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2019 Minerals Yearbook

THAILAND [ADVANCE RELEASE]

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The Mineral Industry of Thailand

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In 2019, Thailand was one of the world's leading producers of gypsum (ranking fifth in world production and accounting for 6.6% of the world's total output), feldspar (fifth-ranked producer and accounting for 5.2% of the world's output), and rare earths (eighth-ranked producer and accounting for 0.86% of the world's output). Thailand's mineral industry produced such metallic minerals as manganese, tin, and tungsten and such industrial minerals as cement, clay, fluorspar, perlite, salt, sand and gravel (construction and industrial), and stone (crushed and dimension) (table 1; Brioche, 2021; Crangle, 2021; Gambogi, 2021).

Minerals in the National Economy

In 2019, the growth rate of Thailand's real gross domestic product (GDP) was 2.4% compared with 4.2% in 2018. The portion of the GDP contributed by the mining and quarrying sector increased by 1.7% compared with a decreasing by 3% in 2018. The nominal GDP in 2019 was $544 billion[1] (BHT16.9 trillion). The net flow of foreign direct investment (FDI) into Thailand decreased to $6.3 billion in 2019 from $13.2 billion in 2018. The net flow of FDI to the mining and quarrying sector was $263 million compared with a negative (that is, outflow) of $302 million in 2018. In 2019, the mining and quarrying sector employed 60,700 people, which was equivalent to 0.16% of the total labor force in the country and was a decrease of 17% compared with the number employed in the mining and quarrying sector in 2018 (Bank of Thailand, 2020a, b, f; Office of the National Economic and Social Development Council, 2020, table 4.1).

Government Policies and Programs

Thailand made major changes in its mining legislation with the enactment of the Minerals Act, B.E. 2560 (2017) in August 2017. This new Minerals Act consolidated the Minerals Act, B.E. 2510 (1967) (last amended in 2002) and the Mineral Royalty Rates Act, B.E. 2509 (1966) (last amended in 1979). The Mineral Act is intended to achieve optimal economic, social, and environmental benefits from mineral management through such measures as the suspension of gold mining and the restriction on agricultural land use. The Minerals Act decentralizes the authority to issue 1-year basic exploration licenses to local officials, whereas the Director-General of the Department of Primary Industries and Mines (DPIM) continues to issue 2-year exclusive prospecting licenses and special prospecting licenses that are in place for more than 5 years. The Minerals Act also increases the license issuance fees by a factor of between 100 and 1,000, depending on the type of license. Petroleum exploration and production are regulated by the Petroleum Act (Prior and Summacarava, 2017; Praiwan, 2019b).

[1]Where necessary, values have been converted from Thai bahts (THB) to U.S. dollars (US$) at an annual average exchange rate of BHT31.05=US$1.00 for 2019 and BHT32.31=US$1.00 for 2018.

Production

In 2019, the most significant changes in Thailand's metal production were in the production of rare earths (rare-earth-oxide equivalent), which increased by an estimated 90%; manganese (mine, Mn content), by an estimated 21%; and raw steel, by an estimated 14%. Production of iron ore restarted, and no mine production of antimony, gold, or silver was reported in 2019. Production of tungsten (mine, W content) decreased by an estimated 25%; steel products, by an estimated 19%; and tin (smelter, primary), by 10% (table 1).

In the production of industrial minerals, granite (dimension) production increased by 264%; perlite, by 168%; marble (dimension), by 59%; travertine, by 53%; nonbeneficiated kaolin, by 37%; cement clay, by 28%; granite (crushed), by 23%; marl for cement, by 20%; and feldspar, by 12%. The production of barite decreased by 97%; pyrophyllite, by 87%; quartz, by 79%; marble (crushed, including fragments), by 74%; ball clay, by 43%; shale for cement, by 26%; ceramic clay and estimated fluorspar (acid grade), by 22% each; industrial sand and gravel (unspecified), by 20%; crushed dolomite, by 17%; beneficiated kaolin, by 16%; filter kaolin, by 15%; and gypsum (other than anhydrite), by 14%. Production of jet fuel decreased by 13%, but otherwise there were no significant production changes for mineral fuels. Data on mineral production are in table 1.

Structure of the Mineral Industry

Most of the nonfuel mineral mining and mineral-processing companies in Thailand were privately owned and operated. The Government-owned Electricity Generating Authority of Thailand (EGAT) operated the Mae Moh coal mine, which was the sole domestic coal mine in the country. PTT Exploration and Production Public Co. Ltd. (PTTEP)—a subsidiary of the Government-owned Petroleum Authority of Thailand (PTT)—its joint ventures, and some foreign and Thailand-based international oil companies owned most of the country's petroleum and natural gas exploration projects and production businesses. Table 2 is a list of major mineral industry facilities in Thailand (Nation Thailand, The, 2019).

Mineral Trade

The value of Thailand's total exports decreased by 3.2% to $243 billion in 2019 from $251 billion in 2018. In 2019, exports of petroleum products accounted for 3.1% of Thailand's total exports, or $7.60 billion compared with $9.73 billion in 2018 (a 22% decrease); iron and steel, 1.1%, or $2.58 billion compared with $2.97 billion in 2018 (a 13% decrease); copper, 0.9%, or $2.10 billion compared with $2.11 billion in 2018 (a nearly 0.5% decrease); aluminum, 0.7%, or $1.64 billion compared with $1.66 billion in 2018 (a 1.2% decrease); crude petroleum, 0.3%, or $670 million compared with $820 million in 2018 (an 18% decrease); and mining products, 0.2%, or $560 million compared with $511 million in 2018 (a 9.6% increase). Thailand's main export partners in 2019 were China (including Hong Kong), which received 17% of Thailand's total exports, by value; the United States, 13%; Japan, 10%; Vietnam, 5%; and Australia and Malaysia, 4% each (Bank of Thailand, 2020c, e).

