



# 2006 Minerals Yearbook

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## CAMEROON AND CAPE VERDE

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# THE MINERAL INDUSTRIES OF CAMEROON AND CAPE VERDE

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## CAMEROON

The mineral resources mined in Cameroon in 2006 were quite limited. Although the mining sector had not been a priority of the Government in the past, that appeared to be changing. The Government was reviewing its Mining Code with the intent of decreasing the state's role in mining operations and discretionary powers with respect to those operations. All mineral resources belong to the state. Prospecting, exploration, and mining activities for any mineral deposit were regulated by permit.

### Production

The petroleum sector was the most significant segment of Cameroon's mineral industry, and petroleum products were the main export items. Other mineral commodities produced in the country were cement, clay, modest amounts of diamond and gold that were produced by artisanal miners from alluvial placer deposits, limestone, marble, pozzolana, primary aluminum, and sand. A variety of industrial minerals and other construction materials, such as aggregates, gypsum, and stone, were also produced. Cameroon's undeveloped mineral resources included bauxite, cobalt, gold from lode deposits, granite, iron ore, nepheline syenite, nickel, and rutile.

Hydromine Inc. of the United States was granted an exploration permit for the Minim-Martap and the Ngaoundal bauxite deposits in Adamaoua Province, where there was an estimated resource of 1,000 million metric tons (Mt) that averaged 46% aluminum oxide. Yekani S.A. of South Africa was awarded an exploration permit on the Fongo Tongo bauxite deposit near Dchang in west Cameroon (Mining Journal, 2006b).

Geovic Mining Corp. of the United States [a subsidiary Geovic Cameroon plc (GeoCam)] was planning to start mining cobalt, manganese, and nickel at the Nkamouna laterite deposit in southeastern Cameroon in 2009. Based on a 2006 prefeasibility study, GeoCam planned to produce 4,000 metric tons per year (t/yr) of cobalt and 3,000 t/yr of nickel from 525,000 t/yr of upgraded concentrates. Mining would be by open pit, and processing would be by atmospheric leaching after crushing, washing, and screening to upgrade the ore (Geovic Mining Corp., 2006).

Small-scale artisanal miners recovered gold in the eastern and northern parts of the country from alluvial and elluvial deposits. Annual gold production was estimated to be about 2,000 kilograms. Diamond was also produced throughout the country by small-scale artisanal miners. Numerous local operations produced industrial minerals.

Canadian Resources House Ltd. (CRH) received an exploration permit for the Lolodorf uranium property. The property is located in southern Cameroon and covers an area of 1,000 kilometers (km). CRH stated that mineralization at Lolodorf is hosted by a

2- to 5-km-wide zone of syenitic rocks that extend along a strike length of about 80 km (Mining Journal, 2006a).

Cameroon was considered to have abundant offshore natural gas resources and additional hydropower potential that remained to be developed. The country's petroleum reserves are located offshore in the Rio del Rey Basin, offshore and onshore in the Douala and Kribi-Camp Basins, and onshore in the Logone-Birni Basin in the northern part of the country. Cameroon's only refinery, which is located in the port city of Limbe, had a capacity to produce 45,000 barrels per day and was operated by Société Nationale de Raffinage (SoNoRa).

### Structure of the Mineral Industry

The significant producers of mineral commodities in Cameroon were Compagnie Camerounaise de l'Aluminium (aluminum), Cimentaries du Cameroon (cement), and SoNoRa (petroleum). Table 2 is a list of the country's major mineral industry facilities.

More-extensive coverage of the mineral industry of Cameroon can be found in the 2004 and the 2005 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 <http://minerals.usgs.gov/minerals/pubs/country>.

### References Cited

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## CAPE VERDE

Cape Verde is an archipelago of 10 islands and 8 islets located about 600 km off the western coast of Africa. Mining's contribution to the country's economy was minimal. Most of the country's mineral requirements were imported. Production of mineral commodities was limited to clay on the Islands of Boa Vista, Sal, and Sao Vicente; gypsum on the Island of Maio; limestone on the Islands of Boa Vista, Sal, and Santo Antao; pozzolana on the Island of Santo Antao; and salt on the Islands of Mindelo and Sal. Cape Verde was not a coal, natural gas, or petroleum producer.

More-extensive coverage of the mineral industry of Cape Verde can be found in the 2004 and the 2005 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 <http://minerals.usgs.gov/minerals/pubs/country>.

