



# 2014 Minerals Yearbook

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## MALAYSIA

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# THE MINERAL INDUSTRY OF MALAYSIA

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In 2014, Malaysia's real gross domestic product (GDP) increased by 6.0% compared with an increase of 4.7% in 2013 and an increase of 5.6% in 2012. An increase in domestic demand and growth in the country's exports contributed to economic growth. The output of the mining and quarrying sector increased by 3.1% in 2014 compared with increases of 0.7% (revised) in 2013 and 1.0% (revised) in 2012. The rate of growth in the manufacturing sector increased by 6.2% in 2014 compared with increases of 3.5% (revised) in 2013 and 4.8% in 2012. The rate of growth in the construction sector increased by 11.6% in 2014 compared with increases of 10.9% in 2013 and 18.6% in 2012 (Bank Negara Malaysia, 2015, p. 14).

## Minerals in the National Economy

Malaysia has historically been a major source of tin. Most of the high-grade tin reserves in the country have been depleted, however, or were under developed lands. Malaysia had tin-associated mineral resources, such as ilmenite, monazite, struverite [a niobium (columbium) and tantalum-bearing mineral], and zircon. Malaysia also had identified mineral resources of barite, bauxite, clays, coal, copper, gold, iron ore, limestone, natural gas, petroleum, silica, and silver. After many years of exploitation, however, such minerals as barite, copper, and ilmenite were depleted. During the 20th century, mineral production played an important role in Malaysia's national economy. In 2014, the mining and quarrying activity accounted for 7.9% of the country's real GDP (Bank Negara Malaysia, 2015, p. 17).

## Government Policies and Programs

In Malaysia, mineral sector activity is governed by the Mineral Development Act 1994 and the State Mineral Enactment. The Mineral Development Act 1994 defines the power of the Federal Government to regulate and inspect mineral exploration, mining, and related activities. The State Mineral Enactment gives the States the power to issue mineral prospecting and exploration licenses and mining leases. Apart from paying a corporate tax to the Federal Government, mine and quarry operators are required to pay value-based royalties to the State in which their operation is located. Royalty rates depend on the mineral commodity and on the assessment of each of the individual States (Malaysianminerals.com, 2016).

In June 2010, Malaysia issued the Tenth Malaysia Plan, which included the Government Transformation Programme and the New Economic Model, aimed at improving the country's economy, inclusiveness, and sustainability, and providing the plan for the country's development for the next 5 years. The Government Transformation Programme is in line with the national mission of achieving Vision 2020, which was introduced in 1991 and was intended to transform Malaysia into a developed country. Among its stated goals were increases

in the efficiency of public services and improvement of Government accountability. The New Economic Model was issued by the National Economic Advisory Council and last updated in 2012; it was aimed at transforming the country's economy into one that was market-based, regionally integrated, entrepreneurial, and innovative (Economic Planning Unit, 2015a: 2015b, p. 13, 98–99; 2015c; Wawasan2020.com, 2015a, b).

## Production

The levels of production of most of the country's mineral commodities stayed about the same in 2014 as in 2013. The mineral commodities that had significant increases in production were bauxite, which increased by 1,461%; pig iron, by 72%; and clays, by 11%. Production decreased for several mineral commodities in 2014. Among the most significant decreases were ilmenite (gross weight), by 49%; iron ore (gross weight), by 21%; and iron ore (Fe content), by 13% (table 1).

## Structure of the Mineral Industry

Metallic and nonmetallic mineral-processing facilities were operated by private companies incorporated in Malaysia. The state-owned Petroliaam Nasional Berhad (Petronas), together with its subsidiaries, operated as an integrated oil and gas company in Malaysia and internationally. Petronas engaged in the exploration, development, production (liquefaction, manufacturing, and refining), transportation, and sale (trading and marketing) of crude oil and natural gas products (liquefied natural gas [LNG] and petroleum). It also owned and operated a network of retail stations (table 2; Bloomberg, 2015).

