



2020–2021 Minerals Yearbook

BURMA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF BURMA

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Note: In this chapter, information for 2020 is followed by information for 2021.

In 2020, Burma was the 3d-ranked producer of rare earths in the world, accounting for 13% of world production; the 3d-ranked producer of tin, accounting for 11% of world production and 14% of world reserves; the 6th-ranked producer of antimony, accounting for 2.0% of world production; and the 11th-ranked producer of manganese, accounting for 1.3% of world production. Other mineral commodities produced in Burma included cement, coal, copper, ferroalloys, fluorspar, jade, lead, natural gas, nickel, nitrogen, petroleum (crude and refined), steel, sulfur, tungsten, and zinc (table 1; Cordier, 2022; Klochko, 2022; Merrill, 2022; Schnebele, 2022).

In 2020, the real gross domestic product (GDP) of Burma increased by 3.2% compared with 6.8% in 2019; the lower growth rate was owing to the effects of the coronavirus disease 2019 (COVID-19) pandemic. The nominal GDP in 2020 was \$81.3 billion. The manufacturing sector accounted for 25% of Burma's GDP in 2019 (the latest year for which data were available); the construction sector, 6.4%; and the mining sector, 5.4%. The mineral industry employed approximately 118,000 people in 2019, accounting for 0.5% of the total number of employed people in the country. In 2020, the mineral industry employed approximately 89,000 people—a 25% decrease that was likely attributable to the effects of the COVID-19 pandemic. The total value of goods exported in 2020 was \$16.9 billion. Natural gas accounted for 20% of Burma's total goods exports, by value, and base metals and ore accounted for 7.4%. The total value of goods imported in 2020 was \$18.0 billion. Refined mineral oils accounted for 14% of Burma's total goods imports, by value; base metals and manufactures, 11%; fertilizer, 2.2%; coal and coke, 1.6%; and cement, 0.4% (Myanmar Statistical Information Service, 2021, p. 11, 27, 33–35; Asian Development Bank, 2022, p. 1; International Monetary Fund, 2022; Khin Moe Moe, Director of Central Statistical Organization, written commun., July 16, 2021).

The legislative framework for the mineral sector in Burma is provided by the State-Owned Economic Enterprises Law of 1989; the Myanmar Mines Law of 1994, as amended in 2015; the Myanmar Gemstones Law of 1995; the Mining Rules of 1996, as amended in 2018; and the Investment Law of 2016. Burma had suspended issuing new mining permits since July 2016, when two tin mines caused damage to livelihoods and the environment. In 2020, the Ministry of Natural Resources and Environmental Conservation (MONREC) planned to approve the application of 158 new medium- and large-scale exploration and extraction permits among approximately 3,000 applications. The legislative framework for the oil and gas sector is provided by the Petroleum and Petroleum Product Law of 2017, and the Ministry of Electricity and Energy (MOEE) is the primary Government agency that regulates the sector (Win, 2016; Htoon and Kean, 2018; Dick and Quek,

2019, p. 1–3; Chandler and Kyi, 2020, 2021; Chandler, Khin, and Amirthanesan, 2020; Ko, 2020b; Chandler, Kyi, and Amirthanesan, 2022).

