



# 2013 Minerals Yearbook

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## THAILAND

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# THE MINERAL INDUSTRY OF THAILAND

By Yolanda Fong-Sam

Thailand is one of the world's leading producers of cement, feldspar, gypsum, and tin metal. The country's identified mineral resources were being produced for domestic consumption and export. Thailand's mines produced gold, iron ore, lead, manganese, silver, tungsten, and zinc. In addition, Thailand produced a variety of industrial minerals, such as cement, clays, salt, sand, and stone (table 1; Crangle, 2015; Tanner, 2015; Tolcin, 2015; van Oss, 2015; U.S. Central Intelligence Agency, 2015).

In 2013, Thailand's real rate of growth of the gross domestic product (GDP) increased by 2.9% compared with 6.5% in 2012. The GDP based on purchasing power parity was about \$980 billion, and the average inflation rate was 2.2% (Asian Development Bank, 2014; U.S. Central Intelligence Agency, 2015).

In 2013, Thailand's production of tungsten ore increased by about 89% to 252 metric tons (t) from 133 t in 2012; manganese ore (metal content), by 77% to 6,900 t from 3,900 t (revised); and barite, by about 67% to 107,437 t from 64,499 t. Other production increases were registered for talc (35%), iron ore (28%), crude petroleum (8%), and antimony ore (7%). The

production of phosphate rock decreased by 82% to 350 t in 2013 from 1,990 t in 2012; perlite, by 65.5%; and refined copper, by 58%. Other decreases were registered for tin ore (34%), antimony metal (27%), zinc (24%), and salt (5%). Data on mineral production are in table 1.

Table 2 is a list of major mineral industry facilities.

## References Cited

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TABLE 1  
THAILAND: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2009	2010	2011	2012	2013
METALS					
Antimony:					
Ore, gross weight	--	--	25	28	30 <sup>e</sup>
Metal, smelter <sup>e</sup>	555 <sup>3</sup>	500	500	672 <sup>r,3</sup>	488 <sup>3</sup>
Copper, metal, refined, secondary	490	490	525 <sup>r</sup>	486 <sup>r</sup>	203
Gold, mine output, Au content	kilograms	4,866 <sup>r</sup>	4,125	2,860 <sup>r,3</sup>	9,245 <sup>r</sup>
Iron and steel:					
Iron ore:					
Gross weight	616,399 <sup>r</sup>	979,937 <sup>r</sup>	489,359 <sup>r</sup>	303,233 <sup>r</sup>	389,620
Fe content <sup>e</sup>	302,000 <sup>r</sup>	480,000 <sup>r</sup>	240,000 <sup>r</sup>	149,000 <sup>r</sup>	191,000
Crude steel	thousand metric tons	3,646	4,145	4,256 <sup>r</sup>	5,298
Lead, metal, secondary	55,504	55,500	55,000 <sup>e</sup>	86,507 <sup>r</sup>	87,385
Manganese ore:					
Metallurgical grade, gross weight, 46% to 50% MnO <sub>2</sub>	64,930	50,450	398	8,151 <sup>r</sup>	14,320
Mn content	31,200	24,200 <sup>e</sup>	187 <sup>r</sup>	3,900 <sup>r</sup>	6,900
Silicon, metal, gross weight	--	NA	22,500 <sup>e</sup>	22,500 <sup>e</sup>	22,500 <sup>e</sup>
Silver, mine output, Ag content	kilograms	16,263 <sup>r</sup>	17,558 <sup>r</sup>	19,456	27,524 <sup>r</sup>
Tin:					
Concentrate, Sn content	167 <sup>r</sup>	292 <sup>r</sup>	286 <sup>r</sup>	199 <sup>r</sup>	132
Metal, primary <sup>e</sup>	19,423 <sup>3</sup>	20,000	20,000	19,996 <sup>r</sup>	19,088
Tungsten:					
Ore, gross weight	350	455	292	133	252
Concentrate, W content <sup>e</sup>	220	280	180	80	160
Zinc:					
Ore:					
Gross weight	183,288 <sup>r</sup>	146,470	148,391	166,642 <sup>r</sup>	172,578
Zn content	34,000	25,529	25,000 <sup>e</sup>	28,300 <sup>r</sup>	29,300
Metal, primary	104,695	100,000 <sup>e</sup>	68,203	101,263 <sup>r</sup>	76,576
Alloy, Zn content	31,000	30,000 <sup>e</sup>	35,163	30,400 <sup>r,e</sup>	23,000 <sup>e</sup>

See footnotes at end of table.

