



2012 Minerals Yearbook

CONGO (BRAZZAVILLE)

THE MINERAL INDUSTRY OF CONGO (BRAZZAVILLE)

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The economy of the Republic of the Congo, also known as Congo (Brazzaville), was based primarily on the production of crude oil, which was estimated to account for about 65% of the nominal gross domestic product in 2012. Many of the oilfields were mature, but decreased production from the older fields was expected to be offset in the short term by new offshore fields. International interest in the development of the nonfuel mineral resources of Congo (Brazzaville) has increased in recent years, and much of the focus of multinational mining companies was on the country's gold, iron ore, and potash resources (International Monetary Fund, 2013, p. 19).

Production

Most of Congo (Brazzaville)'s hydrocarbons were produced from offshore fields, but much of the produced natural gas was flared because of the lack of gas-gathering infrastructure. Congo (Brazzaville) ranked sixth in terms of the volume of crude oil production among African crude oil producers in 2012. Production statistics obtained from the Kimberley Process Certification Scheme (KPCS) indicated that diamond output decreased by about 33% in 2012 compared with that of 2011. Owing to domestic demand, cement output was estimated to have increased by more than 100% (table 1; BP p.l.c., 2013, p. 10; Kimberley Process Certification Scheme, 2013).

Structure of the Mineral Industry

The mineral sector is under the jurisdiction of the Ministère des Mines et de la Géologie. Mining is regulated by the Code Minier (law No. 4–2005), which requires that a Congolese-based company operate exploitation licenses. Article 100 of the Code entitles the Government to a free (carried) equity interest of not less than 10% in mining operations. Decree No. 2007–274 sets the conditions for prospecting, exploration, and exploitation of minerals, and Decree No. 2007–293 addresses quarrying issues.

The Ministère des Hydrocarbures oversees activity in the hydrocarbon sector. The sector is regulated by the Code des Hydrocarbures (law No. 24–1994). Procedures for awarding oil and gas exploitation licenses are set out in Decree No. 2008–15. State-owned Société Nationale des Pétroles du Congo (SNPC) manages the Government's interest in petroleum production and refining and natural gas production and processing. International oil companies operate many of the oilfields (table 2).

Small-scale artisanal miners dominated the diamond and gold mining sectors. Small-scale domestic operations quarried construction materials, such as gravel, sand, and stone, although in 2011 and 2012, international construction companies obtained a number of quarrying permits for sand and stone to support infrastructure construction projects. International mining companies' activities consisted primarily of exploration for base and precious metals and industrial minerals. Congo (Brazzaville) was a participant in the KPCS and remained a candidate country

of the Extractive Industries Transparency Initiative (Extractive Industries Transparency Initiative, 2012, p. 3).

Commodity Review

Metals

Chromium, Copper, Gold, Lead, and Zinc.—Luyuan des Mines Congo evaluated the Moukassi prospect for chromite occurrences. The joint venture of MMG Exploration Holdings Ltd. and Sanu Resources Ltd. explored the Kingouala and the Reneville license areas for base-metal deposits. Bikonga S.A. worked on the Kari-Zoungou copper prospect and Cotrans Construction Services worked on the Nguouaka copper prospect. Société de Recherche et d'Exploitation Minière (SOREMI), which was a subsidiary of Gerald Metals, Inc. of the United States (90% equity interest) and the Government (10%), worked on the Grande copper mine at Boko Songo and continued with the development of the Yanga Koubanza lead-zinc project. SOREMI also was evaluating the Mbena, the Mvougouti, and the Pougou gold permit areas.