In 2020, Burma's tungsten concentrates (W content) production increased by an estimated 229%; gold (mine, Au content), by 155%; pearl, by 30%; rare earths (oxide equivalent), by an estimated 22%; copper (mine, Cu content), by 21%; ferronickel (Ni content) and cement, by 18% each; limestone (construction), by an estimated 18%; bentonite, by an estimated 16%; nickel (mine, Ni content), by 11%; and coke, by 10%. Production of precious and semiprecious stones other than jade and pearl decreased by 97%; fluorspar (acid grade), by an estimated 83%; barite, by 80%; antimony (mine, Sb content), by an estimated 73%; zinc (mine, Zn content), by 65%; manganese (mine, Mn content), by 42%; fluorspar (metallurgical grade), by an estimated 41%; lead (mine, Pb content), by 39%; jade, by 35%; jet fuel, by 22%; gasoline, by 20%; crude petroleum, by 18%; tin-tungsten concentrate, by an estimated 18%; tin (mine, Sn content), by an estimated 17%; gypsum, by 14%; and furnace oil, by 10%. Data on mineral production are in table 1. Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Lead and Zinc.—In 2009, Win Myint Mo Industries Co. Ltd. (WMM) acquired the rights to the Bawdwin lead-zinc mine in Kyaukse, Shan State, from Government-owned No. 1 Mining Enterprise under a production-sharing agreement. The mine had been one of the major lead and silver producers in the world until the late 1930s. WMM placed the mine on care-and-maintenance status after the acquisition. In 2018, Bawdwin Joint Venture Co. Ltd. (BJV) was established by Myanmar Metals Ltd. of Australia (51%), East Asia Power (Mining) Co. Ltd. (24.5%), and WMM (24.5%). A prefeasibility study to redevelop the Bawdwin project was completed in 2019. The probable ore reserves were estimated to be 18.4 million metric tons (Mt) of ore grading 6.4% lead, 3.4% zinc, and 169 grams per metric ton silver. In 2020, BJV was conducting an environmental and social impact assessment of the Bawdwin project. The company was also in the process of negotiating a new production-sharing agreement and a 50-year concession lease with No. 1 Mining Enterprise (Mining Technology, 2019; Myanmar Metals Ltd., 2019, p. 1; Mir, 2020; Stockhead, 2020a, b).

Rare Earths.—Production of rare earths increased to an estimated 35,500 metric tons (t) in 2020 from an estimated 29,000 t (revised) in 2019. China had imported all the rare-earth compounds, including unspecified rare-earth oxide and mixed rare-earth carbonate, produced in Burma during the year. Burma's exports accounted for 74.4% of China's total rare-earth

compounds imports and approximately 50% of China's feedstock of heavy rare earths in 2020 (table 1; Daly, 2021; Zhang and Li, 2021; United Nations, 2022).

Tin.—Burma's tin production decreased by 17% to 36,400 t in 2020. The significant decrease was mostly attributed to the 2-month trade restriction at the Burma-China border, which started in April owing to the COVID-19 pandemic, and to the heavy rains in August, which flooded more than 50% of the tin mines in the country. China imported about 158,000 t of tin raw materials from Burma in 2020, which accounted for approximately 92% of China's total tin ore and concentrate imports for the year (International Tin Association, 2020, 2021; Mann, 2020; United Nations, 2022).

Industrial Minerals

Cement.—In 2020, Burma produced 6 Mt of cement, which was an 18% increase compared with the amount produced in 2019. Owing to the shortage of domestic supplies of both gas and coal, Government- and military-run cement plants used imported natural gas supplied under a special, low tariff, and privately owned plants used mostly imported coal. Mawlamyine Cement Ltd., which was a joint venture of Siam Cement Group of Thailand (70%) and Pacific Link Cement Industries (30%), closed its Mawlamyine cement plant in Kyaikmayaw, Mon State, in mid-2020 owing to the shortage of limestone raw material. Pacific Link had supplied limestone to the plant since March 2016. In July, China Gezhouba Group Overseas Investment Co. Ltd. of China (70%) and Young Investment Group Industry Co. Ltd. (30%) announced a plan to develop a limestone mine and a cement plant in Mandalay; the cement plant would have a capacity of 1.65 million metric tons per year of cement (table 1; Global Cement, 2020; International Cement Review, 2021).

Mineral Fuels

Petroleum.—In 2020, Burma's imports of refined products totaled 57.5 million barrels valued at \$2.45 billion. The MOEE planned to build a new refinery under a public-private partnership scheme. The planned refinery would have a crude petroleum processing capacity of 36.7 million barrels per year (Mbbbl/yr) near the state-owned petrochemical complex in Thanbayarkan, Magway Region. Around mid-2020, China's Yunnan Indo-Pacific Group, Zhong'an Group Ltd., CNPC East China Design Institute, and locally owned Myanmar Chemical and Machinery Co. Ltd. submitted a field survey proposal for a refinery project with a processing capacity of 58.6 Mbbbl/yr at the Dawei Special Economic Zone (SEZ) in Tanintharyi Region. In addition, the Dawei SEZ management committee was in the process of reviewing a new refinery proposal submitted to the MOEE in 2017 by a consortium of HK New Energy Investment Holdings of Hong Kong and a few Chinese companies, including China Huanqiu Contracting and Engineering Co. Ltd., China Petroleum Pipeline Engineering Co. Ltd., and China Energy Engineering Corp. (table 1; HK New Energy Investment Holdings, 2017; Htwe, 2020; Ko, 2020a; Lwin, 2020; Zin, 2020; Myanmar Statistical Information Service, 2021, p. 35).