TABLE 1  
CAMEROON AND CAPE VERDE: ESTIMATED PRODUCTION OF MINERAL COMMODITIES<sup>1,2</sup>

(Metric tons unless otherwise specified)

| Country and commodity <sup>3</sup>                   | 2002                   | 2003                   | 2004                     | 2005                  | 2006      |
|--|------------------------|------------------------|--------------------------|-----------------------|-----------|
| <b>CAMEROON</b>                                      |                        |                        |                          |                       |           |
| Aluminum metal, primary                              | 67,000                 | 77,200                 | 85,900 <sup>4</sup>      | 86,977 <sup>r,4</sup> | 87,000    |
| Cement, hydraulic                                    | 936,969 <sup>r,5</sup> | 948,943 <sup>r,5</sup> | 1,032,438 <sup>r,5</sup> | 1,000,000             | 1,000,000 |
| Clay   | 23,066 <sup>r,5</sup>  | 24,881 <sup>r,5</sup>  | 15,734 <sup>r,4</sup>    | 9,811 <sup>r,4</sup>  | 10,000    |
| Diamond carats                                       | 5,000 <sup>r,5</sup>   | 5,500 <sup>r,5</sup>   | 12,000                   | 12,000                | 12,000    |
| Gold, mine output, Au content <sup>6</sup> kilograms | 700 <sup>r,5</sup>     | 700 <sup>r,5</sup>     | 1,500                    | 18,895 <sup>r,4</sup> | 20,000    |
| <b>Petroleum:</b>                                    |                        |                        |                          |                       |           |
| Crude thousand 42-gallon barrels                     | 26,280 <sup>4</sup>    | 24,820 <sup>4</sup>    | 34,675 <sup>4</sup>      | 21,900 <sup>7</sup>   | 22,000    |
| Refinery products do.                                | 12,000                 | 12,000                 | 12,000                   | 12,000                | 12,000    |
| Pozzolana, ash for cement                            | 620,000                | 600,000                | 600,000                  | 600,000               | 600,000   |
| Sand and gravel                                      | 556,382                | 601,201 <sup>4</sup>   | 601,000                  | 601,000               | 600,000   |
| Sapphire kilograms                                   | 1,000 <sup>5</sup>     | 1,000 <sup>5</sup>     | 1,000                    | 1,000                 | 1,000     |
| Silica sand  | 12,408 <sup>5</sup>    | 13,927 <sup>5</sup>    | 14,000                   | 14,000                | 14,000    |
| <b>Stone:</b>  |                        |                        |                          |                       |           |
| Limestone  | 98,600 <sup>5</sup>    | 103,420 <sup>5</sup>   | 103,000                  | 103,000               | 100,000   |
| Marble   | 445 <sup>5</sup>       | 468 <sup>5</sup>       | 500                      | 500                   | 500       |
| <b>CAPE VERDE<sup>8</sup></b>                        |                        |                        |                          |                       |           |
| Salt   | 1,600                  | 1,600                  | 1,600                    | 1,600                 | 1,600     |

<sup>r</sup>Revised.

<sup>1</sup>Estimated data are rounded to no more than three significant digits.

<sup>2</sup>Includes data available through April 2007.

<sup>3</sup>In addition to the commodities listed, a variety of industrial minerals and construction materials (aggregate, gypsum, and stone) are produced, and bauxite may be produced, but information is inadequate to make reliable estimates of output. The National Institute of Statistics of Cameroon reports salt production to be less than 1 metric ton per year.

<sup>4</sup>Reported figure.

<sup>5</sup>Reported by the National Institute of Statistics of Cameroon.

<sup>6</sup>From artisanal mining.

<sup>7</sup>Reported by the U.S. Energy Information Administration.

<sup>8</sup>Cape Verde also produced clay, gypsum, limestone, and pozzolana, but output is not reported, and available information is inadequate to make reliable estimates of output.

TABLE 2  
CAMEROON: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

(Thousand metric tons unless otherwise specified)

| Commodity                           | Major operating companies                                 | Location of main facilities      | Annual capacity |
|-------------------------------------|---|----------------------------------|-----------------|
| Aluminum                            | Compagnie Camérounaise de l'Aluminium (Alcan Inc., 46.7%) | Plant at Edea                    | 95              |
| Cement                              | Cimentaries du Cameroon (Lafarge Group, 57%)              | Plant at Bonaberi near Douala    | 1,200           |
| Diamond carats                      | Artisanal   | Various locations                | 12,000          |
| Gold kilograms                      | do.   | do.                              | 1,500           |
| Limestone                           | Cimentaries du Cameroon (Lafarge Group, 57%)              | Figuil                           | 275             |
| Petroleum, refinery barrels per day | Société Nationale de Raffinage (Government, 66%)          | Refinery at Limbe                | 45,000          |
| Pozzolana                           | Cimentaries du Cameroon (Lafarge Group, 57%)              | Sud-Quest and Littoral Provinces | 750             |