



2019 Minerals Yearbook

BURMA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF BURMA

By Ji Won Moon

In 2019, Burma was one of the world's leading producers of tin (ranking third with an estimated 14% of world production and 2.3% of world reserves), rare earths (ranking third with an estimated 11% of world production), and antimony (ranking fourth with an estimated 1.9% of the world production). Burma had the world's largest jade mines, which were located at the Hpakant area in Kachin State and accounted for approximately 90% of the world's production of jadeite. Additional mineral commodities produced in Burma included cement, coal, copper, fluor spar, lead, manganese, natural gas, nickel, petroleum (crude and refined), tungsten, and zinc (table 1; Pistilli, 2019; Gambogi, 2021; Klochko, 2021; Merrill, 2021).

The legislative framework for the mineral sector in Burma is provided by law No. 72/2015 (the Mines Law) enacted in December 2015, which amended the Myanmar Mines Law of 1994. The Mines Law stipulates that the state owns all the country's mineral resources and has authority over all mining activities. The mineral sector is administered by the Ministry of Mines, which manages a production-sharing system that allocates to the Government up to a 30% share in mineral production. The Ministry of Natural Resources and Environmental Conservation (MONREC) passed new rules under Notification No. 13/2018 (the Mines Rules) in February 2018 that replaced previous mines rules passed in 1996. The main changes in the new rule include providing a longer period for permits, allowing foreign investment in medium- and small-scale projects (which was previously was allowed only for large-scale projects with a maximum exploration size of up to 2,100 square kilometers), and giving authority to the state and region-level governments to monitor small- and medium-scale projects up to 1 square kilometer. Other changes include requirements for mine rehabilitation plans and additional requirements for post-mine restoration. Mining of gemstones continues to be governed by the Gemstones Law of 1995 (Htoon and Kean, 2018; Dick and Quek, 2019, p. 1–3).

Minerals in the National Economy

In fiscal year 2019 (October 2018 through September 2019), the growth rate of Burma's real gross domestic product (GDP) was 6.8% compared with 6.4% in 2018. The mining and quarrying sector grew by 2.1% in 2019 compared with a 1.2% rate of growth in 2018. The nominal GDP in fiscal year 2019 was \$69.3 billion (MMK105 trillion).¹ The mining and quarrying sector contributed 5.4% of the GDP in 2019 compared with 4.8% in 2018. The mineral industry employed approximately 118,000 people in 2019 (Asian Development Bank, 2020; Central Statistical Organization, 2020d; Khin Moe Moe, Director of Central Statistical Organization, written commun., July 16, 2021).

¹Where necessary, values have been converted from Myanmar kyats (MMK) to U.S. dollars (US\$) at the annual average exchange rate of MMK1,518.3=US\$1.00 for 2019 and MMK1,429.8=US\$1.00 for 2018.

The value of Burma's total exports increased by 12% to \$11.4 billion in 2019 from \$10.2 billion in 2018. In 2019, exports of natural gas accounted for 37% of Burma's total exports, or \$4.26 billion; base metal and ores, 9.1%, or \$1.04 billion; and jade, 6.8%, or \$777 million. The export value of natural gas increased by 32% in 2019 compared with that in 2018; however, the values of base metal and ores and jade decreased by 3.7% and 12%, respectively (Central Statistical Organization, 2020a, e).

In 2019, the value of total imports decreased by 9.3% to \$15.6 billion from \$17.2 billion in 2018. Imports of refined mineral oil accounted for 22%, or \$3.50 billion; base metal and manufactures, 11%, or \$1.68 billion; fertilizer, 2.7%, or \$414 million; coal and coke, 1.4%, or \$212 million; and cement, 0.4%, or \$63 million. The import values of coal and coke, cement, and fertilizers increased by 34%, 12%, and 8.8%, respectively, compared with those of 2018. Refined mineral oil and base metal and manufactures decreased by 9.3% and 3.7%, respectively (Central Statistical Organization, 2020b, e).