TABLE 1—Continued  
THAILAND: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2009	2010	2011	2012	2013	
<b>INDUSTRIAL MINERALS</b>						
Barite	51,895	33,465	67,703	64,499	107,437	
Cement, hydraulic	thousand metric tons	33,562	36,496	36,602	41,047	42,000 <sup>e</sup>
Clays: <sup>e</sup>						
Ball clay	2,312,625 <sup>r</sup>	1,513,767 <sup>r</sup>	425,048 <sup>r</sup>	168,613 <sup>r</sup>	170,000 <sup>e</sup>	
Bentonite	110	130	55,220	81,000	150	
Kaolin, unspecified	NA	NA	NA	NA	750,645	
Kaolin, marketable:						
Beneficiated, washed	131,131 <sup>r</sup>	156,827 <sup>r</sup>	163,881 <sup>r</sup>	175,464 <sup>r</sup>	NA	
Nonbeneficiated, unwashed	708,746 <sup>r</sup>	582,994 <sup>r</sup>	932,326 <sup>r</sup>	934,998 <sup>r</sup>	NA	
Filler	4,046 <sup>r</sup>	3,837 <sup>r</sup>	4,329 <sup>r</sup>	300 <sup>r</sup>	NA	
Diatomite	5,600	7,100	38,130	8,500	-- <sup>3</sup>	
Feldspar	718,692	641,900	1,041,152	1,100,619	1,072,656	
Fluorspar, crude, metallurgical grade	86,365	2,222	5,093	9,602	NA	
Gypsum	thousand metric tons	8,632 <sup>r</sup>	10,173 <sup>r</sup>	10,994 <sup>r</sup>	11,447 <sup>r</sup>	12,383
Perlite	13,500	14,700	26,500	41,400	14,293	
Phosphate rock, crude	658	35,783	3,300	1,990	350	
Salt, rock	1,376,037	1,405,406	1,359,493	1,363,539	1,300,156	
Sand, silica, glass	357,585 <sup>r</sup>	323,985 <sup>r</sup>	221,721 <sup>r</sup>	434,094 <sup>r</sup>	435,000 <sup>e</sup>	
Stone:						
Calcite	544,019 <sup>r</sup>	693,754 <sup>r</sup>	786,250 <sup>r</sup>	592,150 <sup>r</sup>	600,000 <sup>e</sup>	
Dolomite	1,964,410 <sup>r</sup>	2,451,990 <sup>r</sup>	2,556,765 <sup>r</sup>	2,561,757 <sup>r</sup>	2,600,000 <sup>e</sup>	
Granite:						
Dimension stone	cubic meters	6,352	6,123	5,267	4,820	5,000 <sup>e</sup>
Industrial rock	thousand metric tons	5,210	5,259	5,648	6,339	6,500 <sup>e</sup>
Limestone	do.	130,582 <sup>r</sup>	134,988 <sup>r</sup>	145,573 <sup>r</sup>	147,657	148,000 <sup>e</sup>
Marble, dimension stone and fragment	cubic meters	735,216	779,234	509,237	311,839	315,000 <sup>e</sup>
Marl, for cement manufacture only		98,000	68,000	65,000	100,000	100,000 <sup>e</sup>
Quartz		12,954	49,064	152,576	401,710	400,000 <sup>e</sup>
Shale, for cement manufacture only	thousand metric tons	3,767 <sup>r</sup>	4,181 <sup>r</sup>	4,593	4,792	5,000 <sup>e</sup>
Travertine		2,910	1,760	900	900 <sup>e</sup>	900
Talc		504	672	2,304	5,856	7,880
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Coal, lignite	thousand metric tons	16,360	17,907	21,324	18,069 <sup>r</sup>	18,111
Natural gas, gross production	million cubic meters	26,362	29,583	29,059	21,766	22,000 <sup>e</sup>
Petroleum:						
Crude	thousand 42-gallon barrels	56,302	55,906	50,976	37,164	40,000 <sup>e</sup>
Natural gas condensate	do.	30,625	31,730	30,693	21,169	21,000 <sup>e</sup>
Refinery products <sup>e</sup>	do.	229,000	229,000	229,000	229,000	229,000

