



# 2008 Minerals Yearbook

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## ANGOLA

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# THE MINERAL INDUSTRY OF ANGOLA

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Angola's mineral industry was dominated by diamond and petroleum production; petroleum however, was by far the major driving force of the economy, accounting for about 83% of the gross domestic product (GDP), 95% of exports, and 83% of Government revenues in 2008. The country ranked third among the world's leading producers of crude petroleum; it ranked seventh among the world's leading producers of rough diamond by volume and fifth in terms of value. Other mineral commodities produced in the country included cement, granite, marble, and salt. Undeveloped mineral resources included copper, gold, gypsum, iron ore, lead, lignite, manganese, mica, nickel, peat, phosphate rock, silver, and zinc (BP p.l.c., 2009, p. 8; Kimberley Process Certification Scheme, 2009; U.S. Department of State, 2009).

## Production

Crude petroleum production increased by about 9% to reach 684 million barrels in 2008 compared with about 629 million barrels in 2007; diamond production decreased by 8.2% to 8.9 million carats; and production of hydraulic cement increased by 27% to about 1.8 million metric tons (Mt). Data on mineral production are in table 1.

## Structure of the Mineral Industry

The *Ministerio da Geologia e Minas* is the Government entity responsible for the negotiation of mineral rights contracts, for enforcing mining laws, and for executing the Government's policy regarding geologic and mining activities. It is also the entity responsible for coordinating efforts regarding Kimberley Process Certification Scheme (KP) compliance. All mineral rights in Angola belong to the state, and all mining and prospecting contracts must be approved by the *Conselho de Ministros* [Council of Ministers]. The *Corpo Especial de Fiscalização y Segurança de Diamantes* (CSD) is the Government entity responsible for ensuring the security of Angola's diamonds as they travel to the capital city of Luanda for export from the respective mining operations and buying houses located throughout the country. The CSD reports directly to the President through the *Chefe do Serviço de Informações* [Chief of Information Services]. The CSD has administrative, financial, and operational autonomy but works closely with the National Police and Customs. *Empresa Nacional de Diamantes de Angola E.P.* (Endiama), which is the Government-owned diamond company, is responsible for creating partnerships with international companies prospecting for diamond and is a partner in all diamond ventures. Endiama's subsidiaries include *Sociedade de Comercialização de Diamantes de Angola* (Sodiam), which is in charge of the marketing, sale, and trade of all diamond produced in Angola and the entity responsible for KP compliance; and *Endiama Prospecção e Produção S.A.R.L.*, which oversees all Endiama's mining and prospecting interests.

*Sociedade Nacional de Combustíveis de Angola* (Sonangol) is the Government-owned company responsible for petroleum exploration and production.

## Mineral Trade

U.S. exports to sub-Saharan Africa totaled \$18 billion in 2008, or about 1.7% of U.S. total world exports of \$1,070 billion. U.S. imports from sub-Saharan Africa totaled \$86.1 billion for the same period, or about 4.1% of U.S. total imports from the world. About 22% of all U.S. imports from sub-Saharan Africa came from Angola, and about 12% of all U.S. exports to sub-Saharan Africa went to Angola. Angola's exports to the United States were valued at about \$18.9 billion in 2008 compared with about \$12.5 billion in 2007. Crude petroleum accounted for about \$18.5 billion of these exports; fuel oil, about \$325 million; and gem-quality diamond, about \$34 million. Imports from the United States were valued at about \$2.0 billion in 2008 compared with a revised \$1.2 billion in 2007; these included nearly \$645 million in drilling and oilfield equipment and about \$23.9 million in excavating machinery (Jones, 2009, p. 6; U.S. Census Bureau, 2009a, b).

