



2011 Minerals Yearbook

INDONESIA

THE MINERAL INDUSTRY OF INDONESIA

By Chin S. Kuo

Indonesia has abundant mineral resources, which include coal, copper, gold, natural gas, nickel, and tin. The country also has less significant resources of bauxite, petroleum, and silver. The development and exploitation of minerals and oil and gas continued to play an important role in the country's economic growth. Indonesia was among the five leading producers of copper and nickel in the world, and its tin output was ranked second after China. It was also ranked among the world's top 10 countries in the production of gold and natural gas. Indonesia was the world's second ranked exporter of liquefied natural gas (LNG) after Qatar but was a net importer of oil.

Minerals in the National Economy

Indonesia's real gross domestic product (GDP) growth was 6.5% in 2011. The country's industrial output accounted for 24.3% of its total GDP based on purchasing power parity. The industrial sector grew by 6.2% in 2011. The country's mineral industry—primarily the cement, metal mining, and oil and gas industries—contributed modestly to its industrial production. The value of mineral commodity production accounted for 12.2% of the GDP. The fertilizer industry and the mining and quarrying industries grew by 4.0% and 1.4%, respectively, during the year. The cement and iron and steel industries increased by 7.2% and 13.1%, respectively, whereas the oil and gas industry registered negative growth of 0.9%. The Government encouraged investment in new oil and gas exploration to stem the decline in production (Ministry of Industry, 2012, p. 9, 54–55).

Government Policies and Programs

A central database of mining rights in the country had been developed by the Directorate General of Minerals and Coal of the Ministry of Energy and Mineral Resources. The aims were to ensure coordination, verification, and synchronization of mining business permits (Ijin Usaha Pertambangan, or IUPs) issued by the Government, local governments, and regencies so that mining investment could be stimulated and state revenues increased. The initiative was the result of the 2009 mining law regarding minerals and coal. As of May 21, 2011, the reconciled data consisted of IUPs issued prior to May 1, 2010, that were categorized as “clear and clean” (3,971), indicating that their areas were not subject to overlaps, and “non clear and clean” (4,504), indicating that additional data collection was needed. A “clear and clean” IUP is considered to be validly issued, whereas a “non clear and clean” IUP is considered to have missing information and consequently does not meet the Government's requirements (Mondaq.com, 2011).

Production

In 2011, production of primary aluminum decreased by 3.6% after a decline of 1.7% in 2010. Production of mined copper decreased by 38% owing to the lower grade of the ore mined at

Grasberg. The output of smelted copper, however, remained at about the same level as in 2010. The output of gold decreased by 9.6% whereas that of silver increased by 14%. The output of mined nickel decreased by 7.5% whereas that of nickel in ferronickel increased by 5.4%. Because of the Government's continued crackdown on illegal tin mining, small tin smelters received less tin ore. As a result, production of mined tin and tin metal was estimated to have decreased slightly. The large changes in the production of ilmenite (decreased by 70%) and zircon (increased by 160%) were possibly owing to the fluctuations of the country's export quotas (table 1).

Structure of the Mineral Industry

State-owned PT Antam Tbk (Antam) produced bauxite, gold, nickel, and silver. PT Krakatau Steel, PT Pertamina, PT Tambang Batubara Bukit Asam, and PT Tambang Timah Tbk were engaged in the production of steel, oil, coal, and tin, respectively. Private-sector PT Indocement Tunggul Prakarsa Tbk was the leading cement producer in the country. International companies were active in Indonesia's metals mining and processing industries. Partially foreign-owned PT Freeport Indonesia Co. and PT Newmont Nusa Tenggara were engaged in the mining of copper and gold. PT International Nickel Indonesia Tbk produced nickel ore and matte, and PT Koba Tin produced tin ore and tin metal (table 2).