In 2019, the value of total imports decreased by 5.7% to $216 billion from $229 billion in 2018. Imports of crude petroleum accounted for 9.8% of Thailand's total imports, or $21.2 billion compared with $26.9 billion in 2018 (a 21% decrease); materials of base metal, 9.5%, or $20.6 billion compared with $21.9 billion in 2018 (a 5.9% decrease); petroleum products, 3.3%, or $7.03 billion compared with $6.52 billion in 2018 (a 7.8% increase); natural gas, 2.4%, or $5.08 billion compared with $4.60 billion in 2018 (a 10% increase); minerals, 1.8%, or $3.94 billion compared with $4.04 billion in 2018 (a 2.5% decrease); and coal, coke, and peat together, 0.68%, or $1.48 billion compared with $1.67 billion in 2018 (an 11% decrease). Thailand's main import partners in 2019 were China (including Hong Kong), which supplied 23% of Thailand's total imports, by value; Japan, 14%; the United States, 7%; and Malaysia and the Republic of Korea, 4% each (Bank of Thailand, 2020c, d).

Commodity Review

Metals

Iron and Steel.—In 2019, production of raw steel increased by 14% to 7.3 million metric tons (Mt), but production, export, and domestic consumption of steel products decreased by 19%, 15.3%, and 5.1%, respectively, owing to Thailand's weakening economy. In December 2019, the Government of Thailand extended the antidumping duty imposed on cold-rolled carbon steel, both coiled and uncoiled, imported from China, Taiwan, and Vietnam for 5 years. Thailand had imposed antidumping tariffs ranging from 4.22% to 20.11% since 2014; however, an investigation showed that dumping continued unabated (table 1; Arunmas, 2019; Choo, 2019).

Millcon Steel Plc. planned to increase its capacity to produce premium-grade steel to 240,000 metric tons per year (t/yr) from 84,000 t/yr in the next 2 years. In August 2019, Tata Steel Ltd. of India signed a memorandum of understanding to sell 70% of its shares in Tata Steel (Thailand) Public Co. Ltd. to Synergy Metals and Mining Fund of the United Arab Emirates owing to weak global demand (Apisitniran, 2019; Economic Times, The, 2019; South East Asia Iron and Steel Institute, 2019, p. 5).

Lead and Zinc.—In 2019, Metal Tiger Plc. of the United Kingdom continued with negotiation of the terms of the joint-venture agreement with its venture parties to operate an exploration drilling campaign at the Boh Yai Mine. In 2016, Metal Tiger Plc. signed a joint-venture agreement with the following parties: Kanchanaburi Exploration and Mining Co. Ltd. (KEMCO), Boh Yai Mining Co. Ltd. (BYMC), and a major shareholding individual of both companies. KEMCO and BYMC held several historical mining lease applications and some mining and processing plant assets, including the Boh Yai and the Song Toh lead-zinc-silver mines, which had been on care-and-maintenance status since 2002. In December 2018, Metal Tiger completed the licensing and lease application for the Boh Yai Mine and continued to explore legal options to implement exploration (Globe Newswire, 2011; Metal Tiger Plc., 2019, p. 14; 2020, p. 16).

Tin.—In 2019, Thailand produced 73 metric tons (t) of tin from numerous small mines in Nakhon Si Thammarat, Phangnga, Phuket, and Rayong Provinces. In November, Thailand Smelting & Refining Co. Ltd. (Thaisarco) became a wholly owned subsidiary of Amalgamated Metal Corp. Plc. of the United Kingdom. In 2019, Thaisarco, which was a manufacturer of tin, specialty tin alloys, and other tin-related products, produced 9,600 t of tin metal compared with 10,721 t in 2018. In 2019, Thaisarco increased its annual processing capacity of tin concentrates by commissioning a new furnace and expected to smelt imported concentrates from two new major tin development projects in Africa starting in 2020. In 2019, AfriTin Mining Ltd., which operated the Uis Tin Mine in Namibia, entered into an offtake agreement with Thaisarco and began production (Financial Times, 2019; Amalgamated Metal Corp. plc., 2020, p. 12, 18).

Tungsten.—Pan Asia Metals Ltd. held two exploration licenses and two license applications for the Khao Soon tungsten project in Nakhon Si Thammarat Province. This project was previously explored by Thai Goldfields NL (TGF) of Australia until 2014. Results obtained by Pan Asia and TGF estimated an exploration target in accordance with the Joint Ore Reserves Committee (JORC) Code 2012 in the range of 15 to 29 Mt at grades of 0.2% to 0.4% tungsten trioxide (Pan Asia Metals Ltd., 2020).

Industrial Minerals

Cement.—In 2019, Thailand's cement production was an estimated 34.5 Mt, which was an increase of 5.6% compared with the 32.66 Mt (revised) produced in 2018. Demand for cement in Thailand decreased by 3% from that of 2018. Siam Cement Public Co. Ltd. was a leading cement manufacturer in Thailand. Its revenue from the member countries of the Association of Southeast Asian Nations (ASEAN), which accounted for 36% of its total assets of $14.1 billion in 2019, included revenue from Vietnam (which accounted for 42% of the revenue from ASEAN countries), Indonesia (39%), Laos (5.0%), Burma (4.7%), Cambodia (4.5%), and the Philippines (3.6%). In 2019, sales from the ASEAN operations accounted for 17% of Siam Cement's total revenue compared with 15% in 2018 (table 1; Asia Cement Public Co. Ltd., 2019, p. 4; Siam Cement Public Co. Ltd., 2020, p. 13).

Gypsum.—The production of anhydrite and other types of gypsum decreased by 6% and 14%, respectively, because the DPIM lowered the gypsum export quota to 6 Mt in 2019 from 7.0 Mt in 2018. The DPIM limited gypsum production through suspending issuance of new mining licenses, controlling exports using a quota system, and setting the free-on-board export price (table 1; Samim Derakhshan Co., 2016; Global Gypsum, 2020).

