

# The Mineral Industries of the British High Commission Territories of Basutoland, Bechuanaland, and Swaziland

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IN 1963 the British Territories of Bechuanaland and Swaziland in southern Africa produced several mineral commodities, of which asbestos was most important. Production in Basutoland was limited to diamond. The territories were under a High Commissioner, appointed by the Queen and responsible to the Secretary of State for Commonwealth Relations. Ultimately the Territories are to become self-governing and presumably independent. Considerable progress toward that end was made during the year.

Complete statistics of imports and exports are not kept in the Territories because for customs purposes they are treated as part of the Republic of South Africa, which collects duties for them. The unit of currency used in each of the Territories is the rand (R)<sup>2</sup> of the Republic of South Africa, which is divided into 100 cents.

## SOURCE MATERIAL

Source material, besides dispatches of the U.S. Foreign Service, largely comprised publications of the Territories, articles appearing in the South African press, trade journals, and company reports. For Swaziland Bulletin 2, *The Mineral Resources of Swaziland*, published by the Territorial Geological Survey and Mines Department, was particularly useful.

## BASUTOLAND

Mineral surveys conducted in recent years in this mountainous territory have resulted in discovery both of diamonds and of kimberlite rock from which diamonds derive. No other economic minerals have been found in workable deposits. Recorded exports of Basutoland diamonds were 5,110 carats, valued at R153,423.

Diamond prospecting jointly by De Beers Consolidated Mines, Ltd. (De Beers), and Jack Scott failed to reveal deposits profitably workable on a large scale. Mr. Scott therefore had relinquished his concession by the end of 1963. But it was agreed that further work would be done to assist Basutoland Factory Estates Development Ltd., a company nominated by the Basutoland Government to investigate and exploit diamond deposits profitably workable on a small scale.<sup>3</sup>

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<sup>2</sup> 1 rand equals US\$1.40, or 10 British shillings.

<sup>3</sup> De Beers Annual Report. 1963, p. 10.

## BECHUANALAND

Considerable mineral exploration by large companies was in progress in Bechuanaland in 1963, but as for several previous years, production was limited to chrysotile asbestos, manganese ore, and gold with minor associated silver. Mineral exports were valued at R368,397, of which asbestos contributed 59.4 percent and manganese ore 39.6 percent. Gold and silver exports amounted to 142 ounces and 21 ounces. The 1963 export value compares with R616,129 in 1961, when minerals contributed about 10 percent of the total value of exports.

TABLE 1.—Bechuanaland: Production of metals and minerals

Commodity	1959	1960	1961	1962	1963
<b>Metals:</b>					
Gold.....troy ounces..	198	203	261	288	142
Manganese ore.....metric tons..	18,269	22,709	28,791	24,002	10,776
Silver.....troy ounces..	42	24	39	33	21
Nonmetals: Asbestos, chrysotile.....metric tons..	1,279	1,163	1,745	2,155	2,148

## COMMODITY REVIEW

### METALS

**Copper.**—In its report for the year ended June 30, 1963, Rhodesian Selection Trust, Ltd. (RST), reported copper discoveries in Bechuanaland, where RST has been exploring for some years. At one locality ore was found that could be significant if persistent. Exploration was proceeding, but it was clear that considerable work including diamond drilling would be necessary to determine the importance of the discovery. RST exploration in Bechuanaland was being concentrated on the copper area.

**Manganese.**—Early in 1963 the target output of Bamalete Manganese (Pty.), Ltd., about 18 kilometers (11 miles) north of Lobasti and about one-half mile from the Mafeking-Rhodesia railroad, was 5,000 tons of manganese ore per month. The capacity of the crushing and screening plant was about 15,000 tons per month. The ore is crushed to about 1½ inches, the size acceptable to Japanese buyers.<sup>4</sup>

### NONMETALS

**Asbestos.**—The Bechuanaland production of chrysotile asbestos comes from the Moshaneng mine about 13 kilometers west of Kanye, operated by Marlime Chrysotile Asbestos Corp., Ltd., a subsidiary of Marble Lime and Associated Industries, Ltd., of Johannesburg. The ore contains about 2 percent asbestos. The mine has a large modern mill with capacity greater than present production.