## Commodity Review

### Metals

**Copper.**—In May, Hansa Resources Ltd. of Canada signed a memorandum of understanding with Angola Petroleum Services S.A.R.L. to acquire a 70% interest in the Mavoio-Tetelo-Bembe exploration project. The project, which is located in the Uíge Province near the border with the Democratic Republic of the Congo [Congo (Kinshasa)], included the exploration rights to the historic Mavoio copper mine and to the Bembe and the Tetelo copper deposits. The Mavoio Mine operated from 1937 to 1961 as both an open pit and an underground mine. Hansa estimated that the Tetelo prospect contained resources ranging between 6.2 Mt at a grade of 3.1% copper and 12.8 Mt at a grade of 3.9% copper based on historic drilling conducted during the 1940s and 1970s. Other mineral occurrences within the property reportedly included cobalt, gold, lead, manganese, silver, vanadium, and zinc (Hansa Resources Ltd., 2008).

### Industrial Minerals

**Cement.**—In Angola, cement was produced by two companies, *Companhia de Cimento do Lobito S.A.* (Secil-Lobito) and *Nova Cimangola S.A.* (Cimangola). The Cimangola cement plant, which is located in the city of Luanda, had an annual production capacity of 1.5 million metric tons per year (Mt/yr) of cement and 540,000 metric tons per year (t/yr) of clinker. The Angolan Government held an 89% interest in Cimangola. The Secil-Lobito plant, which is located in the

city of Lobito, Benguela Province, had an annual production capacity of 250,000 metric tons (t) of cement and was owned by TecnoSecil Investimentos e Participações S.A. of Portugal (TecnoSecil) (51%) and the Government (49%). Plans were underway to increase the production capacity at Secil-Lobito by 120,000 t/yr to 370,000 t/yr (Portal das Empresas do Governo de Angola, 2008b).

A consortium of international companies, which included Acurias of France, Dubai-based ETA Star Property Developers LLC, FLSmidth A/S of Denmark, Sjitza Corp. of Japan, and Wartsila Corp. of Finland, planned to invest \$500 million in the construction of a new cement plant in the Cuara district, Cuanza Sul Province. The plant, which would have a production capacity of 1.4 Mt/yr, was expected to be completed by 2011 and to generate more than 4,000 jobs. Once completed, the plant was expected to supply about 25% of the country's domestic requirements for cement (Noticias lusofonas, 2008; Suga, 2008).

ESCOM S.A. of Portugal in joint venture with Camargo Correa Cimentos of Brazil signed a memorandum of understanding with Gema Group of Angola to build a new cement plant in Benguela Province at a cost of \$200 million. The joint venture of ESCOM and Camargo Correa would hold a 60% interest in the project and Gema Group would hold the remaining 40%. The cement plant, which was to be named Palanca Cimentos S.A., was expected to be completed by 2011 and to produce 600,000 t during its first year of operation; 800,000 t during the second year; and 1.2 Mt/yr during the third year when it was expected to reach nameplate capacity (ESCOM S.A., 2008; Noticias lusofonas, 2008).

**Diamond.**—Angola has vast diamond resources available for prospecting and for economic development. Alluvial and eluvial diamond deposits occur in the Provinces of Bie, Cunene, Cuando Cubango, Cuanza Sul, Huambo, Huila, Lunda Norte, Lunda Sul, Malanje, Moxico, and Uige. In the northern Provinces, diamond deposits extend into Congo (Kinshasa). About 700 kimberlite pipes containing reserves of about 50 million carats were known to exist in the country. Other deposits were thought to occur in coastal areas and offshore. In 2008, industrial-scale diamond operations accounted for about 92% of the country's total diamond production by volume and for about 82% of total diamond production by value (Mr. Paulo Mvika, National Director of Mines, Ministry of Geology and Mines of Angola, written commun., August 24, 2009).

**Gypsum.**—Angola planned to begin producing 6,000 metric tons per month of gypsum from a pilot plant that was located in Alto Chingo within the city of Sumbe in Cuanza Sul Province. The plant, known as Fábrica de Gesso do Sumbe, would produce crushed gypsum for the agricultural and cement industries and calcined gypsum for the construction industry (Portal das Empresas do Governo de Angola, 2008a).