MINERAL INDUSTRY HIGHLIGHTS IN 2021

In 2021, Burma's real GDP decreased by 17.9% owing to a coup by armed forces (Tatmadaw) in February amid the COVID-19 pandemic. The nominal GDP in 2021 was \$65.2 billion. In 2021, the mineral industry employed approximately 53,000 people, which was a 38% decrease from the number employed in 2020. The value of total goods exported decreased to \$15.2 billion in 2021, of which natural gas accounted for 20%, and base metals and ore accounted for 4.0%. The total value of goods imported decreased to \$14.3 billion in 2021. Refined mineral oils accounted for 19% of Burma's total goods imports, by value; base metals and manufactures, 7.6%; fertilizer, 2.7%; coal and coke, 1.6%; and cement, 0.5% (Myanmar Statistical Information Service, 2021, p. 11, 27, 28, 33–35; 2022, p. 11, 27, 28, 33–35; International Monetary Fund, 2022; Khin Moe Moe, Director of Central Statistical Organization, written commun., July 16, 2021).

In 2021, Burma's copper production decreased by 82% to 33,900 t. Operations in the Sagaing Region, including the Letpadaung Mine and the Sabetaung & Kyisintaung (S&K) Mines, stopped in February and March, respectively, owing to workers participating in protests after the coup that took place on February 1. In September, Myanmar Metals Ltd. sold its entire interest (51%) in the Bawdwin project to its local joint-venture partner, WMM, owing to the potential difficulty of securing financing for the \$300 million project after the coup. To further lessen its risk and to conduct a timely exit from Burma, Myanmar Metals also canceled its planned acquisition of the Wuntho copper-gold porphyry project in Sagaing Region with Myanmar Reserves Development Co. Ltd. as well as an earn-in agreement over the Tarlay gold-copper exploration license with Locrian Precious Metals Co. Ltd. in March. In October, Myanmar Metals changed its name to Mallee Resources Ltd. after the company totally exited Burma (tables 1, 2; Decena, 2021; Hu, 2021; Ignacio, 2021; Nainan, 2021; Vergara, 2021; Mallee Resources Ltd., 2022, p. 3).

Burma's rare earths production in 2021 was estimated to be 34,700 t, which was a 2% decrease from that in 2020. China's imports of rare-earth compounds from Burma accounted for 75.6% of China's total rare-earth compounds imports in 2021, in terms of quantity, compared with 74.4% in 2020 and 70.0% in 2019. Since the February coup, approximately 100 rare earth mines newly started activities in Chipwe, Pangwa, and Zam Nau in northern Kachin State on the Chinese border because the area was remote, not strongly affected by the COVID-19 pandemic, and controlled by junta-linked militia, and thus was not significantly affected by the coup. Similar to the production of rare earths, tin production, which was concentrated in the remote and military-controlled Shan State, remained relatively stable, resulting in a 1% production increase in 2021 (table 1; Bangkok Post, 2021; Hu, 2021; Irrawaddy, The 2021b; United Nations, 2022).

Burma produced about 16.4 billion cubic meters of natural gas in 2021 compared with about 17.8 billion cubic meters in 2020. In early April, production at the Yetagun gasfield was suspended indefinitely because its production rate was lower than the technical threshold of the facility. Burma had 53 inland blocks and 18 offshore blocks in operation, and most of them were

operated by international companies. Approximately one-half of the country's foreign currency came from natural gas exports, and 75% of production was exported to China and Thailand under contracts (table 1; Yep and Ang, 2021; International Trade Administration, 2022).

In May, Indian Oil Corp. Ltd. of India, which was owned by the Indian Government, announced a plan to build a new refinery with a processing capacity of approximately 80 Mbbbl/yr at the site of the No. 1 oil refinery compound in Thanlyin, Yangon Region. The project would be conducted under a public-private partnership scheme (Irrawaddy, The, 2021a).