**Brines.**—For more than 3 years Rhodesian Selection Trust, Ltd., has conducted, through a subsidiary, extensive investigations of brines found beneath the surface of Sua Salt Pan adjacent to the Bamang-

<sup>4</sup>South African Mining & Engineering Journal. Jan. 25, 1963, p. 192.

wato tribal area. The work was expected to be completed before the end of June 1964, when the economic possibilities of the salts would be assessed.

**Diamonds.**—Kimberlitic Searches, Ltd., prospected for diamond on behalf of De Beers Consolidated Mines, Ltd. A large area was covered but nothing of economic value was found, according to the Annual Report of De Beers for 1963. Interest in diamond possibilities in Bechuanaland was first aroused in 1959 when Consolidated African Selection Trust, Ltd., found small diamonds in rubble accumulations near Foley and elsewhere.

#### MINERAL FUELS

While Bechuanaland produces no coal, it has extensive favorably situated coalfields that probably will be exploited eventually. The known coals are low- to medium-rank bituminous coal with no coking properties. There are three fields of which Mamabule, between Debeeti and Mamabule, has the largest proven reserves. Mamabule has two seams; one investigated in an area of 66 square kilometers contains 163 million tons of coal; the other contains 245 million tons in an area of 50 square kilometers. The maximum depth from the surface to unweathered coal appears to be about 27 meters.

#### SWAZILAND

Mineral industry has had a major role in the Swaziland economy for many years and is becoming increasingly important. In 1961 the industry contributed 40 percent of the total value of exports, and by 1965 its contribution may be of the order of 50 percent. Mineral exports were valued at R4.1 million in 1963 and in 1959-63 averaged R4.8 million with no sharp fluctuations from year to year. While some 10 minerals generally were mined during the period, asbestos each year contributed more than 90 percent of total value. Large-scale iron mining to begin in 1964 is expected to increase the value of the Swaziland mineral exports by 100 percent or more. The new operation also will provide very substantial additional employment, statistics for which were as follows for Swaziland mining industry in 1962: <sup>5</sup>

	<i>Skilled labor</i>	<i>Unskilled labor</i>
Persons employed, monthly average-----	173	1, 737
Earnings, year-----	R437, 814	R342, 202
Food furnished, value-----	-----	R116, 019

<sup>5</sup> Swaziland. Annual Report of the Geological Survey and Mines Department. 1962. p. 43.

TABLE 2.—Swaziland: Production of metals and minerals

(Metric tons unless otherwise specified)

Commodity	1959	1960	1961	1962	1963
<b>Metals:</b>					
Beryl.....	2	5	6	-----	2
Gold..... troy ounces.....		806	1,325	2,214	2,092
Tin, in concentrates..... long tons.....	5	6	5	5	3
Silver..... troy ounces.....		58	103	132	120
<b>Nonmetals:</b>					
Asbestos, chrysotile.....	22,504	29,054	27,934	29,783	30,255
Barite.....	418	181	412	62	84
Diaspore.....	388	750	446	203	58
Kaolin.....			53	2,488	2,007
Pyrophyllite.....	914	1,555	2,681	3,540	2,769
<b>Mineral fuels: Coal:</b>					
Anthracite.....	1,446	7,880	938	-----	-----
Bituminous.....		3,774	42	-----	-----

## COMMODITY REVIEW

## METALS

**Gold.**—Prospecting by diamond drilling was in progress at the dormant Daisy mine in the Hoho area, Pigg's Peak District. Two holes had returned very encouraging results and three more holes were in progress. The mine, dormant since 1905, was abandoned when sulfide ore was encountered. At the surface the strike length of the vein is about 460 meters. If the ore persists in depth, it is possible that a large gold mine can be established.

