australia, Australia, Apollo Consolidated Ltd., November 19, 4 p.
- Endeavour Mining Corp., 2014, Management's discussion and analysis of results of operations and financial condition for the three months and year ended December 31, 2013: Vancouver, British Columbia, Canada, Endeavour Mining Corp., 120 p. (Accessed August 1, 2014, at http://www.endeavourmining.com/i/pdf/Financials/2013-Integrated_FS_MDA_December.pdf.)
- Extractive Industries Transparency Initiative, 2014, Côte d'Ivoire—EITI implementation: Extractive Industries Transparency Initiative. (Accessed November 10, 2014, at <https://eiti.org/CotedIvoire/implementation>.)

- Golden Rim Resources Ltd., 2013, Quarterly activities report for the period ended 30 September 2013: Perth, Western Australia, Australia, Golden Rim Resources Ltd., 15 p.
- Mieu, Baudelaire, 2013, Côte d'Ivoire—Les Indiens misent sur le fer: Jeune Afrique, March 7. (Accessed June 17, 2014, at <http://economie.jeuneafrique.com/regions/afrique-subsaharienne/15908-cote-divoire-les-indiens-misent-sur-le-fer.html>.)
- Newcrest Mining Ltd., 2014, 2013 annual report: Melbourne, Victoria, Australia, Newcrest Mining Ltd., 128 p. (Accessed April, 24, 2014, at http://www.newcrest.com.au/media/annual_reports/FINAL_AR_2013_72dpi_web.pdf.)
- Randgold Resources Ltd., 2014, Annual report 2013—Delivering value again: London, United Kingdom, Randgold Resources Ltd., 232 p. (Accessed April 24, 2014, at <http://www.randgoldresources.com/annual-report-and-accounts-2013>.)
- Sama Resources Inc., 2014, Management discussion and analysis for the period ended December 31, 2013: Sama Resources Inc., 16 p. (Accessed July 31, 2014, at <http://www.samaresources.com/i/pdf/MDandA-December31-2013.pdf>.)
- Taruga Gold Ltd., 2013, Quarterly report—September 2013 Taruga Gold Ltd.: Perth, Western Australia, Australia, Taruga Gold Ltd. press release, October 31, 6 p.
- United Nations Security Council, 2013, Letter dated 11 October 2013 from the Chair of the Security Council Committee established pursuant to resolution 1572 (2004) concerning Côte d'Ivoire addressed to the President of the Security Council: New York, New York, United Nations Security Council report S/2013/605, October 14, 81 p. (Accessed December 5, 2013, at http://www.un.org/ga/search/view_doc.asp?symbol=S/2013/605.)

TOGO

Mineral commodities produced in Togo included cement, diamond, gold, iron ore, limestone, and phosphate rock. In addition to these commodities, Togo also produced clay, marble, and sand and gravel, but available information was inadequate to make reliable estimates of output. In 2013, HeidelbergCement AG of Germany continued with its plans to build a new 1.5-million-metric-ton-per-year clinker plant, which was expected to be commissioned by the end of 2014. The company also planned to construct a cement grinding facility capable of processing about 200,000 t/yr of cement, which was scheduled to be commissioned in 2016. The clinker

plant will be located in the city of Tabligbo, which is located about 80 kilometers (km) northeast of the capital city of Lome, and the cement grinding facility will be located in the city of Dapaong, which is located about 600 km north of Lome (HeidelbergCement AG, 2014, p. 66, 71).

Ferrex plc of the United Kingdom announced in September a revised Joint Ore Reserves Committee (JORC) Code-compliant resource estimate for its Nayega manganese project. The revised estimate, which was derived from the sampling of 39 infill pits, yielded an indicated and measured resource of 11 Mt of manganese ore at a grade of 13.1% manganese. A definitive feasibility study for Nayega was underway and was expected to be completed upon approval of a mining license. The project is located about 600 km north of the capital city of Lome and is accessible by a major road that connects the deposit to the deepwater Port of Lome. Ferrex held an 85% interest in the Nayega project through Société Générale des Mines, which is a Togolese company (Ferrex plc, 2014, p. 6).

Table 1 provides data on the principal mineral commodities produced in Togo from 2009 to 2013, and table 2 provides a list of major mineral industry facilities in 2013. More-extensive coverage of the mineral sector of Togo can be found in the 2011 and 2012 U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International—Africa and the Middle East, which are available at <http://minerals.usgs.gov/minerals/pubs/country/>.

