USGS
science for a changing world

2010 Minerals Yearbook

LESOTHO AND SWAZILAND [ADVANCE RELEASE]

U.S. Department of the Interior
U.S. Geological Survey

December 2011

The Mineral Industries of Lesotho and Swaziland

By Harold R. Newman

LESOTHO

Lesotho's mining and quarrying sector, with the exception of diamond mining, did not play a significant role in Lesotho's economy. Although Lesotho was believed to have significant mineral deposits, attempts at exploitation continued to be limited owing to a lack of infrastructure and investment. Commercial interest in the mineral resources of Lesotho was limited mainly to diamond.

The Department of Mines and Geology within the Ministry of Natural Resources is responsible for the gathering, assessment, and dissemination of information related to mineral resources and the mineral industry. Three laws form the regulatory framework for the mineral industry. They are the Mines and Minerals Act 2005, which regulates mineral exploration and exploitation, including providing for mineral licensing; the Precious Stones Order 1970, which regulates the production, sale, and export of rough precious stones, such as diamond, and sets forth the conditions and penalties when dealing in rough diamond; and the Mine Safety Act 1981, which sets for the procedures and enforcement mechanisms to ensure the safety and health of mines and mine workers, respectively (Department of Mines and Geology, 2010c).

Lesotho has been geologically mapped, and geologic maps have been published at scales of 1:50,000 and 1:100,000. A general map of the whole country was available in two sheets at a scale of 1:250,000. In 2010, the Department of Mines and Geology continued the process of digitizing all the country's geologic maps (Department of Mines and Geology, 2010b).

There was a high concentration of kimberlite intrusions in northern Lesotho. The Department of Mines and Geology had identified 405 kimberlite bodies made up of 39 pipes, 343 dykes, and 23 blows (dyke enlargements). There is about 1 kimberlite body for every 21 square kilometers. Small kimberlite pipes range in size from 1 to 2 hectares. Identified deposits of minerals included base metals, clays, diamond, dimension stone, sand and gravel, and uranium. There are reserves of bituminous shale and coal in several areas of the country (Department of Mines and Geology, 2010a).

Production

Lesotho has a long history of diamond production, and diamond was the major economic mineral of Lesotho. Artisanal miners produced small amounts of agate, clay, sand and gravel, and stone (both crushed and dimension) for domestic consumption. Such mineral production, however, was not reported. Data that were available on mineral production are in table 1.

Structure of the Mineral Industry

Table 2 is a list of mineral processing facilities, their locations, and their capacities

Commodity Review

Industrial Minerals

Diamond.—Firestone Diamonds plc of the United Kingdom acquired a 75% interest in Kopane Diamond Developments plc of the United Kingdom's Lighobong Mine in 2010 and planned to begin production at the mine in 2011. The Government continued to hold a 25% share. Open pit operations at the Lighobong Mine could be undertaken to a depth of 390 meters (m) and would result in the mining of about 60 million metric tons (Mt) of kimberlite with a production of 19 million carats during a mine life of about 17 years (Firestone Diamonds plc, 2011)

Firestone Diamonds announced that it expected to produce 1 million carats by 2014. The company noted that the diamond trade was driven purely by supply and demand and that, in 2010, demand was outpacing supply (Israeli Diamond Industry, The, 2011).

Gem Diamonds Ltd. of the United Kingdom owned 70% of the Letseng Mine in partnership with the Government, which owned the remaining 30%. The Letseng Mine, which is located in the Maluti Mountains at an altitude of about 3,100 m above sea level, was the highest diamond mine in the world and the seventh largest kimberlite mine in the world in terms of area. The mine had an estimated 35 years of mine life from its two vertical kimberlite pipes. The Letseng Mine, which was well known for producing large diamonds, reported recovering a 185-carat white diamond; this was the second largest stone recovered from the mine after the 196-carat white diamond recovered in August 2010 (Mining Journal, 2010).

Lucara Diamond Corp. of Canada reported first results from the trial mining program at its Mothae Mine, which is located 6.5 kilometers from the Letseng Mine in northeastern Lesotho. Lucara was conducting a trial mining program to mine and process up to 72,000 metric tons (t) of kimberlite from the Mothae Pipe to gather further data on diamond grade, size distribution, and value following a 100,000-t bulk sample program. Trial mining recovered 2,102 carats of diamond from about 87,000 dry metric tons mined from the 'C' kimberlite domain of the Mothae Pipe. Recovery from this parcel was 97 stones of between 2 carats and 5 carats in weight, 25 stones of between 5 carats and 10 carats, 9 stones of between 10 carats and 20 carats, and 3 stones greater than 20 carats. The three largest stones recovered were 53.5 carats,

37.2 carats, and 20.3 carats. A significant proportion of the larger diamond recoveries, including all three of the stones that weighed more than 20 carats, were Type IIa white diamonds. Trial mining was focused on the 'C' kimberlite, which was interpreted to make up the largest single domain of the Mothae Pipe (Lucara Diamond Corp., 2010).

Outlook

Diamond production in Lesotho is likely to increase significantly as the recovery from the global economic crisis continues. The economic situation is expected to be affected by the increased production in 2011. The outlook for the remainder of Lesotho's mineral industry was for little change in the near future. Limited investment in the mineral sector and high rates of HIV/AIDS infection among Lesotho's population will hinder development into the foreseeable future.

References Cited

Department of Mines and Geology, 2010a, Diamonds: Ministry of Natural Resources. (Accessed June 25, 2011, at http://www.mines.gov.ls/index2.php?option=com_content&task=view&id=14&Itemid=44.)

