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2012 Minerals Yearbook

SRI LANKA [ADVANCE RELEASE]

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The Mineral Industry of Sri Lanka

By Chin S. Kuo

Sri Lanka has modest resources of industrial and precious minerals. It produced cement, clays, feldspar, graphite, mica, mineral sands, phosphate rock, salt, stone, and such gemstones as ruby and sapphire. The country produced no metals or crude oil, but it imported petroleum for refining. In 2012, the Government was offering tax incentives and generous regulations to lure investors to its mining sector. Mining companies would be charged a royalty of 5% on revenues and no other duties.

In 2012, Sri Lanka's gross domestic product (GDP) was $128.4 billion, and the country's per capita income was $6,200 based on purchasing power parity. The country recorded an increase in the GDP of 6.4% for the year owing to ongoing reconstruction projects and infrastructure development. The industrial sector registered growth of 10.3% and contributed 31.5% to the GDP. Mining and quarrying accounted for 2% of the GDP (U.S. Central Intelligence Agency, 2012).

In 2012, Sri Lanka exported minerals valued at $42.7 million, of which mineral sands accounted for 65%; silica and quartz, 20%; graphite, 10%; and mica, 3%. Exports of gemstones mainly went to China and Thailand. The export value of minerals to China increased to $15.14 million in 2012. The Government invited Chinese companies to invest in mining and processing mineral sands and graphite for export. Australia and Germany were also interested in developing Sri Lanka's rare-earth minerals and mineral sands (Lanka Business Online, 2013). Crude petroleum was a major import item for Sri Lanka; the country imported 41,000 barrels per day in 2012.

Production

Production of graphite and zircon was estimated to have increased by 43% and 17%, respectively, in 2012 compared with that of 2011 owing to expansions in production capacity that were completed in 2011. The value of Sri Lanka's gemstone production was estimated to have increased by 11% compared with the value in 2011 owing mainly to the high prices of gemstones on the world market; although the output of ruby was estimated to have increased by 8.6%, the output of sapphire decreased by 6.3%. Production of steel manufactures and residual fuel oil was estimated to have decreased slightly. Production of cement, clay for cement, kaolin, limestone, and salt each was estimated to have increased by between 5% and 10% (table 1).

Structure of the Mineral Industry

The mining of graphite, mineral sands, phosphate rock, and salt was performed by state-owned companies. The Ministry of State Resources and Enterprise Development (SRED) owned companies that mined mineral sands and phosphate rock. State-owned Ceylon Petroleum Corp. operated a crude oil refinery. The Government had no plans to privatize any state-owned enterprises but planned instead to retain ownership and management of these enterprises and to make them profitable. The private sector produced all other mineral output, with the exception of cement, which was manufactured and sold by a combination of the private sector and foreign investors and by state-owned Sri Lanka Cement Corp. Foreign companies in partnership with local investors operated several cement plants in the country. Graphit Kropfmuhl AG of Germany owned an 87% stake in Bogala Graphite Lanka Ltd., and the Government owned the remaining 13% (table 2).

Commodity Review

Metals

Titanium.—Lanka Mineral Sands Ltd., which was under the SRED, was engaged in extracting mineral sands along Pulmoddai beach north of Trincomalee. The mineral sands contained garnet, ilmenite, monazite, rutile, and zircon. The mineral sands deposit was estimated to have a resource of about 12.5 million metric tons (Mt), and ilmenite accounted for 60% of the deposit. The company operated a mineral processing plant for separating different minerals from the deposit. These minerals were the raw materials for rare-earth elements, thorium, titanium, and zirconium (Ministry of State Resources and Enterprise Development, 2013a).

Lanka Mineral Sands planned to construct a new mineral sands processing plant at Kokilai in northern Sri Lanka. The black mineral sands of Pulmoddai beach have heavy-mineral concentrations of 50% to 60% and were considered to be some of the richest mineral sands in the world. The company also planned to increase mine production of ilmenite and zircon (Ollett, 2012, p. 30).

Mirama Minerals was also engaged in mining and processing mineral sands at its plant at Dambulla in Sri Lanka. Mirama produced garnet, ilmenite, mica, quartz, rutile, and zircon for export. The company planned to set up a synthetic rutile plant with the intention of expanding it eventually to include production of titanium dioxide (Mirama Minerals, 2013).

Industrial Minerals

Graphite.—Sri Lanka's vein graphite is the highest quality form of natural graphite in the world; it contains more than 90% carbon content. Graphite is used in such traditional industries as refractories and steelmaking, and it is also in demand for use in such emerging technologies as lithium-ion batteries. State-owned Kahatagaha Graphite Lanka Ltd. planned to increase its production of vein graphite by 50% in 2012. The company, which operated one of the three graphite mines in the country, intended to increase its processing capacity of vein graphite to 150 metric tons per month (t/mo) from 100 t/mo to meet market demand. The company mined seams of graphite

610 meters underground in the Maduragoda-Dodangaslanda area in the Kurunegala District. Its graphite resource was estimated to be 500,000 metric tons (t) (Moores, 2012).