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits. <sup>r</sup>Revised. do. Ditto. NA Not available. -- Zero.

<sup>1</sup>Table includes data available through February 18, 2015.

<sup>2</sup>In addition to the commodities listed, Thailand produced gemstones and pyrophyllite, but available information is inadequate to make reliable estimates of output.

<sup>3</sup>Reported figure.

Sources: Department of Mineral Resources, Mineral Statistics of Thailand; Department of Primary Industries and Mines; and Ministry of Energy, Energy Policy and Planning Office.

TABLE 2  
THAILAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Antimony	metric tons	Amco Thai Mining Co. (Hibino Metal Industry)	Antimony smelter, Ban Pin, Phrae Province	555
Barite		Asian Mineral Resources Co. Ltd.	Loei, Mae Hong Son, Nakhon Si Thammarat, and Satun Provinces	60
Do.		P&S Barite Mining Co. Ltd.	Loei and Nakhon Si Thammarat Province	60
Cement		Asia Cement Co. Ltd.	Phra Phutthabat, Saraburi Province	4,800
Do.		Jalaprathan Cement Co. Ltd. (Cement Francais S.A., 37%; Veatprapat Holding Co. Ltd., 19%; others, 44%)	Takli, Nakhon, Sawan Province, and Cha-Am, Petchburi Province	2,350
Do.		Samukee Cement Ltd.	Pakchong, Nakhon Ratchasima Province	125
Do.		Saraburi Cement Co. Ltd. (CEMEX Asia Holdings Ltd., 99%)	Chalerm Phrakiat, Saraburi Province	700
Do.		Siam Cement Industry Co. Ltd. (Bureau of the Crown Property, 30%; Thai Security Depository Co. Ltd., 6.94%; CPB Equity Co. Ltd., 5.6%; other financial institutions and the general public, 57.46%)	Kaeng Khoi, Phabudhabat, and Khao Wong, Saraburi Province; Chae Hom, Lampang Province; Thung Song, Thammarat Province; and Ta Luang, Ayutthaya Province	23,200
Do.		Siam City Cement Co. Ltd. (SCCC) (Holcim Ltd., 27.5%; Rattanak family, 27%; other investors, 45.5%)	Kaeng Khoi, Saraburi Province	14,500
Do.		TPI Polene Co. Ltd.	do.	9,900
Coal, lignite		Electricity Generating Authority of Thailand (EGAT) (Government, 100%)	Mae Moh, Lampang Province	20,000
Do.		Lanna Resources Public Co. Ltd.	Ban Pakha, Lamphun Province	1,000
Copper		Thai Copper Industries Public Co. Ltd. (TCI)	Rayong Industrial Park, Rayong Province	165
Feldspar, concentrate		Asia Mineral Processing Co. Ltd.	Provinces of Nakhon Si Thammarat	500
Fluorspar, concentrate		Asian Mineral Resources Co. Ltd.	Mae Hong Son Province	14
Gas, natural	million cubic meters per day	Esso Exploration and Production Khorat Inc.	Namphong, Khon Kaen Province	4
Do.	do.	TOTAL Exploration and Production (Thailand)	Bongkot in the Gulf of Thailand	15
Do.	do.	Chevron Corp.	Baanpot, Erawan, Funan, Kaphong, Pladang, Satun, Pailin, Trat, all in the Gulf of Thailand	33
Do.	do.	do.	Platong II project	NA
Gold	kilograms	Akara Mining Ltd. (Kingsgate Consolidated Ltd., 100%)	Chatree, Phichit Province	5,000
Gypsum		Vanich Gypsum Co. Ltd.	Khlong Prab, Mai Rieng, Thoong Yai Mai in Provinces of Nakhon Si Thammarat and Surat Thani	8,500
Do.		Siam Cement Group	NA	NA
Do.	thousand square meters	Thai Gypsum Products Public Co. Ltd.	NA	75,000
Do.		Lotus Mines Co. Ltd.	Nakornsawan	NA
Do.		General Mining and Trading Co. Ltd.	Talad, Muang	NA
Iron ore, gross weight		P.T.K. Mining Co. Ltd.	Phu Ang, Loei Province	720
Lead, in concentrate		Kanchanaburi Exploration and Mining Co. Ltd.	Song Toh, Nong Phai, and Bo Ngam in Kanchanaburi Province	55
Petroleum, crude, including condensate	thousand 42-gallon barrels per day	Chevron Corp.	Benjamas, Tantanwan, offshore in the Gulf of Thailand	35
Do.	do.	PTT Exploration and Production Public Co. Ltd. (PTTEP)	Arthit, Songkhla, Gulf of Thailand	20
Do.	do.	Thai Shell Exploration and Production Co. Ltd.	Sirikit in Kamphaenghet Province	24
Do.	do.	TOTAL Exploration and Production (Thailand)	Bongkot, offshore in the Gulf of Thailand	12
Do.	do.	Chevron Corp.	Baanpot, Erawan, Funan, Gomin, Jakrawan, Kaphong, Pailin, Platon, Satun, Surat, Trat Plamuk, offshore in the Gulf of Thailand	38