## Mineral Trade

In 2014, Malaysia's total trade increased by 5.9% to \$482.9 billion from \$456.3 billion in 2013. Total exports increased by 6.4% to \$255.3 billion from \$239.9 billion in 2013 and total imports increased by 5.3% to \$227.8 billion from \$216.4 billion in 2013. Malaysia had a trade surplus in 2014. Exports of mineral fuels, mainly LNG, accounted for 22% of total exports, and exports of chemicals accounted for 7% of total exports. Imports of mineral fuels accounted for 17% of total imports, and imports of chemicals accounted for 10% of total imports. According to the National Trade Promotion Agency of Malaysia, the country's major trading partners in 2014 were Australia, the Association of Southeast Asian Nations (whose member countries were Brunei, Cambodia, Indonesia, Laos, Myanmar [also known as Burma], the Philippines, Singapore, Thailand, and Vietnam), China (including Hong Kong), Japan, the Republic of Korea, European Union member countries, and the United States. In 2014, there was steady demand for Malaysia's mineral commodities, such as bauxite and LNG, and increased demand for Malaysia's manufactured products, in particular electrical and electronic products. Japan and the

United States were Malaysia's key export markets, and in 2014, emerging markets, such as Kenya, Mexico, and other countries in Africa, Central Asia, and South Asia, increased their demand for Malaysia's commodities. The value of Malaysia's exports to the United States totaled \$30,420 million, and the value of goods imported from the United States totaled \$13,068 million, with about a 50% surplus in trade in 2014 (National Trade Promotion Agency of Malaysia, The, 2015; U.S. Census Bureau, 2015).

## Commodity Review

### Metals

**Aluminum and Bauxite and Alumina.**—According to the Malaysian Chamber of Mines, bauxite was produced in Malaysia from a mine located in the State of Johore. Production of bauxite in 2014 was estimated to be 3.26 million metric tons (Mt) compared with 208,770 metric tons (t) in 2013 and 121,873 t in 2012. All the production was exported to the other Asian countries. Malaysia's remaining bauxite reserves were small, but bauxite resources were recently discovered in the States of Sabah and Sarawak. In 2014, Malaysia exported about 3.7 Mt of bauxite and imported 11,184 t of bauxite compared with exports of 17,422 t (revised) and imports of 5,221 t in 2013. Because Indonesia banned exports of bauxite (and some other mineral commodities and materials) early in the year, Malaysia became an important bauxite supplier to China. Demand for Malaysian bauxite in international markets was expected to continue to increase. Press Metal Sarawak Sdn Bhd (a subsidiary of Press Metal Berhad) operated aluminum smelters at Mukah and at Similajau in the State of Sarawak. Press Metal expected to have the capacity to produce 890,000 metric ton per year (t/yr) of aluminum, including 121,000 t/yr of billet, in place by 2016 (China Metal Bulletin, 2014; Aluminum Market Outlook, 2015, p. 2–14; Clean Malaysia, 2015; Home, 2015; Malaysianminerals.com, 2015b; Monthly Statistical Bulletin, 2015; Moran, 2015).

**Copper.**—In 2014, Malaysia had no reported output of copper concentrates and did not produce refined copper products. The country imported copper from India, the Republic of Korea, and Russia to meet its demand. A drilling campaign conducted in the 1980s identified the Mengapur polymetallic deposit located in Pahang State and estimated 224 Mt of reserves at an average grade of about 0.6% copper equivalent with a cutoff grade of about 0.3% copper equivalent. Monument Mining Ltd. of Canada, through its Malaysian subsidiary Monument Mengapur Sdn Bhd (MMSB), acquired a 100% interest in the Mengapur Mine in 2012. The company conducted a resource survey and an evaluation study of the mine in 2013 and continued a preliminary economic assessment in 2014 to maximize the economic value of the project. The Mengapur polymetallic project is located in the State of Pahang approximately 130 kilometers (km) southeast of Monument's wholly owned Selinsing gold mine and 75 km northwest of the Malaysian port city of Kuantan (Monthly Statistical Bulletin, 2015; Monument Mining Ltd., 2015a).

