



2005 Minerals Yearbook

MALAYSIA

THE MINERAL INDUSTRY OF MALAYSIA

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Malaysia is located next to Brunei, Indonesia, Singapore, and Thailand in Southeast Asia and is a member of the Association of Southeast Asian Nations (ASEAN). It has a total land area of about 328,600 square kilometers (km²) and had a population of about 26.7 million in 2005. The high oil prices in the international markets had only a moderate effect on Malaysia's economy in 2005. The Malaysian economy expanded by 5.3%, which was about 2% lower than that of 2004. The growth was in part a response to increased domestic and external demand. Except for the construction sector, most sectors posted positive growth rates. The manufacturing sector was stronger because the export-oriented industries, such as electronics, regained strength in the second half of 2005. The mining sector grew only slightly (by 0.8%) because of the decline in crude oil production, which, in turn, was a result of the shutdown of several oil installation facilities for maintenance. The decline in crude oil production was balanced by an increase in natural gas output, which grew in response to increased demand for domestic power generation and to fulfill the requirements of overseas contracts. Owing to the completion of several large infrastructure projects, the construction sector contracted by 1.5% in 2005. The gross domestic product (GDP) grew to \$127.7 billion and the GDP per capita was \$4,781 in 2005. The consumer price index increased by 3.0% in 2005, which was higher than the 1.4% increase in 2004 (Malaysian Industrial Development Authority, 2006, p. 1-16).

Government Policies and Programs

Because of the economic slowdown of the past several years, the Government focused on providing infrastructure and a better investment environment. The Government reformed the banking system, improved the delivery of Government services, moved from supporting large projects to funding smaller ones, and put greater emphasis on diversifying sources of growth into such sectors as services and agriculture.

The Malaysian Government continued its policy of pursuing balanced growth and a stable political and social environment. The manufacturing and service sectors would remain the engines of growth. The service sector, which accounted for more than 50% of the economy, was expected to grow because of increased domestic consumption and foreign trade. Mining activities were likely to improve during the next several years because of the discovery of new oilfields and gasfields in the State of Sabah during the past several years that were expected to begin production soon. The Government's 15-year Third Industrial Master Plan was directed at making the manufacturing and service sectors more knowledge-intensive and productive and, as a result, more globally competitive. The major export products were automotive parts, chemicals, electronics, and

machinery. The value of exports was projected to increase by 2.7 times by 2020 (Malaysia External Trade Development Corp., 2006).

Production

Malaysia produced bauxite, coal, feldspar, gold, ilmenite, iron ore, kaolin, mica, monazite, natural gas, oil, sand and gravel, struverite, tin, and zircon. The production of tin metal increased owing to higher tin prices on the Kuala Lumpur Tin Market and the international market. Because of depleting ore reserves and lower ore grades, Malaysia imported tin concentrates from other countries to meet its demand. Owing to the shortage and high prices of raw materials, output of iron and steel declined in 2005. Malaysia was the leading producer of palm-oil-based products. In August 2005, the Government issued a national biofuel policy to encourage the use of palm-oil-based biofuel as an alternative and environmentally friendly energy source. With the increasing interest in the palm-oil-based biofuel, the output of palm oil was expected to increase and, as a result, so was the demand for fertilizers (Malaysian Industrial Development Authority, 2006, p. 82).

Trade

In 2005, Malaysia's total trade increased by 9.9% to \$254.7 billion. Exports increased by 11.0% to \$140.5 billion, and imports increased by 8.5% to \$114.2 billion. The ASEAN countries, which remained Malaysia's leading export market, accounted for 26.1% of the total exports, of which Singapore received 15.5%. The United States was the leading destination country and received 19.7% of Malaysian exports followed by Japan, 9.0%; China, 6.6%; and Hong Kong, 5.5%. Electrical and electronic products accounted for 49.6% of the total exports, chemical and metal products accounted for 10.3% of the total exports, and crude oil and liquefied natural gas (LNG) accounted for 12.9% of the total exports and 97% of the mining products. The total export value of crude oil and LNG was \$18.0 billion. Malaysia imported goods from Japan, 14.5%; the United States, 12.9%; Singapore, 11.7%; China, 11.5%; and Taiwan 5.5%. Ferrous and nonferrous goods accounted for 8.5% of the total imports. Downstream electronic products, which remained Malaysia's leading import commodity, were imported mainly from Japan and China. During the past 2 years, total trade between Malaysia and China increased sharply, and China replaced Japan as the country with which Malaysia had its largest trade deficit in 2005 (Ministry of International Trade and Industry, 2006, p. 11-30).

