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2012 Minerals Yearbook

NAMIBIA

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The Mineral Industry of Namibia

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Diamond, fluorspar, and uranium continued to be the most significant mineral commodities to Namibia's economy. In 2012, although Namibia accounted for less than 2% of world rough diamond production by weight (carats), it was ranked second among the world's top diamond producers in terms of the value of production in dollars per carat, and sixth in terms of the total value of diamond production. Namibia was also the fifth-ranked producer of uranium, producing about 7.7% of the world's uranium in 2012. Metals produced in the country included arsenic, copper, gold, lead, manganese, silver, and zinc. Industrial minerals included cement, dolomite, granite, marble, salt, semiprecious stones, sulfur, and wollastonite (Kimberley Process Certification Scheme, 2013; World Nuclear Association, 2013).

Minerals in the National Economy

Based on data reported by the Namibia Statistics Agency, the Namibian economy grew by 5.0% in 2012 compared with a revised growth rate of 5.7% in 2011. The country's nominal gross domestic product (GDP) was estimated to be $16.8 billion in 2012, and its per capita GDP was estimated to be $7,800. The 2012 slowdown in the economy was attributed in part to a 41% decrease in the number of construction projects in the electricity and water sectors and to a 9.2% decrease in the number of construction projects in the mineral sector. In 2012, the mineral sector accounted for 11.3% of the GDP compared with 8.2% in 2011. About 74% of the mineral sector's contribution to the GDP was from diamond mining. The total number of people employed in the mineral sector in 2012, including temporary employees and full-time contractors, was 13,548. About 22% of those permanently employed in the mineral sector worked for Namdeb Holdings (Pty.) Ltd.; 20%, for Rössing Uranium Ltd.; and 10%, for Skorpion Mining Co. (Pty.) Ltd. and Namzinc (Pty.) Ltd. (Chamber of Mines of Namibia, 2013, p. 2, 13; International Monetary Fund, 2013; Namibia Statistics Agency, 2013a, p. 11, 21).

Government Policies and Programs

The Ministry of Mines and Energy and its Diamond Affairs, Energy, and Mining Directorates regulate Namibia's mining and petroleum industries. The Ministry of Mines grants exploration and mining licenses for minerals in Namibia; compiles national exploration and mining databases; and develops exploration and mining policy and regulations. The Geological Survey of Namibia undertakes geologic mapping and research. The Ministry of Trade and Industry is responsible for regulating manufacturing activity, which includes mineral beneficiation, the production of cement, and the processing of semiprecious stones. The Ministry of Trade and Industry also promotes the development of Namibia's mineral resources. As of yearend 2012, the Government of Namibia had not enacted its proposed new mineral policy legislation with regard to the mining of strategic minerals. In 2011, the Government had announced that it would draft legislation to allow state-owned company Epangelo Mining Co. (Pty) Ltd. to gain greater participation in projects involving the mining of strategic minerals. Minerals under consideration to be designated as strategic included coal, copper, diamond, gold, rare-earth minerals, and uranium (Chamber of Mines of Namibia, 2013, p. 7).

Production

Production of most metals, including copper concentrate (69.9%), gold (12.1%), lead concentrate (11.3%), and zinc concentrate (5.7%), increased in 2012. The significant increase in copper concentrate production was the result of the ramping up of operations at the Otjihase Mine. Cement production increased by 28.6% to 501,000 metric tons (t), and production of diamond increased by 29.7% to 1.6 million carats. Fluorspar production decreased by 20% owing mostly to the depletion of medium-grade ores at the Okorusu Mine and to delays in the commissioning of the mine's new dense media separation plant. Production of copper blister decreased during the year owing to the temporary shutdown of the Tsumeb smelter's Ausmelt furnace. The Chamber of Mines of Namibia reported that manganese operations in the country had been put on a care-and-maintenance status in 2012 and that restarting of operations was dependent on recovery of the manganese market. Manganese production data in 2012 was based on trade data reported by the International Manganese Institute (Chamber of Mines of Namibia, 2013, p. 46–47). Data on mineral production are in table 1.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Mineral Trade

The Namibia Statistics Agency reported that diamond, gold, precious and semiprecious stones, and silver exports as a whole accounted for the majority (29%) of Namibia's total exports in 2012; mineral ores, slag, and ash exports, for about 18%; zinc and products containing zinc, 5.4%; and copper and products containing copper, 3.7%. Namibia's exports to the United States were valued at $231 million[1] compared with $436 million in 2011. Nuclear fuel materials accounted for 44.5% ($103 million) of these exports in terms of value, and diamond accounted for about 50.8% ($117 million). Imports from the United States were valued at $184.6 million in 2012 compared

[1]Where necessary, values have been converted from Namibian dollars (NAD) to U.S. dollars at the rate of NAD8.5=US$1.00.

with about $137 million in 2011; these included $27.8 million in fuel oil, $11.8 million in diamond, $6.7 million in excavating machinery, $3.1 million in nonmetallic minerals, $2.6 million in drilling and oilfield equipment, $111,000 in petroleum products, and $89,000 in specialized mining equipment (U.S. Census Bureau, 2013a, b; Namibia Statistics Agency, 2013b, p. 6–7).