**Gold.**—Malaysia's operating gold mines were located in the States of Kelantan, Pahang, and Terengganu. More than

90% of mined gold was from the State of Pahang, which was the location of metal refining facilities for Avocet Mining plc United Kingdom's gold mine at Penjom, Monument's Selinsing gold mine at Bukit Selinsing Koyan, and Raub Australian Gold Mining Sdn Bhd's gold mine at Raub. Malaysia produced about 4,000 kilograms (kg) of gold in 2014, which was an increase of about 5% from the 3,800 kg (revised) produced in 2013, and a decrease of about 13% from the 4,600 kg produced in 2012. The Selinsing gold mine was a leading gold producer in the country and reported to produce 1,119 kg (35,983 troy ounces) in fiscal year 2014 (ending June 30) compared with 1,648 kg (52,982 troy ounces) in fiscal year 2013 and 1,387 kg (44,585 troy ounces) in fiscal year 2012. Monument Mining's processing plant processed more than 1 Mt of ore at an average grade of 1.31 grams per metric ton (g/t) gold in fiscal year 2014; ore processed in 2013 had an average grade of 2.07 g/t gold and, in 2012, 4.24 g/t gold (Monthly Statistical Bulletin, 2015; Monument Mining Ltd., 2015b).

**Iron and Steel.**—Malaysia's crude steel production consisted of cast semimanufactured products, such as billets, blooms, and slabs. Malaysia's iron mines are located in the States of Johor, Pahang, Perak, and Terengganu. Iron ore mined in Malaysia was either consumed by domestic industries or exported to China. Malaysian iron and steel producers imported lumps and pellets and steel scrap as raw materials for steelmaking. In 2014, Malaysia mined about 9.6 Mt of iron ore, and produced about 2.8 Mt of iron and steel bars and rods. In 2014, the MMSB (the owner of the Mengapur project) entered into a binding purchase and profit-sharing agreement with Malaysia's Malaco Mining Sdn. Bhd (Malaco), which was the previous owner of the project and the present owner of the magnetite found in the iron-rich topsoil that overlies much of the project. The agreement granted Monument the right to process and sell magnetite extracted from the topsoil that overlies Area C. Monument would also purchase approximately 1.2 Mt of stockpiled magnetite as initial inventory at the area (Monthly Statistical Bulletin, 2015, p. 53, 68; Monument Mining Ltd., 2015a; World Steel Association, 2015, p. 4).

**Manganese.**—Malaysia's manganese output gradually increased from 2005 to 2014, corresponding with the increase in world manganese prices. The country's manganese output was exported to China owing to a lack of domestic demand. Malaysia's manganese resources were located in the States of Johor, Kelantan, Pahang, and Terengganu. In 2014, Sakura Ferroalloys Sdn Bhd, which was a joint venture of three companies—Assmang Proprietary Ltd. of South Africa (a manganese mining company), Sumitomo Corp. of Japan (a diversified trading company), and China Steel Corp. of China (a steel producer)—constructed a 163,000-t/yr ferromanganese plant at Sarawak. The ferromanganese plant was expected to commence production in 2016 (South East Asia Iron and Steel Institute, 2013; Stewart, 2015).

**Tin.**—In 2014, Malaysia produced about 3,800 t of tin concentrates compared with 3,700 t each in 2013 and 2012. The country imported 31,610 t of tin concentrates (from Indonesia) in 2014 compared with 30,273 t in 2013 and 26,537 t in 2012. Refined tin production was 35,018 t in 2014, compared with 32,633 t in 2013 and 37,823 t in 2012. Domestic tin

consumption was 1,581 t in 2014 compared with 1,835 t in 2013 and 2,083 t in 2012. Malaysia exported 35,221 t of tin metal in 2014 compared with 36,363 t in 2013 and 37,212 t in 2012. Malaysia Smelting Corp. Bhd. (MSC) owned and operated the Butterworth tin refinery in Penang, which was Malaysia's sole tin refinery. MSC also owned a 40% share in Redring Solder Sdn Bhd, which manufactured solder products for jointing and semiconductor applications in the electrical and electronics industries. Solder was the leading tin-consuming sector in Malaysia, followed by tinplate and pewter producers; however, decreased demand from the solder and pewter sectors resulted in reduced domestic tin consumption (Malaysianminerals.com, 2015c; Malaysia Smelting Corp. Bhd., 2015).