Production

In 2019, Burma's barite production increased by 344%; antimony (mine, Sb content), by an estimated 127%; tungsten concentrate (W content), by an estimated 133%; manganese (gross weight and Mn content), by an estimated 112% and 108%, respectively; fluor spar (acid grade), by an estimated 80%; coal (lignite), by 62%; jet fuel, by 37%; bentonite, by 34%; jade and pearl, by 31% each; crushed limestone (construction), by an estimated 28%; zinc (mine, Zn content), by 19%; cement, by an estimated 18%; salt, by 13%; and natural gas, by 10%. Production of gemstones (other precious and semiprecious stones) decreased by 88%; fluor spar (metallurgical grade), by an estimated 66%; kerosene, by 50%; gold (mine, Au content), by 47%; dolomite (dimension), by 43%; furnace oil, by 36%; tin (mine, Sn content), by an estimated 23%; and crude petroleum, by 11%. Data on mineral production are in table 1.

Structure of the Mineral Industry

Burma had 708 metal mines and 345 nonmetal mines in 2019. In 2017 (the latest year for which comprehensive information was available), the number of enterprises for nonmetallic mineral products was 152; metals, 67; and coke and refined petroleum, 6. The Myanmar Oil and Gas Enterprise (MOGE) under the Ministry of Electricity and Energy (MoEE) administered the management and performance of the country's oil fields and gas fields by issuing approvals, audits, and reports through collaboration with local and foreign oil and gas companies. Myanmar Petrochemical Enterprise (MPE), which was supervised by the MoEE, was responsible for the exploration and production of mineral fuels and for setting policy, drafting regulations, and overseeing the administration

of all refineries, fertilizer factories, and liquefied petroleum gas plants. Most inland and offshore blocks were operated by international companies. Table 2 is a list of major mineral industry facilities (International Trade Administration, 2019; Central Statistical Organization, 2020c, d; Ministry of Electricity and Energy, 2021a, b).

Commodity Review

Metals

Gold.—In 2019, mined gold production (Au content) continued to decrease, to 250 kilograms (kg) from 470 kg in 2018 and 1,580 kg in 2017, owing to the suspension of production. In February 2018, National Prosperity Gold Production Group Ltd.'s mining permit for the Moehiti Moemi Mine in the Mandalay Region was revoked after the company failed to pay 114 kilograms per month of gold to the Government as part of the terms of the company's mining rights. The operations had been suspended since November 2017 owing to the gold debt. Despite the 2017 suspension, gold was still being produced on the Moehiti Moemi Mine property from artisanal and small-scale mines (table 1; Htwe and Phyo, 2018; Lynn, 2019).

Rare Earths.—In November 2018, the Government banned all rare earth element (REE) mining by Chinese owned companies that failed to meet environmental standards. In 2018, Burma exported all its estimated 23,000 metric tons (t) of REE production to China, including 860 t of dysprosium oxide and 130 t of terbium oxide. In May 2019, in response to the Government of Burma's ban on Chinese-owned REE mining companies, China banned the importation of all REE ore and concentrates from Burma. The export of rare-earth ores to China from Burma was resumed in September 2019 and stopped again in December (GlobeNewswire, 2019; Liang and Backeberg, 2019; Masuda, 2019; Roskill, 2019).

Tin.—In 2019, Burma's estimated tin production decreased by 23% to 42,000 t from 54,600 t in 2018 and 67,500 t in 2017 owing to declining ore grades. Kanbawk Tin-Tungsten Co. Ltd.—a joint venture of Savitar Tin-Tungsten Pte. Ltd. of Singapore (70%), Developers Entrepreneurs Liaison Construction Organizers Ltd. (24%), and Yebyu Tin-Tungsten Co. Ltd. (6%)—owned the Kanbawk tungsten-tin-fluorspar project in Dawei District, Tanintharyi Region. The company continued exploration and drilling to improve and expand the resource estimate. As of 2017, the estimated inferred resource was 30 million metric tons (Mt) grading 15.39% fluorspar, 0.262% tin metal, and 0.168% tungsten trioxide (table 1; Liedtke, 2018; Kanbawk Tin-Tungsten Co. Ltd., 2020).

