



2014 Minerals Yearbook

ANGOLA AND NAMIBIA

THE MINERAL INDUSTRIES OF ANGOLA AND NAMIBIA

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ANGOLA

Angola's mineral sector, in particular the diamond and petroleum industries, remained a significant contributor to the country's economy in 2014. Angola was Africa's second-ranked petroleum producer after Nigeria, accounting for about 21% of Africa's total petroleum output in 2014, 1.9% of total world petroleum output, and 7% of total world rough diamond output. Other mineral commodities produced in the country included attapulgitite (fuller's earth), cement, crushed stone, granite, gravel, gypsum, lime, limestone, marble, quartz, salt, and sand. Clinker and liquefied petroleum gas were also produced, and gold may have been produced at an artisanal or small-scale level, but available information was inadequate to make reliable estimates of output. Undeveloped mineral resources included beryllium, clay, copper, iron ore, lead, lignite, manganese, mica, nickel, peat, phosphate rock, quartz, silver, tungsten, uranium, vanadium, and zinc (BP p.l.c., 2015, p. 8).

Minerals in the National Economy

The International Monetary Fund (IMF) estimated that between 2011 and 2013, on average, the petroleum industry alone accounted for about 45% of the gross domestic product (GDP), for about 95% of total exports, and for 80% of Government revenue. Preliminary data reported by the IMF indicated that, in 2014, the petroleum industry accounted for more than 95% of total exports. The diamond industry accounted for about 2% of total exports. The nonfuel mineral sector in Angola is regulated by Mining Law No. 31/11 of September 23, 2011, and the fuels sector is regulated by law No. 11/2004 of November 12, 2004 (BP p.l.c., 2015, p. 8; International Monetary Fund, 2015a, p. 5–6; 2015b, p. 32; Kimberley Process Rough Diamond Statistics, 2015).

Production

Production of most mineral commodities, with the exception of diamond, granite, and petroleum, was estimated. Rough diamond production as reported by the Kimberley Process Certification Scheme (KPCS) increased marginally in 2014 to about 8.8 million carats from a revised 8.6 million carats in 2013 (number revised by the KPCS on July 13, 2015, from a previously reported 9.4 million carats). The value of Angola's diamond increased by 11% to nearly \$150 per carat from about \$135 per carat in 2013; production of granite increased by about 8% to 133,305 metric tons (t), and that of crude petroleum decreased by nearly 5% to 624.9 million barrels. Cement output increased by an estimated 18%. Gold was reportedly mined by artisanal miners in Cabinda Province; however, available information was inadequate to make reliable estimates of output. Data on mineral production are in table 1.

Structure of the Mineral Industry

The Government, through Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), held a majority interest in most diamond mining operations in the country. The Government's interest in other nonfuel and fuel mineral mining ventures varied from one operation to another. Table 2 is a list of major mineral industry facilities.

Mineral Trade

Angola's exports to the United States were valued at \$5.7 billion in 2014 compared with \$8.7 billion in 2013. About 99% of these exports were crude petroleum and fuel oil, which were valued at \$5.2 billion and \$499 million, respectively. Other exports to the United States included petroleum products valued at \$35.7 million and gem-quality diamond valued at \$5.9 million. Imports from the United States were valued at \$2 billion; these included nearly \$483 million in drilling and oilfield equipment, about \$27 million in iron and steel products, about \$32 million in excavating machinery, about \$10 million in petroleum products, and nearly \$4 million in iron and steel mill products (U.S. Census Bureau, 2015a, b).

Commodity Review

Industrial Minerals

Diamond.—Diamond mining in Angola was both from primary (kimberlite) and secondary (alluvial) deposits located in the Provinces of Lunda Norte and Lunda Sul. In 2011, the Government had revoked South Africa-based Trans Hex Group Ltd.'s mining rights to the Fucauma and Luarica Mines, citing that the company had not performed any mining for 3 years. Although the mines remained on care-and-maintenance status in 2014, Trans Hex continued to retain its 32% and 35% respective interests in the mines as it was in the process of finalizing its remaining financial obligations. Trans Hex also held a 33% interest in the Somiluana Mine, which was operational and undergoing an expansion program in 2014. The mine produced 72,041 carats during fiscal year 2014 (April 2013 to March 2014) (Trans Hex Group Ltd., 2015, p. 29, 69, 88, 113).

Lucapa Diamond Co. Ltd. of Australia (40%), in joint venture with Government-owned Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA) (32%) and Rosas e Petalas S.A., a privately owned Angolan company (28%), continued to work on the development of the Loulo Mine, which was expected to be commissioned in 2015. Lucapa planned to source diamond from alluvial deposits but as of yearend 2014 announced that it was unable to provide information on specific production targets because it had not yet completed a Joint Ore Reserves Committee (JORC) resource estimate for the project.

The Loulo Mine was located about 630 kilometers (km) east of the capital city of Luanda and about 150 km from the Catoca Mine, which was Angola's leading diamond-producing mine (Lucapa Diamond Co. Ltd., 2014).

Phosphate Rock.—In December 2014, Minbos Resources Ltd. (Minbos) of Australia applied for a series of new exploration licenses for areas prospective for phosphate rock mineralization within its Cabinda project. The company reported that it would recommence exploration and feasibility studies at Cabinda upon approval of the licenses for the Cambota, the Chibute, the Chivovo, the Mongo Tando, and the Ueca deposits. During the year, Minbos also signed an agreement with Sociedade de Fosfatos de Angola (Sofosa) for the provision of technical support and services to develop the Cabinda project. Minbos held a 50% interest in the project in joint venture with Angola-based Petril Projects Ltd. (50%). The first of the deposits to be developed was Cacata, which had measured mineral resources of 5 million metric tons (Mt) at an average grade of 23% P₂O₅ and indicated resources of 10.2 Mt at an average grade of 25.3% P₂O₅. Minbos planned to develop the Cacata deposit as a standalone mine with a capacity to produce about 800,000 metric tons per year (t/yr) of phosphate rock concentrate. Concentrates would be transported by road to the coastal port town of Cacongo, which is located about 90 km from the Cacata deposit, and from there exported to international markets (Minbos Resources Ltd., 2015, p. 4–8).