### **Industrial Minerals**

**Cement.**—Cement Industries of Malaysia Berhad (CIMA), Lafarge Malaysia Cement Bhd, and YTL Cement Bhd were the three major companies in Malaysia's cement sector. These companies accounted for about 78% of the country's total cement output capacity. CIMA had two plants and about 3 million metric tons per year (Mt/yr) of cement production capacity through its subsidiary Negeri Sembilan Cement Industries Sdn Bhd. Lafarge was Malaysia's leading cement producer with four plants and 14.7 Mt/yr of production capacity, representing 52.9% of the country's total integrated capacity. YTL Cement had two plants and 4.95 Mt/yr of production capacity. In 2014, Malaysia had 11 active integrated cement plants and 27.8 Mt/yr of cement production capacity. Cement manufacturer CMS Cement Sdn Bhd (a subsidiary of Cahya Mata Sarawak Bhd) planned to invest in its third cement-grinding plant, which would increase the company's total capacity to 2.75 Mt/yr by 2016 (table 2; Global Cement, 2014; Saunders, 2015).

**Clay and Shale.**—Malaysia had about 112 Mt of kaolin reserves, which were located in the States of Johore, Kelantan, Pahang, Perak, Sarawak, and Selangor. The active kaolin mines were operated mostly in the Bidor and Tapah Districts in Perak. Production of kaolin in 2013 (the latest year for which reported data were available) increased to 513,587 t from 438,923 t in 2012 (Malaysianminerals.com, 2015a).

### **Mineral Fuels and Related Materials**

**Coal.**—In 2014, Malaysia produced about 2.7 Mt of coal, exported 31,201 t of coal, and imported about 2.1 Mt of coal. Coal demand increased during the past several years. The country's major coal consumers were cement plants, iron and steel plants, and powerplants. The country met its domestic demand by importing coal from Australia, China, and Indonesia. Malaysia's coal resources are located in the States of Perak, Perlis, Sabah, Sarawak, and Selangor. In 2014, five active coal mines employed 838 workers. Coal was produced from the areas of Bintulu, Merit-Pila, Silantek, and Tutoh in the State of Sarawak. The country had coal resources of about 1.7 billion metric tons (Gt), of which 274 Mt was measured, 347 Mt was indicated, and 1.1 Gt was inferred. About 80% of these resources are located in the State of Sarawak, 19% in the

State of Sabah, and 1% in Peninsular Malaysia. Owing to the lack of infrastructure, most of the coal in the interior areas of the country had not been exploited. The Sabah coal resource was located in the Maliau Basin Conservation Area, which the Government had designated as a protected area. Mining and exploration for coal were conducted only in Sarawak (Monthly Statistical Bulletin, 2015; Malaysianminerals.com, 2015a, Saunders, 2015).

**Natural Gas and Petroleum.**—In 2014, Petronas owned and operated three refineries in Malaysia—Petronas Penapisan (Melaka) Sdn Bhd (PP[M]SB) and the Malaysian Refining Co. (MRC), which were both located in Melaka, and Petronas Penapisan (Terengganu) Sdn Bhd (PP[T]SB), which was located in Terengganu. Crude oil produced offshore of the States of Sarawak and Terengganu was refined into petroleum products by PP[M]SB and PP[T]SB for domestic consumption and export. The two plants had the capacity to refine 130,000 and 124,000 barrels per day (bbl/d), respectively. The MRC had the capacity to refine 170,000 bbl/d. The company acquired crude oil mainly from countries in the Middle East. Petronas also owned the Engen Refinery (Enref) in Durban, South Africa, through a majority shareholding in Engen Petroleum Ltd. The refinery had the capacity to refine 135,000 bbl/d of crude oil (Petroleum Nasional Berhad, 2015, p. 7–8).

### **Outlook**

Malaysia's increasing private and public investment and spending will likely continue to support the country's economic growth. The Government is expected to continue to encourage domestic minerals production and mineral commodity exports. It is likely to continue to promote investment opportunities to provide a more competitive economic environment. The Tenth Malaysia Plan promotes production increases in the cement and the iron and steel sectors. Exports of bauxite to China are expected to increase in the near future.

