



2005 Minerals Yearbook

CENTRAL AFRICAN REPUBLIC, CÔTE D'IVOIRE,
AND TOGO

THE MINERAL INDUSTRIES OF CENTRAL AFRICAN REPUBLIC, CÔTE D'IVOIRE, AND TOGO

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CENTRAL AFRICAN REPUBLIC

Central African Republic produced diamond, gold, and small amounts of kaolin and quartz crystals. Identified mineral occurrences in the country included copper, graphite, ilmenite, iron ore, kyanite, lignite, limestone, manganese, monazite, rutile, salt, tin, and uranium. In 2005, diamond production was estimated to be about 380,000 carats compared to an estimated 350,000 carats in 2004 (table 1). Diamond was produced from alluvial deposits in the northern part of the country. Gold was produced by artisanal miners from the Bandas and the Bogoin-Boali greenstone belts.

Canadian companies Energem Resources Inc. and Vaaldiam Resources Ltd. continued to explore for diamond during 2005. Energem focused on the development of suitable prospects within its Bangana, Bria, Kotto, and Quadda Ouadda concession areas and Vaaldiam was in the process of completing a geologic survey for its Haute Kotto alluvial diamond mining area, which was located in the southeastern part of the country. Vaaldiam's survey included reconnaissance sampling of alluvial gravels. The company's plan to explore for diamond-bearing kimberlite pipes in the country continued to be on hold during the year as the company focused on other priority exploration areas in Brazil (Energem Resources Inc., 2005; Vaaldiam Resources Ltd., 2005, p. 11).

During the third quarter of 2005, Axmin Inc. of Canada reported the results of an updated mineral resource estimate for the Passendro gold project. The resource estimate was prepared by SRK Consulting of the United Kingdom. SRK reported indicated gold resources to be about 13.2 million metric tons (Mt) of ore at a grade of 2.5 grams per metric ton (g/t) gold, and inferred gold resources of 19.3 Mt of ore at a grade of 1.8 g/t gold. A prefeasibility study for the Passendro project was underway as of yearend. The prefeasibility study was to be conducted by GBM Ltd., a division of Grantham Industries Ltd. of the United Kingdom (Axmin Inc., 2005¹).

In October, African-based Pan African Resources plc announced that it had entered into a joint-venture agreement with Goldiam SARL and International Mining Investments Ltd. to explore for gold. The joint venture's exploration activities were to be managed by Pangea Exploration Pty Ltd. International Mining and Pan African will each hold a 45% interest in the joint venture; Goldiam will hold the remaining 10% interest. In November 2005, Pan African announced the results of the first phase of regional geochemical sampling for the Bogoin project, which identified a regional gold

geochemical anomaly, and announced the beginning of the second phase of the exploration program, which focused on infill geochemical line sampling (Pan African Resources plc, 2005a, b).

Central African Republic did not produce mineral fuels in 2005 and depended upon imports for its energy requirements.

More-extensive coverage of the mineral industry of Central African Republic can be found in the 2003 and 2004 U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International—Africa and the Middle East, which are available on the World Wide Web at URL <http://minerals.usgs.gov/minerals/pubs/country>.

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- Vaaldiam Resources Ltd., 2005, Management discussion and analysis for the nine months ended September 30, 2005: Toronto, Ontario, Canada, Vaaldiam Resources Ltd., 19 p.

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CÔTE D'IVOIRE

Côte d'Ivoire produced cement, clay, columbium (niobium), diamond, gold, gravel and crushed rock, manganese, natural gas, crude petroleum and petroleum products, sand, sulfuric acid, and tantalum. The country also had deposits of bauxite, cobalt, copper, iron ore, nickel, and silica sand.