References Cited

- Ferrex plc, 2014, Annual report 2013—Developing an expanding iron ore and manganese resource in Africa: London, United Kingdom, Ferrex plc, 41 p. (Accessed April 9, 2014, at http://www.ferrexplc.com/documents/162799FerrexAnnualReportasprinted_000.pdf.)
- HeidelbergCement AG, 2014, Annual report 2013: Heidelberg, Germany, HeidelbergCement AG, 272 p. (Accessed July 28, 2014, at http://www.heidelbergcement.com/en/46FICE20-902E-4D20-A37F-87EDCFEDCFE03E101Annual_Report_2013.pdf/Annual_Report_2013.pdf.)

TABLE 1
CÔTE D'IVOIRE AND TOGO: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Country and Commodity		2009	2010	2011	2012	2013
CÔTE D'IVOIRE ^{2,3}						
Cement ⁴		283,400	188,800	98,900	78,000	80,000 ^e
Gold, mine output, Au content ⁵	kilograms	6,947	5,310	9,871	11,027 ^r	12,862
Manganese ore:						
Gross weight ⁶		161,300	87,400	43,600	100,400	220,300
Mn content (43% to 45%)		72,585	39,330	19,620	45,200	99,100
Natural gas	million cubic meters	1,540	1,666	1,632	1,780	1,700 ^e
Petroleum:						
Crude	thousand 42-gallon barrels	19,882	14,562 ^r	12,391	10,770	9,141
Refinery products	do.	25,000	20,400	20,000 ^e	25,000 ^e	25,000 ^e
Sand and gravel	cubic meters	NA	93,200	90,000 ^e	80,000 ^e	80,000 ^e
Silver ^e		100	200	400	500	500
Stone, crushed, granite ⁷	thousand metric tons	1,005	1,095	1,100 ^e	1,460	1,500 ^e
TOGO ⁸						
Cement:						
Clinker	thousand metric tons	1,050	1,060 ^e	1,201	897 ^{r,9}	866 ⁹
Hydraulic	do.	1,179 ¹⁰	1,185 ¹⁰	1,160 ¹⁰	1,173 ^{r,9}	1,233 ⁹
Diamond ¹¹	carats	125	96	71	456	68
Gold ¹²	kilograms	12,955	10,452	16,469	18,551 ^r	19,000 ^e
Iron ore:						
Gross weight		NA	NA	40,912	52,706 ^r	50,000 ^e
Fe content (30%)		NA	NA	12,300 ^e	15,800 ^{r,e}	15,000 ^e
Limestone	thousand metric tons	1,704 ¹³	1,656	1,923	1,919 ^r	1,900
Phosphate rock, beneficiated product:						
Gross weight	thousand metric tons	726	695	866	1,159 ^{r,9}	1,214 ⁹
P ₂ O ₅ content	do.	260	250	310 ^e	420 ^{r,e}	440 ^e

^eEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto. NA Not available.

¹Table includes data available through December 31, 2014.

²Although rough diamond exports continued to be under a United Nations embargo, rough diamond production was thought to be continuing, but available information was inadequate to make reliable estimates of output.

³In addition to the commodities listed, Côte d'Ivoire also produced sulfuric acid, but available information was inadequate to make reliable estimates of output.

⁴Based on reported exports of hydraulic cement.

⁵Does not include production from artisanal mining or precommercial production from the Agbaou Mine.

⁶Reported by the International Manganese Institute.

⁷The crushed stone series, which before 2007 was reported to be exports of gravel and crushed stone, has been revised to reflect crushed stone data only as reported by the Ministry of Mines, Petroleum, and Energy.

⁸In addition to the commodities listed, Togo also produced clay, marble, and sand and gravel, but information was inadequate to make reliable estimates of output.

⁹Reported by the Direction Générale de la Statistique et de la Comptabilité Nationale.

¹⁰Reported by the Banque Centrale des Etats de l'Afrique de l'Ouest.

¹¹Reported by the Kimberley Process Certification Scheme.

¹²May include artisanal gold production from neighboring countries; however, information was inadequate to make reliable estimates of how much of total reported output originated in other countries.

