

THE MINERAL INDUSTRY OF

NAMIBIA

By George J. Coakley

Namibia is located on the southwestern coast of Africa between South Africa and Angola. The 825,418-square-kilometer country had an estimated population of 1.77 million in 1999 and a gross domestic product (GDP) per capita of about \$4,300¹ based on purchasing power parity. In 1999, the mineral industry of Namibia provided about 43% of exports and 20% of the country's GDP (U.S. Central Intelligence Agency, Namibia—Economy—World factbook, accessed December 5, 2000, at URL <http://www.odci.gov/cia/publications/Factbook/geos/wa.html#Econ>). Diamond remained the most important sector of the mining industry followed by uranium, for which Namibia ranked as the world's fourth largest producer. Namibia was also the largest producer of salt in Africa. According to the Chamber of Mines of Namibia (2000, p. i), Namibia continued to attract exploration investment in 1999 with expenditures up by 41% to \$28.6 million from that of 1998 and 65% devoted to diamond exploration.

Following the closure of copper, lithium, and manganese mining operations in 1998, the Government was actively seeking a new investor to reopen the Tsumeb copper smelter and the copper and copper-lead mines at Khusib Springs, Kombat, and Otjihase. In other major Government actions, the new Diamond Law was enacted on September 30, 1999, with implementation to begin on April 1, 2000. The Diamond Law will regulate and control the holding, transport, and further processing of diamond through a system of licences approved by the Diamond Commissioner. Diamond exploration and mining licensing will continue to be administered by the Office of the Mining Commissioner.

In 1999, Anglo American plc acquired Reunion Mining plc for \$82 million to take 100% ownership of the Skorpion zinc project, which is located in southwestern Namibia approximately 85 kilometer (km) northeast of Oranjemund and 25 km north of Rosh Pinah. A feasibility study completed by Reunion estimated proven and probable reserves of open pit mine ore to be 19.5 million metric tons at a grade of 10.1% zinc and anticipated average output during the first 6½ years of 150,000 metric tons per year (t/yr) of zinc metal. Capital costs are expected to be around \$450 million. Project implementation is expected to begin in 2000, with production of zinc planned to start in 2003 (Danchi, 1999).

Production and exploration of offshore diamonds continued at a high pace during 1999. Diamond production increased by 14% to more than 1.6 million carats. The Government also announced the opening of a large portion of the Sperrgebiet (Forbidden Territory) to general diamond prospecting. For

¹Where necessary, values have been converted from Namibian dollars (N\$) to U.S. dollars at the rate of N\$6.12=US\$1.00 for 1999, and N\$5.53=US\$1.00 for 1998.

many years, De Beers Consolidated Mines Ltd. had held an exclusive right to exploit the diamond-bearing Orange River alluvial and marine beach sand deposits within the Sperrgebiet. Namdeb Diamond Corp. (Pty.) Ltd. increased diamond production to nearly 1.3 million carats, or about comparable with that of 1998. Namdeb began phasing out production at its Auchas Mine and planned to open the new Daberas Mine at the end of 2000; the new mine will have an expected mine life of 10 years. During its first full year of operation, De Beers' NamGem Diamond Manufacturing Co. diamond cutting and polishing plant near Okahandja produced 100 finished stones per day at an average size of 14 points based on 100 points to a carat.

With the acquisition of 92.5% of Ocean Diamond Mining Holdings Ltd. (ODM) for \$460 million in late 1999, Namibian Minerals Corp. (Namco) became the second largest diamond producer after Namdeb. Namco produced 273,700 carats of diamond in 1999, with an average sales price of \$151 per carat. Reserves increased to 3.67 million carats, of which 1.04 million carats were acquired from ODM. Namco expected to increase production to 400,000 carats in 2000 (Namibian Minerals Corp., February 24, 2000, Namibian Minerals Corp. (Namco) announces fourth quarter and full year 1999 results, accessed December 5, 2000, at URL <http://www.infomine.com/index/pr/Pa037543.PDF>).

According to the Chamber of Mines of Namibia (2000, p. ii), capital investment by existing mines to upgrade equipment and/or capacity and to reduce operating costs has included \$35.4 million by Rossing Uranium during the past 4 years (\$11.2 million in 1999); \$21.1 million by Namdeb; \$2.8 million by Rosh Pinah Zinc Corp. [formerly Imcor Tin (Pty.) Ltd.]; and \$3.9 million by Okorusu Fluorspar Pty. Ltd. to expand production of acid grade fluorspar to 70,000 t/yr in 2000. Namco also obtained a \$25 million loan to build a new second-generation marine mining vessel and the NamSSol II, which will be a 100-metric-ton-per-hour dense-medium separation plant during 2000.