Mineral Trade

In 2011, Indonesia's total exports were valued at \$203.5 billion, and the export items included metals (bauxite, copper, nickel, and tin) and mineral fuels (coal, LNG, natural gas, and petroleum). The major export markets were, in descending order of the export value, China, Japan, the United States, India, Singapore, Malaysia, and the Republic of Korea. Total imports were valued at \$177.4 billion, and the import items included crude petroleum, iron and steel, and petroleum products. The major import partners were, in descending order of the value of the imports received, China, Japan, the United States, Singapore, Thailand, the Republic of Korea, and Malaysia (Ministry of Industry, 2012, p. 58–60).

Commodity Review

Metals

Bauxite and Alumina.—Construction of a \$450 million 300,000-metric-ton-per-year (t/yr) chemical-grade alumina plant (which will eventually be expanded to 500,000 t/yr) at Tayan in West Kalimantan Province by PT Indonesia Chemical Alumina (ICA) began in April 2011. Commercial production of the plant was expected to begin in March 2014. ICA's parent company, Antam, secured \$292.5 million of financing from Japanese banks for the project, in addition to Government funding.

Bauxite feedstock for the plant would come from Antam's operations at Kijang on Bintan Island. ICA was 80% owned by Antam and 20% owned by Showa Denko of Japan. From the initial output, Showa would be allocated 200,000 t/yr and Antam would sell 100,000 t/yr to the Indonesian market. About 10% to 20% of Showa's share would be exported to China and the Republic of Korea and the rest would be sold to the Japanese market (Roberts and O'Driscoll, 2011).

Copper.—Finders Resources Ltd. of Australia was granted key mineral production permits for the development of the Wetar copper project. The permits were valid for 20 years. The mining permit was awarded to PT Batutua Kharisma Permai, and the processing and refining permit was awarded to PT Batutua Tembaga Raya. Finders Resources was the operator and held a 95% interest in the project. The project comprised two high-grade deposits that were suitable for open pit mining—the Kali Kuning and the Lerokis deposits. The project was expected to produce value-added copper cathode. Brownfield production capacity expansion of the existing demonstration plant to 7,000 t/yr to include the addition of solvent extraction-electrowinning processing technology would be followed by the construction of a second processing plant to increase the production capacity to 25,000 t/yr (Finders Resources Ltd., 2011).

The Government instituted a new requirement that, as of 2014, all minerals have to be processed in the country before being exported. To meet this requirement, Indonesia would need a new copper smelter. In 2011, Norilsk Nickel of Russia signed a memorandum of understanding with Indonesia's Nusantara Smelting Corp. to build a 400,000-t/yr copper smelter in Indonesia. The Ministry of Energy and Mineral Resources approved the plans in principle. PT Smelting Co.'s 270,000-t/yr-capacity copper smelter at Gresik in East Java Province was the only copper smelter in Indonesia. PT Smelting Co. was 60.5% owned by Mitsubishi Materials Corp. of Japan (Ana Rebelo, Chief Statistician, International Copper Study Group, written commun., May 13, 2011).

Gold and Silver.—In April, Archipelago Resources plc of the United Kingdom poured first gold at its 95%-owned Toka Tindung gold project in North Sulawesi Province. Dore ingots containing approximately 70% gold and 30% silver were shipped to the Logam Mulia refinery in Jakarta. In the ore processing plant, the oversized crusher and mills were acquired from the El Tambo gold mine in Chile. The company had 85,000 metric tons of run-of-mine ore stockpiled on the pad near the main pit. The project had a resource of 52,900 kilograms (kg) of gold equivalent, of which 34,200 kg would be minable by open pit. An average production of 4,980 kilograms per year (kg/yr) of gold equivalent was planned for the next 6 years after initial production of 3,420 kg in 2011. Mining began at Pajajaran, which was the second open pit to be developed at the Toka Tindung project. Exploration drilling remained focused on the extension of the ore body around the planned open pits and in the Batupangah area. Archipelago Resources had acquired a 10% interest in the project from PT Austindo Nusantara Jaya to increase its total ownership to 95% from 85% (London Stock Exchange plc, 2011).