The country's Board of Investment (BoI) signed a deal with Plumbago Lanka (Pvt) Ltd. in which the BoI agreed to invest $78 million during a 4-year period to process and export graphite. The Esna business advisory group would own a 25% stake in the project. Plumbago Lanka would work with the Geological Survey and Mines Bureau in operating the project. Earlier, the BoI had approved a proposal by Sarcon Development (Pvt) Ltd. to set up a $15.2 million graphite processing plant to produce graphite for export (Syrett, 2012, p. 62).

Sakura Pvt. Ltd., in collaboration with the Government, restarted the old Ragedara underground vein graphite mine, which is located in Hiriyala in northwestern Sri Lanka. The mine became Sri Lanka's third-ranked vein graphite producer in 2012. Sri Lanka exported 95% of its graphite production. Germany received a shipment of 10 t of the mine's high-purity graphite, which graded 90% to 99% carbon, in July 2012. Canada and France also were the possible destinations of Sri Lanka's exports of vein graphite. Bora Bora Resources Ltd. of Australia acquired a Sri Lankan graphite project for $500,000 in late 2012 and raised $1.25 million to fund the acquisition and project development (Australia's Paydirt, 2013).

Phosphate Rock.—Lanka Phosphate Ltd., which was also under the SRED, operated the Eppawala phosphate project, which covered an area of approximately 324 hectares, in the Anuradhapura District, North Central Province. The resources of the deposit were estimated to be 60 Mt containing 33% to 40% phosphorus pentoxide. The company produced two types of phosphate rock—Eppawala and high-grade Eppawala. The company planned to manufacture single superphosphate (SSP) to substitute for triple superphosphate (TSP), which was currently imported. With the production of SSP, the Government was expected to reduce its imports of TSP and, consequently, to reduce the amount of foreign exchange spent on imports (Ministry of State Resources and Enterprise Development, 2013b).

Outlook

Slower economic growth (6.3%) is forecast for 2013 for the country (International Monetary Fund, 2013). Sri Lanka's production of gemstones is expected to contribute $250 million to the country's GDP in 2013. Graphite production is expected to increase owing to planned expansions and investment. The country is expected to expand its output of downstream steel products to meet domestic demand, particularly that of the construction industry. Production of mineral sands is expected to increase as a result of Lanka Mineral Sands's construction of a new mineral processing plant and the Government's investment in the mineral sands industry. Mirama Minerals is expected to start up a value-added business, such as production of synthetic rutile and titanium dioxide.

References Cited

Australia's Paydirt, 2013, ASX 2012 IPOs: Australia's Paydirt, February, p. 33.

International Monetary Fund, 2013, World economic outlook: International Monetary Fund, April. (Accessed August 19, 2013, at http://www.imf.org/external/pubs/ft/weo/2013/01/index.htm.)

Lanka Business Online, 2013, Sri Lanka invites China to invest in mineral sector: Lanka Business Online, April 7. (Accessed July 10, 2013, at http://www.lankabusinessonline.com/news/print/1875474855.)

Ministry of State Resources and Enterprise Development, 2013a, Institutions, Lanka Mineral Sands Ltd.: Ministry of State Resources and Enterprise Development. (Accessed July 10, 2013, at http://www.sredmin.gov.lk/index.php?opinion=com_content&view=article&id=49.)

Ministry of State Resources and Enterprise Development, 2013b, Institutions, Lanka Phosphate Ltd.: Ministry of State Resources and Enterprise Development. (Accessed July 10, 2013, at http://www.sredmin.gov.lk/index.php?opinion=com_content&view=article&id=48.)

Mirama Minerals, 2013, Home page: Mirama Minerals. (Accessed July 11, 2013, at http://www.miramaminerals.com/index.php?id=1.)

Moores, Simon, 2012, Canada surges as flake tops graphite wish list: Industrial Minerals, no. 540, September, p. 31.

Ollett, John, 2012, Zircon buoys as prices rise: Industrial Minerals, no. 536, May, p. 28–30.

Syrett, Laura, 2012, The grade unknowns–Graphite mining projects "under the radar": Industrial Minerals, no. 543, December, p. 51–63.

U.S. Central Intelligence Agency, 2012, Sri Lanka, *in* The world factbook: U.S. Central Intelligence Agency. (Accessed July 18, 2013, at https://www.cia.gov/library/publications/the-world-factbook/geos/ce.html.)