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

(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2010	2011	2012	2013	2014	
<b>METALS</b>						
Aluminum:						
Bauxite, gross weight	124,474 <sup>r</sup>	182,931 <sup>r</sup>	121,873	208,770 <sup>r</sup>	3,258,000	
Aluminum	--	--	120,000 <sup>e</sup>	290,772	--	
Gold, mine output, Au content <sup>3</sup>	kilograms	3,766 <sup>r</sup>	4,219	4,625	3,823 <sup>r</sup>	4,038
Iron and steel:						
Iron ore:						
Gross weight	thousand metric tons	3,558 <sup>r</sup>	8,078	10,886 <sup>r</sup>	12,134 <sup>r</sup>	9,615
Fe content <sup>e</sup>	do.	1,970	4,600	6,900	6,900	6,000
Pig iron, direct-reduced iron, and hot-briquetted iron	do.	2,390	2,876	2,329	1,399	2,400
Steel, crude	do.	5,693	5,941	5,612	4,693	4,316
Magnesium metal <sup>e</sup>		--	200	5,000	5,000	5,000
Manganese, gross weight		899,703	597,917	1,099,585	1,045,412 <sup>r</sup>	1,000,000 <sup>e</sup>
Niobium (columbium)-tantalum metals, struverite, gross weight		84	110	262	190	190 <sup>e</sup>
Silver, mine output, Ag content <sup>3</sup>	kilograms	436	459	1,628	361	360 <sup>e</sup>
Tin:						
Mine output, Sn content		2,668	3,340	3,725 <sup>r</sup>	3,697	3,777
Metal, refined		38,771 <sup>r</sup>	40,281 <sup>r</sup>	37,823 <sup>r</sup>	32,633 <sup>r</sup>	35,018
Titanium:						
Ilmenite concentrate, gross weight		19,039 <sup>r</sup>	28,782	22,275	16,043	8,159
Rutile		7,567	10,810	20,008	5,983	6,000 <sup>e</sup>
Zirconium, zircon concentrate, gross weight		1,267	1,685	442	379	380 <sup>e</sup>
<b>INDUSTRIAL MINERALS</b>						
Barite		1,000	--	--	500 <sup>r</sup>	--
Cement, hydraulic	thousand metric tons	19,762	21,198	21,726	21,457	21,700
Clays	do.	27,543	28,384	30,690	28,045	31,000
Feldspar		455,497	379,628	482,906	348,112 <sup>r</sup>	350,000 <sup>e</sup>
Kaolin		530,331	442,500	438,923	513,587 <sup>r</sup>	300,000
Mica		4,515	4,245	3,967	4,242 <sup>r</sup>	4,000
Rare earths, monazite and xenotime, gross weight		732	779	179	358	946
Sand and gravel	thousand metric tons	30,678	37,339	28,592	29,000 <sup>r</sup>	30,000 <sup>e</sup>
Silica sand		932,159	1,340,013	931,880	394,163 <sup>r</sup>	400,000 <sup>e</sup>
Stone:						
Aggregate	thousand metric tons	101,809	118,510	110,339	100,000 <sup>e</sup>	100,000 <sup>e</sup>
Dolomite <sup>e</sup>		50,900	50,000	50,000	50,000	50,000
Limestone	thousand metric tons	32,398	34,300	36,580	24,000 <sup>r</sup>	24,000 <sup>e</sup>
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Coal	thousand metric tons	2,397	2,916	2,942	2,907 <sup>r</sup>	2,688
Gas, natural: <sup>e</sup>						
Gross	million cubic meters	72,000	73,000	74,000	74,000	74,000
Net <sup>4</sup>	do.	61,136	61,400	62,000	62,000	62,000
Liquefied natural gas	thousand metric tons	24,363	25,822	23,986	25,957	26,000
Petroleum:						
Crude and condensate	thousand 42-gallon barrels	232,100	207,696	214,317	208,141	210,000 <sup>e</sup>
Refinery products <sup>e</sup>	do.	210,000	215,000	215,000	215,000	215,000

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes reported data available through November 27, 2015.

<sup>2</sup>In addition to the commodities listed, a variety of materials, including ammonia, copper, fertilizers, lead (secondary), and salt, were produced but not reported, and available information was inadequate to make reliable estimates of output.

<sup>3</sup>Includes byproduct from tin mines in Peninsular Malaysia and gold mines in Peninsular Malaysia and the State of Sarawak.

<sup>4</sup>Includes production from Peninsular Malaysia and the States of Sabah and Sarawak.

Sources: Ministry of Primary Industry, Minerals and Geoscience Department (Kuala Lumpur), Malaysian Minerals Yearbook 2012, and World Steel Association, Steel Statistical Yearbook 2015.