Lithium.—Pan Asia held 100% interest in the Reung Kiet lithium project in Phang Nga Province and the Bang Now lithium project in Chumporn Province, which were situated in the Southeast Asian tin-tungsten belt. For the Reung Kiet project, Pan Asia was granted three Special Prospecting Licenses covering 38 square kilometers (km^2) and focusing on the Reung Ket and Bang I Tum open pit mines. Drilling of the main pegmatite area in the Reung Kiet project resulted in a lithium grade of 0.65% to 1.0% Li_2O as well as occurrences of tin and tantalum. The Bang I Tum prospect in the same project reported rock chip samples that had an average grade of 1.23% Li_2O. The Bang Now lithium project covered 5 km^2 under two exploration prospecting licenses. Rock chip sampling resulted in an average grade of 1.75% Li_2O (Pan Asia Metals Ltd., 2020).

Mineral Fuels

Coal.—In 2019, Thailand produced 14.1 Mt of lignite coal compared with 14.9 Mt in 2018. Since depletion of their domestic coal reserves, privately owned coal companies Banpu Public Co. Ltd. and Lanna Resources Public Co. Ltd. had imported coal from mines in Indonesia that were owned by their subsidiaries or joint ventures. The leading sources of Thailand's coal imports in 2019 were Australia, which supplied 4 Mt to Thailand; Indonesia, 3.7 Mt; and Russia, 0.95 Mt. Total coal imports decreased by 2.7 Mt owing to weaker economic growth, and coal consumption also decreased by 2.6 Mt owing to decreased industrial consumption and increased competition from gas and renewable energy (table 1; Argus, 2020; Banpu Public Co. Ltd., 2020; Lanna Resources Public Co. Ltd., 2020).

Natural Gas and Petroleum.—In December 2018, the PTTEP was awarded concessions for the offshore Erawan Block (offering 68% profit to the Government) and the Bongkot Block (offering 70% profit), effective as of 2022 and 2023, respectively. The Erawan and the Bongkot Blocks had a combined production capacity of approximately 21.8 billion cubic meters of natural gas per year. As of December 2017, proven underground reserves and probable reserves for the two blocks were 180 billion cubic meters and 130 billion cubic meters, respectively. In March, PTTEP, which targeted long-term growth to balance the decrease in domestic production, agreed to buy a 70% interest in Murphy Oil Corp. of the United States' oil and gas assets in Malaysia for $2.13 billion; these assets had proven reserves of 816 million barrels of oil equivalent in 2018. In May 2019, PTTEP was granted a 10-year renewal on contracts for the EU1 Block in Udon Thani Province from June 2021, and the E5 Block in Khon Kaen Province from March 2021. Both blocks are located in the Sinphuhom Plateau, northeastern Thailand, which was estimated to have proven gas reserves of 3.23 billion cubic meters (Ramsay, 2019; Praiwan, 2019a, b).

Outlook

Thailand's GDP is expected to decrease by 7.1% in 2020 owing to the effects of the coronavirus disease 2019 (COVID-19) pandemic and the resulting global economic slowdown. The decreasing labor force, decreasing net flow of FDI to the mining and quarrying sector, and a ban on all gold-mining activities are expected to persist in coming years. The contribution of the mining and quarrying sector to Thailand's economy is expected to remain insignificant (Bangkok Post, 2020; International Monetary Fund, 2020).

References Cited

Amalgamated Metal Corp. Plc., 2020, Annual report and accounts 2019: London, United Kingdom, Amalgamated Metal Corp. Plc., 83 p. (Accessed June 8, 2020, at https://aa161ef4-8090-4a2b-a062-e2faa69f4429.filesusr.com/ugd/5b2fc3_a3eb7b4322464f5d8d4f081825d5b7dc.pdf?index=true.)

Apisitniran, L., 2019, Steeling for tough times ahead: Bangkok [Thailand] Post, July 15. (Accessed June 4, 2020, at https://www.bangkokpost.com/business/1712592/steeling-for-tough-times-ahead.)

Argus, 2020, Thailand buys more coal from Russia: Argus [London, United Kingdom], January 16. (Accessed August 31, 2020, at https://www.argusmedia.com/en/news/2052167-thailand-buys-more-coal-from-russia#:~:text=Thailand%20imported%20946%2C000t%20of,earlier%2C%20Thai%20customs%20data%20show.&text=Thai%20consumers%20prefer%20to%20buy,declining%20domestic%20production%20of%20lignite.)

Arunmas, P., 2019, Anti-dumping shields for steel renewed: Bangkok [Thailand] Post, December 19. (Accessed June 4, 2020, at https://www.bangkokpost.com/business/1819209/anti-dumping-shields-for-steel-renewed.)

Asia Cement Public Co. Ltd., 2020, Annual report 2019—Delivering sustainable growth: Bangkok, Thailand, Asia Cement Public Co. Ltd., 78 p. (Accessed September 6, 2020, at https://www.asiacement.co.th/en/system/files_force/assets/document/f2/b5/annual_report2019_acc_en.pdf?download=1.)

Bank of Thailand, 2020a, EC_EI_027—Thailand's macro economic indicators: Bangkok, Thailand, Bank of Thailand. (Accessed September 3, 2020, via https://www.bot.or.th/App/BTWS_STAT/statistics/ReportPage.aspx?reportID=409&language=eng.)

Bank of Thailand, 2020b, EC_RL_009_S4—Labour force survey (New Series ISIC Rev.4): Bangkok, Thailand, Bank of Thailand. (Accessed September 3, 2020, at https://www.bot.or.th/App/BTWS_STAT/statistics/DownloadFile.aspx?file=EC_RL_009_S4_ENG_ALL.XLSX.)

Bank of Thailand, 2020c, EC_XT_003_S2—Trade classified by country/economic territories (US$): Bangkok, Thailand, Bank of Thailand. (Accessed September 3, 2020, at https://www.bot.or.th/App/BTWS_STAT/statistics/DownloadFile.aspx?file=EC_XT_003_S2_ENG_ALL.XLSX.)