Numerous companies were evaluating their exploration permit areas for the occurrence of gold, including Congolaise des Mines S.A.R.L.U. on the Omboye-Frontiere permit; Alector Congo on the Kiba and the Kouyi prospects; Allante Resources Gabon S.A.R.L. of Gabon on the d'Izendi prospect; China Geo-Engineering Corporation International Ltd. on the Tcherre prospect; Congo Gold S.A. on the Kakamoeka, the Kakamoeka-Poumbou, and the Sounda-Banga permits; Congo Mining Ltd. on the Badondo prospect; and Congo Yuan Wang Investment Ltd. of China on the Elen I and the Mayembe prospects. Also exploring for gold were Macpela Mining, which was a subsidiary of Groupe Macpela Canada Inc. of Canada, on the Lelali-Louasa and the Lelali-Foila permits; Managem S.A. of Morocco on the Les Saras prospect; Million Well Holdings Ltd. of China on the Ndoumba permit and the Ndoumba alluvial permit; and Newco Mining on the Mayeye prospect. Société LULU continued work on the Mindouli and the Mpassa-Moubiri base-metal prospects; Société PROFAC evaluated the Garabizam prospect; Société SICO worked on the Sembe-Loupo prospect; and Société Soneco S.A. examined the Ngonaka prospect.

Iron Ore.—Iron ore exploration took place primarily in the Invindo Massif area, which is located in the Cuvette-Ouest and the Sangha Departments in northwestern Congo (Brazzaville), and in the Massif du Chaillu area, which is located in the Lekoumou and the Niari Departments in southwestern Congo (Brazzaville).

Core Mining Congo S.A.R.L., which was a subsidiary of Core Mining Ltd. of the United Kingdom, continued to evaluate the Avima project in Sangha Department. In 2012, Core Mining announced an updated mineral resource estimate of 690 million metric tons (Mt) at a grade of 58% iron (Core Mining Ltd., 2012).

Exxaro Resources Ltd. of South Africa acquired African Iron Ltd. of Australia, which, through a subsidiary, held 92% equity interest in DMC Iron Congo S.A.R.L. DMC Iron Congo held the Lekoumou permit, and was also continuing with its exploration of the Mayoko and the Ngoubou-Ngoubou iron ore projects, which are located in Niari Department.

Equatorial Resources Ltd. of Australia completed a diamond and reverse-circulation drill program on the Mayoko-Moussondji project in southwestern Congo (Brazzaville), prepared a resource estimate, and worked with other iron ore companies and the Government on plans for transportation of iron ore by rail to port facilities at Pointe Noire. Equatorial Resources also signed a memorandum of understanding with Core Mining and Sundance Resources Ltd. of Australia concerning cooperation on the development of rail transportation infrastructure in the north. The new line would link Core Mining's Avima project, Equatorial's Badondo project, and Sundance's Mbalam and Nabeba projects to a proposed iron ore export terminal at Lolabe, which was to be located about 30 kilometers (km) south of Kribi, Cameroon. In 2012, Equatorial completed 1,092 meters (m) of an ongoing diamond drill program on the Balondo prospect in Sangha Department. Congo Mining Ltd., which was Equatorial's subsidiary, held two iron-ore prospecting permits adjacent to the Mayoko-Moussondji project—the Moussondji (which is located to the west) and the Oubouesse (which is located to the south) (Equatorial Resources Ltd., 2013, p. 1–8).

Sundance's subsidiaries Cam Iron S.A. and Congo Iron S.A. continued work on the Mbalam project in Cameroon and the Nabeba prospect in Sangha Department, Congo (Brazzaville), respectively. Nabeba was expected to be developed as part of the Mbalam project. In 2012, Congo Iron completed a drill program on the Nabeba prospect and Sundance released an updated mineral resource estimate of 1.4 billion metric tons (Gt) with a grade of 35.1% iron, which included 472 Mt of high-grade ore with a grade of 57.9% iron. Congo Iron also held the Ibanga and the Nabemba-Bamegod iron ore permits. Negotiations continued with Hanlong Mining Investment Ltd. of China and Government authorities about Hanlong's proposed acquisition of Sundance (Sundance Resources Ltd., 2013, p. 8–14, 21–22).

Afiresources Congo S.A., in which Waratah Resources Ltd. of Australia held 90% interest, completed drilling 24 holes totaling 1,107 m as part of an ongoing diamond drilling program on the Youkou iron ore project, which is located in Cuvette-Ouest Department. Nyive Congo S.A., in which Waratah held 80% interest, explored the Keka I and the Keka 2 prospects on the Okanabora exploration license, which is located about 100 km south of the Youkou project in Congo (Brazzaville) (Waratah Resources Ltd., 2013, p. 4).