Mineral Fuels

Coal.—Coal production increased by 62% to 1.94 Mt in 2019 from 1.20 Mt in 2018. In July, a joint venture of Sahakol Equipment Public Co. Ltd. (70% stake) of Thailand and Golden Lake Co Ltd. (30%) was formed to develop the Mai Khot coal mine at Mong Hsat township, Shan State. The mine, which had an estimated 100 Mt of coal reserves, was expected to produce high-quality subbituminous coal and lignite (table 1; Apisitniran, 2019).

Natural Gas.—In 2019, production of natural gas increased by 10% to 18.8 billion cubic meters from approximately 17.1 billion cubic meters in 2018. The major offshore gas projects were the Shwe project, the Yadana project, the Yetagun project, and the Zawtika project, and 75% of production was exported to Thailand and China. The Government was planning to explore 15 offshore and 18 onshore blocks. In December, a new exploration agreement for the first ultra-deepwater natural gasfield project of Block A6 in Ayeyarwady Region was signed by a joint venture composed of Total S.A. of France (40%), Woodside Energy Ltd. of Australia (40%), and MPRL E&P Co. (20%). This gasfield was estimated to have 56.6 billion cubic meters to 84.9 billion cubic meters of natural gas and, once developed, would produce 11.3 million cubic meters per day, which is equivalent to 20% of the country's daily output in 2019 (table 1; International Trade Administration, 2019; Chau, 2020).

Petroleum.—In 2019, there were approximately 520 small refineries distributed in various states and regions. Among the two large-scale refineries built in the 1950s, the Thanlyin refinery was nonoperational and the Chauk refinery was unable to produce fuel with consistent quality in 2019. The MPE was in the process of building the first modern refinery, which would have a 2-million-barrel production capacity, near the Chauk refinery in Magway Region (Ko, 2018, 2020).

Outlook

In 2020, the growth rate of Burma's GDP is expected to decrease to 2.0% from 6.5% in 2019 owing to the global economic effects caused by the coronavirus disease 2019 (COVID-19) pandemic. Since new rules of the MONREC removed the restriction on foreign investment to small- and medium-scale projects, the Government of Burma has received new project proposals in metals and mineral fuels, including one for a new modern oil refinery. As a result, the mineral industry is likely to grow and Burma's dependence on imported refined petroleum products will likely decrease if the refinery plan can be materialized in the coming years (International Monetary Fund, 2020).