Bank of Thailand, 2020d, EC_XT_005_S2—Imports classified by economic classification (US$): Bangkok, Thailand, Bank of Thailand. (Accessed September 3, 2020, at https://www.bot.or.th/App/BTWS_STAT/statistics/DownloadFile.aspx?file=EC_XT_005_S2_ENG_ALL.XLSX.)

Bank of Thailand, 2020e, EC_XT_009_S2—Total value and quantity of exports classified by product group (US$): Bangkok, Thailand, Bank of Thailand. (Accessed September 3, 2020, at https://www.bot.or.th/App/BTWS_STAT/statistics/DownloadFile.aspx?file=EC_XT_009_S2_ENG_ALL.XLSX.)

Bank of Thailand, 2020f, EC_XT_059—Foreign direct investment classified by business sector of Thai enterprises (US$): Bangkok, Thailand, Bank of Thailand. (Accessed September 3, 2020, at https://www.bot.or.th/App/BTWS_STAT/statistics/DownloadFile.aspx?file=EC_XT_059_ENG_ALL.XLSX.)

Bangkok Post, 2020, Phichit gold mine arbitration to begin next month: Bangkok [Thailand] Post, January 4. (Accessed November 1, 2020, at https://www.bangkokpost.com/thailand/general/1828429/phichit-gold-mine-arbitration-to-begin-next-month.)

Banpu Public Co. Ltd., 2020, Coal specification: Bangkok, Thailand, Banpu Public Co. Ltd. (Accessed February 12, 2020, at https://www.banpu.com/coal_specifications/.)

Brioche, A.S., 2021, Feldspar and nepheline syenite: U.S. Geological Survey Mineral Commodity Summaries 2021, p. 58–59.

Choo, C., 2019, Analysis—Thailand's steel sector under pressure as economy slows: Singapore, S&P Global Platt, November 29. (Accessed August 28, 2020, at https://www.spglobal.com/platts/en/market-insights/latest-news/metals/112919-thailand-steel-sector-under-pressure-as-economy-slows#:~:text=Singapore%20%E2%80%94%20Thailand's%20steel%20sector%20is,posting%20declines%20in%20latest%20data.&text=Exports%20of%20finished%20steel%20fell,mt%2C%20the%20institute's%20data%20showed.)

Crangle, R.D., Jr., 2021, Gypsum: U.S. Geological Survey Mineral Commodity Summaries 2021, p. 74–75.

Economic Times, The, 2019, Tata Steel board approves of MoU with Synergy Metals and Mining Fund for divestment of Tata Steel Thailand: The Economic Times [New Delhi, India], August 7. (Accessed September 21, ,2021, at https://economictimes.indiatimes.com/industry/indl-goods/svs/steel/tata-steel-board-approves-of-mou-with-synergy-metals-and-mining-fund-for-divestment-of-tata-steel-thailand/articleshow/70574130.cms?from=mdr.)

Financial Times, 2019, Company announcement—First production of tin concentrate: Financial Times [London, United Kingdom], August 19. (Accessed October 30, 2020, at https://markets.ft.com/data/announce/detail?dockey=1323-14193043-00K9PBD1GVHHE3RUCD8GSOL3FN.)

Gambogi, J., 2021, Rare earths: U.S. Geological Survey Mineral Commodity Summaries 2021, p. 132–133.

Global Gypsum, 2020, Department of Industry and Mines lowers 2020 gypsum export quota: Surrey, United Kingdom, Global Gypsum, March 26. (Accessed June 10, 2020, at https://www.globalgypsum.com/news/item/1624-department-of-industry-and-mines-lowers-thai-gypsum-export-quota.)

Globe Newswire, 2011, Southeast Asia Mining renews joint venture agreement for lead zinc mine in Thailand: Los Angeles, California, Globe Newswire, March 1. (Accessed October 30, 2020, at https://www.globenewswire.com/news-release/2011/03/01/1365061/0/en/Southeast-Asia-Mining-Renews-Joint-Venture-Agreement-for-Lead-Zinc-Mine-in-Thailand.html.)

International Monetary Fund, 2020, World economic outlook database—Thailand: Washington, DC, International Monetary Fund, October 13. (Accessed October 31, 2020, at https://www.imf.org/en/Publications/WEO/weo-database/2020/October/weo-report?c=578,&s=NGDP_RPCH,&sy=2018&ey=2025&ssm=0&scsm=1&scc=0&ssd=1&ssc=0&sic=0&sort=country&ds=.&br=1.)

Lanna Resources Public Co. Ltd., 2020, Coal business: Bangkok, Thailand, Lanna Resources Public Co. Ltd. (Accessed February 12, 2020, at http://www.lannar.com/main/?page_id=51.)

Metal Tiger Plc., 2019, Annual report and accounts 2018: London, United Kingdom, Metal Tiger Plc., May 31, 80 p. (Accessed August 31, 2019, at https://www.metaltigerplc.com/index.php/investors/financial-reports-accounts/download-file?path=MetalTiger+AR+2018+Web.pdf.)

Metal Tiger Plc., 2020, Annual report and accounts 2019: London, United Kingdom, Metal Tiger Plc., May 29, 76 p. (Accessed June 8, 2020, at https://www.metaltigerplc.com/investors/financial-reports-accounts/download-file?path=MetalTiger%2BAR%2B2019%2BWeb2.pdf.)

Nation Thailand, The, 2019, Egat prepares to shutdown Mae Moh coal mine in Lampang: The Nation [Bangkok] Thailand, October 26. (Accessed October 29, 2020, at https://www.nationthailand.com/business/30377770.)

Office of the National Economic and Social Development Council, 2020, Gross domestic product chain volume measures—QGDP 1st quarter 2020: Bangkok, Thailand, Office of the National Economic and Social Development Council. (Accessed September 3, 2020, at https://www.nesdc.go.th/nesdb_en/article_attach/article_file_20200518100832.xlsx.)