Mineral Fuels

Natural Gas.—Angola produced small amounts of associated natural gas (that is, natural gas produced as a byproduct of crude petroleum production), all of which was flared or reinjected into petroleum wells. The natural gas lost to flaring was expected to be recovered and processed at a liquefied natural gas (LNG) plant to be built by a consortium of companies led by Chevron Corp. of the United States (36.4%) in the coastal city of Soyo. Soyo is located in northern Angola at the mouth of the Congo River about 300 km from the capital city of Luanda. The project, known as the Angola Liquefied Natural Gas (ALNG) project, consisted of the construction of a 5.2-million-metric-ton-per-year LNG plant and a related 140-km-long high-pressure natural gas pipeline to be routed beneath a submarine canyon formed by the Congo River. This pipeline project, which was known as the Congo River Crossing (CRX1) project, was expected to be completed during the third quarter of 2015 (Angola LNG Marketing Ltd., 2014; Chevron Corp., 2015, p. 22; Universo Magazine, 2015, p. 8–10).

The ALNG project was to be developed at a cost of \$10 billion. The LNG plant would have the capacity to process 1.1 billion cubic feet per day of natural gas to produce an average of 670 million cubic feet per day of natural gas and up to 63,000 barrels per day (bbl/d) of natural gas liquids. Chevron reported that the plant would be the first in the world to use associated gas. The plant had been expected to be in full production in 2014, but in April, it experienced a failure in the flare blowdown piping system, which resulted in an extended plant shutdown. Design issues identified later in the year, which would require plant modifications and other identified capacity

and reliability enhancements, were to be completed during the shutdown period. The plant was expected to be commissioned in late 2015. Despite the delayed commissioning of the plant, a total of 75 million cubic feet of natural gas (27 million net) and 3,000 barrels of natural gas liquids (1,000 net) were produced in 2014. This preproduction is not listed in table 1. Other partners in the project included Sociedade Nacional de Combustíveis de Angola (Sonangol) (22.8%), BP p.l.c. of the United Kingdom, Eni S.p.A of Italy, and Total S.A. of France (13.6% each). The United States was to be the main export market for the natural gas produced by the ALNG (Angola LNG Marketing Ltd., 2014; Chevron Corp., 2015, p. 22).

Petroleum.—In 2014, Angola's petroleum reserves were estimated to be 12.7 billion barrels, which represented 9.8% of Africa's total proven petroleum reserves. Petroleum in Angola was produced from onshore and offshore deposits, including the offshore enclave of Cabinda. International petroleum companies operating in Angola included BP, Chevron, Eni, Exxon Mobil Corp. of the United States, and Total. Chevron was in the process of developing a \$5.6 billion integrated offshore petroleum project known as the Mafumeira Sul. The project consisted of the development of the Mafumeira Sul oilfield and of the construction of a central petroleum and gas processing unit. The Mafumeira Sul oilfield would have the capacity to produce about 110,000 (bbl/d) of crude petroleum and 10,000 bbl/d of liquefied petroleum gas. The petroleum and gas processing unit was expected to produce about 150,000 bbl/d of petroleum liquids and 350 million cubic feet per day of natural gas. The installation of offshore facilities and the laying of the pipeline were expected to be completed during the first half 2015, and the plant was to be commissioned in 2016, with rampup to full production to be reached by 2017. Total recoverable oil-equivalent resources were estimated to be 300 million barrels. Cabinda Gulf Oil Co., a subsidiary of Chevron, would be the operator of the oilfield and hold a 39.2% interest in the project in partnership with Sonangol, 41%; Total, 10%; and ENI, 9.8% (BP p.l.c., 2015, p. 6; Chevron Corp., 2013; 2015, p. 21; Universo Magazine, 2015, p. 11–12).

In 2012, the Governments of Angola and the Democratic Republic of the Congo [Congo (Kinshasa)] signed a cross-border agreement to jointly develop a petroleum oilfield located 105 km offshore of Angola known as the Lianzi Unitization Zone project (Lianzi project), which included four producing wells and three water injection wells connected to the Benguela-Belize and Lobito-Tomboco platform in Block 14. Drilling began at Lianzi in 2014, and the first production was scheduled for the fourth quarter of 2015. The project would have a production capacity of 46,000 bbl/d of crude petroleum. Block 14 was jointly owned by a consortium of companies that included Total, 36.75%; Chevron, 31.25%; Eni, 10%; Sonangol, 10%; Société Nationale des Petroles du Congo, 7.5%; and Galp Energia, 4.5% (Chevron Corp., 2015, p. 22).

Outlook

Angola's economy is largely dependent on revenues from the petroleum industry. Given this lack of diversification, any persistence of low international petroleum prices or a further decrease in prices is likely to affect the economy negatively

in the short run. Angola has the potential to offset or partially counterbalance any future loss of revenue caused by a decrease in petroleum prices by investing in the development of its nonfuel minerals sector. In order to attract foreign direct investment to develop copper, iron ore, lead, manganese, nickel, phosphate rock, tungsten, uranium, vanadium, and zinc resources, the country must continue to invest in improving its electrical capacity and its aging roads.

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NAMIBIA

In 2014, Namibia produced about 5.8% of the world's mined uranium; 1.5% of rough diamond production by weight (carats),

and 1% of fluorspar. The country ranked second after Lesotho in average value of diamond production (Lesotho, \$990 dollars per carat; Namibia, \$603 dollars per carat), and sixth after Angola in total value of rough diamond production (Angola, \$1.3 billion; Namibia, nearly \$1.2 billion). Metals produced in the country included arsenic, copper, gold, lead, manganese, silver, and zinc. In addition to diamond, industrial minerals produced included cement, fluorspar, and salt. Namibia also produced basalt, dolomite, granite, marble, sand and gravel, semiprecious gemstones, and wollastonite, but available information was inadequate to make reliable estimates of output (Kimberley Process Rough Diamond Statistics, 2015; World Nuclear Association, 2015; McRae, 2016).

Minerals in the National Economy

Mining in Namibia is regulated by the Minerals (Prospecting and Mining) Act 33 of 1992. Based on data reported by the Namibia Statistics Agency, the Namibian economy grew by 6.4% in 2014 compared with a revised rate of growth of 5.7% in 2013. The mineral sector accounted for 11.6% of the country's GDP; about 74% of this amount was from diamond mining and about 8% was from uranium mining. In 2014, mining as a whole, however, recorded a decrease of 6.3% in real value added, which was mostly attributed to a 9.9% decrease in real value added for uranium and a 39.7% decrease in real value added for other minerals, in particular, fluorspar. In 2014, the underperformance of the uranium industry was mostly attributed to the scaling back of mining operations at the Rössing uranium mine as a result of the decrease in the international price of uranium and secondary pipe maintenance at the Langer Heinrich Mine. Fluorspar production was affected by the closure of the Okorusu Mine on October 28 owing to the depletion of high-grade ore (Chamber of Mines of Namibia, 2015, p. 84; Namibia Statistics Agency, 2015a, p. 5, 12, 19).