Gold production of G-Resources Group Ltd. of Hong Kong's \$576 million Martabe gold-silver project in North Sumatra Province would be delayed until April 2012. The project was estimated to contain 209,000 kg of gold and 2,120,000 kg of silver and was designed to produce 7,780 kg/yr of gold and 71,500 kg/yr of silver. The estimated capital was \$576 million for the project. The project's equity funding yielded \$213 million, and together with other funds, gave a total of \$315 million, which was sufficient to fund the completion of the project (Mining Journal, 2011c).

Paniai Gold Ltd. of Australia agreed to sell its interest in the Derewo River (colluvial/elluvial) gold project in Papua Province to West Wits Mining Ltd. of Australia and became West Wits' largest shareholder, with a 28% stake. ECR Minerals plc of the United Kingdom held a 16% interest in Paniai. The Derewo River project consisted of a 40-hectare (ha) mining license, an application for a 491-ha mining license, and exploration license applications covering 129,000 ha. An environmental impact statement was submitted to Provincial authorities. Certain major capital items were purchased and transported to the project area by Paniai. The company also signed an indigenous landowners' agreement with Papua's Wolami people (ECR Minerals plc, 2011).

Iron Ore and Iron and Steel.—A feasibility study indicated that the development of Indo Mines Ltd.'s 70%-owned Jogjakarta iron sands project on Java Island would be viable. A reserve of 163.5 million metric tons (Mt) at an average grade of 13.7% iron was estimated. The project area extended 22 kilometers (km) along the coast and 1.8 km inland. The \$158.3 million treatment plant would use simple magnetic separation to generate 2 million metric tons per year (Mt/yr) of concentrate (55% iron) for the production of direct-reduced iron. Concentrate would also be exported through the Port of Glagah (Mining Journal, 2011b).

Steel Authority of India and the Government signed a memorandum of understanding to build a 3-Mt/yr steel plant in Central Kalimantan Province. The plant would have an initial capacity of 3 Mt/yr and would be increased to 7 Mt/yr later. Three major iron and steel projects on Kalimantan Island that were in the planning stage included PT Mandan Steel's 1-Mt/yr billet plant, PT Meratus Jaya Iron Steel's 315,000-t/yr direct-reduced iron plant, and PT Semeru Surya Steel's 300,000-t/yr billet plant. PT Mandan Steel's plant was scheduled to begin construction in 2012; no dates for the start of construction for the other two projects had been set (Metal Bulletin, 2011).

Nickel.—China Nickel Resources Holdings Co. Ltd. intended to buy an 80% interest in PT Yiwan Mining for \$266 million. Yiwan Mining's nickel-iron mine at Mekarsari had an estimated resource of 177 Mt and covered an area of 4,000 ha. China Nickel Resources expected to secure a supply of 3 Mt/yr of nickel-iron ore from the mine (Mining Journal, 2011a).

Titanium.—Trimex Group of India planned to invest more than \$800 million during 10 years on a titanium project, which would include an ilmenite mine and separation plant and titanium dioxide and titanium metal plants. Construction of a \$150 million pigment plant began in September 2011, and startup of the plant was expected in December 2013. The

company planned to invest \$350 million in expanding the plant's capacity to produce titanium slag in the second phase of the project, and \$300 million to increase the production capacity for titanium metal and pigment in the third phase. Indonesia had large ilmenite resources of about 40 Mt (Watts and Feytis, 2011).

Industrial Minerals

Cement.—Indonesia's cement production capacity was projected to have increased by 4% in 2011 as many cement producers undertook major expansion plans. PT Semen Gresik, which was one of Indonesia's leading cement producers, planned to increase cement production to 26.5 Mt/yr in 2012 and to 30 Mt/yr by 2015. Plans were to build two cement plants costing \$250 million each on the Islands of Java and Sumatra. PT Indocement also planned to increase cement output by 20% with the completion of a 1.5-Mt/yr cement plant at Cirebon in 2012. A new cement plant with a capacity of 2 Mt/yr at Citeureup was expected to be operational in 2013. Construction of PT Holcim Indonesia Tbk's new 1.7-Mt/yr cement plant at Tuban, East Java Province, was expected to be completed in 2013 (World Cement, 2011).