TABLE 2  
MALAYSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, metal		Press Metal Sarawak Sdn Bhd (Press Metal Berhad)	Mukah, Sarawak	120.
Do.		do.	Similajau, Sarawak	320.
Bauxite		5 enterprises, as follows: Johore Mining and Stevedoring Co. Sdn Bhd	Locations: Teluk Rumania and Sg. Rengit, Johor	15,300. <sup>e</sup>
		Golden Prosperous	NA	
		Good Man Venture	NA	
		Top International Holding	NA	
		Seng Hiap Metal	NA	
Cement <sup>f</sup>		Cement Industries of Malaysia Berhad (CIMA) (United Engineers Malaysia Group Berhad., 53.97%, and others, 46.03%)	Kangar, Perlis	2,000 cement; 1,650 clinker.
Do.		do.	Bahau, Negeri Sembilan	1,580 cement; 1,300 clinker.
Do.		CMS Cement Sdn Bhd (a subsidiary of Cahya Mata Sarawak Bhd)	Bintulu, Sarawak	750 cement.
Do.		do.	Kuching, Sarawak	1,000 cement.
Do.		Holcim (Malaysia) Sdn Bhd (Holcim Ltd.)	Pasir Gudang, Johor	1,300 cement.
Do.		Lafarge Malaysia Cement Bhd. (a subsidiary of Lafarge S.A.)	Rawang, Selangor, Langkawi, Kedah	6,810 cement; 4,900 clinker.
Do.		do.	do.	5,370 cement; 3,300 clinker.
Do.		do.	Pasir Gudang, Johor	770 cement.
Do.		YTL Cement Berhad (a subsidiary of YTL Group)	Bukit Sagu, Pahang	1,300 cement; 1,200 clinker.
Do.		do.	Padang Rengas, Perak	3,400 cement; 3,000 clinker.
Do.		do.	Pasir Gudang and Westport, Johor	1,000 cement.
Do.		Tasek Corp. Bhd (publicly owned company)	Ipoh, Perak	2,300 cement; 2,300 clinker.
Coal, mine		Kuala Lumpur, Raub, and Kuching	Multiple mines in Sarawak	2,700.
Copper, mine		Monument Mengapur Sdn Bhd (a subsidiary of Monument Mining Ltd.)	Sri Jaya, Pahang	NA.
Gas:				
Natural	million cubic meters per day	ExxonMobil Exploration and Production Malaysia, Inc.	Offshore Terengganu	45.
Do.	do.	Sabah Shell Petroleum Co. Ltd.	Offshore Sabah	3.
Do.	do.	Sarawak Shell Bhd.	Offshore Sarawak	80.
Liquefied		Malaysia LNG Sdn. Bhd. [Petroliam Nasional Berhad (Petronas), 65%; Shell Gas N.V., 15%; Mitsubishi Corp., 15%; Sarawak State government, 5%]	Tanjung Kidurong, Bintulu, Sarawak	8,100.
Do.		Malaysia LNG Dua Sdn. Bhd. [Petroliam Nasional Berhad (Petronas), 60%; Shell Gas N.V., 15%; Mitsubishi Corp., 15%; Sarawak State government, 10%]	do.	7,800.
Do.		Malaysia LNG Tiga Sdn. Bhd. [Petroliam Nasional Berhad (Petronas) 60%; Shell Gas N.V., 15%; Nippon Oil LNG (Netherlands) BV, 10%; Sarawak State government, 10%; Diamond Gas Netherlands BV, 5%]	do.	6,800.
Gold, refined	kilograms	PT J Resources Asia Pasifik Tbk (J&Partners, L.P., 100%)	Penjom, Pahang	4,000.
Do.	do.	Raub Australian Gold Mining Sdn. Bhd (Peninsular Gold Ltd., 100%)	Raub, Pahang	500.
Do.	do.	Monument Mining Ltd. of Canada	Bukit Selinsing Koyan, Pahang	1,500.
Do.		Avocet Mining plc	Penjom, Pahang	NA.
Iron and steel:				
Iron ore		CAA Resources Ltd. of China	Bukit Ibam, Pahang	NA.
Do.		Monument Mining Ltd. of Canada	Sri Jaya, Pahang	NA.
Direct-reduced iron		Lion DRI Sdn Bhd (The Lion Group)	Banting, Selangor	1,540.
Do.		Perwaja Steel Sdn. Bhd. (Kinsteel Bhd, 51%, and Maju Holdings Sdn. Bhd., 49%)	Kemaman, Terengganu	1,800.

See footnotes at end of table.