Mining Project Development Congo S.A.U. (MPD Congo), which was an indirect subsidiary of the joint venture of Glencore Xstrata plc of Switzerland and Zanaga Iron Ore Company Ltd. of the United Kingdom (ZIOC), continued work on the Zanaga iron ore project, which is located about 300 km northeast of Pointe Noire in Lekoumou Department. ZIOC reported reserves at Zanaga of 2.5 Gt at a grade of 34% iron and mineral resources of 6.8 Gt at a grade of 32% iron. The joint venture completed an ore transportation prefeasibility study,

which recommended that the Zanaga project be developed as a 30-million-metric-ton-per-year (Mt/yr)-capacity project. Iron ore pellets (68% iron) were to be shipped by a 380-km slurry pipeline from the mine to a new port near Pointe-Noire. An environmental impact assessment of the Zanaga project was expected to be completed in 2013, and a bankable feasibility study was expected to be completed in 2014 (Zanaga Iron Ore Company Ltd., 2013, p. 8–10).

Other companies holding iron ore exploration permits were African Mining Development on the Mont Keka permit; Equamineral S.A., which was a subsidiary of Equamineral Holdings Ltd. of Australia, on the Oyabi permit; and FERCO S.A., on the Ambambaya, the Leke, the Lokoui, and the Omboye-Akana prospects. Golden Lion S.A.R.L. held the Avima-Est prospect, and Société Soneco held the Mitele prospect.

Manganese, Niobium, Tantalum, and Tin.—Société Africaine pour le Développement Minier S.A.R.L., which was a subsidiary of Sandstone Worldwide Holdings of The Bahamas, evaluated the Matsanga Marala prospect and REFAEL Mining evaluated the Loue prospect for the occurrence of niobium and tantalum. Société de Recherche et d'Exploitation Minière S.A. worked on the Kimongo manganese permit and REFAEL Mining evaluated the Mbinda manganese prospect. Baraca Mining Congo S.A. worked on the Magne Scrina tin prospect.

Industrial Minerals

Cement.—Société Nouvelle des Ciments du Congo (SONOCC) continued work on the proposed capacity expansion of the Loutete plant to 300,000 metric tons per year (t/yr) from about 210,000 t/yr. Dangote Group of Nigeria worked on a proposed 1-Mt/yr-capacity cement plant at Madingou, which is located about 190 km east of Brazzaville. Diamond Cement Congo S.A., which is a subsidiary of West African Cement S.A. of Ghana, proposed to build a 600,000-t/yr-capacity cement plant at Mindouli, which is located about 100 km east of Brazzaville (Dangote Cement PLC, 2012; Service Économique de Brazzaville, 2012a, b).

Diamond.—In addition to artisanal activity, a number of companies were exploring for diamond. These included Alector Congo S.A.R.L. on the Moutsengani prospect, Congo Mining Ltd. on the Badondo prospect, Motaba Mining S.A. on the Bangui-Motaba and the Mimbelly prospects, REFAEL Mining on the Divenie and the Kouyi prospects, and SAI-Congo Mining Ltd. on the Ketta and the Kinga-Missa prospects.

Phosphate Rock.—In 2012, Cominco S.A., which was a subsidiary of Cominco Resources Ltd. of the British Virgin Islands, completed a 232-hole, 17,448-m reverse-circulation drill program; a 21-hole, 1,346-m diamond-bit (core) drill program; and a scoping study on the development of a mine on the Hinda project. The Hinda permit was centered about 37 km northeast of Pointe Noire. Cominco expected to complete a prefeasibility study in 2013 and a definitive feasibility study in 2014. Initial production could begin as soon as 2015 with a positive investment decision (Cominco Resources Ltd., 2013, p. 3–7).