The total number of people employed in the mineral sector in 2014, including temporary employees and full-time contractors, was 17,770 compared with 16,709 in 2013. About 24% of the 7,270 people permanently employed in the sector worked for Namdeb Diamond Corp. (Pty) Ltd.; about 12%, for Rössing Uranium Ltd.; 10%, for Skorpion Mining Co. (Pty.) Ltd. and Namzinc (Pty.) Ltd.; and 10%, for De Beers Marine Namibia (Pty) Ltd. A total of 407 employees were retrenched from the Okorusu Mine; 204, from the Rössing uranium mine; and 126, from the Rosh Pinah zinc mine (Chamber of Mines of Namibia, 2015, p. 7–8, 12, 90–91).

Diamond continued to dominate Namibia's exports. The Kimberley Process Certification Scheme reported that about 2 million carats of diamond, valued at \$1.1 billion, was exported in 2014. The Namibia Statistics Agency reported that diamond shipments were mainly destined for Belgium, Botswana, South Africa, and the United States, and copper shipments went to Switzerland and the Republic of Korea (Kimberley Process Rough Diamond Statistics, 2015; Namibia Statistics Agency, 2015b, p. 10–11).

Namibia's exports to the United States were valued at \$256 million in 2014 compared with \$262 million in 2013. Nuclear fuel materials accounted for 56% (\$144 million) of

these exports, and diamond, for about 40% (\$102 million). Imports from the United States were valued at \$343 million compared with \$235 million in 2013; these included \$57.6 million in excavating machinery, \$10.4 million in drilling and oilfield equipment, nearly \$8.6 million in diamond, and \$2.3 million in nonmetallic minerals (U.S. Census Bureau, 2015a, b).

Production

In 2014, production of lead and copper concentrate increased by 8.6% and 7.2%, respectively. Production of blister copper increased by about 30% following the commissioning of a second oxygen plant at the Tsumeb smelter and because of increased copper concentrate throughput. Production of arsenic trioxide, which was produced as a byproduct of the smelting of copper, also was estimated to have increased by 30%. Production of other metals, including manganese, silver, zinc, and gold decreased by 33%, 21%, 18% and 1%, respectively. Production of manganese was reported by the International Manganese Institute; information on the reasons for the decrease in production was not available. The decrease in the production of zinc resulted from the mining of low-grade ores at the Skorpion Mine (Chamber of Mines of Namibia, 2015, p. 32).

Production of most industrial minerals, including cement, diamond, and fluor spar increased during the year. Diamond production increased by nearly 14%, mostly owing to improved production rates from offshore diamond operations; cement production increased by about 10%, and fluor spar, by about 8%. Salt production decreased by nearly 4%. Production of uranium decreased by about 25% owing mostly to a cost-reduction restructuring exercise at the Rössing Mine, which resulted in the reduction in force of 204 employees, and to downtime for the maintenance of pipe infrastructure at the Langer Heinrich Mine (Chamber of Mines of Namibia, 2015, p. 34, 52).

Structure of the Mineral Industry

Most mining operations in Namibia were privately owned. Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Copper.—On September 22, Namibia's Ministry of Mines and Energy granted Craton Mining & Exploration (CME) a mining license for the development of the Omitionire copper oxide mine. CME, which was a subsidiary of Australia-based International Base Metals Ltd., was expected to begin construction in 2016. The mining of mixed oxide-sulfide deposits at Omitionire was also being considered for future development, but it would require the expansion of the mine's oxide processing plant to allow for the processing of sulfide ore. As of yearend, CME had obtained an environmental clearance certificate for Omitionire from the Ministry of Environment and Tourism and was in the process of securing electricity, long-term surface access to the mine, and funding for its development

(International Base Metals Ltd., 2014, Chamber of Mines of Namibia, 2015, p. 8).

Dundee Precious Metals Inc. of Canada owned and operated the Tsumeb smelter, which processed arsenic and lead-bearing copper concentrates to produce blister copper (98.5% copper) and arsenic trioxide. In 2014, the smelter processed about 198,000 t of copper concentrate and produced an estimated 49,600 t of blister copper. During the year, Dundee continued to work on the construction of a sulfuric acid plant at Tsumeb, which was expected to produce 340,000 t/yr of sulfuric acid. Sulfuric acid would be produced from the processing of sulfur dioxide gas emissions released by the Tsumeb smelter. The plant was expected to be commissioned in July 2015; sulfuric acid would be supplied to local Namibian uranium and copper producers. Dundee also planned to install new, larger copper converters to accelerate the processing of copper concentrates at Tsumeb. The installation of these converters was expected to be completed by late 2015 (Chamber of Mines of Namibia, 2015, p. 8; Dundee Precious Metals Inc., 2015).

Ongopolo Mining Ltd. (OML), which was a subsidiary of London-based Weatherly Mining Namibia Ltd. (97.5%) and Namibia-based Labour Investment Holdings (LIH) (2.5%), produced copper concentrates at the Matchless and the Otjihase Mines. In 2014, the two mines produced a total of 5,246 t of copper. Weatherly also owned a mining license for the development of the Tschudi copper mine, which was expected to produce 17,000 t/yr of refined copper (copper cathodes) by the second quarter of 2015 and to employ about 500 people. Sulfuric acid to process copper ore from the Tschudi Mine was to be sourced from the Tsumeb smelter. The copper concentrate produced at Tschudi would then be transported by truck to the Tsumeb railway and from there to the deepwater Port of Walvis Bay for export. A (JORC) estimate for Tschudi Mine resulted in reserves of 22.7 Mt of ore at an average grade of 0.95% copper. As of yearend 2014, Weatherly reported that the project was ahead of schedule, with first production expected to take place by the second quarter of 2015. The life of the mine was estimated to be 11 years. Copper ore from the Tschudi Mine would be processed using acid leaching, and solvent extraction-electrowinning (SX-EW) technology (Weatherly International plc, 2015, p. 15–17).