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TABLE 1
BURMA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2015	2016	2017	2018	2019
METALS					
Antimony, mine, Sb content	3,000	2,780	3,060	2,640 ^r	6,000 ^e
Copper:	46,900	75,000	115,100	153,000	153,100
Mine, solvent extraction	46,900	75,000	115,100	153,000	153,100
Refinery, electrowon	46,900	75,000	115,100	153,000	153,100
Ferroalloys, ferronickel:					
Gross weight	60,000 ^e	64,462	62,366	61,000 ^{r,e}	59,700
Ni content	15,600 ^e	16,800	16,200	15,900 ^{r,e}	15,500
Gold, mine, Au content kilograms	1,600 ^r	1,510 ^r	1,580 ^r	470 ^r	250
Lead:					
Mine, Pb content	13,600 ^e	14,000	20,900 ^e	38,200 ^r	37,800
Refinery, primary ^e	600	5,900	12,000	12,000	12,000
Manganese, mine:					
Gross weight	70,200	293,000	346,000	518,000	1,100,000 ^e
Mn content	28,100	117,000	138,000	207,000	430,000 ^e
Nickel, mine, laterite ore, Ni content	23,000	20,000	20,000	21,000	20,000
Rare earths, mineral concentrate, rare-earth oxide equivalent ^e	370 ^r	3,500 ^r	15,000	23,000 ^r	25,000
Tin, mine, Sn content ^e	41,000	57,000	67,500	54,600	42,000
Tungsten, mine, W content: ^e					
Tin-tungsten concentrate ³	139	181	212	74 ^r	75
Tungsten concentrate	5	1 ^r	4 ^r	3	7
Zinc, mine, Zn content	4,800	6,500	13,100	17,700 ^{r,e}	21,100
INDUSTRIAL MINERALS					
Barite	4,535	2,627	3,206	2,935	13,045
Cement, hydraulic	989,047	2,520,477	5,480,094	6,500,000 ^{r,e}	7,700,000 ^e
Clay, bentonite	700	600	600	173,000 ^r	231,000
Fluorspar: ^e					
Acid grade	--	--	--	20,000	36,000
Metallurgical grade	13,000	7,000	3,000	50,000	17,000
Gemstones:					
Jade kilograms	29,880,000	36,755,000	37,986,000	28,136,000	36,835,000
Pearl do.	1,556	1,619	1,766	1,630	2,130
Other precious and semiprecious stone do.	3,659	2,411	1,486	1,295 ^r	159
Gypsum, mine	94,395	245,789	361,015	309,343	299,316
Nitrogen, ammonia, N content	67,000	37,000	48,000	53,000	53,000 ^e
Salt, crude	133,815	212,041	158,499	189,146	213,319
Stone, construction:					
Crushed, limestone ^e thousand metric tons	5,900	15,100	32,800	35,900	46,100
Dimension, dolomite	2,200	2,200	2,200	2,200	1,250
MINERAL FUELS AND RELATED MATERIALS					
Coal, lignite	373,596	506,262	677,774	1,200,619	1,941,558
Coke	13,617	10,815	18,105	11,048 ^r	11,704
Natural gas million cubic meters	19,545	18,971	18,105	17,080	18,800
Petroleum:					
Crude thousand 42-gallon barrels	5,017	4,384	4,105	3,442 ^r	3,059
Refinery:					
Diesel do.	1,022	823	930	731	732
Furnace oil do.	209	334	468	340	217
Gasoline do.	1,262	1,019	599	493	483
Jet fuel do.	118	98	74	60	82
Kerosene do.	1	1	1	2	1
Liquefied petroleum gas do.	99	85	71	80	78
Total do.	2,711	2,360	2,143	1,706	1,593

See footnotes at end of table.

TABLE 1—Continued
BURMA: PRODUCTION OF MINERAL COMMODITIES¹

⁶Estimated. ⁷Revised. do. Ditto. -- Zero.

¹Table includes data available through November 23, 2020. All data are reported unless otherwise noted. Estimated data are rounded to no more than three significant digits.

²In addition to the commodities listed, copper matte, construction aggregates, diamond, feldspar, refined gold, lead (antimonial), sand and gravel, silica, steel products, and refined zinc may have been produced, but available information was inadequate to make reliable estimates of output.

³Production is based on fiscal year, with a starting date of April 1 of the year shown. From 2019, fiscal year cycle changed to start on October 1 of the previous year to September 30 of the year shown.