Malaysia had negotiated free trade agreements bilaterally and with ASEAN to gain market access for Malaysia's products and services; the agreements included reduction or elimination of tariffs on goods and liberalization of regulations regarding the service sector and investment. In November 2004, ASEAN

¹References that include a section mark (§) are found in the Internet References Cited section.

and China signed a free trade agreement; implementation of the agreement began on January 1, 2006. In December 2005, Malaysia entered into an economic partnership agreement with Japan that would eliminate nearly 93% of tariffs on products in the first 7 years of implementation. Investments between the two countries would be expanded. Malaysia planned to complete free trade agreements with Australia, New Zealand, and Pakistan in 2006 (Ministry of International Trade and Industry, 2006, p. 36).

Commodity Review

Metal

Aluminum.—Malaysia's bauxite resources are located at Bukit Batu, Bukit Gebong, Lundu-Semantan, and Tanjung Seberang in the State of Sarawak and at Bukit Mengkabau and Labuk Valley in the State of Sabah. The two operating bauxite mines in Malaysia were located at Bungai Rengit in the State of Johor. Owing to depleted resources, bauxite production decreased sharply in recent years. Malaysia did not have an aluminum refinery and smelter; all bauxite output, therefore, was exported to countries in Southeast Asia, and Malaysia imported unwrought aluminum to meet its demand. During the past 2 years, investors from Bahrain, China, the United Arab Emirates, and the United States had submitted proposals to the Malaysian Government to build aluminum smelters in Malaysia.

In November, 2005, China Aluminum International Engineering Co. Ltd., which was a subsidiary of state-owned Aluminum Corporation of China, and Smelter Asia Sdn. Bhd. signed a cooperation agreement in Beijing, China, on a 500,000-metric-ton-per-year (t/yr) Sarawak Aluminum Smelter project in the State of Sarawak. The construction was divided into two phases. The first phase of construction was expected to begin in 2006 and to be completed by 2007. Installation of a 320-kiloampere prebaked cell line and construction of a 600,000-t/yr carbon anode plant were included in the first-phase plan. Total investment was estimated to be \$1.5 billion. Power for the smelter would be supplied by the Bakun hydroelectric powerplant. The company planned to source alumina from Australia and the United States (China Nonferrous Metals News, 2005).

In May 2005, Cahya Mata Sarawak Bhd of Malaysia and China's Shandong Luneng Group and Sinohydro Corp. signed a memorandum of understanding to jointly build an aluminum smelter in Similajau, State of Sarawak. The two Chinese companies held a total of 50% of the shares. Total investment was estimated to be \$3 billion. The Export-Import Bank of China agreed to provide a 10-year low-interest-rate loan to Shandong Luneng. The proposal for the construction of the aluminum smelter was submitted to the Malaysian Government in December 2005. The smelter was expected to begin producing aluminum ingot in 2007 (Alumina and Aluminum Monthly, 2006).

Gold.—During the past several years, Malaysia's gold production was about 4 t (table 1). Gold output was mainly from the Penjom Mine, which was owned by Avocet Mining Plc of the United Kingdom and operated by its wholly owned

subsidiary Specific Resources Malaysia Sdn. Bhd.; the mine was located at Penjom in the State of Pahang. Several small-scale gold mines were located in the States of Kelantan, Pahang, and Terengganu. Very few companies appeared to be interested in exploration in Malaysia, although Avocet continued its gold exploration in the neighborhood of Penjom. The company completed 1,000 meters drilling at Panau, which is located northwest of Penjom. If significant mineralization were to be intersected in the area, Avocet would apply for tenements to the Central and State governments for its exploration activities (Avocet Mining Plc, 2005).

Iron and Steel.—Malaysia produced small amounts of low-grade iron ore from the States of Pahang, Perak, and Terengganu. Domestic iron ore output was consumed by domestic pipecoating plants and cement plants. The country imported high-grade iron ore from Bahrain, Brazil, Canada, and Chile for ironmaking. In 2005, the prices of iron ore and scrap had surged and caused an increase in production costs for downstream manufacturing industries. As a result, Malaysia's production of crude steel and steel products decreased slightly in 2005. In 2005, Malaysia had a total installed capacity of 16.2 Mt (11.6 Mt for long products and 4.6 Mt for hot-rolled and cold-rolled coils); of that amount, the overall utilization rate was 56.8% (Ministry of International Trade and Industry, 2006, p. 88).