Gold.—On July 1, 2014, AngloGold Ashanti Ltd. (AngloGold) of South Africa announced the completion of its sale of the Navachab gold mine to Guinea Fowl Investments Twenty Six, which was owned by United Kingdom-based QKR Corp. Ltd. AngloGold had operated the mine since 1998 and reported that its sale was part of the company's plans to optimize its global portfolio. Epangelo Mining Company (Pty) Ltd., Namibia's state-owned mining company, acquired a 7.5% minority interest in the mine. The Navachab Mine, which was the only commercial gold operation in Namibia, produced a total of 1,938 kilograms (kg) of gold in 2014 (AngloGold Ashanti Ltd., 2014; Chamber of Mines of Namibia, 2015, p. 8, 10).

In December 2014, B2Gold Corp. of Canada (B2Gold) announced the first precommercial production of 202 kg of gold from the Otjikoto Mine, which is located about 300 km north of Windhoek between Otjiwarongo and Otavi. B2Gold

held a 90% interest in the mine, and EVI Mining (Pty) Ltd. of Namibia held a 10% interest. The Otjikoto Mine was expected to begin the first commercial production of gold [between about 4,400 and 4,700 kilograms per year (kg/yr)] by the end of 2015, and to ramp up production to about 6,200 kg/yr by 2016. Once in operation, the Otjikoto Mine would employ 540 people. An updated indicated resource estimate was expected to be completed by the first quarter of 2015, and an updated mine plan was expected to be completed by the end of 2015 (B2Gold Corp., 2014; Chamber of Mines of Namibia, 2015, p. 8, 10).

Lead and Zinc.—Skorpion Zinc (Pty) Ltd. (Skorpion Zinc) produced high-grade zinc from its Skorpion Mine, which was then refined into metal at the mine's Namzinc refinery. In 2014, this integrated mining and refinery operation produced a total of 102,188 t of zinc metal (compared with 124,924 t in 2013), and employed a total of 698 people. The decrease in production was attributed to the processing of lower grade zinc ore from the Skorpion Mine. Skorpion Zinc operated the mine and refinery through Skorpion Mining Co. (Pty) Ltd. and Namzinc (Pty) Ltd. Skorpion Zinc was 100% owned by Vedanta Resources plc through its subsidiary Sesa Sterlite (Chamber of Mines of Namibia, 2015, p. 61–62).

On November 12, 2014, Vedanta Resources plc announced that its Board of Directors had approved the investment of \$800 million for the development of the Gamsberg-Skorpion integrated zinc project. The project, which was to be developed during a period of 3 years, consisted of the construction of the Gamsberg zinc mine in South Africa and the conversion of Namibia's Namzinc zinc refinery into an oxide and sulfide cotreatment refinery. Upon conversion, the Namzinc refinery was expected to be able to beneficiate zinc concentrates from the Gamsberg Mine and from other zinc mining operations, such as the Rosh Pinah Mine in Namibia and the Black Mountain Mine in South Africa (Vedanta Zinc International Group, 2014, p. 13).

Switzerland-based Glencore plc through its subsidiary Rosh Pinah Zinc Corp. (Pty) Ltd. (RPZC) operated the Rosh Pinah Mine, which in 2014 produced a total of 104,046 t of zinc concentrate and 22,317 t of lead concentrate. A total of 126 employees at Rosh Pinah were made redundant during the second half of the year following a company restructuring exercise (Chamber of Mines of Namibia, 2015, p. 7, 47–48).

Manganese.—Manganese in Namibia was produced at the Otjozundu Mine by privately owned Purity Manganese (Pty) Ltd. The Otjozundu Mine is located about 145 km east of Okahandja near Hochfeld in the Otjozondjupa region. The mine had a production capacity of between 100,000 and 175,000 t/yr of manganese ore with ore grades averaging between 44% and 45% manganese. Otjozundu Holdings (Pty) Ltd., which was a subsidiary of Shaw River Manganese Ltd. of Australia, explored for manganese at the Otjozundu Project (Otjo Project) in the vicinity of the Otjozundu Mine. On December 28, the company made its first shipment of 1,033 t of precommercial manganese to an undisclosed location. A jig plant, which would be used to beneficiate ore from bulk sampling, was scheduled to be commissioned in January 2015. During the year, Otjozundu Holdings also signed a purchasing agreement with Noble Resources International Pte. Ltd. of Singapore for the sale of up to 30,000 t of manganese ore from the Otjo Project (Shaw River Manganese Ltd., 2015).

Industrial Minerals

Cement.—Ohorongo Cement (Pty) Ltd. (Ohorongo) was Namibia's only cement producer. In 2014, Ohorongo's cement plant produced a total of 730,632 t of cement. The plant, which had a capacity to produce 740,000 t/yr, was majority-owned by Schwenk Zement KG of Germany (60%). Other stakeholders included Industrial Development Corp. (IDC) (20%), Development Bank of Namibia (10%), and Development Bank of South Africa (7.3%). IDC was a national development finance institution owned by the Government of South Africa. Information on who controlled the remaining 2.7% interest in Ohorongo was unavailable (Chamber of Mines of Namibia, 2015, p. 11).

Diamond.—Diamond in Namibia was produced onshore and offshore by Namdeb Diamond Corp. (Pty) Ltd. (Namdeb) and offshore by De Beers Marine Namibia (Pty) Ltd. (Debmare). Namdeb and Debmare were subsidiaries of Namdeb Holdings, which was 50% owned by De Beers Group and 50% by the Government of Namibia. Until 2009, diamond had also been produced offshore by Sakawe Mining Corp. (Samicor), but operations were halted in early 2009 following the global financial crisis. The Samicor Mine remained closed in 2014 but was expected to resume operations in 2015. In 2014, Namdeb Holdings' operations produced a total of 1,886,000 carats of diamond, about 70% of which was produced by Debmare (Chamber of Mines of Namibia, 2015, p. 27, 55; De Beers UK Ltd., 2015, p. 2).

On November 7, 2014, Namdeb Holdings (Pty) Ltd. (NHPL) officially inaugurated the new Sendelingsdrif diamond mine and the Red Area Complex (RAC) diamond sorting facility. The RAC was to replace the company's Mining Area 1 diamond processing plant. The new plant would process diamond-bearing concentrates produced by Namdeb's and Debmare's operations in Namibia before they were shipped to the Namibia Diamond Trading Co. (NDTC) in Windhoek for export to international markets (Namibia Economist, The, 2014; Chamber of Mines of Namibia, 2015, p. 8).