Outlook

Burma's real GDP is expected to increase by 1.6% in 2022. Rare earths and tin outputs are expected to remain stable in the near future regardless of the ongoing COVID-19 pandemic and the recent coup because the production was concentrated in the remote area close to the Burma-China border and controlled by junta-linked militia. Production of copper, lead, and zinc may increase in the coming years if the Bawdwin project and the Letpadaung and S&K copper mines are able to restart operations soon (International Monetary Fund, 2022).

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TABLE 1
BURMA: PRODUCTION OF MINERAL COMMODITIES¹
(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2017	2018	2019	2020	2021
METALS					
Antimony, mine, Sb content	3,060	2,640	4,800 ^{c,r}	1,300 ^c	4,600 ^c
Copper:					
Mine, solvent extraction ³	115,100	153,000	153,100	185,000	33,900
Refinery, electrowon	115,100	153,000	153,100	185,000	33,900
Ferrous alloys, ferronickel:					
Gross weight	62,366	61,000 ^c	59,800 ^r	70,500	45,200
Ni content	16,200	15,900 ^c	14,900 ^r	17,600	11,300
Gold, mine, Au content kilograms	1,580	710 ^r	330 ^r	840	773
Iron and steel, raw steel ^c	250,000	300,000	350,000	350,000	400,000
Lead:					
Mine, Pb content	20,900 ^c	38,200	37,800	23,200	26,100
Refinery, secondary ^c	12,000	12,000	12,000	11,000	10,900
Manganese, mine:					
Gross weight	346,000	518,000	1,100,000	630,000	520,000
Mn content	138,000	207,000	430,000	250,000	210,000
Nickel, mine, laterite ore, Ni content	20,000	21,000	20,000	22,200	17,000

See footnotes at end of table.

TABLE 1—Continued
BURMA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2017	2018	2019	2020	2021
Rare earths, mineral concentrate, rare-earth oxide equivalent ^c	15,000	23,000	29,000 ^f	35,500	34,700
Tin, mine, Sn content ^c	67,500	54,600	43,900 ^f	36,400	36,900
Tungsten, mine, W content: ^{c, 4}					
Tin-tungsten concentrate	212	135 ^f	61 ^f	50	37
Tungsten concentrate	4	3	7	23	23
Zinc, mine, Zn content	13,100	17,700 ^c	21,200 ^f	7,500	10,500
INDUSTRIAL MINERALS					
Barite	3,206	2,935	13,045	2,642	2,220
Cement, hydraulic	5,480,094	4,500,000 ^f	5,100,000 ^f	6,000,000	6,700,000 ^c
Clay, bentonite	170,000 ^{f, c}	173,000	228,000 ^{f, c}	264,000 ^c	294,000 ^c
Fluorspar: ^c					
Acid grade	--	20,000	36,000	6,000	2,000
Metallurgical grade	3,000	50,000	17,000	10,000	9,000
Gemstones:					
Jade kilograms	37,986,000	28,136,000	36,835,000	23,894,000	12,513,000
Pearl do.	1,766	1,630	2,130	2,768	2,901
Other precious and semiprecious stones do.	1,486	1,295	159	4	-- ^c
Gypsum, mine	361,015	309,343	299,316	258,618	51,240
Nitrogen, ammonia, N content	48,000	56,000 ^f	59,000 ^f	56,000	48,000 ^c
Salt, crude	158,499	189,146	213,319	229,755	161,774
Stone, construction:					
Crushed, limestone ^c thousand metric tons	32,800	22,600 ^f	30,500 ^f	35,900	40,100
Dimension, dolomite	2,200	2,200	1,250	1,200 ^c	1,200 ^c
MINERAL FUELS AND RELATED MATERIALS					
Coal, lignite	677,774	1,200,619	1,941,558	1,879,079	1,456,794
Coke	18,105	11,048	11,704	12,908	8,244
Natural gas million cubic meters	18,105	17,080	18,800	17,808	16,373
Petroleum:					
Crude thousand 42-gallon barrels	4,105	3,442	3,059	2,522	2,536
Refinery:					
Diesel do.	930	731	732	689	433
Furnace oil do.	468	340	217	196	198
Gasoline do.	599	493	483	385	311
Jet fuel do.	74	60	82	64	63
Kerosene do.	1	2	1	1 ^c	--
Liquefied petroleum gas do.	71	80	78	75	58
Total do.	2,140	1,710	1,590	1,410	1,060

^cEstimated. ^fRevised. do. Ditto. -- Zero.