TABLE 2—Continued  
MALAYSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
<b>Iron and steel—Continued:</b>				
Hot-briquetted iron	Amsteel Mills Sdn Bhd (The Lion Group)	Labuan Island, offshore Sabah	880.	
Crude steel	do.	Banting, Selangor	1,250.	
Do.	do.	Klang, Selangor	750.	
Do.	Ann Joo Steel Bhd (Ann Joo Group)	Prai, Penang	900.	
Do.	Antara Steel Sdn. Bhd. (The Lion Group)	Pasir Gudang, Johr	600.	
Do.	Kinsteel Sdn Bhd	Kuantan, Pahang	500.	
Do.	Megasteel Sdn Bhd (The Lion Group)	Banting, Selangor	700.	
Do.	Malaysia Steel Works Bhd	Bukit Raja, Selangor	450.	
Do.	Perwaja Steel Sdn Bhd (Kinsteel Bhd, 51%, and Maju Holdings Sdn Bhd, 49%)	Kermaman, Terengganu	1,500.	
Do.	Southern Steel Bhd. [Camerlin (a member of Hong Leong Group Malaysia), 40.75%; Natsteel Ltd., 27.03; others, 32.22%]	Prai, Penang	1,300.	
Kaolin	Tasek Corp.	Perak	520.	
Magnesium, metal	CVM Minerals Ltd.	Kamunting Raya, Perak	NA.	
Nitrogen, ammonia	Asean Bintulu Fertilizer Sdn. Bhd. (Petroleum Nasional Berhad (Petronas) 63.5%; P.T. Pupuk Sriwidjaja Indonesia, 13%; Thai Ministry of Finance, 13%; Philippines National Development Co., 9.5%; Singapore Temasek Holdings Pte. Ltd., 1%)	Bintulu, Sarawak	395.	
Do.	Petronas Fertilizer Kedah Sdn Bhd [a wholly owned subsidiary of Petroleum Nasional Berhad (Petronas)]	Gurun, Kedah	378.	
Do.	Petronas Ammonia Sdn. Bhd. (a wholly owned subsidiary of Petroleum Nasional Berhad)	Kerth, Terengganu	370.	
Petroleum, crude	thousand 42-gallon barrels per day	ExxonMobil Exploration and Production Malaysia, Inc.	Offshore Terengganu	390.
Do.	do.	Sabah Shell Petroleum Co. Ltd.	Offshore Sabah	100.
Do.	do.	Sarawak Shell Bhd.	Offshore Sarawak	184.
Do.	do.	Malaysian Refining Company (MRC)	Melaka	170.
Do.	do.	Penapisan (Melaka) Sdn Bhd (PP(M)SB)	do.	130.
Do.	do.	Petronas Penapisan (Terengganu) Sdn Bhd (PP(T)SB)	Terengganu	124.
Do.	do.	Petronas Carigali Sdn Bhd	Offshore Terengganu	22.
Do.	do.	Murphy Sarawak Oil Co. Ltd.	Offshore Sarawak	15.
Rare earths (REO equivalent), rare-earth compounds	Lynas Corp. Ltd. of Australia	Kuantan, Pahang	11.	
<b>Tin:</b>				
Concentrate	Delima Industries Sdn Bhd	Dengkil, Selangor	1,100.	
Do.	Maiju Sama Sdn Bhd	Puchong, Selangor	1,600.	
Do.	New Lahat Mines Sdn. Bhd.	Lahat, Perak	300.	
Do.	Omsam Telecommunication Sdn Bhd	Bakap and Batu Gajah, Perak	500.	
Do.	Rahman Hydraulic Tin Bhd.	Klian Intan, Perak	3,000.	
Do.	S.E.K. (M) Sdn Bhd	Kampar, Perak	400.	
Do.	Tasek Abadi Sdn Bhd.	Senudong and Kampar, Perak	500.	
Refined	Malaysia Smelting Corp. Bhd. (The Straits Trading Co. Ltd., 37.44%; Malaysia Mining Corp., 37.44%; others, 25.12%)	Butterworth, Penang	40.	
Titanium dioxide	Huntsman Trioxide Sdn Bhd (a subsidiary of Huntsman Trioxide)	Kemaman, Terengganu	56.	

<sup>6</sup>Estimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.

<sup>1</sup>All companies operated integrated plants.