Pan Asia Metals Ltd., 2020, Projects—Overview: Bangkok, Thailand, Pan Asia Metals Ltd. (Accessed August 27, 2020, at https://web.archive.org/web/20200827174852/https://panasiametals.com/projects/.)

Praiwan, Y., 2019a, Gas block contracts signing this month: Bangkok [Thailand] Post, February 13. (Accessed June 4, 2020, at https://www.bangkokpost.com/business/1628302/gas-block-contracts-signing-this-month.)

Praiwan, Y., 2019b, PTTEP renews 2 licences [sic] in Northeast: Bangkok [Thailand] Post, May 10. (Accessed June 2, 2020, at https://www.bangkokpost.com/business/1674988/pttep-renews-2-licences-in-northeast.)

Prior, S., and Summacarava, K., 2017, Thai mining developments: Hong Kong, Mayer Brown, November 9, 3 p. (Accessed August 25, 2018, at https://www.mayerbrown.com/files/uploads/Documents/PDFs/art_thai-mining.pdf.)

Ramsay, P., 2019, Majors and US independents leave southeast Asian gap: Petroleum Economist, April 12. (Accessed September 8, 2020, at https://www.petroleum-economist.com/articles/politics-economics/asia-pacific/2019/majors-and-us-independents-leave-southeast-asian-gap?hootPostID=19cfd221e9ac7ba2b925ef844f3a17a8.)

Samim Derakhshan Co., 2016, Future Asian gypsum demand and supply trends: Tehran, Iran, Samim Derakhshan Co., April 16. (Accessed October 30, 2020, at http://samimgypsum.com/?p=1.)

Siam Cement Public Co. Ltd., 2020, Annual report 2019: Bangkok, Thailand, Siam Cement Public Co. Ltd., 329 p. (Accessed October 30, 2020, at https://www.scg.com/pdf/en/AR2019.pdf.)

South East Asia Iron and Steel Institute, 2019, Dubai fund agrees to acquire Tata Thailand stake: Selangor, Malaysia, South East Asia Iron and Steel Institute, Newsletter, August, 15 p. (Accessed September 4, 2020, at https://www.seaisi.org/download-newsletter?file=eyJpdiI6IjlabUhaQ1VPVjJ6VlNveU5ETkI4RkE9PSIsInZhbHVlIjoiM005NjBNRDBPMVlZWG52VWxvbFJtUXgwSnE4Vno2ejNBREtGNUMzbUJpdkZmN2FD-U29ITG1yek1NcWkzVUlqcyIsIm1hYyI6IjM4N2JhYmY4YzZhNDFjZDkwYjk3NjRlOTcwN2UzYTI1ZjI3NTBmMjFlNmRjM2M4OTcwZmYwN2U4OTkxMmUxNTEifQ==&title=SEAISI%20Newsletter%20August%202019.)

TABLE 1

THAILAND: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons, gross weight, unless otherwise specified)

Commodity[2]		2015	2016	2017	2018	2019
METALS						
Antimony, mine, Sb content		--	32	--	--	--
Gold, mine, Au content	kilograms	3,305	4,293	--	--	--
Iron ore, mine:						
Gross weight		16,483	--	135	--	17,600
Fe content		10,200	--	84	--	11,000
Iron and steel, steel:						
Raw steel	thousand metric tons	5,069 r	5,400 r	6,762 r	6,403 r	7,300 e
Products	do.	3,841	9,542	9,318	9,032	7,340 e
Lead, refinery, secondary, lead alloys		86,000	86,000	88,000	85,000	82,000
Manganese, mine:						
Gross weight		9,000	9,150	8,020	4,000	4,800
Mn content[e]		4,300	4,400	3,900	1,900	2,300
Rare earths, mine, concentrates[e, 3]						
Gross weight[4]		1,300	2,600	2,200	1,700	3,200
Rare-earth-oxide equivalent		760	1,600	1,300	1,000 r	1,900
Silver, mine, Ag content	kilograms	21,047	35,954	--	--	--
Tin:						
Mine, concentrates, Sn content		72	92	541	75	73
Smelter, primary		10,616	10,807	10,588	10,721	9,600
Tungsten, mine, concentrates:						
Gross weight		61	57	114	127	71
W content[e]		35	33	65	69	52
Zinc:						
Mine, ore:						
Gross weight		181,025	175,632	7,877	--	--
Zn content		34,738	34,500	1,460	--	--
Smelter, primary		74,121	72,813	30,018	--	--
Alloys, Zn content		22,200	21,800	9,010	--	--
INDUSTRIAL MINERALS						
Barite		38,995 r	65,070 r	41,391 r	13,149	330
Cement, hydraulic	thousand metric tons	36,216	34,860	33,587	32,660 r	34,500 e
Clay:						
Ball clay		81,245	136,646	157,093	579,565	332,786
Cement clay		4,792,683	4,506,878	4,301,793	5,837,807	7,455,441
Ceramic clay		514,044	371,686	357,982	485,853	378,086
Kaolin:						
Beneficiated		102,763	101,618	102,659	96,666	80,776
Nonbeneficiated		655,196	830,393	401,450	403,225	551,674
Diatomite[5]		188	833	800 e	649	600 e
Feldspar		1,329,096 r	1,163,947 r	1,385,925	1,117,803	1,251,143
Fluorspar:						
Acid grade[e]		39,000 r	37,000	25,000	36,000 r	28,000
Metallurgical grade		15,095	20,100	5,500	16,700	17,747
Gypsum, mine:						
Anhydrite	thousand metric tons	876	1,340	1,393	1,517	1,420
Other	do.	11,267	10,407	9,254	9,680	8,368
Lime[e]		780,000	780,000	820,000	810,000	810,000
Perlite		17,200	15,690	5,800	5,600	15,000
Phosphate rock:						
Gross weight		--	--	8,000	--	--
P_2O_5 content		--	--	2,400	--	--
Salt		1,385,911	1,390,548	1,497,233	1,487,364	1,580,390
Sand and gravel, industrial, unspecified		1,191,612	1,102,699	1,756,308	1,557,218	1,248,032

See footnotes at end of table.