¹Table includes data available through July 18, 2022. All data are reported unless otherwise noted. Estimated data and totals 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.

³The copper content of solvent extraction output at the mine level is the same as electrowon refinery output because copper produced in the solvent extraction and electrowinning process is typically reported only at the refinery level.

⁴Production is based on fiscal year, with a starting date of April 1 of the year shown. Starting in 2019, the 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 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^c
Antimony:			
Mine	Tha Byu Mining Co. Ltd. (Star Sapphire Group)	Tha Byu Mine, Kayin State	NA
Refinery	Myanmar Shing Shind Metal Antimony Co.	Refinery in Mawlamyine Industrial Zone, Mon State	NA
Do.	Northeast Sin Phyu Taw Mineral Exploration Co.	do.	NA
Cement	AAA Cement International Co. Ltd.	Cement plants in Kyaukse and Patheingyi, Mandalay Region	500
Do.	Arr Thit Man Co. Ltd.	Than Taw Myat cement factory, Kyaukse, Mandalay Region	3,300
Do.	Dragon Cement Co. Ltd.	Cement plant in Pinlaung, Shan State	180
Do.	Kan Baw Za Development Co.	Cement plant in Taunggyi, Shan State	350
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. Ltd.)	Cement plant in Kyaukse, Mandalay Region	220
Do.	Mawlamyine Cement Ltd. (Siam Cement Group, 70%, and Pacific Link Cement Industries, 30%)	Mawlamyine cement plant, Kyaukse, Mon State ¹	1,800
Do.	Max Myanmar Manufacturing Co. Ltd. (Max Myanmar Holding Co. Ltd., 100%)	Max cement plant, Leiway, Nay Pyi Taw Region	750
Do.	Myanmar Ceramic Industry (Government, 100%)	Kyangin cement plant, Ayeyarwady Region	1,500
Do.	Myanmar Conch Cement Co. Ltd. (Anhui Conch Cement Co. Ltd., 50%, and Myint Investment Group, 50%)	Alpha cement plant, Kyaukse, Mandalay Region	2,000
Do.	Myanmar Economic Corp. Ltd.	Hpa-An cement plant, Myaing Ka Lay, Kayin State	450
Do.	Ngwe Yi Pale Cement Co. Ltd. (Win Brothers Group of Co. Ltd.)	Crown cement plant, Naung Cho, Mandalay Region	2,000
Do.	No. 31 Heavy Industry Enterprise (Government, 100%)	No. 31 cement plant, Thayet, Magway ²	130
Do.	No. 32 Heavy Industry Enterprise (Government, 100%)	No. 32 cement plant, Kyangin, Ayeyarwady ²	360
Do.	Shwe Taung Cement Co. Ltd. (STC) (Shwe Taung Mining, 100%)	Apache cement plant, Pyi Nyaung, Thazi, Mandalay Region	550
Do.	Sin Minn Cement Industry Co. Ltd. (Myanmar Economic Holdings Ltd., 60%, and Shwe Cement Co. Ltd., 40%)	Sin Minn cement plant, Kyaukse, Mandalay Region	450
Do.	U.E. Export Import Co. Ltd.	Tiger Head cement plant, Kyaukse, Mandalay Region	100
Do.	Yojin Myanmar Cement Co. Ltd.	Grinding plant in Yangon, Myanmar	1,180
Clay	Myanmar Pioneer Sar Co. Ltd.	NA	300
Coal	Eden Group Co. Ltd.	Tigyit coal mine, Tigyit, Shan State	910
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.	Htoo Han Thit Co. (operator) [Tun Thwin Mining Co. Ltd., and No. 1 Mining Enterprise]	Paluzawa coal mine, Kalewa, Sagaing Region	100
Copper, Cu content	Joint venture of No. 1 Mining Enterprise (operator), 50%, and Wanbao Mining Ltd., 50%	Letpadaung copper mine, and solvent extraction electrowinning plant, Salingyi, Sagaing Region	100
Do.	Myanmar Yang Tse Copper Ltd. (operator) (No. 1 Mining Enterprise, 51%; Wanbao Mining Ltd., 30%; Myanmar Economic Holding Ltd., 19%)	Sabetaung & Kyisintaung copper mines, and Monywa solvent extraction electrowinning plant, Monywa, Sagaing Region	50

See footnotes at end of table.