Potash.—In February, African Potash Ltd. of the United Kingdom agreed to acquire Patagonia Capital Ltd. of

Mauritania, which held 70% interest in Société des Potasses et des Mines S.A. The agreement subsequently was terminated owing to an unexpected delay in the acquisition of a research permit for the Lake Dinga potash project encountered by Société des Potasses et des Mines. In December, however, Société des Potasses et des Mines was awarded a research permit for the Lake Dinga potash project, and African Potash was invited to reestablish the acquisition agreement (African Potash Ltd., 2013).

In February, Boost Capital Corp. of Canada signed a letter of intent (LOI) to acquire Holle Potash Corp. of Canada. The LOI expired in April, but the companies continued negotiations to extend the agreement. Holle Potash's subsidiary Afrimines S.A. held the Manenga and the Tchitondi potash and salt exploration permits in Congo (Brazzaville).

In 2012, MagIndustries Corp. of Canada continued negotiations to secure financing for the development of the Mengo potash mine and the Kouilou potash processing facility. China's Ministry of Chemical Industry's Changsha Design & Research Institute was awarded a \$17.8 million construction design contract for the Mengo project, and China Shipbuilding NDR Engineering Company, Ltd. was awarded a \$6.2 million contract to design a bulk potash export terminal at Point Noire (MagIndustries Corp., 2013, p. 1–2).

In 2012, Sintoukola Potash S.A. completed a prefeasibility study on the Sintoukola potash project, which is located about 55 km northwest of Pointe Noire, and planned to begin a feasibility study in 2013. The Congolese-compliant social and environmental impact assessment was submitted, as was a mining lease application. Elemental Minerals Ltd. of Australia held 93% of the equity in Sintoukola Potash with partners Les Etablissements Congolais MGM (5%), and Tanaka Resources (Proprietary) Ltd. (2%).

Mineral Fuels

Petroleum.—A decision to develop the Lianzi field was approved in July 2012. A subsea production system was proposed that would include four producing wells and three water-injection wells. Wells were to be tied back to an existing offshore production platform on Block 14 in Angola, which was operated by Cabinda Gulf Oil Company Ltd. Initial production was expected by 2015, with peak production expected to be about 46,000 barrels per day. The Governments of Angola and Congo (Brazzaville) previously had agreed to the unitization of the oilfield, which straddled their international borders (Chevron Corp., 2013, p. 14).

Also in 2012, a decision to develop the Litchendjiji field in Block Marine XII was approved. Joint-venture partners on Block Marine XII included Eni Congo S.A., New Age (African Global Energy) Ltd., and SNPC. The Government and Shandong Landbridge Group of China signed an agreement to build an oil terminal at Pointe Noire. Shandong Landbridge also agreed to modernize Congolaise de Raffinage (CORAF).

Outlook

Despite the continued decline in production from older oilfields, the petroleum sector is expected to remain the

cornerstone of Congo (Brazzaville)'s economy for the immediate future in part because of new deepwater oilfields coming onstream. Development of iron ore deposits and the redevelopment of coastal potash deposits are expected to lead to the diversification of the national economy and ease the country from its dependence on petroleum.

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TABLE 1
 CONGO (BRAZZAVILLE): ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1,2}

Commodity ³		2008	2009	2010	2011	2012
Cement	metric tons	105,000	110,000	80,000	70,000	150,000
Diamond ⁴	carats	110,000	68,000	381,242	76,548	51,588
Gold, mine output, Au content	kilograms	100	100	150	150	150
Liquefied petroleum gas ⁵	thousand 42-gallon barrels	1,610 ⁴	2,469 ⁴	1,300	1,400	1,400
Petroleum:						
Crude ⁴	do.	85,037	99,348	107,000	108,000	99,000
Refined	do.	2,500	3,000	5,000	5,000	5,000

do. Ditto.

¹Estimated data are rounded to no more than three significant digits.

²Table includes data available through October 30, 2013.

³In addition to the commodities listed, copper, crude construction materials (for example, clay, sand and gravel, and stone), lead, lime, and zinc were produced, but available information is inadequate to make reliable estimates of output. Natural gas is also produced, but output is flared, reinjected, or vented.