Department of Mines and Geology, 2010b, Exploration database: Department of Mines and Geology. (Accessed June 2, 2011, at http://www.mines.gov.ls/index.php?option=com_content&task=view&id=17&Itemid=36.)

Department of Mines and Geology, 2010c, Mining legislation: Department of Mines and Geology. (Accessed June 25, 2011, at http://www.mines.gov.ls/index.php?option=com_content&task=view&id=13&Itemid=31.)

Firestone Diamonds plc., 2011, Production to commence at Liqhobong Mine in February 2011: Firestone Diamonds plc. (Accessed February 7, 2011, at http://www.firestonediamonds.com/news-item&item=583915836310327.)

Israeli Diamond Industry, The, 2011, Firestone Diamonds expects to produce a million carats a year by 2014: Israeli Diamond Industry, The. (Accessed February 7, 2011, at http://www.israelidiamond.co.il/english/news.aspx?boneid=918&objid=8649.)

Lucara Diamond Corp., 2010, Excellent results from trial mining program at Mothae diamond mine in Lesotho: Lucara Diamond Corp., November 4. (Accessed June 25, 2011, at http://cnrp.marketwire.com/client/lucara_diamond/release.jsp?year=2010&actionFor=1347057&releaseSeq=2.)

Mining Journal, 2010, Gem Diamond's Letseng mine produces another world class diamond: Mining Journal. (Accessed July 24, 2011, at http://www.mining-journal.com/production-and-markets/gem-diamonds-letseng-mine-produces-another-world-class-diamond.)

SWAZILAND

Swaziland's minerals of economic importance include coal, diamond, gold, kaolin, and silica. Other minerals, such as arsenic, copper, nickel, manganese, and tin either occur in small deposits or the quality was so low as to render them uneconomical to produce. Coal occurs in eastern Swaziland and was exploited at the Maloma Mine of Maloma Colliery Ltd. The Maloma Mine was Swaziland's only official mine in 2010. Mining has declined in importance in Swaziland in recent years and, in 2010, the mineral industry was not a significant contributor to the country's gross domestic product.

Production

Information on the mineral industry of Swaziland was not readily available. Production of anthracite coal decreased, although the reason for the decrease was not reported. Quarried stone production was estimated to be about the same as in 2009. The quarrying of stone was for domestic consumption, and production depended on local demand. Xstrata plc of Switzerland operated a ferrovanadium plant at Maloma with a capacity of 2,400 metric tons per year. Production of ferrovanadium in 2010 was estimated to be about the same as in 2009. Data on mineral production are in table 1.

Structure of the Mineral Industry

The principal mining and mineral processing facilities in Swaziland, with their locations and capacities, are in table 2.

Commodity Review

Industrial Minerals

Talc.—The Swaziland Investment Promotions Authority was seeking investors for a joint venture with the Government to extract talc. The talc project was located in Forbes Reef in northwestern Swaziland. Forbes Reef has an extensive area underlain by talcose schist. It was considered suitable for selective small scale open pit mining. The site is located close to the main border gate with South Africa. The mining of talc was expected to earn foreign currency and provide job opportunities (Swaziland Investment Promotions Authority, 2010).

Outlook

The outlook for Swaziland's mineral industry is for little change in the near future. The low level of exploration and the high level of HIV/AIDS infection were expected to continue to constrain mineral resource development.

Reference Cited

Swaziland Investment Promotions Authority, 2010, Invest in project to extract talc: Swaziland Investment Promotions Authority. (Accessed June 1, 2010, at http://www.tradeinvestafrica.com/investment_opportunities/890947.htm.)

TABLE 1

LESOTHO AND SWAZILAND: PRODUCTION OF MINERAL COMMODITIES[1]

Country and commodity		2006	2007	2008	2009	2010[e]
LESOTHO[2]						
Fire clay[e]	cubic meters	15,000	15,000	15,000	15,000	15,000
Diamond	carats	231,324	454,014	253,053 [r]	91,815 [r]	100,000
Stone, quarry products:[e]						
Dimension	cubic meters	1,000	1,000	1,000	1,000	1,000
Gravel and crushed rock	do.	300,000	300,000	300,000	300,000	300,000
SWAZILAND[3]						
Coal, anthracite	metric tons	310,570	241,283	174,807	129,647 [r]	145,903 [4]
Ferrovanadium	do.	491	500	500	500	500
Stone, quarry products	cubic meters	534,688	207,535	240,997	202,319 [r]	304,544 [4]

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised. do. Ditto.

[1]Table includes data available through May 31, 2011.

[2]Reported data from Lesotho Department of Mines and Geology.

[3]In addition to the commodities listed, modest quantities of crude construction materials (brick clay and sand and gravel), kaolin, pyrophyllite (talc), and soapstone are produced, but output is not reported quantitatively, and information is inadequate to make reliable estimates of output.

[4]Reported number.

TABLE 2

LESOTHO AND SWAZILAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

(Metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
LESOTHO				
Diamond	carats	Gem Diamond Ltd., 70%, and Government 30%	Letseng Mine, northern Lesotho	100,000
Do.	do.	Liqhobong Mining Development Co. (Kopane Diamond Developments plc, 75%, and Government, 25%)	Liqhobong Mine, northern Lesotho	77,000
SWAZILAND				
Coal		Maloma Colliery Ltd.	Maloma Mine at Maloma	500,000
Ferrovanadium		Swazi Vanadium (Pty) Ltd. (Xstrata plc, 75%, and Tibiyo Taka Ngwana, 25%)	Plant at Maloma	2,400

Do., do., Ditto.