TABLE 1—Continued

THAILAND: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons, gross weight, unless otherwise specified)

Commodity[2]		2015	2016	2017	2018	2019
INDUSTRIAL MINERALS—Continued						
Stone:						
Crushed:						
Calcite		1,281,765	1,452,235	1,456,747	1,467,822	1,440,030
Dolomite, for ceramic		2,432,853	3,034,860	2,988,336	3,440,193	2,850,844
Granite	thousand metric tons	8,075	9,459	9,036	11,281	13,864
Limestone	do.	103,388	106,923	108,480	116,292	113,902
Marble, including fragment		2,629,588	2,568,888	1,995,310	3,060,329	799,921
Marl, for cement		--	--	8,200	28,707	34,575
Quartz		188,650	50,160	176,083	67,802	14,000
Shale, for cement	thousand metric tons	6,277	7,590	6,506	6,716	4,953
Dimension:						
Granite		13,878	14,860	14,437	13,800 r	50,300
Marble		31,619	30,986	42,639	19,700 r	31,300
Travertine		1,350	2,600	1,969	1,628 r	2,494
Talc and related materials:						
Pyrophyllite		45,500	96,800	54,000	50,920	6,500
Talc		6,768	7,126	7,436	7,756	8,064
MINERAL FUELS AND RELATED MATERIALS						
Coal, lignite	thousand metric tons	15,151	16,979	16,259	14,852	14,078
Natural gas	million cubic meters	39,769	39,014	37,394	36,432	37,427
Petroleum:						
Condensate	thousand 42-gallon barrels	34,905	34,583	35,979	36,139	37,351
Crude	do.	55,621	59,687	51,556	47,158	45,959
Refinery:						
Diesel	do.	170,700	161,625	169,233	174,176	170,353
Fuel oil	do.	35,953	35,634	36,971	37,609	34,468
Gasoline	do.	70,141	76,285	79,431	82,812	82,304
Jet fuel	do.	44,298	44,145	46,760	51,163	44,712
Kerosene	do.	8,520	13,983	12,390	13,483	12,891
Liquefied petroleum gas	do.	64,209	66,607	70,538	72,762	69,653
Total	do.	394,000	398,000	415,000	432,000	414,000

[e]Estimated. [r]Revised. do. Ditto. -- Zero.

[1]Table includes data available through September 16, 2020. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

[2]In addition to the commodities listed, gemstones, kaolin filler, refined antimony, silicon, and tantalum may have been produced in Thailand, but available information was inadequate to make reliable estimates of output.

[3]Estimated based on trade data.

[4]Monazite concentrates.

[5]Production estimated by reported exports; domestic mined amount could be higher.

TABLE 2

THAILAND: 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
Antimony:				
Mine		NA	Phadad antimony mine, Phrae Province	NA
Refined	metric tons	Amco Thai Mining Co. (Hibino Metal Industry)	Antimony smelter, Ban Pin, Phrae Province	500
Do.		Thai Unipet Industries Co. Ltd. (Youngsun Chemicals Co. Ltd., 100%)	Lat Bua Luang, Ayutthaya Province	NA
Barite		Asian Mineral Resources Co. Ltd.	Amphoe Chalermprakiat, Saraburi Province	60
Do.		Kia Energy Co. Ltd.	Crushing plants in Saraburi Province	300
Do.		P&S Barite Mining Co. Ltd. (Pands Group)	Chaing Mai, Kanchanaburi, Nakhon Si Thammarat, and Tak Provinces	70
Cement		Asia Cement Public Co. Ltd.	Pukrang plant, Pra Buddhabat, Saraburi Province	5,000
Do.		Globe Cement Co. Ltd. (Siam City Cement Public Co. Ltd., 100%)	Plant in Chaloem Phrakiat, Saraburi Province	820
Do.		Jalaprathan Cement Plc. (Asia Cement Public Co. Ltd., 88.84%, and other, 11.16%)	Takli plant, Takli, Nakhon Sawan Province	1,200
Do.		do.	Cha-Am plant, Cha-Am, Petchaburi Province	1,200
Do.		Siam Cement (Kaeng Khoi) Co. Ltd. (Siam Cement Group, 100%)	Kaeng Khoi plant, Kaeng Khoi, Saraburi Province	7,300
Do.		Siam Cement (Lampang) Co. Ltd. (Siam Cement Group, 100%)	Lampang plant, Chaehom, Lampang Province	2,100
Do.		Siam Cement (Ta Luang) Co. Ltd. (Siam Cement Group, 100%)	Ta Luang plant, Ban Mo, Saraburi Province	3,100
Do.		do.	Khao Wong plant, Praputtabath, Saraburi Province	3,840
Do.		Siam Cement (Thung Song) Co. Ltd. (Siam Cement Group, 100%)	Thung Song plant, Thung Song, Nakorn Sri Thammarat Province	6,900
Do.		Siam City Cement Public Co. Ltd. (Sunrise Ecology Co. Ltd., 34.81%; Jardine Cycle & Carriage Ltd., 25%; Ratanarak Group, 9.43%; other, 30.76%)	Kaeng Koei plant, Kaeng Koei, Saraburi Province	14,800
Do.		Thai Pride Cement Co. Ltd.	Saraburi plant, Kaeng Khoi, Saraburi Province	1,000
Do.		TPI Polene Public Co. Ltd.	Cement plant in Kaeng Koei, Saraburi Province	13,500
Coal, lignite		Electricity Generating Authority of Thailand (EGAT) (Government, 100%)	Mae Moh Mine, Lampang Province	16,000
Copper, metal		Thai Copper Industries Public Co. Ltd. (PM Group)	Smelter and refinery in Rayong Industrial Park, Rayong Province[1]	165
Diatomite	metric tons	NA	Mae Nam Wang Basin, Lampang Province	600 [e]
Feldspar		Asia Mineral Processing Co. Ltd.	Nakhon Si Thammarat Province	1,500
Fluorspar		Asian Mineral Resources Ltd.	Mae Hong Son Province	14
Do.		S.C. Mining	Ban Pin, Phrae Province	12
Gas, natural	million cubic meters	Chevron Thailand Exploration and Production Ltd. (35% to 80% depending on operating areas)	35 operating areas in Pattani Basin and Malay Basin, all in the Gulf of Thailand	19,000
Do.	do.	Esso (Thailand) Public Co. Ltd. (Exxon Mobile Corp.), operaing jointly with PTT Exploration and Production Public Co. Ltd. (Petroleum Public Co. Ltd.)	Nam Phong gas production plant, Namphong District, Khon Kaen Province	40
Do.	do.	PTT Exploration and Production Public Co. Ltd. (PTTEP) (Government, 65.3%; Thai NVDR Co. Ltd., 8%; State Street Europe Ltd., 2.2%; other, 24.5%)	17 inland operating area and 35 operating areas in the Gulf of Thailand	14,000
Do.	do.	PTT Exploration and Production Public Co. Ltd. (PTTEP), 44.45%; TOTAL Exploration and Production (Thailand), 33.33%; BG Group, 22.22%	Greater Bongkot North and South gasfields, Gulf of Thailand	3,000