In the energy sector, NamPower continued to negotiate with Shell Exploration and Production Namibia B.V. and with Eskom, which is the South African electric power parastatal, over terms of an agreement to build a gas pipeline and a natural gas powerplant at Oranjemund using reserves from Namibia's offshore Kudu gasfield. Target date for operation of the plant was moved to 2005 (Chris Turner, American Embassy, South Africa, August 18, 1999, Overview and update—Kudu gas fields project—International market insight report, accessed December 5, 2000, at URL <http://www.usembassy.state.gov/posts/sf1/wwwhcs4y.html>). Additional information from the U.S. Energy Information Administration on the current (1999) energy situation in Namibia was available on the Internet at

URL <http://www.eia.doe.gov/emeu/cabs/angola.html>.

For more extensive coverage of the mineral industry of Namibia, see the 1997 and 1998 Minerals Yearbook, volume III, Mineral Industries of Africa and the Middle East.

References Cited

Chamber of Mines of Namibia, 2000, Annual report of the Chamber of Mines of Namibia for 1999: Windhoek, Namibia, Chamber of Mines of Namibia, 27 p.
Danchi, Bobby, 1999, Address to Australian African Mining Conference, Perth, Australia, November 16, 1999: London, Anglo American plc press release, November 11, 5 p.

Major Sources of Information

Association of Prospectors and Miners of Namibia

P.O. Box 5059
Windhoek, Namibia
Telephone: (264) 61 34978
Fax: (264) 61 32809

The Chamber of Mines of Namibia

P.O. Box 2895
Windhoek, Namibia
Telephone: (264) 61 237-925/926
Fax: (264) 61 222-638

Geological Survey of Namibia

Private Bag 2168
1 Aviation Rd.
Windhoek, Namibia
Telephone: (264) 61 208-5111

Fax: (264) 61 249-146

URL: <http://www.gsn.gov.na/survey.htm>

Ministry of Mines and Energy

Private Bag 13297
1 Aviation Rd.
Windhoek, Namibia
Telephone: (264) 61 226-571 or 284-8111
Fax: (264) 61 238-643

Ministry of Trade and Industry

Private Bag 13340
Windhoek, Namibia
Telephone: (264) 61 229-933
Fax: (264) 61 220-227
URL: <http://www.republicofnamibia.com>

Namibia National Small Miners Association

P.O. Box 7289
Windhoek, Namibia
Telephone: (264) 61 31088
Fax: (264) 61 31188

Major Publications

Chamber of Mines of Namibia, Annual Report.
Geological Survey of Namibia, 1992. The Mineral Resources of Namibia, 598 p.

Proceedings from the SADC-EU Mines Investment Forum—Country profiles—Namibia, Lusaka, October 10-13, 2000, available at URL <http://www.mines2000projects.com>.

TABLE 1
NAMIBIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1995	1996	1997	1998	1999 2/
METALS					
Antimony, sodium antimonate (47% Sb):					
Gross weight	--	16	--	--	--
Sb content	--	8 e/	--	--	--
Arsenic, white, 99% arsenic trioxide	1,661	1,559	1,297	175	--
Cadmium metal, refined	15 e/	14	2	--	--
Copper:					
Mine output, concentrate (26% to 28% Cu):					
Gross weight	81,646	57,095	66,879	22,819	--
Cu content	22,530	14,845	17,879	6,500	--
Metal, blister 3/	29,799	16,659	24,997	8,014	--
Gold kilograms	2,394	2,145	2,417	1,882	2,008
Lead:					
Mine output, concentrate:					
Gross weight	57,105	58,197	32,378	24,273	19,283
Pb content	16,084	15,349	13,577	13,568	9,361
Metal, refined, primary 3/	26,752	8,588	1,530	236	--
Manganese, mine output, concentrate (44% Mn):					
Gross weight	95,385	92,647	39,671	--	--
Mn content	43,004	40,765	17,455	--	--
Silver, mine output, Ag content of concentrate kilograms	69,000	42,352	41,000	22,670	9,670
Uranium, U ₃ O ₈ content of concentrate	2,366	3,188	3,775	3,257	3,171
Zinc, mine output, concentrate (49% to 54% Zn):					
Gross weight	59,290	69,689	72,816	78,617	69,193
Zn content	30,209	35,873	39,658	42,274	34,639
INDUSTRIAL MINERALS					
Cement e/	20,000	50,000	100,000	150,000	150,000 e/
Diamond:					
Gem e/ thousand carats	1,382 3/	1,402	1,345 e/	1,394 e/	1,557 e/
Industrial e/ do.	--	--	71 e/	73 e/	82 e/
Total do.	1,382	1,402	1,416	1,467	1,639
Fluorspar, acid grade (97% CaF ₂)	36,889	32,285	23,160	42,139	57,700
Gypsum e/	--	--	--	2,596	1,250 e/
Lithium minerals:					
Amblygonite	3	46	75	--	--
Lepidolite	106	355	275	--	--
Petalite	2,502	1,571	669	--	--
Total	2,611	1,972	1,019	500	--
Salt	303,986	355,868	492,780	507,361	502,770
Semiprecious stones:					
Agate	115	150	175	161	95 e/
Amethyst	5	19	23	--	--
Chrysocolla kilograms	--	--	--	900	900 e/
Garnet	--	--	5	429	400 e/
Quartz, crystal e/	--	15	--	--	--
Rose quartz	200	190	220	454	400 e/
Sodalite	465	383	1,598	--	--
Tourmaline kilograms	--	437	53	--	--
Stone:					
Dolomite	--	5,401	7,635	7,940	8,000 e/
Granite	4,518	5,218	6,675	6,665	6,500 e/
Marble	16,935	12,673	13,743	9,020	9,000 e/
Sulfur, pyrite concentrate:					
Gross weight (49% to 51% S)	103,140	90,735	94,585	28,174	--
S content	51,330	45,338	46,476	12,855	--
Wollastonite	967	248	194	267	347