TABLE 2—Continued
BURMA: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e
Ferroalloys, ferronickel		China Nonferrous Metal Mining Nickel Co. [China Nonferrous Metal Mining (Group) Co. Ltd., 75%, and No. 3 Mining Enterprise, 25%]	Smelter in Tigyaing, Sagaing Region	85
Gemstones		Taung Tan Yadanan Gems Co. Ltd.	Kachin State	NA
Gold:				
Mine, Au content	kilograms	National Prosperity Gold Production Group Ltd.	Moehiti Moemi Mine, Yamethin, Mandalay ²	1,700
Refinery, secondary		WM Gold Refinery (Wa Minn Group, 100%)	Refinery in Yangon City	NA
Lead:				
Mine, Pb content		Bawdwin Joint Venture Co. Ltd. [Win Myint Mo Industries Co. Ltd., 75.5%, and East Asia Power (Mining) Co. Ltd., 24.5%]	Bawdwin lead-zinc mine, Namtu, Kyaukme, Shan State ³	NA
Do.		GPS Joint Venture Co. Ltd. (Greenway Mining Group Ltd., 52%, and No. 1 Mining Enterprise 48%)	Mine in Kalaw, Taunggyi, Shan State	35
Refinery, secondary		Myanmar Smelting & Refining Co. Ltd. (MYSARCO)	Plant in Myaung Da Kar Special Foundry Industrial Zone, Hmawbi, Yangon Region	NA
Do.		No. 1 Mining Enterprise (operator) (Government, 100%)	Namtu-Bawdwin Smelter and Refinery, Kyaukme, Shan State ³	NA
Do.		Yangon Metal Industry Co. Ltd.	Plant in Hmawbi, Yangon Region	NA
Manganese, concentrate		East Asia Power (Mining) Co. Ltd.	NA	NA
Natural gas	million cubic meters	Myanmar Oil and Gas Enterprise (operator), and Myanmar Petroleum Resources Ltd. (owner)	Mann oilfield (Block MOGE-2), Magwe Region	520
Do.	do.	Petroleum Authority of Thailand Exploration and Production International, 80%, and Myanmar Oil and Gas Enterprise, 20%	Zawtika gasfield (Block M9) in Gawthaka, Kakonna, and Zawtika offshore, 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 (Blocks M12, M13, and M14) in Tanintharyi, Gulf of Martaban ⁴	4,600
Do.	do.	POSCO International Corp., 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.	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		China Nonferrous Metal Mining Nickel Co. Ltd. [China Nonferrous Metal Mining (Group) Co. Ltd., 75%, and No.3 Mining Enterprise, 25%]	Tagaung Taung (Dagongshan) nickel ore project (mine and smelter) at Thabeikkyin, Mandalay Region	25
Nitrogen, ammonia		Myanma Petrochemical Enterprise (MPE) (Government, 100%)	No. 1 fertilizer plant at Sa Le, Mandalay Region ²	36
Do.		do.	No. 4 fertilizer plant, Myaungdaga, Yangon	98
Do.		do.	No. 5 fertilizer plant, Kangyidaunt, Ayeyarwady Region	98
Pearl	kilograms	Myanmar Pearl Enterprise (Government, 100%)	Zabuthiri Township, Naypyitaw	2,800
Petroleum:				
Crude	thousand 42-gallon barrels	Myanmar Petroleum Resources Ltd. (MPRL), and Myanma Oil and Gas Enterprise (MOGE)	Mann oilfield (Block MOGE-2), Yangon Region onshore	2,500
Refinery	do.	Myanmar Petrochemical Enterprise (Government, 100%)	No. 1 refinery, Thanlyin, Yangon Region ²	NA
Do.	do.	do.	No. 2 refinery, Chauk, Magway Region	840
Do.	do.	do.	Petrochemical Complex, Thanbayarkan, Magway Region	3,100

See footnotes at end of table.