TABLE 2
BURMA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ⁶
Antimony:			
Mine	Tha Byu Mining Co. Ltd. (Star Sapphire Group)	Tha Byu Mine, Kayin State	NA
Refinery	Myanmar Shin Shin Metal Antimony Co.	Refinery, Mawlamyine Industrial Zone	NA
Do.	Northeast Sin Phyu Taw Mineral Exploration Co.	do.	NA
Cement	AAA Cement International Co. Ltd.	Plants in Kyaukse and Patheingyi, Mandalay	230
Do.	Dragon Cement Co. Ltd.	Cement plant in Pinlaung, Shan State	180
Do.	KBZ Development Co.	Cement plant in Taunggyi, Shan State	330
Do.	LG International Corp., 51%, and Highland Cement International Co. Ltd., 49%	Blue Diamond cement plant, Phy Nyaung, Mandalay Region	500
Do.	Mandalay Cement Industries Co. Ltd. (MCICL) (Royal Hi-Tech Group Co.)	Cement plant in Kyaukse, Mandalay Region	170
Do.	Mawlamyine Cement Ltd. (Siam Cement Group, 70%, and Pacific Link Cement Industries, 30%)	Mawlamyine cement plant, Kyaukse, Mandalay Region	500
Do.	Max Myanmar Manufacturing Co. Ltd. (Max Myanmar Holding Co. Ltd., 100%)	Max cement plant in Leiway, Nay Pyi Taw Region	690
Do.	Max Myanmar Manufacturing Co. Ltd. (operator), Yangon City Development Committee (owner) (Union of Myanmar Economic Holdings Ltd., 100%)	Max cement plant II (leased Pyi Nyaung plant) in Tharzi, Mandalay Region	170
Do.	Myanmar Conch Cement Co. Ltd. (joint venture of Myint Investment Group, and Anhui Conch Cement Co. Ltd.)	No. 33 cement plant, Kyaukse, Mandalay Region	1,650
Do.	Myanmar Economic Corp. Co. Ltd.	Myaingglay cement plants, Hpa An, Kayin Sta	1,620
Do.	No 31 Heavy Industry (Government, 100%)	No.31 cement plant, Thayet, Magway ¹	130
Do.	No 32 Heavy Industry (Government, 100%)	No.32 cement plant, Kyaukse, Ayeyarwady ¹	360
Do.	Shwe Taung Cement Co. Ltd. (Shwe Taung Mining)	Apache cement plant, Pyin Nyaung, Mandalay	920
Do.	Sin Minn Cement Industry Co. Ltd. (Union of Myanmar Economic Holdings Ltd., 60%, and Shwe Cement Co. Ltd., 40%)	Sin Minn 3 cement plant, Kyaukse, Mandalay Region	300
Do.	Thandaw Myat Co. (Joint venture of Thandaw Myat Mill and Yun Nan Jian Sheng Investment Co.)	Double Rhinos cement plant, Kyaukse, Mandalay Region	3,300
Do.	U.E. Export Import Co. Ltd.	Tiger Head cement plant in Kyaukse, Mandalay	100
Clay	Myanmar Pioneer Sar Co. Ltd.	NA	10
Coal	Eden Group Co. Ltd.	Tigyit coal mine, Tigyit, Shan State	910
Do.	Htoo Han Thit Co.	Mine in Kale, Sagaing Region	NA
Do.	Joint venture of Sahakol Equipment Public Co. Ltd., 70%, and Golden Lake Co. Ltd., 30%	Mai Khot Mine, Mong Hsat, Shan State	300
Do.	Min Shwe Hlwar Co.	NA	25
Do.	Ngwe Yee Pearl Co.	Mines in Hsipaw, Tang Yan, and Mong Yai, Shan State	NA
Do.	Tun Thwin Mining Co. Ltd., and No. 1 Mining Enterprise	Paluzawa coal mine, Kalewa, Sagaing Region	100
Copper	Myanmar Wanbao Mining Copper Ltd. [No. 1 Mining Enterprise, 51%; Wanbao Mining Ltd., 30%; Union of Myanmar Economic Holding Ltd. (UMEH), 19%]	Letpadaung copper mine, Salinggyi, Sagaing Region	100
Do.	Myanmar Wanbao Mining Copper Ltd. (operator), and Myanmar Yang Tse Copper Ltd. (owner) [No. 1 Mining Enterprise, 51%; Wanbao Mining Ltd., 30%; Union of Myanmar Economic Holding Ltd. (UMEH), 19%]	Sabetaung and Kyisintaung copper mine, and Monywa solvent extraction electrowinning plant in Monywa, Sagaing Division	50
Ferrous alloys, ferronickel	China Nonferrous Metal Mining Nickel Co. [China Nonferrous Metal Mining Co. Ltd., 60%, and Taiyuan Iron & Steel (Group) Co. Ltd. (TISCO), 40%]	Smelter in Tagaung Taung (Dagongshan) nickel mine, Thabeikying, Mandalay	85
Gemstones	Taung Tan Yadanar Gems Co. Ltd.	Hpakant jade mining region, Kachin State	NA

See footnotes at end of table.