¹³Limestone quarried for cement production as reported by the Ministry of Mines.

TABLE 2
CÔTE D'IVOIRE AND TOGO: STRUCTURE OF THE MINERAL INDUSTRIES IN 2013

(Metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
CÔTE D'IVOIRE				
Cement		Société des Ciments d'Abidjan (Amida Group)	Abidjan plant	750,000.
Do.		Société des Ciments du Sud-Ouest	San Pedro	100,000.
Do.		Société de Ciments et Matériaux (Holcim Ltd.)	Abidjan plant	1,200,000.
Do.		Ciments d'Afrique (CIMAF)	Youpougon industrial zone, 15 kilometers east of Abidjan	500,000.
Gold	kilograms	Agbaou Gold Operations S.A. (Endeavour Mining Corp., 85%, and Government, 15%)	Agbaou Mine, 200 kilometers northwest of Abidjan	3,000.
Do.	do.	LGL Mines CI SA (Newcrest Mining Ltd., 89.9%; Government, 10%; minority shareholder, 0.1%)	Bonikro Mine, 240 kilometers northwest of Abidjan	5,000.
Do.	do.	Société des Mines d'Ity [La Mancha Resources Inc., 45.9%; Société pour le Développement Minier (SODEMI), 44.1%; Government, 10%]	Ity Mine, 480 kilometers northwest of Abidjan	1,900.
Do.	do.	Société des Mines de Tongon SA (Randgold Resources Ltd., 89%; Government, 10%; local Ivorian company, 1%)	Tongon Mine, northern Côte d'Ivoire, 55 kilometers south of the border with Mali	9,000.
Do.	do.	Yaoure Mining SA (Amara Mining plc, 90%, and Government, 10%)	Yaoure Mine, 40 kilometers northwest of Yamoussoukro	1,240. ¹
Manganese		Compagnie Minière du Littoral [Société pour le Développement Minier de la Côte d'Ivoire (SODEMI), 51%; China National Geological and Mining Corp., 39%; private interests, 10%]	Lauzoua/Mokta Mine, 180 kilometers west of Abidjan	300,000.
Do.		Dharni Sampda Private Ltd.	Bondoukou Mine	NA.
Petroleum, crude	thousand 42-gallon barrels	Canadian Natural Resources Ltd., 57.61%; Svenska Petroleum Exploration AS, 27.39%; Société Nationale d'Operations Pétrolières de la Côte d'Ivoire (Petroci), 15%	Baobab oilfield, offshore	17,520.
Do.	do.	Canadian Natural Resources Ltd., 58.67%; Tullow Oil plc, 21.33%; Société Nationale d'Operations Pétrolières de la Côte d'Ivoire (Petroci), 20%	East Espoir oilfield, offshore	6,700.
Do.	do.	Tullow Oil plc., 45%; Anadarko Petroleum Corp., 40%; Société Nationale d'Operations Pétrolières de la Côte d'Ivoire (Petroci), 15%	Block CI-103	NA.
Do.	do.	Lukoil Overseas Côte d'Ivoire Ltd., 56.66%; Vanco Côte d'Ivoire Ltd., 28.34%; Société Nationale d'Operations Pétrolières de la Côte d'Ivoire (Petroci), 15%	Block CI-401	NA.
Petroleum products	do.	Société Ivoirienne de Raffinage (Government, 100%)	Abidjan	27,000.
TOGO				
Cement		Société de Ciments du Togo S.A. (CIMTOGO) (Heidelberg Cement AG, 93.59%)	Grinding plant in Lome	700,000.
Do.		West Africa Cement S.A. (WACEM)	Tabligbo, 80 kilometers northeast of Lome	400,000 cement; 1,200,000 clinker.
Do.		Fortia Cement S.A. (Diamond Cement)	do.	600,000.
Gold	kilograms	WAFEX (Togolese private interests)	NA	10,400.
Do.	do.	SOLTRANS (Togolese private interests)	NA	6,000.
Iron ore		MM Mining S.A. (Togolese private interests)	Bangeli, Kara region	53,000.
Limestone		Ciments de l'Afrique de l'Ouest	do.	2,400,000.
Phosphate rock		Société Nouvelle des Phosphates du Togo	Akoumape and Hahotue	2,000,000.

Do., do. Ditto. NA Not available.

¹On care-and-maintenance status.