Commodity Review

Metals

Copper.—Copper concentrates in Namibia were produced at the Matchless and the Otjihase copper mines by Ongopolo Mining Ltd. (OML). OML was owned by London-based Weatherly International plc (97.5%) and Labour Investment Holdings (LIH) (2.5%), which was a Namibian company. LIH, which was the investment company of the National Union of Namibian Workers, acquired its minority interest in the Matchless Mine and the Otjihase Mine in September 2011 at a cost of $900,000. All production of copper concentrates from these two mines was now being exported to China for smelting and refining. Prior to 2012, production of copper concentrates from these two mines was smelted at Namibia's Tsumeb smelter (Chamber of Mines of Namibia, 2013, p. 69; Weatherly International plc, 2013, p. 3).

Weatherly also held interest in the Tschudi copper project for which it completed a feasibility study in December 2012. Based on the results of the study, the company planned to produce 17,000 metric tons per year (t/yr) of copper cathodes during a period of 11 years beginning in the third quarter of 2014. The mineralization of the Tschudi deposits reportedly consisted of a mix of oxide and sulfide minerals hosted in sandstone; the dominant copper-bearing minerals were azurite, bornite, chalcocite, covellite, and malachite. Once in operation, the mine was expected to employ about 500 people. Sulfuric acid to process copper ore from the Tschudi Mine was to be sourced from the Tsumeb smelter. Copper concentrate would then be transported by truck to the Tsumeb railway, and from there to the deepwater Walvis Bay Port for export. As of yearend, the company was in the process of completing its financing arrangements and environmental obligations for the project, which it expected to finalize by early 2013 (Weatherly International plc, 2012a, b; Chamber of Mines of Namibia, 2013, p. 7, 12).

Plans to reopen the Kombat copper mine, which had formerly been owned by Weatherly through its subsidiary OML, were also underway. The Kombat Mine was closed in 2008 as a result of flooding caused by the irregular supply of electricity from NamPower. The continuous decline in copper prices during 2008 and 2009 had forced the company to place the mine on care-and-maintenance status in 2009. The Kombat Mine was eventually sold to Grove Mining Namibia (Pty) Ltd. in May 2010 for $3.2 million. In 2011, Pan Terra Industries Inc. of Canada, which changed its name to Kombat Copper Inc. in April 2012, acquired a majority interest in the mine. Kombat Copper planned to complete a diamond-drilling program for the Kombat Mine in 2013 (Kombat Copper Inc., 2012; Pan Terra Industries Inc., 2012; Weatherly International plc, 2013, p. 42).

During the second quarter of 2012, the Government ordered Namibia Custom Smelters (Pty.) Ltd., which was 100% owned by Dundee Precious Metals Inc. of Canada, to reduce the feed to the Tsumeb smelter by one-half until a project to capture gas emissions from the Ausmelt furnace was completed. After installing a new gas filtration system during the first half of 2012, the company was authorized to increase production at the smelter to 75% of capacity in July. The Tsumeb smelter processed arsenic- and lead-bearing copper concentrates to produce blister copper (98.5% copper) and arsenic trioxide. About one-half of the concentrates processed by the smelter in 2012 came from Dundee's Chelopech Mine in Bulgaria (Dundee Precious Metals Inc., 2013, p. 55).

Dundee was also in the process of constructing a sulfuric acid plant, which was expected to produce between 230,000 and 320,000 t/yr of sulfuric acid and to be completed by the third quarter of 2014. The sulfuric acid would be produced from the processing of sulfur dioxide gas emissions released at the Tsumeb smelter. Part of the sulfuric acid produced would be shipped by rail to Rio Tinto plc's Rössing uranium mine in Namibia. Rio Tinto and Dundee were in the process of finalizing the details of a long-term sulfuric acid purchasing agreement, which they expected to complete by the first quarter of 2013 (Dundee Precious Metals Inc., 2012a, b).