TABLE 2—Continued
BURMA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Gold:				
Mine, Au content	kilograms	National Prosperity Gold Production Group Ltd.	Moehthi Moemi Mine, Yamethin, Mandalay ¹	1,700
Refinery, secondary		WM Gold Refinery (Wa Minn Group)	Yangon City	NA
Lead:				
Mine, Pb content		Bawdwin joint venture [Myanmar Metals, 51%; Win Myint Mo Industries Co. Ltd., 24.5%; East Asia Power (Mining) Co. Ltd., 24.5%]	Bawdwin lead-zinc mine, Namtu, Kyaukme, Shan State ²	NA
Do.		No. 1 Mining Enterprise, and GPS Joint-venture Co. Ltd.	Mine in Kalaw, Taunggyi, Shan State	40
Refinery		Myanmar Smelting & Refining Co. Ltd. (MYSARCO)	Myaung Da Kar Special Foundry Industrial Zone, Hmawbi, Yangon Region	NA
Do.		No. 1 Mining Corp. (operator) (Government, 100%)	Namtu-Bawdwin Smelter-Refinery, Kyaukme District, Shan State ²	NA
Do.		Yangon Metal Industry Co. Ltd.	do.	NA
Manganese, concentrate		East Asia Power (Mining) Co. Ltd.	NA	NA
Natural gas	million cubic meters	Daewoo International, 51%; Oil and Natural Gas Corp. (Videsh Ltd.), 17%; Myanmar Oil and Gas Enterprise, 15%; Gas Authority of India Ltd., 8.5%; Korea Gas Corp., 8.5%	Shwe gasfield (A-1 block) and Shwe Phyu and Ngwe gasfield (A-3 block) off of Rakhine State coast	3,850
Do.	do.	Myanmar Petroleum Resources Ltd. (MPRL), and Myanmar Oil and Gas Enterprise (MOGE)	Mann oilfield, south of Yangon, Yangon Region	520
Do.	do.	Petroleum Authority of Thailand Exploration and Production International, 80%, and Myanmar Oil and Gas Enterprise, 20%	Zawtika gasfield (Gawthaka, Kakonna, and Zawtika offshore gasfields), Gulf of Martaban	3,100
Do.	do.	Petronas Carigali Myanmar Inc., 40.91%; Myanmar Oil and Gas Enterprise, 20.45%; PTT Exploration and Production Plc., 19.32%; Nippon Oil Exploration (Myanmar) Ltd., 19.32%	Yetagun gasfield in (Blocks M12, M13, and M14) in Tanintharyi, Gulf of Martaban	4,600
Do.	do.	Total E&P Myanmar, 31.24%; Unocal Myanmar Offshore Co. Ltd. (Chevron Corp.), 28.3%; PPT Exploration and Production Plc., 25.5%; Myanma Oil and Gas Enterprise, 15%	Yadana, Badamyar and Sein gasfields (Blocks M5 and M6) in the Andaman Sea	4,200
Nickel	metric tons	China Nonferrous Metal Mining Nickel Co. [China Nonferrous Metal Mining Co. Ltd., 60%, and Taiyuan Iron & Steel (Group) Co. Ltd. (TISCO), 40%]	Tagaung Taung (Dagongshan) nickel mine Thabeikying, Mandalay Region	25,000
Nitrogen, ammonia		Myanma Petrochemical Enterprise (MPE) (Government, 100%)	No. 1 fertilizer plant at Sa Le, Mandalay	34
Do.		do.	No. 4 fertilizer plant, Myaungtagar, Yangon	98
Do.		do.	No. 5 fertilizer plant, Kangyidaunt, Ayeyarwad	98
Petroleum:				
Crude	thousand 42-gallon barrels	Myanmar Petroleum Resources Ltd. (MPRL), and Myanma Oil and Gas Enterprise (MOGE)	Mann oilfield, south of Yangon, Yangon Region	880
Refinery	do.	Myanmar Petrochemical Enterprise (Government, 100%)	No. 1 refinery, Thanlyin, Yangon Region ¹	NA
Do.	do.	do.	No. 2 refinery, Chauk, Magway Region	840
Do.	do.	Approximately 520 small refineries	Various states and regions	800
Rare earths, mineral concentrates, rare-earth-oxide equivalent		Myanmar Ye Huang Mining Corp.	Mine in Kokang, Langkho, Shan State	20
Salt		NA	Salterns in Shwebo District, Sagaing Region	NA
Do.		NA	Salterns in Labutta, Ayeyarwady Region	NA
Steel:				
Raw		No. 4 (Myingyan) Steel Mill (Ministry of Industry)	Slab and billet plant, Mandalay Region	200
Raw and products		No. 1 (Kyaukse) Steel Mill (Ministry of Defense)	Bar and wire plant, Mandalay Region	200
Do		No. 3 (Ywama) Steel Mill (Ministry of Defense)	Billet and wire, Taunggyi, Shan State	50