Kinsteel Bhd. planned to build an integrated electric arc furnace plant at its Gebeng plant in the State of Pahang. The plant will have a designed output capacity of 400,000 t/yr of crude steel and 300,000 t/yr of wire rod. The total investment was estimated to be \$26.5 million. The construction was scheduled to begin at the end of 2005. Currently (2005), Kinsteel had an output capacity of 500,000 t/yr of steel products that included angles, bars, channels, and flats. Kinsteel signed a strategic alliance with Maju Holdings Sdn Bhd to acquire 51% equity interest in Maju's subsidiary Perwaja Steel Sdn Bhd. Kinsteel would pay \$26.5 million cash and 60 million of Kinsteel shares, with \$30.5 million to be settled by deferred payments. Perwaja had an output capacity of 1.2 Mt/yr of direct-reduced iron (DRI) and 1.3 Mt/yr of billet. The alliance would enable Kinsteel to improve its sales network in local and overseas markets (Southeast Asia Iron and Steel Institute, 2005, Star Online, 2005^{§1}).

The Lion Group was the leading iron and steel producer in Malaysia. The Group has several operating facilities—Amsteel Mills Sdn Bhd, Antara Steel Mills Sdn Bhd, Bright Steel Sdn Bhd, Lion Steelworks Sdn Bhd, and Megasteel Sdn Bhd. The Group had a total annual output capacity of 4.4 Mt of crude steel, 800,000 t of hot-briquetted iron (HBI), 2.0 Mt of hot-rolled coils, and 1.4 Mt of cold-rolled coils. The Group signed a supply agreement with Midrex Technologies Inc. of the United States to set up a DRI plant at the Megasteel site. The plant was designed to produce 1.6 Mt/yr of DRI or HBI and was scheduled to begin operation in 2006. The supply of DRI was expected to reduce the dependence on scrap as raw material for steelmaking and to enable the production of high-grade steel for downstream products. The Group signed a long-term iron ore pellets supply agreement with Samarco Mineracao S.A. of Brazil for its HBI and DRI operations. The Group also considered building an integrated iron and steel plant as part of its 5-year plan

(Malaysian Iron and Steel Industry Federation, 2005, p. 42-44; Metal Bulletin, 2005).

Tin.—Owing to depleted resources and lower ore grades after more than 100 years of active mining operations, Malaysia's tin mine production decreased to less than 3,000 t during the past 2 years despite a higher tin price in 2004 and 2005. The demand for tin was rising because it is used as raw material in the manufacture of flame retardants, industrial paint pigments, and lead-free solders for the electronics industry. Owing to an increase in tin mine operating costs, Malaysian tin miners had difficulty operating profitably despite the higher demand for and price of tin. Also, under the current policy, if an owner of agricultural land converts the use of the property to tin mining, ownership of the land reverts to the State government after the mining operations have ceased. Landlords would not be willing to convert agricultural land to mining land. Malaysia also faced a shortage of labor with mining skills (Star Online, 2006a§).

Malaysia Smelting Corp. Bhd. (MSC) was Malaysia's sole integrated tin producer and became a subsidiary of The Straits Trading Co. Ltd. in 2005. MSC had acquired 100% equity in Rahman Hydraulic Tin Sdn Bhd, which operated the open pit alluvial tin mine in the State of Perak, in 2004. In 2005, MSC produced a total of 58,250 t of tin ingot from its two smelters, Butterworth in Malaysia (36,870 t) and PT Koba Tin in Indonesia (21,380 t). To secure tin resources, MSC expanded its investments in Indonesia through its subsidiary PT MSC Indonesia and increased its interest in Australia Oriental Minerals NL in Australia.

In 2005, Malaysia consumed about 4,100 t of tin. The solder and the tinplating sectors continued to be the major tin consumption sectors. Malaysia exported 32,947 t of tin metal to, in descending order of amount received, Singapore, the Republic of Korea, Japan, and Taiwan. Malaysia imported 17,708 t of tin concentrates in 2005. MSC refined crude tin from Indonesia (Malaysia Smelting Corp. Bhd., 2006, p. 90-91). China, which was the leading tin metal producing country in the world, increased its consumption of tin metal during the past several years and, as a result, decreased its exports of tin metal. Indonesia and Malaysia have increased their exports of tin, which could influence the price of tin on the international market in the future.