e/ Estimated. -- Zero.

1/ Table includes data available through November 30, 2000.

2/ Reported figure.

3/ Includes products of imported concentrate.

TABLE 2
NAMIBIA: STRUCTURE OF THE MINERAL INDUSTRY IN 1999

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		African Portland Cement	Otjiwarongo, near Windhoek	150,000.
Copper		Tsumeb Corp. Ltd. (Gold Fields Namibia Ltd., 66%)	Khusib Springs Mine Tsumeb smelter	15,500 copper in concentrate, 60,000 blister copper.
Do.		do.	Kombat Mine, 50 kilometers south of Tsumeb	10,000 copper in concentrate.
Do.		Otjihase Mine (Tsumeb Corp. Ltd., 70% JCI Ltd., 30%)	Otjihase Mine, near Tsumeb	18,000 copper in concentrate.
Diamond	thousand carats	Namdeb Diamond Corp. (Pty.) Ltd. (De Beers Centenary AG, 50%; Government, 50%)	Mines near Oranjemund; Elizabeth Bay Mine, 25 kilometers south of Luderitz; and marine operations	1,500.
Do.	do.	Namibian Minerals Corp. (Namco)	Marine operations offshore Luderitz and Hottentots Bay	200 (300+ by 2000).
Do.	do.	Ocean Diamond Mining Holdings Ltd. (Namco, 92.5%)	Marine operations offshore Luderitz	80 (100 by 2000).
Do.	do.	Trans Hex International Ltd.	Northbank, Orange River	
Do.	do.	Diamond Fields Namibia (Pty.) Ltd.	Marine operations offshore Luderitz	5 (sampling stage).
Do.	do.	Nora Exploration Inc.	Otjua offshore concession	8 (sampling stage).
Fluorspar		Okorusu Fluorspar (Pty.) Ltd. (Solvay Group, 100%)	Okorusu, 48 kilometers north of Otjiwarongo	50,000, 98% calcium fluoride; 80,000 by 1999.
Gold		Erongo Mining and Exploration Co. Ltd. (Anglo American Corp., 67.5%; Inmet Mining Corp., 20%; Randgold Ltd., 10%)	Navachab Mine near Karibib	3.
Lead		Tsumeb Corp. Ltd. (Gold Fields Namibia Pty. Ltd., 66%)	Tsumeb (Ausmelt) smelter (closed in 1998)	24,000 lead bullion.
Do.		Rosh Pinah Zinc Corp. [Isacor Ltd., (50%); P E Minerals (50%)]. Formerly Imcor Tin (Pty.) Ltd.	Rosh Pinah Mine, 80 kilometers northeast of Oranjemund	15,000 lead in concentrate.
Lithium		NamLithium Mines (Pty.) Ltd. (Kloekner; Matramco)	30 kilometers south of Karibib (closed in June 1998)	1,500 concentrate.
Manganese		Otjosondo Manganese Mines Ltd. (Cranford Namibia Pty. Ltd., 100%)	Otjosondou, 160 kilometers north-east of Windhoek (closed in 1998)	100,000 ore with 45% manganese content.
Salt		Salt and Chemicals (Pty.) Ltd. (Sentrachem, 100%)	Walvis Bay brine pans	450,000.
Do.		Salt Company (Pty.) Ltd. (private, 100%)	Swakopmund	150,000.
Stone	cubic meters	Karibib Mining and Construction Co. (Namibia) Ltd. (private, 100%)	Marble quarry at Karibib Granite quarry	2,500. 600.
Uranium		Rossing Uranium Ltd. (Rio Tinto plc, 68.6%; Cogema (France), 10%)	Rossing, 30 kilometers east of Swakopmund	5,000 uranium oxide.
Zinc		Rosh Pinah Zinc Corp. [Isacor Ltd., (50%); P E Minerals, (50%)].	Rosh Pinah Mine, 80 kilometers northeast of Oranjemund	45,000 zinc in concentrate.