See footnotes at end of table.

TABLE 2—Continued
BURMA: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ⁶	
Steel:—Continued				
Products	Millcon Thiha Co. (Millcon Steel Plc., 45%; General Engineering Co., 45%; Thiha Group, 10%)	Plant in Thiha Special Economic Zone, Yangon Region	54	
Do	Min Dhama Steel Structures Co. Ltd. (Mottama Holdings Ltd.)	Plant in Shwe Pyi Thar Industrial Zone, Yangon City	60	
Do	Myanmar Posco Steel Co. Ltd. (POSCO, 70%; Government, 20%; other, 10%)	POSCO steel plant at Mingalardon, Yangon Region	30	
Do	No. 2 (Myaungtagar) Steel Mill	Plate plant, Yangon Region	150	
Tin, concentrates	Myanmar Pongpipat Co. Ltd., 65%, and No. 2 Mining Enterprise, 35%	Heinda tin mine, Myitta, Dawei, Tanintharyi Region	NA	
Do.	Global South Industrial Co.	Mine near the Kayah State-Shan State border	NA	
Tin-tungsten, concentrates	Kanbawk Tin-Tungsten Co. Ltd. (Savitar Tin-Tungsten Pte. Ltd., 70%; Developers Entrepreneurs Liaison Construction Organizers Ltd., 24%; Yebyu Tin-Tungsten Co. Ltd., 6%)	Kanbawk Mine, Yay Phyu township, Dawei, Tanintharyi Region	NA	
Tungsten, concentrates	No. 2 Mining Enterprise	NA	NA	
Do.	Kayah State Mineral Production Co.	Mawchi Mine, Bawlakhe, Kayah State	NA	
Zinc:				
Mine, Zn content	metric tons	Bawdwin joint venture [Myanmar Metals Ltd., 51%; Win Myint Mo Industries Co. Ltd., 24.5%; East Asia Power (Mining) Co. Ltd., 24.5%]	Bawdwin lead-zinc mine, Namtu, Kyaukme, Shan State ²	350
Do.	do.	East Asia Power (Mining) Co. Ltd. (operator), and Cornerstone Resources (Myanmar) Ltd. (owner) (Top End Minerals, 60%, and other, 40%)	Longh Keng zinc mine, Mong Pawn, Langkho District, Shan State	1,800
Do.	do.	No. 1 Mining Enterprise and Mayflower Mining Enterprise Ltd.	Mine in Myawaddy, Kayin State	9,600
Refinery	do.	East Asia Power (Mining) Co. Ltd. (operator), and Cornerstone Resources (Myanmar) Ltd. (owner)	Lashio zinc refinery, Shan State	10,000

⁶Estimated. Do., do. Ditto. NA Not available.

¹Operation was suspended since 2018.

²Under care-and-maintenance status since 2009, and ongoing definitive feasibility study in 2019.