**Iron Ore.**—Open-pit mining by Swaziland Iron Ore Development Co., Ltd. (SIOD), of the rich Ngwenya deposit at Bomvu Ridge north of Mbabane was expected to begin in 1964. SIOD is administered by Anglo American Corp. of South Africa, Ltd. Proven reserves of direct shipping ore in the deposit are about 42.6 million metric tons averaging about 62 percent iron. SIOD has undertaken to deliver about 813,000 metric tons in the 12 months immediately following completion of a railroad built specifically for the project and about 1.2 million metric tons annually thereafter for 9 years. The buyer is a Japanese consortium headed by Yawata Iron & Steel Co. and Fuji Iron & Steel Co., Ltd. The consortium agreed to take approximately 12 million tons of ore at R7 per ton or a little less, depending on iron content of each shipment. The price is free on board, port of Lourenco Marques, to which the ore will be shipped by rail. Actual shipments are expected to average about 1.2 million tons a year for 10 years, yielding around R84 million (US\$117.6 million).

According to one source,<sup>6</sup> the cost of handling the ore at Lourenco Marques will be somewhat less than the cost of mining it. Rail freight will be about three times mining costs, and total cost to the buyers will be more than ten times mining costs, according to the source.

Besides preparation of the mine for production and construction of some 224 kilometers of railroad through rugged country to the Mozambique border, the SIOD project comprises railroad construc-

<sup>6</sup> Financial Mail, Johannesburg. Swaziland Supplement. Nov. 2, 1962, p. 31.

tion on the Mozambique side of the border, constructing ore loading facilities and deepening the harbor at Lourenco Marques, and building large ore carriers. In all, the capital involved reportedly was around the equivalent of US\$70 million.<sup>7</sup>

**Tin.**—A mill was under construction to treat tin-bearing pegmatite near Mbabane. Proved ore reserves were reported as 50,000 tons, containing 185 long tons of tin and averaging 0.37 percent tin.<sup>8</sup>

#### NONMETALS

**Asbestos.**—The Havelock mine of New Amianthus Mines (Pty.), Ltd., controlled by Turner and Newall, Ltd. of the United Kingdom, furnishes the Swaziland chrysotile asbestos. Its mill was modernized in 1962 and early in 1963 a 1,200-foot vertical shaft was approaching completion. The shaft will make available many millions of tons of ore that is contained in a safety pillar of the old inclined shaft and therefore could not be extracted. Production from the mine can be sustained for many years at the present rate; 30,255 metric tons of asbestos, valued at R4,030,771, was produced in 1963.<sup>9</sup> In 1961 and 1962 Havelock explored its concession 41 in detail, and sank a shaft through which development was undertaken to test the western extension of the Havelock serpentine. Results were not divulged.

Havelock is one of the major sources of spinning grade chrysotile asbestos in the world. The ore body has a strike length of 1,372 meters and in width ranges from 18 to 107 meters, averaging about 45 meters. The asbestos occurs as a stock work of cross-fiber seams and comprises between 3 and 4 percent of the ore body. The average length of the fibers is between one-half and three-quarters inch.<sup>10</sup>

**Barite.**—Early in 1963 the barite reserves of Swaziland Barytes, Ltd., the only producer, were reported as 1,080,000 tons.<sup>11</sup> Output nevertheless has been small because of the limited market in the Republic of South Africa, where production also exists. It was hoped that completion of the Swaziland railroad to the port of Lourenco Marques would make possible sales to the Middle East oilfields.

**Kaolin.**—Bulk tests on kaolin from a large deposit in the south of Swaziland showed that the material was of top quality, being suitable for use both in all branches of ceramic industry and as a filler. The deposit was first exploited in 1961, and in 1963 output was 2,007 metric tons. The development is important to the Republic of South Africa, where no extensive deposits of high-grade kaolin are known.<sup>12</sup>

#### MINERAL FUELS

Central Mining and Finance was reported to be planning to open its Mpaka colliery on Crown Mineral area 9 late in 1964 to supply coal to the new railroad, two sugar mills, other Swaziland industries, and for household use. Swaziland has important reserves both of anthracite and bituminous coals.

<sup>7</sup> Mining Journal, London, June 1964, p. 181.

<sup>8</sup> South African Mining and Engineering Journal, Feb. 8, 1963.

<sup>9</sup> Page 307 of work cited in footnote 9.

<sup>10</sup> Swaziland Geological Survey and Mines Department, Bulletin No. 2, Oct. 1962, p. 80.

<sup>11</sup> Page 307 of work cited in footnote 9.

<sup>12</sup> Mining Journal (London), June 1964, p. 180.