⁴Reported figure.

⁵Includes butane and propane.

TABLE 2
CONGO (BRAZZAVILLE): STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand 42-gallon barrels unless otherwise specified)

Commodity		Major operating companies and and major equity owners	Location of main facilities	Annual capacity ^e
Cement	metric tons	Société Nouvelle des Ciments du Congo (SONOCC) (Société National Chinoise des Travaux des Ponts et Chaussées, 56%, and Government, 44%)	Loutete	210,000
Copper	do.	Société de Recherche et d'Exploitation Minière S.A. (SOREMI) (Gerald Metals, Inc., 90%, and Government, 10%)	Grande Mines, Boko Songo	NA
Diamond	carats	Artisanal production	Kouilou, Lekoumou, Likouala, Niari, and West Cuvette Departments	400,000
Gold	kilograms	do.	Various locations	150
Liquefied petroleum gas		Total Exploration & Production Congo, 53.5%; Chevron Overseas (Congo) Ltd., 31.5%; Société Nationale des Pétroles du Congo (SNPC), 15%	Nkossa platform, offshore	3,000
Petroleum:				
Crude		CMS NOMECCO Congo [Société Nationale de Recherche et d'Exploration Pétrolière, 50%; Perenco Group, 25%; Nuevo Congo Co., 18.75%; Kuwait Foreign Petroleum Exploration Co. (K.S.C.), 6.25%]	Yombo field, offshore	3,600
Do.		Congorep [Perenco Group, 51%, and Société Nationale des Pétroles du Congo (SNPC), 49%]	Emeraude field, offshore	8,000
Do.		Eni Congo S.A., 100%	Ikalou/Ikalou Sud fields, offshore	3,000
Do.		Eni Congo S.A., 90%	Awa/Paloukou field, offshore	4,000
Do.		Eni Congo S.A., 74%; Tullow Oil plc, 11%; Société Nationale des Pétroles du Congo (SNPC), 8.8%	M'Boundi field, onshore	20,000
Do.		Eni Congo S.A., 35.75%; Société Nationale des Pétroles du Congo (SNPC), 35%; Chevron Overseas (Congo) Ltd., 29.25%	Kitina field, offshore	15,000
Do.		Eni Congo S.A., 65%, and Société Nationale des Pétroles du Congo (SNPC), 35%	Djambala, Foukanda, and Mwafi fields, offshore	7,300
Do.		Eni Congo S.A., 65%, and Total Exploration & Production Congo, 35%	Zatchi field, offshore	7,600
Do.		Eni Congo S.A., 50%, and Total Exploration & Production Congo, 50%	Loango field, offshore	6,500
Do.		Congorep [joint venture of Perenco Group, 51%, and Société Nationale des Pétroles du Congo, 65%, (SNPC), 49%] and Eni Congo S.A., 35%	Likouala field, offshore	5,000
Do.		Murphy Oil Corp., 50%; PA Resources AB, 35%; Société Nationale de Recherche et d'Exploration Pétrolière (SNPC), 15%	Azurite field, offshore	12,000
Do.		Total Exploration & Production Congo, 53.5%; Chevron Overseas (Congo) Ltd., 31.5%; Société Nationale des Pétroles du Congo (SNPC), 15%	Moho-Bilondo field, offshore	32,000
Do.		do.	Nkossa and Nsoko fields, offshore	18,000
Do.		Total Exploration & Production Congo, 65%, and Eni Congo S.A., 35%	Kombi, Libondo, Likalala, Tchibeli, and Tchibouela fields, offshore	25,000
Do.		do.	Tchendo field, offshore	3,000
Do.		Total Exploration & Production Congo, 55.25%; Eni Congo S.A., 29.75%; Société Nationale des Pétroles du Congo (SNPC), 15%	Sendji and Yanga fields, offshore	9,500
Refined products		Congolaise de Raffinage (CORAF) [Société Nationale des Pétroles du Congo (SNPC), 100%]	Pointe Noire	7,600

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