Industrial Minerals

Magnesium.—The State Government of Perak granted approval to Commerce Venture Manufacturing Sdn Bhd (a subsidiary of Ho Wah Genting Bhd) to build a magnesium plant in the Kamunting Raya III Industrial Estate in the district of Larut Matang, State of Perak. The company planned to use the Pidgeon process in which dolomite is used as the main raw material. A dolomite mine was located about 60 kilometers from the plant site. The construction was scheduled to begin in 2006, and the plant would be put into operation in 2008 with an initial output capacity of 15,000 t/yr. Commerce Venture planned to double the output capacity of the plant after 1 year of operation. The plant's magnesium output was mainly intended for export. The company also planned to expand its operation in alloy production (Magnesium Monthly Review, 2006).

Mineral Fuels

Coal.—Malaysia's coal resources are located in the States of Perak, Perlis, Sabah, Sarawak, and Selangor. Coal was produced from the areas of Bintulu, Merit-Pila, Silantek, and Tutoh in the State of Sarawak. The country has coal reserves of 1.7 billion metric tons (Gt), of which about 1.4 Gt is located in Sarawak. Mining and exploration for coal was conducted only in Sarawak. Merit-Pila was the largest coalfield in Malaysia. Owing to increased mine output, Malaysia's coal production increased by about two-fold in 2005 compared with that of 2004. Because of increased domestic demand, coal imports increased to 9.3 Mt in 2005 from 8.6 Mt in 2004. The power-generating plants consumed about 70% of the total supply of coal (domestic production and imported) and the remaining was consumed by the cement and iron and steel sectors. Tenaga Nasional Berhad planned to change its natural gas powerplants into coal-fired powerplants within the next several years, and the use of gas in its powerplants was expected to decrease to 49% from 72% in 2010. Major coal-fired powerplants under construction included Tanjung Bin and Jimah; Prai Power and the second phase of Port Dickson Power were under development. Coal demand was expected to increase to 19 Mt and, because domestic coal could not meet the demand, the country was expected to increase coal imports to fill the gap. Most imported coal was from Australia, China, and Indonesia (Malaysian Chamber of Mines, 2006).

Natural Gas and Petroleum.—Malaysia remained a net exporter of natural gas and crude oil. The average production of natural gas increased to 164 million cubic meters per day in 2005 from 147 million cubic meters per day in 2004. Production of crude oil and condensate decreased to an average of 727,000 barrels per day (bbl/d) in 2005 from 762,000 bbl/d in 2004. The lower production of crude oil was caused by the shutdown of several oil installation facilities during the year for repair and maintenance. The output of condensate accounted for about 20% of the total output. Owing to increasing demand from the domestic power generation and manufacturing sector, natural gas production continued to increase in 2005. The country exported about 50% of its natural gas in the form of LNG and crude oil and condensate production (Bank Negara Malaysia, 2006§).

Sabah Shell Petroleum Co. Ltd. (a unit of Royal Dutch/Shell Group) discovered a potential large oilfield from its Pisagan-1A exploration well, which was located off the coast of the State of Sabah. The discovery well was drilled in a water depth of 1,465 meters (m). Pisagan was located in Block G, in which Shell Malaysia Ltd. and ConocoPhillips Corp. of the United States each held 35% interest, and Malaysia's state-owned Petrolia Nasional Berhad (Petronas) held the remaining 30%. This was the first discovery following that of the Ubah-2 field (Rigzone.com, 2006b§).

CS Mutiara Petroleum Sdn Bhd, which was a joint-venture company of Petronas Carigali Sdn Bhd and Shell Exploration and Production Malaysia BV, announced the discovery of natural gas in Block PM302 in the northeast coast of Peninsular Malaysia. Gas from the Bunga Dahlia Channel-1 exploration well was found under a water depth of 2,260 m. The company had discovered six gas deposits in the area during the past

2 years. CS Mutiara operated Blocks PM301 and PM302, which were located off the northeast coast of Peninsular Malaysia (Rigzone.com, 2006a§).

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Major Source of Information

Ministry of Primary Industry

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Major Publications

- Department of Statistics [Malaysia]:
Statistical Bulletin, Malaysia, monthly.
Yearbook of Statistics, Malaysia, annual.
- Malaysian Chamber of Mines: Annual Report, annual.
- Malaysia Tin Bulletin, monthly.
- Minerals and Geoscience Department [Malaysia]:
Annual Report and Malaysia Minerals Yearbook, annual.
Monthly Statistics on Mining Industry in Malaysia, monthly.