PT Semen Andalas, which was 99% owned by Lafarge S.A. of France, started operating its new \$300 million 1.6-Mt/yr cement plant at Lhok Nga in Aceh Province in March 2011. The plant was a replacement for the one destroyed by the 2004 tsunami, and construction of the plant began in 2007. The company planned to build another \$406 million 1.6-Mt/yr cement plant in Langkat Regency in North Sumatra Province, and that plant was expected to be completed in 2015 (International Cement Review, 2011b).

Conch Cement of China planned to construct four cement plants in Indonesia with a total investment of \$2.35 billion. They were the \$600 million Tanah Crogot plant in East Kalimantan Province, which would have the capacity to produce 10,000 metric tons per day of clinker; the \$400 million Tanjung plant in South Kalimantan Province; the \$600 million Pontianak plant in West Kalimantan Province; and a \$750 million cement plant (location unknown) in West Papua Province. The capacities of the latter three plants had not been determined. China Triumph International Engineering Co. Ltd. was interested in building a \$350 million 2.5-Mt/yr cement plant at Grobogan in Central Java Province (International Cement Review, 2011a).

Local Bosowa Corp. planned to spend \$120 million to expand its cement production and distribution capacity in South Sulawesi Province. The combined output of its two cement units, Semen Bosowa Maros and Semen Bosowa Batam, was expected to reach 3.5 Mt/yr in 2011. The company also planned to spend \$75 million to build another cement plant at Maros. After completion of the plant in 2012, the company's cement production capacity would increase to 4.5 Mt/yr (Global Cement Weekly, 2011a).

Lafarge planned to build a new cement plant on a 300-ha site in the Langkat district in North Sumatra Province. The \$406 million 1.5-Mt/yr plant was expected to be onstream by

2015. The region was rich in limestone deposits (Global Cement Weekly, 2011b).

Mineral Fuels

Coal.—PT Adaro Energy Tbk's wholly owned subsidiary PT Alam Tri Abadi acquired a 75% stake in PT Mustika Indah Permai (MIP) from Elite Rich Investment Ltd. of the British Virgin Islands for \$222.5 million in August 2011. MIP developed a greenfield coal project in South Sumatra Province and held a 2,000-ha mining permit that would be valid for 20 years. The structure, thickness, and quality of the coal seams were considered well defined by the density of the due diligence drill holes. The geologic information that was available indicated an open cut coal mining potential (PT Adaro Energy Tbk, 2011).

Local Ephindo Energy Pvt. Ltd. became Indonesia's first commercial coalbed methane (CBM) producer in 2011. The company (24%) and its partner Dart Energy Ltd. of Australia (24%) managed the production-sharing contract (PSC) in the Sangatta-1 Block in East Kalimantan Province. Pertamina held a 52% interest. The 22.6-Mt/yr facility was not fully utilized. The ultimate goal was to deliver the methane gas to the Bontang LNG plant between 2013 and 2014. Indonesia had the fifth-ranked potential CBM resource in the world at 12.8 trillion cubic meters, located mainly in the Provinces of East Kalimantan and South Sumatra. The Government had awarded seven new CBM licenses and eight more were up for bidding. The Government had set a goal for the country to produce 14.2 million cubic meters per day by 2015 (Evans, 2011).

Natural Gas.—Mitsubishi Corp. of Japan acquired all the shares of Tomori E&P Ltd., which owned a 20% interest in the Senoro-Toili natural gas field in Central Sulawesi Province, from PT Medco Energi Internasional Tbk for \$260 million. Medco Energi still had a 30% stake in the Senoro-Toili natural gasfield, and Pertamina owned the remaining 50%. Development work on the field would begin with the aim of producing gas in 2014. Approximately 7.1 million cubic meters per day of gas from the field would be supplied to PT Donggi-Senoro LNG to produce LNG, which would be exported to Japan and the Republic of Korea. Donggi-Senoro LNG had a production capacity of 2 Mt/yr. Mitsubishi was involved in the development of the Kangean oil and gas field and operation of the Tangguh LNG project (Rigzone.com, 2011c).