Fluorspar.—Solvay SA closed the Okorusu Mine on October 28, 2014, as high-grade fluorspar ore reserves became depleted. Thirty of a total of 407 employees, which had previously been made redundant, were hired to carry out the care and maintenance of the mine as exploration activities continued. The Okorusu Mine had been in operation for 26 years (Immanuel, 2014; Solvay SA, 2014, p. 5; Chamber of Mines of Namibia, 2015, p. 8).

Mineral Fuels and Related Materials

Uranium.—Uranium was produced at the Langer Heinrich and Rössing Mines, which are located about 80 km east of Walvis Bay and 65 km northeast of Swakopmund, respectively. The Langer Heinrich Mine was operated by Langer Heinrich Uranium (Pty) Ltd., a joint venture that was owned by Paladin Energy Ltd. of Australia (75%) and by CNNC Overseas Uranium Holdings Ltd. of China (25%). CNNC Overseas, which was a subsidiary of China National Nuclear Corp., acquired its minority interest in the mine from Paladin on

June 30, 2014, at a cost of \$190 million. The Rössing Mine was operated by Rössing Uranium Ltd., which was majority owned by Rio Tinto Group (69%), Iranian Foreign Investment Company (15%), Industrial Development Corp. of South Africa (10%), the Government of Namibia (3%), and 13 minority shareholders (3%). In 2014, production of uranium from the Langer Heinrich and the Rössing Mines combined was reported to be 3,255 t by the World Nuclear Association (Chamber of Mines of Namibia, 2015, p. 33, 51; Paladin Energy Ltd., 2015, p. 57; World Nuclear Association, 2015).

Swakop Uranium (Pty) Ltd. (Swakop) continued to work on the development of the Husab uranium mine. As of yearend 2014, the Namibia Chamber of Mines reported the construction of the mine was on schedule and was expected to come into production by early 2016. A rampup to full production of 6,800 t/yr of uranium oxide was expected by 2017. The Husab Mine is located in the Erongo region of west-central Namibia about 60 km from the city of Swakopmund. The development of the mine was considered one of China's largest mining investments in Africa. About \$100 million was spent on the construction phase of the mine, and an additional \$2 billion was expected to be invested to bring the mine into production. Once in operation, the Husab Mine would produce more than one and one-half times the tonnage produced by Namibia's two operating uranium mines in 2014. About 6,000 people were expected to be hired during the construction of the mine, and, upon commissioning, the mine was expected to permanently employ a total of 1,200 people (Chamber of Mines of Namibia, 2015, p. 8, 67; China General Nuclear Power Corp., 2015).

Swakop was owned by Hong Kong-based Taurus Minerals Ltd. (90%) and Government-owned Epangelo Mining Co. (Pty) Ltd. (10%). Taurus Minerals was a subsidiary of CGNPC Uranium Resources Co., Ltd., which in turn was a subsidiary of Chinese-owned China General Nuclear Power Co. (CGNPC) and the China-Africa Development Fund (Chamber of Mines of Namibia, 2015, p. 8, 67; China General Nuclear Power Corp., 2015; World Nuclear Association, 2015).

Operations at the Trekkopje uranium mine continued to be on hold in 2014. The mine, which had been expected to be commissioned in 2012, was placed on care-and-maintenance status that year owing to the decrease in the international price of uranium. Areva Group of France held 100% ownership in the project (Areva Group, 2015, p. 57).

Outlook

The Namibian economy is expected to grow by 5.6% in 2015, partly driven by an increase in mining-related construction activities, including construction work at the Namzinc refinery (Bank of Namibia, 2015, p. 6–7). The ongoing development of new copper, gold, and uranium projects suggests that mining will continue to be one of the country's main sources of foreign exchange and employment. Based on 2014 data from the World Nuclear Association on world uranium production, the development of the Husab Mine could place Namibia among the world's top three producers of uranium. The decrease in the global price of uranium, however, could continue to further delay the development of the Trekkopje uranium mine.

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TABLE 1
ANGOLA AND NAMIBIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Country and commodity		2010	2011 ^e	2012	2013	2014 ^e
ANGOLA ²						
Industrial minerals:						
Cement, hydraulic ^e	thousand metric tons	1,500	1,500	1,600	1,700	2,000
Diamond ^{3,4}	thousand carats	8,362	8,329	8,331	8,602 ^r	8,791 ⁵
Fuller's earth		--	--	35,492	98,084	98,000
Granite		183,950 ^r	125,765 ^r	51,267	123,427 ^r	133,305 ⁵
Gravel	thousand metric tons	--	--	533	938	900
Gypsum		200,000 ^e	200,000	121,981	189,242	190,000
Lime		--	--	--	882,100	880,000
Limestone	thousand metric tons	--	--	1,100	1,442	1,400
Marble		--	--	13,900	1,800	1,800
Quartz		--	--	12,400	9,500	9,500
Salt ^e		50,000	40,000	40,000	40,000	40,000
Sand:						
For construction industry	thousand metric tons	--	--	743	881	900
Silica sand, for glass manufacturing		--	--	--	50,100	50,100
Stone, crushed	thousand metric tons	--	--	1,770	4,266	4,300
Mineral fuels and related materials:						
Petroleum:						
Crude ⁶	thousand 42-gallon barrels	679,995	629,990	651,160	657,365	624,880
Refinery products ⁷	do.	15,000	15,180	21,900	22,000 ^e	22,000
NAMIBIA ⁸						
Metals:						
Arsenic trioxide ^e		1,280	1,750	1,590	1,520	1,980
Copper:						
Mine output, concentrate (26% to 30% Cu):						
Gross weight		--	13,553	23,032	20,646	21,720 ⁵
Cu content		--	3,365	5,304	4,896	5,249 ⁵
Metal, blister, from domestic and imported concentrates ^e		31,900	43,800	39,800	38,100	49,600
Gold, Au content of mine output ⁹	kilograms	2,675	2,053	2,302	1,960	1,938 ¹⁰
Lead, mine output, concentrate		19,202	15,776	17,557	20,551	22,317 ⁵
Lead, Pb content of Pb and Pb-Zn concentrates		10,301	9,139	10,000 ^e	11,000 ^e	11,200
Manganese, mine output, concentrate (44% Mn): ⁵						
Gross weight		104,300	109,900	176,200	174,400	116,500
Mn content ^e		45,900	48,400	77,500	76,100	51,300
Silver, mine output, Ag content of concentrates ^e	kilograms	-- ^r	-- ^r	1,000 ^r	1,400 ^r	1,100
Zinc:						
Zn content of ore and concentrate		204,229	192,173	194,380	184,109	156,292 ⁵
Metal, refined, primary		151,688	145,639	144,508 ^r	124,924	102,188 ⁵
Industrial minerals:						
Cement, hydraulic	thousand metric tons	5 ^e	390	501	662	731 ⁵
Diamond	thousand carats	1,693	1,256	1,629	1,689	1,918 ⁴
Fluorspar, acid grade (97% CaF ₂) ^{11,12}		97,179 ^r	84,484 ^r	68,966 ^r	60,774 ^r	65,485 ⁵
Salt		770,636	738,000	810,000 ^r	826,985 ^r	797,405 ⁵
Mineral fuels and related materials:						
Uranium oxide, U content		4,496	3,258	4,495	4,323	3,255 ⁵

See footnotes at end of table.

TABLE 1—Continued
ANGOLA AND NAMIBIA: PRODUCTION OF MINERAL COMMODITIES¹

- ²Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ³Revised. do. Ditto. -- Zero.
- ¹Table includes data available through December 31, 2015.
- ²In addition to the commodities listed, Angola produced clinker and liquefied petroleum gas, and may have produced gold, but available information was inadequate to make reliable estimates of output.
- ³Production was approximately 90% gem quality and 10% industrial grade.
- ⁴Source: Kimberley Process Certification Scheme.
- ⁵Reported figure.
- ⁶Source: BP p.l.c.
- ⁷Includes asphalt and bitumen.
- ⁸In addition to the commodities listed, Namibia produced agate, amethyst, aquamarine, basalt, blue chalcedony, lead dusts, picture stone, pietersite, rose quartz, sand and gravel, sepiolite, smokey quartz, topaz, tourmaline, and wollastonite but available information was inadequate to make reliable estimates of output. Dolomite (33,822 metric tons in 2010), granite (10,742 metric tons in 2010 and 15,312 metric tons in 2011), and marble (8,584 metric tons in 2010 and 9,330 metric tons in 2011) were also produced but available information from 2012 to 2014 was inadequate to make reliable estimates of output.
- ⁹Does not include gold recovered as a byproduct of copper mining.
- ¹⁰Does not include 202 kilograms of precommercial gold produced at the Otjikoto Mine.
- ¹¹Production data prior to 2011 was acid grade. Beginning in 2011, data also include an unspecified amount of metallurgical-grade fluorspar.
- ¹²In dry metric tons.

TABLE 2
ANGOLA AND NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2014

(Metric tons unless otherwise specified)

Country and commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
ANGOLA				
Cement	Companhia de Cimento do Lobito S.A. (TecnoSecil Investimentos e Participações SARL, 51%, and Government, 49%)	Lobito, Benguela Province	250,000.	
Do.	Nova Cimangola S.A. (Government, 89%, and private investors, 11%)	Luanda	1,200,000; 540,000 clinker.	
Do.	Cimenfort	Catumbela, central Benguela Province	720,000.	
Do.	Kwanza-Sul S.A. (private Angolan company)	Yetu plant, Sumbe, Cuanza Sul Province	1,500,000.	
Do.	China International Fund Luanda Cement Ltd.	Municipality of Bengo, 60 kilometers southeast of Luanda	4,000,000; 3,600,000 clinker.	
Diamond	thousand carats	Associação em Participação Chitotolo [Empresa Nacional de Diamantes de Angola (ENDIAMA), 45%; ITM Mining Ltd., 40%; LUMANHE Lda., 15%]	Chitotolo alluvial mine, 95 kilometers southeast of Dundo	28.
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.	Luó-Sociedade Mineira do Camatchia-Camagico [Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA) and Espirito Santo Group]	Lunda Norte Province	18.
Do.	do.	Sociedade de Desenvolvimento Mineiro de Angola S.A.R.L. (SDM) [Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 50%, and Odebrecht Mining Services Inc., 50%]	Luzamba alluvial mine, Cuango Valley, Lunda Norte Province	70.
Do.	do.	Sociedade Mineira de Catoca Lda. [Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 32.8%; ALROSA S.A., 32.8%; Daumonty Financing Co. B.V., 18%; Odebrecht Mining Services Inc., 16.4%]	Catoca kimberlite mine, 36 kilometers south of Saurimo, Lunda Sul Province	6,500.
Do.	do.	Sociedade Mineira do Cuango [Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 41%; ITM Mining Ltd., 38%; LUMANHE Lda., 21%]	Cuango alluvial mine, Cuango Valley, Lunda Norte Province	31.
Do.	do.	Sociedade Mineira do Lucapa Ltd. [Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 51%, and Sociedade Portuguesa de Empreendimentos, 49%]	Mufuto Norte alluvial mine	25.
Do.	do.	Sociedade Mineira do Lucapa Ltd. (SME) [Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 51%, and Sociedade Portuguesa de Empreendimentos, 49%]; LUMANHE Lda.; ITM Mining Ltd.	Calonda alluvial mine, Lucapa, Lunda Norte Province	27.

See footnotes at end of table

TABLE 2—Continued
ANGOLA AND NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2014

(Metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
ANGOLA—Continued				
Diamond— Continued	thousand carats	Trans Hex Group Ltd., 32%, and Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 40%	Fucauma Mine, ¹ northeastern Angola	120.
Do.	do.	Trans Hex Group Ltd., 35%, and Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 40%	Luarica Mine, ¹ northeastern Angola	90.
Do.	do.	Sociedade Mineira, S.A.—Angola (Kwanza) [Trans Hex Group Ltd., 33%; Empresa Nacional de Diamantes de Angola E.P. (ENDIAMA), 39%; domestic private investors, 28%]	Somiluana Mine, 1,000 kilometers northeast of Luanda, Lunda Norte Province	72.
Do.	do.	Artisanal miners	Lunda Norte, Lunda Sul, Moxico, Bie, and Malanje Provinces	NA.
Granite	cubic meters	Angostone	Lubango, Huíla Province	14,000.
Do.	do.	Coreangol	Nzeto municipality, Zaire Province	35,000.
Do.	do.	Emanha	Lubango, Huíla Province	80,000.
Do.	do.	Rodang	do.	6,300.
Do.	do.	Metarochas	do.	2,200.
Gypsum	thousand metric tons	Fábrica de Gesso do Sumbe	Gypsum plant, city of Sumbe, Cuanza Sul Province	200.
Petroleum	thousand 42-gallon barrels per day	AP Moller-Maersk A/S, 50%; Occidental Petroleum Corp., 30%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%	Block 8, offshore	NA.
Do.	do.	AP Moller-Maersk A/S, 50%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%; Devon Energy Corp., 15%; Odebrecht S.A., 15%	Block 16, offshore	NA.
Do.	do.	AP Moller-Maersk A/S, 50%; Occidental Petroleum Corp., 30%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%	Block 23, offshore	NA.
Do.	do.	BP p.l.c., 50%, and Sonangol-Sinopec International, 50%	Block 18, offshore	240.
Do.	do.	BP p.l.c., 26.67%; Exxon Mobil Corp., 25%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%; Statoil ASA, 13.33%; Marathon Oil Corp., 10%; Total S.A., 5%	Block 31, offshore	150.
Do.	do.	Canadian Natural Resources, 100%	Block 4, Kiame field, offshore	NA.
Do.	do.	Chevron Corp., 31.25%; Eni S.p.A., 10%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 10%; Total S.A., 36.75%; Société Nationale des Petroles du Congo, 7.5%; Galp Energia, 4.5%	Block 14, offshore	100.
Do.	do.	China Petroleum and Chemical Corp., 40%; Petróleo Brasileiro S.A., 30%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%; Falcon Oil Holding Angola S.A., 5%; Gema Group Angola, 5%	Block 18/06, offshore	NA.
Do.	do.	Eni S.p.A., 35%; Sonangol-Sinopec International, 20%; Sociedade Nacional de Combustíveis de Angola (Sonangol); 15% Total S.A., 15%; Falcon Oil Holding Angola S.A., 5%; Petróleo Brasileiro S.A., 5%; Statoil ASA, 5%	Block 15/06, offshore	NA.
Do.	do.	Eni S.p.A., 50%; Total S.A., 25%; Galp Energia, 10%; Ina-Industrija Nafta, 7.5%	Block 1, offshore	NA.
Do.	do.	Exxon Mobil Corp., 45%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%; Total S.A., 15%; Falcon Oil Holding Angola S.A., 10%; Galp Energia, 5%; Naphtha-Israel Petroleum Corp. Ltd., 5%	Block 33, offshore	NA.
Do.	do.	Exxon Mobil Corp., 40%; BP p.l.c., 26.67%; Eni S.p.A., 20%; Statoil ASA, 13.33%	Block 15, offshore	700.
Do.	do.	Petróleo Brasileiro S.A., 80%, and Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%	Block 26, offshore	NA.

See footnotes at end of table.

TABLE 2—Continued
ANGOLA AND NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2014

(Metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
ANGOLA—Continued				
Petroleum— Continued	thousand 42-gallon barrels per day	Petróleo Brasileiro S.A., 40%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%; InterOil Exploration & Production ASA, 20%; Falcon Oil Holding Angola S.A., 10%; Initial Oil, 10%	Block 6, offshore	NA.
Do.	do.	Roc Oil Co. Ltd., 60%; Force Petroleum Group Ltd., 20%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%	Cabinda South, onshore	NA.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 100%	Area A (Kwanza), onshore	NA.
Do.	do.	do.	Block 3, Canuka field, offshore	NA.
Do.	do.	do.	Block 4, Kiabo field, offshore	NA.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 83.6%, and Chevron Corp., 16.4%	Area B (Soyo), onshore	NA.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 41%; Chevron Corp., 39.2%; Total S.A., 10%; Eni S.p.A., 9.8%	Block 0, offshore Cabinda	340.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 52.5%; Petróleo Brasileiro S.A., 27.5%; Chevron Corp., 20%	Block 2/85, offshore	NA.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 70%, and Sociedade Petrolífera Angolana, 30%	Block 2/05, offshore	NA.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 90%, and Sociedade Petrolífera, Angolana, 15%	Block 3/05, Bufalo, Impala, Impala SE Pacassa, and Palanca fields, offshore	NA.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 51%; Soco Cabinda Lda., 17%; Teikoku Oil Co., 17%; Angola Consulting Resources, 15%	Cabinda North, onshore	NA.
Do.	do.	Sociedade Nacional de Combustíveis de Angola (Sonangol), 50%; Statoil ASA, 20%; Angola Consulting Resources, 15%; Sociedade Petrolífera Angolana, 15%	Block 4/05, Gimboa field, offshore	60.
Do.	do.	Statoil ASA, 50%; Petróleo Brasileiro S.A., 30%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%	Block 34, offshore	NA.
Do.	do.	Total S.A., 50%; Eni S.p.A., 15%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 6.25%	Block 3/91, Oombo field, offshore	NA.
Do.	do.	Total S.A., 50%; Eni S.p.A., 15%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 6.25%; Ajoco Exploration Company Ltd., 12.5%; Ina-Industrija Nafta, 5%	Block 3/85, Cobo and Pambe fields, offshore	NA.
Do.	do.	Total S.A., 30%; Marathon Oil Corp., 30%; Sociedade de Combustíveis de Angola (Sonangol), 20%; Exxon Mobil Corp., 15%; Galp Energia, 5%	Block 32, offshore	NA.
Do.	do.	Total S.A., 30%; Sociedade Nacional de Combustíveis de Angola (Sonangol) 30%; Sonangol-Sinopec International, 27.5%; Angola Consulting Resources, 5%; Falcon Oil Holding Angola, S.A., 5%; Partex (Angola) Corp., 2.5%	Block 17/06, offshore	NA.
Do.	do.	Total S.A., 40%; Statoil ASA, 23.33%; Exxon Mobil Corp., 20%; BP p.l.c., 16.67%	Block 17, offshore	700.
Do.	do.	Tullow Oil plc., 50%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%; Prodoil SARL, 20%; Force Petroleum Group Ltd., 10%	Block 1/06, offshore	NA.
Do.	do.	Vaalco Energy Inc., 40%; InterOil Exploration & Production ASA, 40%; Sociedade Nacional de Combustíveis de Angola (Sonangol), 20%	Block 5, offshore	NA.

See footnotes at end of table.