TABLE 1
MALAYSIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2001	2002	2003	2004	2005
METALS					
Aluminum, bauxite, gross weight	64,161	39,975	5,732	2,040	4,735
Columbium (niobium)-tantalum metals, struverite, gross weight	8,430	2,298	2,619	121	552
Gold, mine output, Au content ³ kilograms	3,965	4,289	4,739	4,221	4,250
Iron and steel:					
Iron ore, gross weight	376,476	404,350	596,612	663,732	949,605
Pig iron, direct-reduction iron and hot-briquetted iron thousand metric tons	1,024 ^r	1,061 ^r	1,600	1,710 ^r	1,349
Steel, crude do.	4,100	4,722	3,960	5,698 ^r	5,296
Lead metal, secondary ^c	38,000	40,000	40,000	40,000	40,000
Rare-earth metals, monazite, gross weight	643	441	795	1,683	320
Silver, mine output, Ag content ³ kilograms	3	--	--	364	401
Tin:					
Mine output, Sn content	4,972	4,215	3,359	2,745	2,857
Metal, smelter	30,417	30,887	18,250	33,914	36,924
Titanium:					
Ilmenite concentrate, gross weight	129,750	106,046	95,148	61,471	38,196
Dioxide ^c	50,000	56,000	56,000	56,000	56,000
Zirconium, zircon concentrate, gross weight	3,768	5,292	3,456	6,886	4,954
INDUSTRIAL MINERALS					
Barite	649	3,082	--	--	--
Cement, hydraulic thousand metric tons	13,820	14,336	17,243	15,692 ^r	17,860
Clays and earth materials do.	29,596	23,092	23,909	24,221	28,757
Clays, kaolin	364,458	323,916	425,942	326,928	494,511
Feldspar	40,509	30,819	42,662	79,220	83,580
Mica	4,107	3,669	3,609	3,544	4,542
Nitrogen, N content of ammonia	726,000	847,900	909,500	842,500	850,000 ^e
Sand and gravel thousand metric tons	15,020	19,574	17,955	18,371	17,072
Silica sand, peninsular Malaysia and Sarawak	575,105	447,398	533,617	631,402	531,891
Stone:					
Aggregate thousand metric tons	66,996	84,934	85,142	51,236	52,317
Dolomite	2,850	--	--	27,500 ^r	38,500
Limestone thousand metric tons	32,503	27,450	33,397 ^r	31,598 ^r	30,868
MINERAL FUELS AND RELATED MATERIALS					
Coal	497,733	352,513	172,820	389,176	789,356
Gas, natural: ⁴					
Gross million cubic meters*	58,751	60,791	65,173	67,530	74,351
Net ⁵ do.	46,707	48,329	51,813	53,688	59,111
Liquefied natural gas thousand metric tons*	15,423	15,007	17,311	20,729	21,948
Petroleum: ⁴					
Crude and condensate thousand 42-gallon barrels	243,696	254,770	269,370	279,009	267,720
Refinery products ^{c,6} do.	142,000	144,000	142,000	144,000	141,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. -- Zero.

*Corrected on May 14, 2008.

¹Table includes data available through September 29, 2006.

²In addition to the commodities listed, a variety of crude construction materials, which include clays and stone, fertilizers, and salt, is produced but not reported, and information is inadequate to make reliable estimates of output levels.

³Includes byproduct from tin mines in peninsular Malaysia and gold mines in peninsular Malaysia and the State of Sarawak.

⁴Includes production from peninsular Malaysia and the States of Sabah and Sarawak.

⁵Gross less volume of reinjected and flared.

⁶Includes liquefied petroleum gas, naphthas, and lubricants.

Sources: Ministry of Primary Industry, Minerals and Geoscience Department (Kuala Lumpur), Malaysian Minerals Yearbook 2005, Monthly Statistics on the Mining Industry in Malaysia; Department of Statistics (Kuala Lumpur), Monthly Statistical Bulletin, April 2005; U.S. Geological Survey Minerals Questionnaire, 2005; and Southeast Asia Iron and Steel Institute, Steel Statistical Yearbook, 2005.