See footnotes at end of table.

TABLE 2—Continued
THAILAND: 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
Gold:				
Mine, Au content	kilograms	Akara Resources Public Co. Ltd. (Kingsgate Consolidated Ltd., 100%)	Chatree Mining Complex, Phichit Province[2]	5,000
Do.		Tungkum Co. Ltd.	Wang Saphung District, Loei Province[2]	NA
Refinery, secondary		Umicore Precious Metals Thailand Ltd. (Umicore Group, 91.21%)	Refinery in Dokmai Subdistrict, Pravet District, Bangkok Province	NA
Gypsum, mine		General Mining and Trading Co. Ltd.	Talad, Muang, Surat Thani Province	NA
Do.		Lotus Mines Co. Ltd.	Nakornsawan Province	180
Do.		Vanich Gypsum Co. Ltd.	Mai Riang and Thoong Yai, Nakhon Si Thammarat Province and Khlong Prab, Surat Thani Province	8,500
Iron ore, gross weight		P.T.K. Mining Co. Ltd. (Siam Iron and Steel Co. Ltd.)	Phu Ang and Phu Hia mines, Loei Province[3]	720
Iron and steel, steel:				
Raw steel		Bangkok Iron and Steel Works Co. Ltd.	Phrapradaeng, Samutprakarn Province	500
Do.		Bangkok Steel Industry Plc.	do.	360
Do.		Chow Steel Industries Plc.	Kabinburi Industrial Estate, Prachinburi	750
Do.		Millcon Steel Plc. (Sittichai Leeswadtrakul, 37.3%, and General Engineering Public Co. Ltd., 18%)	Bang Khun Thian District, Bangkok; and Nikhom Pattana, Rayong Province	800
Do.		N.T.S. Steel Group Public Co. Ltd. [Tata Steel (Thailand) Public Co. Ltd. (TSTPCL), 99.76%]	Hemaraj Chonburi Industrial Estate, Sriracha Province	550
Do.		Siam Construction Steel Co. Ltd. [Tata Steel (Thailand) Public Co. Ltd. (TSTPCL), 99.99%]	Ta Phut Industrial Estate, Rayong Province	550
Do.		Siam Iron and Steel Co. Ltd. [Tata Steel (Thailand) Public Co. Ltd. (TSTPCL), 99.99%]	Tambon Bang Khamode, Saraburi Province	300
Do.		TBS Steel Co. Ltd.	Sri Maha Pho, Prachinburi Province	350
Do.		UMC Metals Ltd.	Muang, Chonburi Province	550
Products		Asian Wire Products Co. Ltd. (Bangkok Steel Industry Group)	Muang, Nakornrachasima Province	470
Do.		Bangkok Steel Industry Plc.	Phrapradaeng, Samutprakarn Province	740
Do.		Bangsaphan Barmill Plc.	Bang Saphan, Prachuapkhirikhan Province	720
Do.		GJ-Steel Plc. (G-Steel Plc.)	Sriracha, Chonburi Province	1,500
Do.		G-Steel Plc. (formerly Siam Ystrip Mill Plc.)	Bann Khai, Rayong Province	1,800
Do.		Kobelco Millcon Steel Co. (Millcon Steel Plc., 50%, and Kobe Steel Ltd., 50%)	2 plants in Bangkok and Rayong Province	1,100
Do.		LPN Plate Mill Plc.	Pra Samut Jedi District, Samutprakarn Province	500
Do.		Millcon Steel Plc. (Sittichai Leeswadtrakul, 38.19%; General Engineering Plc., 17.2%; Bangkok Bank Plc., 8.08%; Millcon Steel Plc., 4.09%; other, 32.45%)	Bang Khun Thian District, Bangkok; and Nikhom Pattana, Rayong Province	1,300
Do.		Namheng Steel Co. Ltd.	Lopburi Province	300
Do.		NS-Siam United Steel Co. Ltd. (Nippon Steel & Sumitomo Metal Corp. Group)	Map Ta Phut, Muang, Rayong Province	1,360
Do.		Primes Steel Mill Co. Ltd.	Pluak Daeng District, Rayong Province	840
Do.		Ractchasima Steel Products Co. Ltd. (Bangkok Steel Industry Group)	Muang, Nakornrachasima Province	710
Do.		Sahaviriya Plate Mill Plc. (SPM)	Bankpakong District, Chachoengsao Province	1,000
Do.		Sahaviriya Steel Industries Plc. (SSI)	Bangsaphan, Prachuap Khiri Khan Province	4,000
Do.		Siam Yamato Steel Co. Ltd.	Map Ta Phut, Rayong Province	1,100
Do.		Tata Steel (Thailand) Plc. (Tata Steel Global Holding PTE Ltd., 67.9%; Veeraphan Theepsuwan, 5.46%; Bangkok Bank Plc., 3.52%; other, 23.12%)	Map Ta Phut, Rayong Province; Sriracha, Chonburi Province; Ban Mon, Saraburi Province	1,700
Do.		TY Steel Co. [Tycoons Worldwide Group (Thailand) Public Co. Ltd.]	Wire rod and rebar plant located in Rayong Province	180
Lead, refined, lead alloy		T.K Metal Trading Ltd. Partnership	Nakornprathom Province	17

See footnotes at end of table.