### **Mineral Fuels**

**Petroleum.**—Angola was a member of the Organization of the Petroleum Exporting Countries. Petroleum was produced offshore the enclave of Cabinda, offshore in the Cuanza Basin north of the city of Luanda, offshore the country's northern coast, and onshore near the city of Soyo. Most of the premier

international oil companies had acquired petroleum interests in Angola, including American companies Anadarko Petroleum Corp., Chevron Corp., ConocoPhillips, Exxon Mobil Corp., and Marathon Oil Corp.; Petróleo Brasileiro S.A. (Petrobras) of Brazil; Total of France; Eni SpA of Italy; Royal Dutch Shell plc of the Netherlands; Statoil ASA of Norway; and BP p.l.c. and Tullow Oil plc. of the United Kingdom. In 2008, Angola produced about 1.875 million barrels per day (Mbbbl/d) of crude petroleum compared with about 1.72 Mbbbl/d in 2007 and 1.421 Mbbbl/d in 2006. Angola's petroleum production in 2008 placed the country as Africa's third ranked producer after Nigeria and Algeria, displacing Libya from its traditional third spot as one of Africa's leading producers in terms of barrels (BP p.l.c., 2009, p. 8; Petroleum Economist, 2008).

In September, Sonangol acquired a 35% interest in São Tome e Príncipe's Empresa Nacional de Combustíveis e Oleo (ENCO). With the purchase, Sonangol increased its stake in ENCO to 75%; the São Tomean Government held 16%, and private investors held the remaining 9% (Agencia de Noticias de Portugal S.A., 2008).

Marathon planned to sell two-thirds of its 30% interest in offshore Block 32 for about \$2 billion. Petroleum resources at Block 32 were estimated to be 1.5 billion barrels of oil equivalent. Among those companies interested in the project were China National Offshore Oil Corp. and China Petrochemical Corp., which planned to bid jointly for the block; Oil and Natural Gas Corp. of India; and Petrobras. The remaining partners in the block were Total (30%), Sonangol (20%) ExxonMobil (15%), and Petrogal S.A. (5%) (Miles, 2008; Zang, 2008).

Angola had one petroleum refinery, which produced about 40,000 barrels per day (bbl/d). In December, Sonangol awarded the contract for the construction of the new Lobito refinery to Texas-based KBR Inc. Under the terms of the contract, KBR was to provide the engineering, procurement, and construction management services for the development of the 200,000-bbl/d-capacity refinery. The contract included the development of a road to transport material and equipment to the refinery, as well as port facilities to import crude oil and export hydrocarbon products. The refinery was expected to be in operation by 2013 (International Business News, 2008; KBR Inc., 2008).

### **Outlook**

Despite the global financial crisis in 2008, Angola ranked second in terms of its GDP growth (13.2%) among the world's fastest growing economies in 2008 after Qatar (16.4% GDP growth). Although the International Monetary Fund projects a slowdown in GDP growth for 2009 compared with that of 2008, it estimates that Angola will rank fourth among the world's fastest growing economies in 2010, reaching an estimated 9.3% GDP growth rate (International Monetary Fund, 2009). Government revenues are likely to continue to be led by the diamond and oil sectors. Foreign direct investment in the mineral sector as well as in mineral prospecting are likely to increase in the short run owing to the country's favorable political climate following the first democratic elections

in 16 years in September 2008. The country's dilapidated infrastructure may in the short run present challenges to investors; however, plans to increase capacity at the country's existing cement plants and plans to build additional cement production capacity may in the long run offset the country's challenges in obtaining construction materials to jump start infrastructure projects, including port facilities, roads, and buildings.