In 2005, gold production increased to 1,638 kilograms (kg) from 1,219 kg in 2004 (table 1). Equigold NL of Australia through its subsidiary Equigold Côte d'Ivoire S.A. held a 94% interest in five gold exploration permits. The permits were for the Bassawa, the Didievi, the Kokoumbo, the Oume, and the Timbe properties, which are located within the country's Oume-Fetekro Proterozoic greenstone belt. In 2005, the company acquired exploration licenses for the Hire, the Sassandra North, and the Sassandra South gold properties and applied for licenses for the San Pedro East, the Tehini East, and the Tehini West gold properties. The company's exploration efforts during the year focused on the Bonikro deposit, which was located on the Oume

¹References that include a section mark (§) are found in the Internet Reference(s) Cited sections.

property. In 2005, the company reported a revised resource estimate for Bonikro of about 25 Mt of ore at a grade of 1.7 g/t gold and a cutoff grade of 0.6 g/t gold. Equigold planned to complete a bankable feasibility study for Bonikro by June 2006 (Equigold NL, 2006, p. 12-14).

Randgold Resources Ltd.'s exploration activities in Côte d'Ivoire continued to be on hold throughout the year, according to the company, owing to the country's political instability (Randgold Resources Ltd., 2006a§, b§).

Etruscan Resources Inc. of Canada held an exploration permit for the Agbaou gold deposit, which is located about 200 kilometers northwest of the Port of Abidjan. During 2005, the company completed a 5,230-meter drilling program at Agbaou and planned to conduct further drilling during the second quarter of 2006 (Etruscan Resources Inc., 2006, p. 2).

In 2005, Cluff Gold plc of the United Kingdom hired SRK Consulting to review drill data for the Mt. Yaoure gold property that had been purchased from Cominor S.A. [a subsidiary of Cie. Générale Des Matieres Nucleaires Group (COGEMA)]. The data included drill assay results that identified satellite gold deposits in the vicinity of the now closed Angovia gold mine. The Angovia Mine lies within the Mt. Yaoure exploration permit. Upon validation of the drill data, SRK derived a mineral resource estimate of about 3.1 Mt of ore at an average grade of 1.9 g/t gold. Cluff planned to acquire an oxide processing plant onsite from the Government and to continue with exploration (Cluff Gold plc., 2006, p. 6).

More-extensive coverage of the mineral industry of Côte d'Ivoire can be found in the 2003 and 2004 U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International—Africa and the Middle East, which are available on the World Wide Web at URL <http://minerals.usgs.gov/minerals/pubs/country>.

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Equigold NL, 2006, 2005 annual report: Applecross, Western Australia, Equigold NL, 60 p.
Etruscan Resources Inc., 2006, 2005 annual report: Windsor, Nova Scotia, Canada, Etruscan Resources Inc., 36 p.

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- Randgold Resources Ltd., 2006a, 2005 annual report, accessed June 14, 2006, at URL http://www.randgold.com/randgold/applications/randgold/templates/annual_report_2005/index.htm.
Randgold Resources Ltd., 2006b, Tongon project, accessed May 4, 2006, at URL <http://www.randgoldresources.com/randgold/view/randgold/en/page379>.

TOGO

Togo produced cement, clinker, diamond, gold, limestone, and phosphate rock. The country also had resources of bauxite, gypsum, iron ore, manganese, marble, rutile, and zinc. The Ministère des Mines, de l'Énergie et des Postes et Télécommunications was responsible for the administration of the mining sector. Togo's production of phosphate rock decreased to 1.021 Mt in 2005 from 1.115 Mt in 2004 (table 1). The International Fertilizer Group Togo, which was a 50-50 joint venture between the Government of Togo and Brifco Ltd. of France, was the company in charge of phosphate production.

More-extensive coverage of the mineral industry of Togo can be found in the 2003 and 2004 U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International—Africa and the Middle East, which are available on the World Wide Web at URL <http://minerals.usgs.gov/minerals/pubs/country>.