TABLE 2—Continued
THAILAND: 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
Lime		Chememan Public Co. Ltd.	Kangkoi quicklime plant, Saraburi Province	530
Do.		do.	Prabuddhabaht quicklime plant, Saraburi Province	365
Do.		do.	Rayong hydrated lime plant, Rayong Province	88
Do.		Golden Lime Plc.	Lopburi Province	170
Manganese, mine, gross weight		NA	Chiang Mai, Chiang Rai, Narathiwat, Sa Kaeo, Provinces	5
Perlite		NA	Lopburi Province	15
Petroleum:				
Crude, including condensate	thousand 42-gallon barrels	Chevron Thailand Exploration and Production Ltd. (35% to 80%, depending on operating areas)	35 operating areas in Pattani Basin and Malay Basin, all in the Gulf of Thailand	40,000
Do.	do.	Ophir Energy Plc. (PT Medco Energi Internasional tbk, 100%)	Bualuang field in the Gulf of Thailand	3,300
Do.	do.	Mubadala Petroleum (Mubadala Investment Co., 100%, owned by the Government of Abu Dhabi)	Jasmine, Manora, and Nong Yao fields in the Gulf of Thailand	11,700
Do.	do.	PTT Exploration and Production Public Co. Ltd. (PTTEP), 44.45%; TOTAL Exploration and Production (Thailand), 33.33%; BG Group, 22.22%	Greater Bongkot North and South gasfields, Gulf of Thailand	3,000
Do.	do.	PTT Exploration and Production Public Co. Ltd. (PTTEP) (Government, 65.3%; Thai NVDR Co. Ltd., 8%; State Street Europe Ltd., 2.2%; other, 24.5%)	17 inland operating areas and 35 operating areas in the Gulf of Thailand	30,000
Refinery	do.	Bangchak Corporation Public Co. Ltd.	Bangchak refinery in Phra Khanong, Bangkok	43,800
Do.	do.	Esso (Thailand) Public Co. Ltd. (Exxon Mobile Corp.), operating jointly with PTT Exploration and Production Public Co. Ltd. (Petroleum Public Co. Ltd.)	The complex refinery in Sriracha, Chonburi Province	63,500
Do.	do.	IRPC Public Co. Ltd.	Refinery in Rayong Complex, Rayong Province	78,500
Do.	do.	PTT Global Chemical Public Co. Ltd.	Refinery in Map Ta Phut Industrial Estate, Rayong Province	102,000
Do.	do.	Star Petroleum Refining Co. Ltd. (Chevron South Asia Holdings Pte. Ltd., 60.6%, and public, 39.4%)	do.	63,900
Do.	do.	Thai Oil Public Co. Ltd. [PTT Public Co. Ltd., 48.0%; State Street Europe Ltd., 3.5%; South East Asia UK (Type C) Nominees Ltd., 2.9%; other 45.6%]	Refinery in Tungsukla, Sriracha, Chonburi Province	75,500
Phosphate rock		NA	Kanchanaburi and Phetchaburi Provinces	NA
Salt		NA	Nakhon Ratchasima Province	1,500
Silicon, metal		G.S. Energy Co. Ltd.	Ratchaburi silicon plant, Ratchaburi Province	45
Silver, mine, Ag content	kilograms	Akara Resources Mining Ltd. (Kingsgate Consolidated Ltd., 100%)	Chatree Mining Complex, Phichit Province[2]	31,000
Stone:				
Dolomite		Inthai Mining Ltd.	Quarry in Surat Thani Province	NA
Do.		Panda Group Mining and Milliong	Quarry in Kanchanaburi Province	1,600
Limestone		Chememan Public Co. Ltd.	Tubkwang Quarry, Saraburi Province	3,000
Do.		Panda Group Mining and Milliong	Quarry in Saraburi Province	1,000
Do.		Singh Group Co. Ltd.	Peerapol limestone quarry, Songkhla Province	1,000
Talc and related materials:				
Pyrophyllite		NA	Saraburi Province	7
Talc		NA	Uttaradit Province	8
Tantalum, metal powder and oxides	metric tons	JX Metals Deutschland GmBH (JX Nippon Mining & Metal Corp.)	Map Ta Phut, Rayong Province	250
Tin:				
Concentrate, Sn content	do.	Numerous small companies	Nakhon Si Thammarat, Phangnga, Phuket, and Rayong Provinces	1,000 [e]
Smelter, primary		Thailand Smelting & Refining Co. Ltd. (Thaisarco) (Amalgamated Metal Corp. Plc., 100%)	Phuket, Phuket Province	40

See footnotes at end of table.

TABLE 2—Continued
THAILAND: 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
Tungsten, concentrate, W content	metric tons	SC Mining Co. Ltd. (Som Chai family, 100%)	Ban Pin, Phrae Province	100
Zinc:				
Ore, Zn content		Padaeng Industry Public Co. Ltd.	Mae Sot District, Tak Province[4]	30
Refined		do.	Smelter and refinery[5] in Tak Province; roaster plant in Rayong Province	110

Do., do. Ditto. NA Not available

[1]Inactive since 2015.

[2]All gold-mining operations were banned on January 1, 2017.

[3]Inactive since 2018.

[4]Closed in 2016.

[5]Closed in 2017.