## References Cited

- Agencia de Noticias de Portugal S.A., 2008, Angola torna-se maior acionista da petrolífera de São Tomé: Agencia de Noticias de Portugal S.A., September 22. (Accessed February 26, 2009, at <http://www.agencialusa.com.br/index.php?iden=19306>.)
- BP p.l.c., 2009, BP Statistical review of world energy: London, United Kingdom, BP p.l.c., June, 45 p.
- ESCOM S.A., 2008, Cement factory in Angola: Lisbon, Portugal, ESCOM S.A. press release, June 23, 1 p.
- Hansa Resources Ltd., 2008, Hansa acquires Mavoio-Tetelo-Bembe copper project in Angola: Vancouver, British Columbia, Canada, Hansa Resources Ltd. press release, May 5, 3 p.
- International Business News, 2008, KBR wins site development contract for Lobito refinery in Angola—An Industrial Info news alert: International Business News, December 23. (Accessed February 26, 2009, at <http://www.ibtimes.com/prnews/20081223/kbr-incorporated.htm>.)
- International Monetary Fund, 2009, World economic outlook database: International Monetary Fund. (Accessed March 17, 2010, at <http://www.imf.org/external/pubs/ft/weo/2009/02/weodata/index.aspx>.)
- Jones, V.C., 2009, U.S. trade and investment relationship with sub-Saharan Africa—The African growth and opportunity act: Washington, DC, Congressional Research Service, July 24, 30 p.
- KBR Inc., 2008, KBR awarded Lobito refinery site development contract by Sonangol, E.P.: Houston, Texas, KBR Inc. press release, December 5, 1 p.
- Kimberley Process Certification Scheme, 2009, Statistical tables: Kimberley Process Certification Scheme, 1 p. (Accessed July 30, 2009, at [https://mmsd.mms.nrcan.gc.ca/kimberleystats/public\\_tables/Annual\\_Summary\\_Table\\_2008.pdf](https://mmsd.mms.nrcan.gc.ca/kimberleystats/public_tables/Annual_Summary_Table_2008.pdf).)
- Miles, Tom, 2008, RPT-update—Chinese big three ONGC seek Marathon Angola stake: Thompson Reuters, August 12. (Accessed February 26, 2009, at <http://www.reuters.com/article/domesticNews/idINBOM33952320080812>.)
- Noticias lusofonas, 2008, Provincia do Kwanza Sul tera fabrica de cimento em 2011: Noticias lusofonas, June 25. (Accessed March 23, 2009, at <http://www.noticiaslusofonas.com/view.php?load=arcview&article=21255&catogory=Angola>.)
- Petroleum Economist, 2008, Deep-water start-ups accelerate: Petroleum Economist, March. (Accessed March 26, 2009, at <http://www.petroleum-economist.com/default.asp?page=14&PubID=46&ISS=24599&SID=702930>.)
- Portal das Empresas do Governo de Angola, 2008a, Industria de gesso arranca com produção: Portal das Empresas do Governo de Angola, October 27. (Accessed March 25, 2009, at [http://www.angolanainternet.ao/portalempresas/index.php?option=com\\_content&task=view&id=823&Itemid=71](http://www.angolanainternet.ao/portalempresas/index.php?option=com_content&task=view&id=823&Itemid=71).)
- Portal das Empresas do Governo de Angola, 2008b, Secil Lobito prevê aumentar produção de cimento em 120 mil toneladas: Portal das Empresas do Governo de Angola, December 9. (Accessed March 23, 2009, at [http://www.angolanainternet.ao/portalempresas/index.php?option=com\\_content&task=view&id=949&Itemid=71](http://www.angolanainternet.ao/portalempresas/index.php?option=com_content&task=view&id=949&Itemid=71).)
- Suga, Masumi, 2008, Sojitz says it wins \$500 million order for Angolan cement plant: Bloomberg L.P., August 7. (Accessed March 25, 2009, at <http://www.bloomberg.com/apps/news?pid=20601101&sid=aRstHVplyihk&refer=japan>.)
- U.S. Census Bureau, 2009a, U.S. exports to Angola from 2004 to 2008 by 5-digit end-use code: U.S. Census Bureau. (Accessed July 30, 2009, at <http://www.census.gov/foreign-trade/statistics/product/enduse/exports/c7620.html>.)
- U.S. Census Bureau, 2009b, U.S. imports from Angola from 2004 to 2008 by 5-digit-end-use Code: U.S. Census Bureau. (Accessed July 30, 2009, at <http://www.census.gov/foreign-trade/statistics/product/enduse/imports/c7620.html>.)
- U.S. Department of State, 2009, Angola: U.S. Department of State background note, September. (Accessed November 5, 2009, at <http://www.state.gov/r/pa/ei/bgn/6619.htm>.)
- Zang, Kelly, 2008, China's CNOOC—Sinopec tie up to bid for Marathon's Angolan assets report: Thompson Financial News, November 8. (Accessed January 15, 2009, at <http://www.forbes.com/feeds/afx/2008/08/11/afx5307927.html>.)