TABLE 1
CENTRAL AFRICAN REPUBLIC, CÔTE D'IVOIRE, AND TOGO: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Country and commodity		2001	2002	2003 ^c	2004 ^c	2005 ^c
CENTRAL AFRICAN REPUBLIC ²						
Diamond	carats	452,700	416,400	332,700 ³	350,000	380,000
Gold	kilograms	34	16	7 ³	7	7
CÔTE D'IVOIRE ⁴						
Cement ^e		650,000	650,000	650,000	650,000	650,000
Columbite ^e	kilograms	130	130	130	130	130
Diamond	carats	309,000	306,500	230,000	300,000 ^r	300,000
Gold	kilograms	3,672	3,570	1,313 ³	1,219 ³	1,638 ³
Gravel and crushed rock		550,000 ^e	550,000 ^e	600,412 ^{r,3}	659,097 ^{r,3}	660,000
Natural gas	million cubic meters	1,062	1,610	1,457 ³	2,000 ^{r,3}	2,200 ³
Petroleum:						
Crude	thousand 42-gallon barrels	2,099	5,457 ^r	7,506 ^{r,3}	8,125 ^{r,3}	14,574 ³
Refinery products ^c	do.	19,500	19,000	19,000	19,000	19,000
Sand ^e		750,000	750,000	233,737 ^{r,3}	173,056 ^{r,3}	173,000
Sulfuric acid		3,000	3,000	3,000	3,000	3,000
Tantalite ^e	kilograms	400	400	400	400	400
TOGO ⁵						
Cement: ^c						
Clinker		1,000,000	1,000,000	1,200,000	1,200,000	1,200,000
Hydraulic ⁶		800,000	800,000	800,000	800,000	800,000
Diamond	carats	NA	NA	87,200	123,100	41,000
Limestone ^c		2,400,000	2,400,000	2,400,000	2,400,000	2,400,000
Phosphate rock, beneficiated product:						
Gross weight	thousand metric tons	1,067	1,271	1,471 ³	1,115 ³	1,021 ³
P ₂ O ₅ content ^c	do.	380	460	530	418 ³	368

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

¹Table includes data available through April 2006.

²In addition to the commodities listed, Central African Republic produced kaolin and quartz crystals, but information is inadequate to make reliable estimates of output.

³Reported figure.

⁴In addition to the commodities listed, Côte d'Ivoire produced clay, crushed granite, manganese, and stone, but information is inadequate to make reliable estimates of output.

⁵Togo also presumably produced gold, but output is not reported, and available information is inadequate to make reliable estimates of output.

⁶Includes cement produced from imported clinker.

TABLE 2
CÔTE D'IVOIRE AND TOGO: STRUCTURE OF THE MINERAL INDUSTRIES IN 2005

(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	Abidjan plant	750,000.
Do.		Société Ivoirienne de Ciment et Matériaux (Holcim Ltd.)	do.	500,000.
Do.		Société des Ciments du Sud-Ouest	San Pedro	100,000.
Gold		Société des Mines d'Ity (Cie. Générale des Matières Nucleaires Group, 51%, and Société pour le Développement Minier en Côte d'Ivoire, 49%)	Ity Mine	450,000 ore.
Do.	kilograms	do.	do.	2,250 gold.
Do.	do.	do.	do.	1,200 gold.
Petroleum, crude	thousand 42-gallon barrels	Canadian Natural Resources Ltd., 57.61%; Svenska Petroleum, 27.39%; Société Nationale d'Operations Pétrolières de la Côte d'Ivoire, 15%	Baobab oilfield	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, 20%	East Espoir oilfield	6,700.
Do.	do.	do.	Lion and Panther oilfields	2,000.
Petroleum products	do.	Société Ivoirienne de Raffinage	Abidjan	23,800.
TOGO				
Cement		Ciments du Togo	Lome plant	800,000 cement.
Do.		West African Cement Company	Tabligbo	1,000,000 cement; 1,200,000 clinker.
Limestone		Ciments de l'Afrique de l'Ouest	do.	2,400,000.
Phosphate rock		International Fertilizer Group Togo	Akoumape and Hahotue	2,000,000.