Premier Oil plc of the United Kingdom planned to bring its Gajah Baru natural gas field in Block A in the West Natuna Sea onstream in October 2011. Gas from the West Natuna had been sold to Singapore under a 27-year sales contract, and Block A's share would be 3.4 million cubic meters per day. The company exported gas through a 3.2-km 40-centimeter pipeline to the onshore Semgas facility in Singapore and also delivered gas to domestic buyers. Premier Oil operated the field and held a 28.67% interest; the other owners were Kufpec of Kuwait (33.33%), Amerada Hess of the United States (23%), and Petrolia Nasional Berhad of Malaysia (15%) (Rigzone.com, 2011b).

Energy World Corp. of Australia planned to build a 3-Mt/yr LNG import terminal in East Java Province. During the second phase of development, the capacity of the terminal would be expanded and a gas-fired powerplant would be built. Construction of the second-phase project would take 18 to 24 months. The company operated the Sengkang LNG project and owned the 195-megawatt Sengkang gas-fired powerplant in South Sulawesi Province (Petroleum Economist, 2011b).

Petroleum.—The Government awarded two oil and gas PSCs to BP p.l.c.—the offshore West Aru I and West Aru II in the Arafura Sea in Maluku Province. The contract areas are located 500 km southwest of the BP-operated North Arafura PSC and covered 8,100 square kilometers (km²) and 8,300 km², respectively. In addition, BP gained access to the Kalimantan CBM block (Rigzone.com, 2011a).

Niko Resources of Canada (operator, 57.5%) and Amerada Hess (42.5%) jointly developed the offshore Kofiau PSC under the terms of a farmout agreement. Niko Resource had acquired 2,266 km² of three-dimensional seismic data and 1,050 km of two-dimensional seismic data at Kofiau. The companies planned to drill a number of wells in the contract area in 2012 (Petroleum Economist, 2011a).

Outlook

Indonesia's economic growth is expected to increase to 6.7% in 2012, according to the Asian Development Bank. In addition to the Grasberg Mine, the Wetar copper project is expected to increase the country's copper output in the near future, and a new copper smelter would add 400,000 t/yr of capacity to the current 270,000 t/yr produced at Gresik. Gold production is expected to increase with the operations of the Toka Tindung and the Martabe projects in 2012. The steel industry is expected to be diversified into production of direct-reduced iron and steel products. The cement industry is likely to be a key beneficiary of the Government's infrastructure and property development projects. Cement demand is expected to increase by 4% to 5% to 49 Mt, and total cement production is expected to reach 64 Mt in 2013. Production of CBM is expected to increase owing to increasing capacity utilization and the granting of more operating licenses. The output of LNG is also expected to increase with production from the Donggi-Senoro and the Sengkang projects.