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

Commodity	2004	2005	2006	2007	2008	
<b>INDUSTRIAL MINERALS</b>						
<b>Cement:</b>						
Hydraulic	thousand metric tons	740	1,315 <sup>3</sup>	1,373 <sup>3</sup>	1,400	1,780
Clinker	do.	480	500	500	500	500
Diamond <sup>4,5</sup>	thousand carats	6,146 <sup>3</sup>	7,079 <sup>3</sup>	9,175 <sup>3</sup>	9,702 <sup>3</sup>	8,907 <sup>3</sup>
Granite	cubic meters	15,000	15,000	35,000 <sup>3</sup>	46,000 <sup>3</sup>	50,000
Marble	do.	100	100	100	100	100
Salt	metric tons	30,000	30,000	35,000 <sup>3</sup>	35,000	35,000
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
<b>Petroleum:</b>						
Crude	thousand 42-gallon barrels	383,250 <sup>3</sup>	456,250 <sup>3</sup>	513,560 <sup>r,3</sup>	628,900 <sup>r,3</sup>	684,375 <sup>3</sup>
Refinery products <sup>6</sup>	do.	14,000	14,000	12,600	13,000	13,000

<sup>1</sup>Revised. do. Ditto.

<sup>2</sup>Estimated data are rounded to no more than three significant digits.

<sup>3</sup>Table includes data available through October 8, 2009.

<sup>4</sup>Reported figure.

<sup>5</sup>Production was approximately 90% gem quality and 10% industrial grade.

<sup>6</sup>Kimberley Process Certification Scheme.

<sup>7</sup>Includes asphalt and bitumen.

TABLE 2  
ANGOLA: STRUCTURE OF THE MINERAL INDUSTRY IN 2008

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		Nova Cimangola S.A. (Government, 89%, and private investors, 11%)	Luanda	1,500,000; 540,000 clinker.
Do.		Companhia de Cimento do Lobito S.A. (TecnoSecil Investimentos e Participações SARL, 51%, and Government, 49%)	Lobito, Benguela Province	250,000.
Diamond	thousand carats	Sociedade Mineira de Catoca Lda. [Empresa Nacional de Diamantes de Angola E.P. (Endiama), 32.8%; ALROSA S.A., 32.8%; Daumonty Financing Company B.V., 18%; Odebrecht Mining Services Inc., 16.4%]	Catoca Mine, 36 kilometers south of Saurimo, Lunda Sul Province	6,500.
Do.	do.	Empresa Nacional de Diamantes de Angola E.P. (Endiama), 51%; New Millenium Resources Ltd., 34%; Mombo Lda., 15%	Rio Lapi Mine, 45 kilometers northeast of Saurimo, Lunda Sul Province	240.
Do.	do.	Trans Hex Group Ltd., 35%, and Empresa Nacional de Diamantes de Angola E.P. (Endiama), 40%	Fucauma Mine, northeastern Angola	120.
Do.	do.	Trans Hex Group Ltd., 32%, and Empresa Nacional de Diamantes de Angola E.P. (Endiama), 40%	Luarica Mine, northeastern Angola	90.
Do.	do.	Sociedade de Desenvolvimento Mineiro de Angola S.A.R.L. (Empresa Nacional de Diamantes de Angola E.P. (Endiama), 50%, and Odebrecht Mining Services Inc., 50%)	Luzamba alluvial mine, Cuango Valley	70.
Petroleum refinery products	thousand 42-gallon barrels	Fina Petróleos de Angola (Total S.A., 64.1%, and Government, 34%)	Refinery, Luanda	14,600.
Steel		Chung Fong Holding Co., 51%, and Government, 49%	Relaunching of steel plant (under development)	36,500.
Do.		Grupo Ferpinta of Portugal	Two pipe mills at Viana, 30 kilometers east of Luanda	6,000
Do., do. Ditto.				