TABLE 1
SRI LANKA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Metric tons unless otherwise specified)

Commodity[3]		2008	2009	2010	2011	2012
Cement, hydraulic	thousand metric tons	1,800	1,900	2,600 [r]	2,200	2,400
Clays:						
Ball clay		52,966 [4]	54,873 [4]	47,826 [4]	50,000	52,000
Clays for cement manufacture		950	950	1,000	1,100	1,200
Kaolin		10,039 [4]	9,538 [4]	8,207 [4]	8,000	8,500
Feldspar, crude and ground		32,586 [4]	73,365 [4]	75,405 [4]	70,000	72,000
Gemstones:						
Precious and semiprecious, other than diamond, value	thousands	$108,000	$110,000	$150,000	$180,000	$200,000
Cat's eye	carats	50,000	51,000	54,000	55,000	56,000
Ruby	do.	47,900 [4]	20,300 [4]	31,336 [4]	35,000	38,000
Sapphire	do.	541,900 [4]	986,500 [4]	1,491,698 [4]	1,600,000	1,500,000
Other	do.	2,300,000	2,400,000	2,500,000	2,400,000	2,500,000
Graphite, all grades		6,615 [4]	3,171 [4]	3,437 [4]	3,500	5,000
Iron and steel, metal, semimanufactures		66,809 [4]	72,000	75,000	76,000	75,000
Mica, scrap		2,364 [4]	2,347 [4]	2,095 [4]	2,100	2,200
Petroleum refinery products:						
Gasoline	thousand 42-gallon barrels	2,300	2,400	2,600	2,700	2,800
Jet fuel	do.	750	750	800	800	850
Kerosene	do.	1,500	1,500	1,500	1,500	1,500
Distillate fuel oil	do.	5,500	5,600	5,700	5,800	5,900
Residual fuel oil	do.	4,800	4,800	4,500	4,600	4,500
Refinery fuel and losses	do.	740	750	760	800	820
Other	do.	2,500	2,600	2,700	2,800	2,900
Total	do.	18,100	18,400	18,600	19,000	19,300
Phosphate rock, gross weight		41,947 [4]	36,347 [4]	47,778 [4]	48,000	49,000
Salt		110,856 [4]	10,500	10,400	11,000	12,000
Stone:						
Limestone	thousand metric tons	1,091 [4]	1,145 [4]	1,192 [4]	1,200	1,300
Quartzite		37,196 [4]	30,409 [4]	34,437 [4]	36,000	37,000
Titanium mineral concentrates, gross weight:						
Ilmenite		22,159 [4]	122,424 [4]	52,637 [4]	52,000	53,000
Rutile		11,335 [4]	2,276 [4]	2,568 [4]	2,700	2,800
Zirconium, zircon, gross weight		41,000	9,000	11,000	30,000	35,000

[r]Revised. do. Ditto.

[1]Estimated data are rounded to no more than three significant digits; may not add to totals shown.

[2]Table includes data available through July 15, 2013.

[3]In addition to the commodities listed, crude construction materials, such as calcite, clay for brick and tile, dolomite, sand and gravel, sulfur, and varieties of stone presumably are produced, but available information is inadequate to make reliable estimates of output.

[4]Reported figure.

TABLE 2
SRI LANKA: STRUCTURE OF THE MINERAL INDUSTRY IN 2012

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity[e]
Cement	Holcim (Lanka) Ltd. (part of Holcim Ltd.)	Puttalam	1,000
Do.	Sri Lanka Cement Corp. (Ministry of Industry and Commerce)	Kankesanthurai	1,000
Do.	do.	Puttalam	400
Do.	Tokyo Cement Co. (Lanka) Ltd.	Trincomalee	300
Clay, ball	Lanka Ceramic Ltd.	Dediyawala	NA
Graphite	Kahatagaha Graphite Lanka Ltd. (Ministry of Industry and Commerce)	Kahatagaha Mine	6
Do.	Bogala Graphite Lanka Ltd. (Graphit Kropfmühl AG, 87%, and Ministry of Industry and Commerce, 13%)	Bogala Mine	7
Do.	Sakura Pvt. Ltd.	Ragedara Mine	NA
Petroleum, refined 42-gallon barrels per day	Ceylon Petroleum Corp. (Ministry of Petroleum and Petroleum Resources Development)	Sapugaskanda	51,000
Phosphate rock	Lanka Phosphate Ltd. (Ministry of State Resources and Enterprise Development)	Eppawala	40
Titanium, mineral sands	Lanka Mineral Sands Ltd. (Ministry of State Resources and Enterprise Development)	Pulmoddai	150
Do.	Mirama Minerals	Dambulla	NA

[e]Estimated. Do., do. Ditto. NA Not available.