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TABLE 1
INDONESIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2007	2008	2009	2010 ^e	2011 ^e	
METALS						
Aluminum:						
Bauxite, wet basis, gross weight ^c	thousand metric tons	12,000 ^r	17,000 ^r	15,000 ^r	27,000 ^r	40,000
Metal, primary		242,100	242,500	257,600 ^r	253,300 ^{r,2}	244,100 ²
Chromite sand, dry basis ^c		1,000	1,000	1,000	1,000	1,000
Cobalt, metal ^c		1,600	1,300	1,200	1,600	1,600
Copper:						
Mine, Cu content		796,900	632,600	998,530	878,376 ²	542,700 ²
Metal:						
Smelter, primary		277,100	253,300	295,900 ^r	276,800 ^{r,2}	276,200 ²
Refinery, primary		277,000	254,000	289,200	278,200 ^{r,2}	257,000 ²
Gold, mine output, Au content ³	kilograms	117,851	64,390	140,488	106,316 ²	96,100 ²
Iron and steel:						
Iron sand, dry basis		61,077	65,000 ^e	44,552	45,610 ²	46,000
Metal:						
Ferroalloys:						
Ferronickel		92,500	87,800	62,700 ^r	93,300 ^{r,2}	94,000
Ferromanganese ^c		12,000	12,000	12,000	12,000	12,000
Silicomanganese ^c		6,000	7,000	7,000	8,000	8,000
Pig iron, direct-reduced iron	thousand metric tons	1,420	1,290	1,230	1,360 ²	1,400
Steel, crude	do.	4,160	3,915	3,500 ^e	3,700	3,800
Steel, semimanufactured ^c	do.	5,400	5,200	5,000	4,900	5,100
Manganese:						
Ore and concentrate, gross weight ²		132,000	183,000	253,600	207,400	119,100
Mn content		46,200	64,100	88,800	72,600	41,700
Nickel:						
Mine output, Ni content ⁴		229,200	219,300 ^r	202,800	235,800 ^{r,2}	218,200 ²
Matte, Ni content		77,928	73,356	68,228	77,186 ²	75,000
Ferronickel, Ni content		18,532	17,566	12,550	18,688 ^{r,2}	19,700 ²
Silver, mine output, Ag content	kilograms	268,967	226,051	359,451	271,534 ²	310,400 ²
Tin:						
Mine output, Sn content		66,137	53,228	46,078	43,258 ²	42,000
Metal ⁵		64,127	53,471	51,418	43,832 ²	43,000
Titanium mineral concentrates, ilmenite, gross weight		14,000	9,000	9,000	60,000	18,000
Zirconium concentrates, gross weight ^e		111,000 ²	65,000	63,000	50,000 ^r	130,000
INDUSTRIAL MINERALS						
Cement, hydraulic ^c	thousand metric tons	36,000	36,000	22,195 ²	28,000	29,000
Clays: ^c						
Bentonite		5,500	6,000	6,000	6,500	6,500
Fire clay	thousand metric tons	2,100	2,100	2,200	2,200	2,300
Kaolin powder		150,000	150,000	186,010 ²	170,000	175,000
Diamond: ^c						
Industrial	thousand carats	23	28	28	30	30
Gem	do.	7	7	7	7	7
Total	do.	30	35	35	37	37
Feldspar ^c		25,000	26,000	10,730 ²	20,000	18,000
Gypsum ^c		6,000	6,000	8,133 ²	7,000	7,500
Iodine ^c		75	75	75	75	75
Nitrogen, N content of ammonia ^c	thousand metric tons	4,400	4,500	4,600	4,800	5,000
Phosphate rock ^c		600	600	600	600	600
Salt, all types ^c	thousand metric tons	700	700	585 ²	600	650
Stone: ^c						
Dolomite		3,200	3,300	1,885 ²	2,500	2,400
Granite	thousand metric tons	4,300	4,400	4,500	4,600	4,700
Limestone	do.	1,700	1,800	1,912 ²	1,900	2,000
Marble	do.	6,500	7,000	7,489 ²	8,000	7,800
Quartz sand and silica stone		35,000	38,000	32,105 ²	36,000	37,000

See footnotes at end of table.

TABLE 1—Continued
INDONESIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	2007	2008	2009	2010 ^e	2011 ^e
INDUSTRIAL MINERALS—Continued					
Sulfur, elemental ^e	500	500	473 ²	500	520
Zeolites ^e	1,400	1,400	1,530 ²	1,400	1,500
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Anthracite ^e	53,000	54,000	34,348 ²	118,988 ²	110,000
Bituminous	178,791	188,717	196,209	137,801 ²	150,000
Gas, natural:					
Gross	79,410	81,842	73,587	77,741 ²	80,000
Marketed ^e	76,664 ²	78,985 ²	70,000	75,000	76,000
Petroleum, crude including condensate	305,000	311,000	346,000	341,000 ²	340,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^fRevised. do. Ditto.

¹Table includes data available through September 13, 2012.

²Reported figure.

³Includes Au content of copper ore and output by Government-controlled foreign contractor operations. Gold output by operators of so-called people's mines and illegal small-scale mines is not available but may be as much as 20 metric tons per year (t/yr).

⁴Includes a small amount of cobalt that was not recovered separately.

⁵Output by Central Government-controlled foreign contractor operations. Tin output from small tin smelters is not available but may be as much as 40,000 t/yr.