Gold.—AngloGold Ashanti Ltd. of South Africa through its subsidiary AngloGold Namibia (Pty) Ltd. operated the Navachab Mine, which was the only industrial gold operation in Namibia. The mine was located near the town of Karibib about 170 kilometers (km) northwest of the capital city of Windhoek. Production at Navachab increased by 12% during the year to 2,300 kilograms (kg) of gold (reported as 74,000 troy ounces) from 2,050 kg of gold (reported as 66,000 troy ounces) produced in 2011. AngloGold attributed the increase in production in part to the mining of higher grade ore. The mine employed a total of 953 people. Mineral reserves were estimated by AngloGold to be 63,000 kg (contained gold), and the remaining mine life was projected to be about 24 years. The company completed a prefeasibility study for Navachab in 2012 to evaluate the potential to expand and optimize production and was in the process of evaluating the results (AngloGold Ashanti Ltd., 2013).

Canada-based B2Gold Corp. was granted a 20-year mining license for the development of the Otjikoto gold mine. B2Gold held a 92% interest in the project in partnership with EVI Gold (Pty) Ltd. of Namibia, which held the remaining 8% interest in the project. The mine was expected to be commissioned in the fourth quarter of 2014 and to produce about 3,100 kilograms per year (kg/yr) during a mine life of 10 years. The Otjikoto project is located about 300 km north of Windhoek (B2Gold Corp., 2012).

Lead and Zinc.—Switzerland-based Glencore International plc acquired majority interest (80%) in the Rosh Pinah underground lead and zinc mine in June 2012. The mine produced a total of 94,303 t of zinc concentrate and 17,557 t of lead concentrate during the year and employed 611 people. Exploration activities at the mine in 2012 included 14,567 meters (m) of primary and secondary exploration drilling and 7,770 m of delineation drilling. Glencore planned

to increase the run-of-mine production to 1 million metric tons per year (Mt/yr) from the mine's current run-of-mine capacity of 680,000 t/yr (Chamber of Mines of Namibia, 2013, p. 11; Glencore International plc, 2013, p. 53, 74).

Skorpion Zinc (Pty) Ltd. produced high-grade zinc from its Skorpion Mine, which was then refined into metal at the mine's Namzinc refinery. In 2012, this integrated mining and refinery operation produced a total of 145,342 t of zinc metal and employed 752 people. The mine was 100% owned by Vedanta Resources Ltd. of the United Kingdom. Zinc metal was exported to the European market and to South Africa (Chamber of Mines of Namibia, 2013, p. 64).

Industrial Minerals

Diamond.—Namdeb Holdings (Pty) Ltd (NHPL), which was a joint-venture between De Beers UK Ltd. (50%) and the Government (50%), mined diamond along the southwestern coast and inland areas of Namibia's Karas Region. All NHPL's diamond mining operations on land were carried out by Namdeb Diamond Corporation (Proprietary) Ltd. (Namdeb), and all marine operations were carried out by De Beers Marine Namibia (Debmarine Namibia); both were wholly owned subsidiaries of NHPL. In 2012, NHPL treated a total of 12.8 Mt of ore and produced 1.67 million carats, which represented a 25% increase in production from that of 2011. About 66% (1.1 million carats) of NHPL's total production was from Debmarine Namibia's marine operations and about 34% (560,000 carats) was from Namdeb's land-based operations. The increase in production from marine-based operations was reportedly owing in part to the commissioning and rampup of the Grand Banks vessel, which was one of the five diamond mining vessels De Beers operates off of the coast of Namibia. The Kimberley Process Certification Scheme, however, reported Namibia's total diamond production in 2012 to be about 1.63 million carats, or 40,000 carats less than that reported by NHPL. De Beers planned to commission a new recovery and sorting facility during the second half of 2013 to facilitate improved processing and recovery of diamond from both land-based and marine-based operations (De Beers UK Ltd., 2013, p. 16, 23; Kimberley Process Certification Scheme, 2013).

Mineral Fuels and Related Materials

Uranium.—An engineering, procurement and construction management contract (EPCM) for the construction and development of the Husab uranium mine was signed between Swakop Uranium (Pty) Ltd. and United Kingdom-based AMEC plc in October. Swakop Uranium was 90% owned by Hong Kong-based Taurus Minerals Ltd. and 10% owned by the Government-owned company Epangelo. Taurus Minerals was owned by CGNPC Uranium Resources Co., Ltd., which was a subsidiary of Chinese-owned China Guangong Nuclear Power Co. (CGNPC) and the China-Africa Development Fund. The construction of the mine was expected to take 34 months and to be commissioned by 2015. The Husab uranium project is located in the Erongo region of west-central Namibia near the Rössing uranium mine. Once developed, these deposits were expected to produce 5,700 metric tons per year (t/yr) of uranium. The project was expected to create 6,000 temporary jobs during its construction phase and about 2,000 permanent jobs once the mine is in operation (Swakop Uranium (Pty) Ltd., 2012; Chamber of Mines of Namibia, 2013, p. 3, 7).