TABLE 2—Continued
ANGOLA AND NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2014

(Metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
ANGOLA—Continued				
Petroleum refinery products	thousand 42-gallon barrels per day	Luanda refinery	Petroleum refinery, Luanda	23,700.
Steel		Grupo Ferpinta	Two pipe mills at Viana, 30 kilometers east of Luanda	6,000.
NAMIBIA				
Cement		Ohorongo Cement (Pty) Ltd. (Schwenk Zement KG, 60%; Industrial Development Corp., 20%; Development Bank of Namibia, 10%; Development Bank of South Africa, 7.3%)	Otjozondjupa region, near Otavi	740,000.
Copper:				
Copper concentrate		Ongopolo Mining Ltd. (Weatherly Mining Namibia Ltd., 97.5%, and Labour Investment Holdings, 2.5%)	Central operations, includes the Otjihase Mine and concentrator, about 18 kilometers northeast of Windhoek, and the Matchless Mine, 30 kilometers southwest of the Otjihase Mine	7,000,000.
Do.		do.	Northern operations, includes the Tschudi and the Tsumeb West Mines, and the Tsumeb concentrator	11,000.
Metal, blister copper		Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Smelter at Tsumeb, 430 kilometers north of Windhoek	60,000.
Diamond	carats	De Beers Marine Namibia (Pty) Ltd. (Debmarine) [Namdeb Holdings, 100% (De Beers Group, 50%, and Government, 50%)]	Atlantic 1, mining license area 47, offshore Sperrgebiet	1,300,000.
Do.	do.	Namdeb Diamond Corp. (Pty) Ltd. (Namdeb) [Namdeb Holdings, 100% (De Beers Group, 50%, and Government, 50%)]	Orange River Mines, mining license area 42, onshore, from mouth of Orange River east to Sendelingsdrif; includes the Auchas and the Daberas Mines	120,000.
Do.	do.	do.	Mining Area 1, mining license area 43, Orange River at Oranjemund to 145 kilometers north of Oranjemund	1,000,000.
Do.	do.	do.	Elizabeth Bay Mine, mining license area 45, onshore and offshore Sperrgebiet 24 kilometers south of Luderitz	210,000.
Do.	do.	do.	Shallow marine and coastal area contractors	68,000.
Do.	do.	do.	Sendelingsdrif Mine, ² 80 kilometers from Oranjemund and 20 kilometers south of the town of Rosh Pinah	45,000.
Do.	do.	do.	Red Area Complex diamond sorting plant 2, Oranjemund	NA.
Do.	do.	Sakawe Mining Corp. (Samicor) ³ [Leviev Group, 76%, Longlife Mining Corp., 10%; Government, 8%; Namibia Youth Service, 2%; Sakawe Mining Corp. employees, 4%]	Offshore mining licenses, near Luderitz Bay	260,000.
Fluorspar, acid grade		Okorusu Fluorspar (Pty.) Ltd. (Solvay SA, 100%)	Okorusu Mine ⁴ and processing plant at Otjiwarongo	120,000.
Gold	kilograms	Guinea Fowl Investments Twenty Six Ltd. (QKR Corp. Ltd.), 92.5%, and Epangelo Mining Company (Pty) Ltd., 7.5%	Navachab Mine, 170 kilometers northwest of Windhoek	2,700.
Do.	do.	B2Gold Corp., 90%, and EVI Mining (Pty) Ltd., 10%	Otjikoto Mine, ⁵ 300 kilometers north of Windhoek	4,400.
Gold, metal	do.	Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Byproduct contained in blister copper produced at the Tsumeb smelter	400.
Lead, Pb content of concentrate		Rosh Pinah Zinc Corporation (Pty.) Ltd. (Glencore plc., 80.1%)	Rosh Pinah Mine, 800 kilometers south of Windhoek	20,000.

See footnotes at end of table.

TABLE 2—Continued
ANGOLA AND NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRIES IN 2014

(Metric tons unless otherwise specified)

Country and commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
NAMIBIA—Continued			
Manganese	Purity Manganese (Pty) Ltd.	Otjonzodu Mine about 145 kilometers east of Okahandja near Hochfeld in the Otjonzondjupa region	79,000.
Pyrite, concentrate	Weatherly Mining Namibia Ltd. (Weatherly International plc, 100%)	Otjihase Mine and concentrator, near Tsumeb	32,000.
Salt	Cape Cross Salt (Pty.) Ltd.	North of Henties Bay	40,000.
Do.	Salt & Chemicals (Pty.) Ltd. [Walvis Bay Salt Holdings (Pty.) Ltd., 100%]	Salt pan at Walvis Bay	700,000.
Do.	Salt Company (Pty.) Ltd.	Swakopmund	120,000.
Do.	Walvis Bay Salt Refiners (Pty.) Ltd. [Walvis Bay Salt Holdings (Pty.) Ltd., 100%]	Salt refinery at Walvis Bay	700,000.
Silver:			
Ag content of concentrate	Rosh Pinah Zinc Corporation (Pty.) Ltd. (Glencore plc., 80.1%)	Rosh Pinah Mine, 800 kilometers south of Windhoek	25.
Metal	Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Byproduct contained in blister copper produced at the Tsumeb smelter	25.
Uranium, uranium oxide	Langer Heinrich Uranium (Pty.) Ltd. (Paladin Energy Ltd., 75%, and Chinese Overseas Uranium Holdings Ltd., 25%)	Langer Heinrich Mine, Namib Desert, 80 kilometers east of Walvis Bay	2,400.
Do.	Rössing Uranium Ltd. (Rio Tinto Group, 69%; Iranian Foreign Investment Company, 15%; Industrial Development Corp. of South Africa Ltd., 10%; Government of Namibia, 3%; other minority shareholders, 3%)	Rössing Mine, 65 kilometers northeast of Swakopmund	4,500.
Wollastonite	Namibia Mineral Development Co. (Pty.) Ltd.	Usakos Mine, Karibib District, Erongo region	800.
Zinc:			
Mine:			
Zn content of concentrate	Rosh Pinah Zinc Corporation (Pty.) Ltd. (Glencore plc., 80.1%)	Rosh Pinah Mine, 800 kilometers south of Windhoek	110,000.
Ore	Skorpion Zinc (Pty) Ltd. [Skorpion Mining Co. (Pty.) Ltd. (Vedanta Resources plc, 100%)]	Skorpion Mine, 25 kilometers north of Rosh Pinah	1,500,000.
Metal	Skorpion Zinc (Pty) Ltd. [Namzinc (Pty.) Ltd. (Vedanta Resources plc, 100%)]	Namzinc solvent extraction facilities and electrowinning refinery, 25 kilometers north of Rosh Pinah	150,000.

Do., do. Ditto. NA Not available.

¹On care-and-maintenance status.

²Commissioned on November 7, 2014.

³Samcor's diamond mining operations remained halted in 2014.

⁴Closed on October 28, 2014, owing to ore depletion.

⁵Produced its first precommercial gold in December 2014; first commercial production expected in late 2015.