TABLE 2
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2011

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity ^e	
Aluminum:				
Bauxite	PT Antam Tbk (Government, 65%)	Kijang, Bintan Island, Riau	1,300	
Metal	PT Indonesia Asahan Aluminium (Nippon Asahan Aluminum Co. Ltd., 59%, and Government, 41%)	Kual Tanjung, North Sumatra	250	
Cement	PT Indocement Tunggul Prakarsa Tbk	Cirebon and Citeureup, West Java; Tarjun, South Kalimantan	18,600	
Do.	PT Semen Andalas Indonesia (Lafarge S.A., 99%)	Besar, Aceh	1,400	
Do.	do.	Lhok, Aceh	1,600	
Do.	PT Semen Baturaja	Baturaja-Ogan Komering Ulu, South Sumatra	1,250	
Do.	PT Semen Bosowa Maros	Kabupaten Maros, Sulawesi Selatan	1,800	
Do.	PT Holcim Tbk	Narogong, East Java	9,700	
Do.	PT Semen Gresik Tbk	Gresik and Tuban, East Java	8,200	
Do.	PT Semen Padang	West Sumatra	5,440	
Do.	PT Semen Tonasa	Pangkep, Sulawesi Selatan	3,480	
Coal	PT Adaro Indonesia (New Hope Corp., 50%; PT Asminco Bara Utama, 40%; Mission Energy, 10%)	Paringin and Tutupan, South Kalimantan	35,000	
Do.	PT Arutmin Indonesia (PT Bumi Resources Tbk, 80%, and Bakrie Group, 20%)	Mulia, Senakin, and Satui, South Kalimantan, and Asam-Asam, East Kalimantan	20,000	
Do.	PT Berau Coal (PT United Tractor, 60%; PT Armadian, 30%; Nissho Iwai, 10%)	Berau, East Kalimantan	13,000	
Do.	PT Kaltim Prima Coal Co. (PT Bumi Resources Tbk, 100%)	East Kutai Regency, East Kalimantan	36,000	
Do.	PT Kideco Jaya Agung (Samtan Co. Ltd., 100%)	Pasir, East Kalimantan	12,000	
Do.	PT Tambang Batubara Bukit Asam (state-owned)	Tanjung Enim and Ombilin, South Sumatra	19,000	
Copper:				
Concentrate	PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc., 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Papua	800	
Do.	PT Newmont Nusa Tenggara (Newmont Mining Corp., 45%; Sumitomo Corp., 35%; PT Pukuafu Indah, 20%)	Sumbawa Island, West Nusa Tenggara	300	
Metal	PT Smelting Co. (Mitsubishi Materials Corp., 60.5%; PT Freeport Indonesia Co., 25%; others, 14.5%)	Gresik, East Java	270	
Gas:				
Natural	million cubic meters per day	ExxonMobil Oil Indonesia	Arun and Aceh, North Sumatra	48
Do.	do.	Roy M. Huffington (subsidiary of HUFFCO Group)	Badak, East Kalimantan	28
Do.	do.	Total Indonesia	Offshore East Kalimantan	59
Liquefied		PT Arun LNG Co. Ltd. (Government, 55%; Mobil Oil Co., 30%; Japan Indonesia LNG Co., 15%)	Balang Lancang amd Aceh, North Sumatra	12,500
Do.		PT Badak LNG Co. Ltd. (Government, 55%; HUFFCO Group, 30%; Japan Indonesia LNG Co., 15%)	Bontang, East Kalimantan	22,500
Coalbed methane		Ephindo Energy Pvt. Ltd. (PT Pertamina, 52%; Dart Energy Ltd., 24%)	Sangatta, East Kalimantan	22,600
Gold	metric tons	Aurora Gold Ltd. (100%)	Balikpapan, Central Kalimantan	60
Do.	do.	Archipelago Resources plc (95%)	Tok Tindung, North Sulawesi	5
Do.	do.	PT Antam Tbk (Government, 65%)	Bogor, West Java	3
Do.	do.	PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc., 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Papua	110
Do.	do.	PT Newmont Nusa Tenggara (Newmont Mining Corp., 45%; Sumitomo Corp., 35%; PT Pukuafu Indah, 20%)	Sumbawa Island, West Nusa Tenggara	16
Do.	do.	PT Nusa Halmahera (PT Aneka Tambang Tbk, 17.5%, and PT Newcrest Mining Ltd., 82.5%)	Halmahera Island, Maluku	24
Do.	do.	PT Prima Lirang Mining (Billiton BV, 90%, and PT Prima Maluku Indah, 10%)	Lerokis, Wetar Island	3
Nickel:				
In ore		PT Antam Tbk (Government, 65%)	Pomalaa, South Sulawesi, and on Gebe Island	80
Do.		PT International Nickel Indonesia Tbk (Inco Ltd., 59%; Sumitomo Metal Mining Co. Ltd., 20%; others, 21%)	Soroako, South Sulawesi	70
In matte		PT Antam Tbk (Government, 65%)	Pomalaa, South Sulawesi	24
Do.		PT International Nickel Indonesia (Inco Ltd., 59%; Sumitomo Metal Mining Co. Ltd., 20%; others, 21%)	Soroako, South Sulawesi	68