TABLE 2—Continued
BURMA: STRUCTURE OF THE MINERAL INDUSTRY IN 2021

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity ^e	
Rare earths, mineral concentrates rare-earth oxide equivalent	Bawm Myang Co. Ltd.	Mine in Chipwe, Myitkyina, Kachin State	NA	
Do.	Myanmar Myo Ko Ko Medical Instrument Co. Ltd.	do.	NA	
Do.	Myanmar Ye Huang Mining Corps	Mine in Kokang, Langkho, Shan State	20	
Do.	San Lin International Import and Export Co. Ltd.	Mine in Chipwe, Myitkyina, Kachin State	NA	
Do.	Sin Kyaing Co. Ltd.	do.	NA	
Salt	NA	Salterns in Shwebo, Sagaing Region	NA	
Do.	NA	Salterns in Labutta, Ayeyarwady Region	NA	
Steel:				
Raw	No. 1 (Kyaukse) Steel Mill (Ministry of Defense)	Bar plant, Mandalay Region	200	
Do.	No. 3 (Ywama) Steel Mill (Ministry of Defense)	Billet plant, Taunggyi, Shan State	50	
Do.	No. 4 (Myingyan) Steel Mill (Ministry of Industry)	Slab and billet plant, Mandalay Region	200	
Products	No. 1 (Kyaukse) Steel Mill (Ministry of Defense)	Wire plant, Mandalay Region	200	
Do.	No. 3 (Ywama) Steel Mill (Ministry of Defense)	Wire plant, Taunggyi, Shan State	50	
Do.	Millcon Thiha Co. (General Engineering Co., 45%; Millcon Steel Plc., 45%; Thiha Group, 10%)	Plant in Thiha Special Economic Zone, Yangon Region	54	
Do	Min Dhama Steel Structures Co. Ltd. (Mottama Holdings Ltd., 60%, and Mutual Profit Trading Ltd., 40%)	Plant in Shwe Pyi Thar Industrial Zone, Yangon City	60	
Do	Myanmar POSCO C&C Co. Ltd. (POSCO Holdings Inc., 70%, and Myanmar Economic Holdings Ltd., 30%)	POSCO steel plant at Mingalardon, Yangon Region	30	
Do	No. 2 (Myaungdager) Steel Mill (Ministry of Defense)	Plate plant, Yangon Region	150	
Tin, concentrate, Sn content	Global South Industrial Co. (Hunan Global South Industrial Co. Ltd., and Theik Co. Ltd.)	Tin-tungsten mine near the Kayah State-Shan State border	40	
Do.	Myanmar Pongpipat Co. Ltd., 65%, and No. 2 Mining Enterprise, 35%	Heinda tin mine, Myitta, Dawei, Tanintharyi Region ⁵	NA	
Tin-tungsten, concentrate	Kanbauk Tin Tungsten Co. Ltd. (Savitar Tin-Tungsten Pte. Ltd., 70%; Developers Entrepreneurs Liaison Construction Organizers Ltd., 24%; Yebyu Tin-Tungsten Co. Ltd., 6%)	Kanbauk Mine, Yay Phyu, Dawei, Tanintharyi Region	NA	
Tungsten, concentrate	Kayah State Mineral Production Co. Ltd. (Myanmar Economic Holdings Ltd., 70%, and No. 2 Mining Enterprise, 30%)	Mawchi Mine, Hpasawng, Bawlakhe, Kayah State	NA	
Do.	No. 2 Mining Enterprise	NA	NA	
Zinc:				
Mine, Zn content	metric tons	Bawdwin Joint Venture Co. Ltd. [Win Myint Mo Industries Co. Ltd., 75.5%, and East Asia Power (Mining) Co. Ltd., 24.5%]	Bawdwin lead-zinc mine, Namtu, Kyaukme, Shan State ³	NA
Do.	do.	East Asia Power (Mining) Co. Ltd. (operator), and Cornerstone Resources (Myanmar) Ltd. (owner)	Longh Keng zinc mine, Mong Pawn, Langkho, 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

^eEstimated. Do., do. Ditto. NA Not available.

¹Closed in 2020.

²Operation was suspended since 2017.

³Under care-and-maintenance status since 2009, and ongoing definitive feasibility study since 2019.

⁴Operation was suspended since 2021.

⁵Operation was suspended since 2016.