Other uranium projects in Namibia, including the launching of the Trekkopje project and the expansion of production at the Langer Heinrich Mine, were put on hold during the year following the decrease in the world price of uranium. The Trekkopje Mine was placed on care-and-maintenance status and the stage-4 feasibility study for the Langer Heinrich Mine was put on hold (Chamber of Mines of Namibia, 2013, p. 7, 10, 27–28).

Outlook

The Namibian economy is expected to grow by 4.4% in 2013, driven mainly by an increase in mining activities in the diamond and uranium sectors and an increase in infrastructure projects (Bank of Namibia, 2012, p. 7, 9). 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. The decrease in the global price of uranium, however, may further delay the development of the Husab and the Trekkopje uranium mines.

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TABLE 1
NAMIBIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity[2]		2008	2009	2010	2011	2012
METALS						
Arsenic, white, 99% arsenic trioxide		763	860 e	1,280 e	1,750	1,590 e
Copper:						
Mine output, concentrate (26% to 30% Cu):						
Gross weight		37,956	--	--	13,553 r	23,032
Cu content		7,471	--	--	3,366 r	5,304
Metal blister, from domestic and imported concentrates[e]		16,271 [3]	21,543 [3]	31,900	43,800	39,800
Gold, Au content of mine output[4]	kilograms	2,115 r	2,022 r	2,675 r	2,053	2,302
Lead, mine output, concentrate:						
Gross weight		27,656	20,258	19,202	15,776	17,557
Pb content of Pb and Pb-Zn concentrates		14,062	10,129	10,301 r	9,139 r	9,000
Manganese, mine output, concentrate (44% Mn):						
Gross weight[5]		86,100	62,100	104,300	109,900	176,200
Mn content[e]		37,900	27,300 r	45,900 r	48,400 r	77,500
Silver, mine output, Ag content of concentrates[e]	kilograms	33,000	11,000	10,000	9,000	9,000
Zinc:						
Gross weight, mine output, concentrate (49% to 56% Zn)		92,190	93,953	101,040	89,236	94,303
Zn content of Zn and Pb-Zn concentrates		38,319	48,856	53,624	48,950 r	50,000
Metal, refined, primary[6]		145,396 r	150,400 r	151,688 r	145,639 r	145,342
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand metric tons	--	--	5 e	390	501
Diamond	thousand carats	2,435	1,192	1,693	1,256	1,629
Fluorspar, acid grade (97% $CaFl_2$)[7, 8]		108,800	73,580	95,092	84,480 r	67,500 e
Salt		732,000	807,348	770,636	738,000	725,000
Semiprecious stones:						
Agate	kilograms	141	154	134 r	146 r	150 e
Amethyst	do.	7,000 e	11,191	--	600 r	600 e
Stone:						
Dolomite		27,000 e	27,000 e	33,822	33,800 e	34,000 e
Granite		22,664	34,869	10,742	15,312 r	15,000 e
Marble		9,438	11,008	8,584	9,330 r	9,000 e
Sulfur, pyrite concentrate:						
Gross weight (49% to 51% S)[e]		800	--	--	100	460
S content		400	--	--	50	230 e
MINERAL FUELS AND RELATED MATERIALS						
Uranium oxide, U content		4,366 r	4,626 r	4,496 r	3,258 r	4,495

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. do. Ditto. -- Zero.

[1]Table includes data available through January 28, 2014.

[2]In addition to the commodities listed, Namibia produced aquamarine; basalt; blister copper, which contained gold and silver coproducts; blue chalcedony; lead dusts; picture stone; pietersite; rose quartz; sand and gravel; sepiolite; smokey quartz; topaz; tourmaline; and wollastonite, but available information is inadequate to make reliable estimates of output.

[3]Reported figure.

[4]Excludes gold recovered as a byproduct of copper mining.

[5]Based on trade data as reported by the International Manganese Institute.

[6]Zinc metal data reported to be 183,719 t—2008; 199,256 t (revised to 204,229 t)—2009; 205,324 t (revised to 192,173 t)—2010; and 194,950 t (revised to 194,380 t)—2011 are for mine production, not metal production as previously stated. Zinc metal figures have been corrected accordingly.