See footnotes at end of table.

TABLE 2—Continued  
THAILAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2013

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Silicon, metal (gross weight)	metric tons	G.S. Energy Co., Ltd.	Ratchaburi silicon plant	25,000
Steel, rolled		The Bangkok Iron and Steel Works Co. Ltd.	Phrapradaeng, Samutprakarn Province	120
Do.		Bangkok Steel Industry Public Co. Ltd.	do.	300
Do.		Tata Steel (Thailand) Plc (Tata Steel Ltd., 67.9%; McDonald Investment, 6.5%; other investors, 25.6%)	Map Ta Phut, Rayong Province; Sriracha, Chonburi Province; Ban Mon, Saraburi Province	1,700
Do.		Namheng Steel Co. Ltd.	Lopburi Province	300
Do.		Sahaviriya Group Corp. Ltd.	Bang Saphan, Prachuap Khiri Khan Province	2,400
Do.		Siam United Steel Co. Ltd.	Rayong Province	1,000
Do.		G-Steel Plc (formerly Siam Ystrip Mill Plc)	Bann Khai, Rayong Province	600
Tantalum, metal powder and oxides	metric tons	H.C. Starck (Thailand) Co. Ltd. (H.C. Starck GmbH, 94.98%, and others, 5.02%)	do.	250
<b>Tin:</b>				
Concentrate		Numerous small companies	Nakhon Si Thammarat, Phangnga, Phuket, and Rayong Provinces	3
Refined		Thailand Smelting and Refining Co. Ltd. (Thaisarco) (Amalgamated Metal Corp., 75.25%, and other, 24.75%)	Phuket, Phuket Province	30
Tungsten, in concentrate	metric tons	SC Mining Co. Ltd. (Som Chai family, 100%)	Ban Pin, Phrae Province	650
<b>Zinc:</b>				
In concentrate		Padaeng Industry Public Co. Ltd. (Bali Ventures Ltd., 21.7%; Thai Ministry of Finance, 13.81%; RAK Minerals & Metals Investments, 12.5%; others, 52%)	Mae Sod District, Tak Province	65
Refined		do.	Smelter in Muang District, Tak Province; Roaster plant in Rayong Province	115

Do., do. Ditto. NA Not available.