TABLE 2
MALAYSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Bauxite		Johore Mining and Stevedoring Co. Sdn. Bhd. (ALCAN Ltd. of Canada, 61%, and local investors and others, 39%)	Teluk Rumania and Sg. Rengit, Johor	400.
Cement ¹		Cement Industries of Malaysia Bhd. (United Engineers Malaysia Bhd., 53.97%, and others, 46.03%)	Kangar, Perlis	2,000 cement; 1,600 clinker.
Do.		Lafarge Malayan Cement Bhd. (majority owned subsidiary of Lafarge S.A.)	Rawang, Selangor; Kanthan, Perak, Langkawi, Kedah; and Pasir Gudang, Johor	12,800 cement; 7,900 clinker.
Do.		Negeri Sembilan Cement Industries Sdn. Bhd. (wholly owned subsidiary of Cement Industries of Malaysia Berhad)	Bahau, Negeri Sembilan	1,400 cement; 1,200 clinker.
Do.		Pahang Cement Sdn Bhd. (50-50 joint venture of Pahang State government and YTL Cement Berhad)	Bukit Sagu, Pahang	1,300 cement; 1,200 clinker.
Do.		Perak-Hanjoong Simen Sdn. Bhd. (Gopeng Bhd., 45%, and Korea Heavy Industries and Construction Co. and others, 55%)	Padang Rengas, Perak	3,400 cement; 3,000 clinker.
Do.		Tasek Corp. (publicly owned company)	Ipoh, Perak	2,300 cement; 2,300 clinker.
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. (Petroleum Nasional Berhad, 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. (Petroleum Nasional Berhad, 60%; Shell Gas N.V., 15%; Mitsubishi Corp., 15%; Sarawak State government, 10%)	do.	7,800.
Do.		Malaysia LNG Tiga Sdn. Bhd. (Petroleum Nasional Berhad, 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	Specific Resources Malaysia Sdn. Bhd. (joint venture of Pahang State Development Corp. and Avocet Mining plc of the United Kingdom)	Penjom, Pahang	4,000.
Iron and steel:				
Hot-briquetted iron		Amsteel Mills Sdn. Bhd. (Lion Group)	Labuan Island, offshore Sabah	800.
Direct-reduced iron		Perwaja Steel Sdn. Bhd. (Lion Group, 51%, and Maju Holdings Sdn. Bhd., 49%)	Kemaman, Terengganu	1,200.
Crude steel		Amsteel Mills Sdn. Bhd. (Lion Group)	Klang and Banting, Selangor	1,300.
Do.		Antara Steel Sdn Bhd (Lion Grop)	Pasir Gudang, Johr	600.
Do.		Kinsteel Sdn Bhd (Lion Group)	Kuantan, Pahang	500.
Do.		Megasteel Sdn Bhd (Lion Group)	Banting, Selangor	2,500.
Do.		Perwaja Steel Sdn. Bhd. (Lion Group 51%, and Maju Holdings Sdn. Bhd., 49%)	Kermaman, Terengganu	900.
Do.		Southern Steel Bhd. (Camerlin [a member of Hong Leong Group Malaysia], 40.75%; Natsteel Ltd., 27.03; others, 32.22%)	Prai, Penang	1,200.
Nitrogen, ammonia		Asean Bintulu Fertilizer Sdn. Bhd. (Petroleum Nasional Berhad, 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. (wholly owned subsidiary of Petroleum Nasional Berhad)	Gurun, Kedah	378.
Do.		PETRONAS Ammonia Sdn Bhd. (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.

See footnote at end of table.

TABLE 2--Continued
MALAYSIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum, crude--Continued:	thousand 42-gallon barrels per day	PETRONAS Carigali Sdn. Bhd.	Offshore Terengganu	22.
Do.	do.	Murphy Sarawak Oil Co. Ltd.	Offshore Sarawak	15.
Tin:				
Concentrate		Delima Industries Sdn. Bhd.	Dengkil, Selangor	1.1.
Do.		Maiju Sama Sdn. Bhd.	Puchong, Selangor	1.6.
Do.		New Lahat Mines Sdn. Bhd.	Lahat, Perak	0.3.
Do.		Omsam Telecommunication Sdn. Bhd.	Bakap and Batu Gajah, Perak	0.5.
Do.		Rahman Hydraulic Tin Bhd.	Klian Intan, Perak	1.2.
Do.		S.E.K. (M) Sdn. Bhd.	Kampar, Perak	0.4.
Do.		Tasek Abadi Sdn Bhd.	Senudong and Kampar, Perak	0.5.
Refined		Malaysia Smelting Corp. Bhd. (The Straits Trading Co. Ltd., 37.44%; Malaysia Mining Corp., 37.44%; others, 25.12%)	Butterworth, Penang	35.
Titanium dioxide		Huntsman Tioxide Sdn. Bhd. (a subsidiary of Huntsman Trioxide of the United Kingdom)	Kemaman, Terengganu	56.

¹All companies operated integrated plants.