



# 2010 Minerals Yearbook

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CHAD [ADVANCE RELEASE]

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# THE MINERAL INDUSTRY OF CHAD

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Hydrocarbons were a leading segment of Chad's economy in 2010. Government oil revenues increased to about \$1.3 billion as international crude oil prices rose in 2010, compared with \$600 million in 2009 (Esso Exploration and Production Chad Inc., 2010, p. 70; 2011, p. 69).

Mining of solid minerals, which was a negligible contributor to the national economy, was regulated by the Mining Code (law No. 011/PR/95 of 1995). Exploration and production of hydrocarbons were covered by the conventions governing research, exploration, exploitation, and transportation of hydrocarbons dated December 19, 1988, and May 10, 2004, and amendments, including law No. 028/PR/00 of December 5, 2000. The Petroleum Revenue Management Law (law No. 001/PR/99 of 1999) and amendments, such as law No. 002/PR/06 of 2006, defined the allocation of petroleum revenues. Law No. 014/PR/98 of 1998 covered the general principles for the protection of the environment.

Most official international trade with landlocked Chad was channeled through seaports in Cameroon and Nigeria. Petroleum produced in the Doba Basin was exported by way of the Chad-Cameroon pipeline to an export terminal at Kribi, Cameroon.

## Production

Production of crude oil far exceeded the output of the country's limited suite of other mineral commodities, which included clay, gold, lime, limestone, salt, sand, soda ash (natron), and stone. Estimates of Chad's mineral production are in table 1.

## Structure of the Mineral Industry

In 2010, the Ministère des Mines et de la Géologie and the Ministère du Pétrole et de l'Énergie monitored the activity of various sectors of the mineral industry. Société des Hydrocarbures du Tchad S.A. was the national oil company. Small-scale domestic mining operations produced most of the country's nonfuel minerals. International companies were involved in the exploration for and the production of crude oil and the exploration for uranium.

## Commodity Review

### *Industrial Minerals*

**Cement.**—The construction of Chad's first cement plant was expected to be completed in mid-2011 for Ciment du Tchad. Located at Moursale Banba, the 200,000-metric-ton-per-year (t/yr)-capacity plant was expected to partially reduce the country's dependence on cement imports (Leblanc, 2011).

### *Mineral Fuels and Related Materials*

**Petroleum.**—Esso Exploration and Production Chad, Inc. (Esso Chad) reported that its crude oil output increased to an average of 122,500 barrels per day (bbl/d) in 2010 compared with 119,500 bbl/d in 2009. In 2010, Esso Chad drilled an additional 101 production wells and 55 water-injection wells in its Doba Basin oilfields and completed the third phase of a high-pressure water-injection project to maintain reservoir pressure (Esso Exploration and Production Chad, Inc., 2010, p. 8; 2011, p. 6).

In 2010, CNPC International (Chad) Ltd., which was a subsidiary of China National Petroleum Corp., continued to drill wells on the Permit H concession. CNPC began to build a 300-kilometer (km) pipeline from the fields to the site of a 7-million-barrel-per-year-capacity petroleum refinery at Djermaya, which was located about 30 km north of N'Djamena. Construction of the Djermaya refinery was expected to be completed in 2011. CNPC also was negotiating to ship crude oil through the Chad-Cameroon pipeline, which was located about 200 km south of the Permit H fields. In 2010, Overseas Petroleum Investment Corp. (OPIC), which was a subsidiary of CPC Corp., Taiwan, explored the BCO II and the BCO III prospects (Thomson Reuters, 2010; Tumanjong, 2011).

**Uranium.**—For much of 2010, Chad Mining Services drilled and sampled the Lere project in southwestern Chad. Chad Mining Services was a subsidiary of Signet Mining Services Ltd. of South Africa, which had a change of management in early 2010.

## Outlook

In the past few years, the Government has resumed its encouragement of mineral exploration, especially for metals. Petroleum exploration and development is expected to continue. Production from CNPC International's Permit H oil reservoirs will provide feedstock for the Djermaya oil refinery and the domestically produced refined petroleum products will reduce Chad's 100% reliance on imported petroleum products. There may be some resistance, however, in any transition from the current automotive fuel retail system (in which thousands of people participate in the importation and local distribution of motor fuel that is distributed from roadside stands, typically in 1-liter glass bottles) to one in which the Government would supply fuel to gasoline stations that would sell the fuel through metered rubber-hosed pumps (Rousselin, 2010).

## References Cited

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Tumanjong, Emmanuel, 2011, CNPC negotiates to ship crude though Chad-Cameroon pipe: Dow Jones Newswires, January 14. (Accessed April 29, 2011, at <http://online.wsj.com/article/BT-CO-20110114-704323.html>.)

TABLE 1  
CHAD: ESTIMATED PRODUCTION OF MINERAL COMMODITIES<sup>1,2</sup>

(Thousand metric tons unless otherwise specified)

Commodity <sup>3</sup>	2006	2007	2008	2009	2010
Aggregate, sand, and stone	300	300	300	350	350
Gold, mine output, Au content	kilograms	150	150	100	100
Petroleum, crude <sup>4</sup>	thousand 42-gallon barrels	55,900	52,400	46,500	43,600
Salt		10	10	10	10
Soda ash, natron		12	12	12	12

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

<sup>2</sup>Table includes data available through May 2, 2011.

<sup>3</sup>In addition to the commodities listed, other industrial minerals and construction materials (clay, lime, and limestone) are produced, but information is inadequate to make reliable estimates of output.

<sup>4</sup>Reported shipments data. Production volume from the Doba Basin in Chad was metered on the floating storage-and-offloading vessel, which was located offshore Kribi, Cameroon.

TABLE 2  
CHAD: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement	Ciment du Tchad	Moursale Banba, Mayo-Kebbi Ouest Department	200,000 <sup>1</sup>
Gold	kilograms	Artisanal placer operations	Mayo Dala Department
Petroleum:			
Crude	million 42-gallon barrels	Esso Exploration and Production Chad, Inc. (Esso Chad) (Exxon Mobil Corp., 40%; Petronas Carigali Overseas Sdh. Bhd., 35%; Chevron Overseas Petroleum Inc., 25%)	Bolobo, Kome, Maikeri, Miandoum, Moundouli, and Nya, and the Timbre fields, Doba Basin
Do.	do.	CNPC International (Chad) Ltd. (a subsidiary of China National Petroleum Corp.)	Block H, which includes the Mimosa and the Ronier fields
Refined products	do.	CNPC International (Chad) Ltd. (a subsidiary of China National Petroleum Corp., 60%, and Société des Hydrocarbures du Tchad S.A., 40%)	Djermaya refinery, about 30 kilometers north of N'Djamena
Salt		Various local operators	Various locations
Soda ash		do.	Lake Chad, near Liwa

Do., do. Ditto.

<sup>1</sup>Under construction.

<sup>2</sup>Projected capacity. Fields under development.