[7]Production data up to 2011 are for acid grade only. Beginning in 2011, data also include an unspecified amount of metallurgical-grade fluorspar.

[8]Data are in dry metric tons.

TABLE 2
NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Arsenic		Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Smelter at Tsumeb, 430 kilometers north of Windhoek	2,000
Cement		Ohorongo Cement (Pty) Ltd. (Schwenk Zement KG, 60%; Industrial Development Corp., 20%; Bank of Namibia, 10%)	Otjozondjupa region, near Otavi	700,000
Copper:				
Copper concentrates		Ongopolo Mining Ltd. (Weatherly International plc, 97.5%, and Labour Investment Holdings, 2.5%)	Central operations, includes the Otjihase Mine and concentrator, about 30 kilometers north of Windhoek; and the Matchless Mine, 80 kilometers southwest of the Otjihase Mine	7,000,000
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	Namdeb Holdings (Pty) Ltd (NHPL) (De Beers UK Ltd., 50%, and the Government, 50%)	Atlantic 1 license area, offshore Sperrgebiet	1,107,000
Do.	do.	do.	Mining Area 1, from Orange River to 145 kilometers north of Orangemund; includes Pocket Beaches	252,000
Do.	do.	do.	Northern Areas and Elizabeth Bay Mines, 24 kilometers south of Luderitz	210,000
Do.	do.	do.	Orange River Mines, from mouth of Orange River east to Sendelingsdrif; includes the Auchas Mine and the Daberas Mine	76,000
Do.	do.	do.	Alluvial contractors	22,000
Do.	do.	Sakawe Mining Corp. (Samicor) (LL Mining Corp., 76%, and Government, 8%)	Offshore mining licenses, near Luderitz Bay	260,000
Fluorspar, acid grade		Okorusu Fluorspar (Pty.) Ltd. (Solvay Fluor GmbH, 100%)	Mine and plant at Okorusu	120,000
Gold:				
Ore		AngloGold Ashanti Ltd.	Navachab Mine, 170 kilometers northwest of Windhoek	1,440,000
Metal	kilograms	Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Coproduct contained in blister copper produced at the copper smelter at Tsumeb	400
Lead, Pb content of concentrate		Rosh Pinah Zinc Corporation (Pty.) Ltd. (Glencore International plc, 80%)	Rosh Pinah Mine, near Rosh Pinah	20,000
Manganese		Otjozondu Mining (Shaw River Manganese Ltd., 100%)	Otjozondu Mine, 150 kilometers northeast of Windhoek	120,000
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	670,000
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	650,000
Silver:				
Concentrate, Ag content		Rosh Pinah Zinc Corporation (Pty.) Ltd. [Exxaro Resources Ltd., 50.04%; Jaguar Investments Holdings, 38.98%; PE Minerals (Namibia) (Pty.) Ltd., 8%]	Rosh Pinah Mine, near Rosh Pinah	25
Metal		Namibia Custom Smelters (Pty.) Ltd. (Dundee Precious Metals Inc., 100%)	Coproduct contained in blister copper produced at the copper smelter at Tsumeb	25

See footnotes at end of table.

TABLE 2—Continued
NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Uranium, uranium oxide	Langer Heinrich Uranium (Pty.) Ltd. (Paladin Energy Ltd., 100%)	Langer Heinrich Mine. 80 kilometers east of Walvis Bay	2,300
Do.	Rössing Uranium Ltd. (Rio Tinto Group, 69%; Government of Iran, 15%; Industrial Development Corp. of South Africa Ltd., 10%; Government of Namibia, 3%; other minority shareholders, 3%)	Rössing Mine, 65 kilometers northeast of Swakopmund	4,800
Wollastonite	Namibia Mineral Development Co. (Pty.) Ltd.	Usakos Mine	800
Zinc:			
Mine:			
Concentrate, Zn content	Rosh Pinah Zinc Corporation (Pty.) Ltd. (Glencore International plc., 80%)	Rosh Pinah Mine, near Rosh Pinah	110,000
Ore	Skorpion Zinc (Pty.) Ltd. (Vedanta Resources plc, 100%)	Skorpion Mine, 25 kilometers north of Rosh Pinah	1,500,000
Metal	Namzinc (Pty.) Ltd. (Vedanta Resources plc, 100%)	Skorpion solvent extraction facilities and electrowinning refinery, 25 kilometers north of Rosh Pinah	150,000

Do., do. Ditto.