See footnotes at end of table.

TABLE 2—Continued
 INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2011

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Locations of main facilities	Annual capacity ^c
Nickel-iron, ore		PT Yiwan Mining (China Nickel Resources Holdings Co. Ltd., 80%)	Mekarsari, West Java	3,000
Nitrogen		PT Aseah-Aech Fertilizer (Government, 60%, and other members of the Association of Southeast Asian Nations, 40%)	Lhokseumawe, North Sumatra	506
Do.		PT Pupuk Iskandar Muda (Government, 100%)	do.	506
Do.		PT Pupuk Kalimantan Timur (Government, 100%)	Bontang, East Kalimantan	1,010
Do.		PT Pupuk Kujang	Cikampek, West Java	330
Do.		PT Pupuk Sriwijawa (Government, 100%)	Palembang, South Sumatra	1,440
Petroleum:				
Crude	thousand barrels per day	Atlantic Richfield Indonesia, Inc. (subsidiary of Arco Co.)	Arjuna and Arimbi, offshore West Java	170
Do.	do.	China National Offshore Oil Co.	Offshore southeastern Sumatra	100
Do.	do.	Maxus Southeast Asia Ltd. (subsidiary of Maxus Energy)	Cinta and Rama, offshore southeast Sumatra	95
Do.	do.	PT Pertamina (Government, 100%)	Jatibarang, West Java, and Bunyu, offshore East Kalimantan	80
Do.	do.	PT Caltex Pacific Indonesia (Texaco Inc., 50%, and Chevron Corp., 50%)	Minas, Duri, and Bangko, central Sumatra	700
Do.	do.	Total Indonesia (subsidiary of Total S.A.)	Handi and Bakapai onshore and offshore East Kalimantan	180
Refined	do.	PT Pertamina (Government, 100%)	6 locations	1,047
Silver		PT Antam Tbk (Government, 65%)	Bogor, West Java	25
Do.		PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc., 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Papua	220
Do.		PT Kelian Equatorial Mining (Rio Tinto Group, 90%, and PT Harita Jaya Raya, 10%)	180 kilometers west of Samarinda	10
Steel, crude		PT Ispat Indo	Sidoarjo, Surabaya	700
Do.		PT Krakatau Steel (Government, 100%)	Cilegon, West Java	2,400
Do.		PT Komatsu Indonesia Tbk	Jakarta	8
Do.		PT Wahana Garuda Lestari	Pulogadung, Jakarta	410
Tin:				
In ore		PT Koba Tin (Malaysia Smelting Corp., 75%, and PT Tambang Timah Tbk, 25%)	Koba, Bangka Island	25
Do.		PT Tambang Timah Tbk (Government, 65%)	Onshore and offshore islands of Bangka, Belitung, and Singkep	60
Metal		Mentok Tin Smelter (PT Tambang Timah Tbk)	Mentok, Bangka Island, South Sumatra	68
Do.		Koba Tin Smelter (PT Koba Tin)	Koba, Bangka Island, South Sumatra	25

^cEstimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto.