

THE MINERAL INDUSTRY OF

INDONESIA

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The Indonesian economy's annual growth slipped to 5.7% in 1997 from 7.8% in 1996. The current-account deficit amounted to \$8.8 billion for fiscal year 1996-97 ending in March. Inflation was expected to be between 9% and 10% for 1997. Asian currency turmoil was the subject of intense action by the Government and the International Monetary Fund (IMF). The country was able to garner a \$23 billion package of assistance from the IMF with various financial sector reforms attached to it. Sixteen private sector banks considered to be insolvent were liquidated. The Indonesian rupiah depreciated the most among the Southeast Asian currencies at 50% between July and the end of October. The financial reforms attempted to increase nonoil exports and remove export taxes, to reduce tariffs, and to remove controls on the retail price of cement.

In 1997, donor governments and leading agencies pledged about \$5.3 billion in aid to Indonesia for fiscal year 1997-98. The World Bank boosted its commitment by \$300 million to \$1.5 billion. The Government gave the go-ahead to 15 infrastructure projects—7 had been previously postponed, and 8 were placed under review; of those under review, 4 were powerplants, 3 were toll roads, and 1 was construction.

Because Indonesia is a mineral resource-rich country, the mineral industry is an important component of the country's economy. Indonesia was a major world producer of copper, nickel, and tin and a significant producer of bauxite, cement, and nitrogen fertilizer in Southeast Asia. The exploration and development of gold and steam coal were very active in Kalimantan and Sumatra. In 1997, the country accounted for 40% of the western world's traded steam coal, 30% of tin supply, 11% of nickel, 6% of copper, 5% of gold, and 1% of aluminum.

The Government approved 65 sixth generation contracts of work, and a further 176 applications for seventh generation contracts of work were given preliminary approval. Of the 65 contracts, Canada had 26 of its companies involved, followed by Australia with 25, the United States with 6, South Africa with 4, the Netherlands with 2, and Papua New Guinea and the Republic of Korea with 1 each. They were to carry out general surveys and to explore for gold and its associated metals, alluvial diamonds, and nickel in 17 provinces. There were seven contracts of work with 100% foreign-owned mining companies. The rest generally included a foreign party as the majority shareholder with between 60% and 95% interest and private Indonesian companies holding the remaining 40% to 5%.

Despite the laws that permit 100% foreign ownership, the Government sought a 10% stake in all new mining contracts after the Busang gold scam. The Government required that all nonoil and gas mining ventures verify their finds before they were made public. The Government also demanded a share of the capital

gains earned on overseas stock markets by foreign mining companies and full Indonesian management within 6 years of operation. Later, the Government canceled plans to amend these mining regulations and announced that some changes to the seventh generation contracts of work agreed upon in 1996 would be made.

The Government's effort to privatize state-owned enterprises continued. Pertamina, the state-owned oil and gas company, planned to downsize its operations. It would sell seven non-energy subsidiaries, only three of which were profitable. Before selling the other four, the company would help them repay \$4.8 million in debt.

P.T. Indonesia Asahan Aluminum's primary aluminum smelter in North Sumatra produced 216,000 metric tons (t) of aluminum, down 3.6% from 1996. Small amounts of rainfall lowered the water level for hydroelectric power generation. The design capacity of the smelter is 225,000 metric tons per year (t/yr). Nippon Asahan Aluminum Co. of Japan holds a 59% interest in the company, and the Government, the rest.

P.T. Nusamba Mineral Industri bought a 50.5% controlling interest in P.T. Indocopper Investama Corp. for \$311.8 million. P.T. Indocopper, in turn, owns a 9.36% interest in P.T. Freeport Indonesia. The rest of P.T. Freeport Indonesia is held by Freeport McMoRan Copper & Gold Inc. of the United States, 81.28%, and the Indonesian Government, 9.36%. Freeport Indonesia's Grasberg complex in Irian Jaya produced about 529,000 t/yr of copper and 55.9 t/yr of gold in 1997.

P.T. Freeport Indonesia planned to expand its milling facilities further to a capacity of 300,000 metric tons per day (t/d) of copper ore. The facilities were in the process of being expanded from 118,000 t/d to between 190,000 and 200,000 t/d. Current expansion was scheduled to be completed in mid-1998 at a cost of \$960 million. The copper smelter project at Grezik in East Java was on schedule and expected to begin operation by the end of 1998. At full capacity, the smelter was to produce about 200,000 t/yr of copper.

South Pacific Resources Corp. of Canada approved an exploration program that involved the expenditure of up to \$9.7 million in all seven of its contracts of work in Kalimantan. The overall program included more than 33,000 meters (m) of diamond drilling in the Masupa Ria area at the Kiwi and the Tarajan gold districts. Funding of the exploration program was to come from cash on hand, which was approximately \$12 million; potential joint-venture arrangements; and a potential equity issue.

Lone Star Exploration of Australia's 100% ownership of Awak Mas contract of work in Sulawesi was through acquisition of the interests held by Gasgoyne Gold Mines (45%) and JCI of South

Africa (10%). The company gained an extension to its contract of work to October 2000 for production. The deposit was estimated to have resources of 62.2 t of gold (Mining Journal, 1997b). The discovery of nearby Tara, a potentially higher grade deposit, gave the company the hope to raise equity funding in the near future.

Vengold entered a joint venture that had applied for mineral rights to seven properties covering more than 2,000 square kilometers in two prominent gold belts. Six properties are located in West Java around the Gunung Pongkar gold mine owned and operated by P.T. Aneka Tambang, the state mining company. The seventh property is located on the transform fault that passes through the Kelian Mine in Kalimantan. Vengold would hold a 45% interest in these properties for an initial investment of \$2 million and could raise its interest to 60% by expending an additional \$3 million during the next 2.5 years.

In 1997, Highlands Gold spent \$5 million for exploring the Aceh gold-copper property in North Sumatra and identified two prospects—Miwah and Beutong. Colony Pacific and Inco entered into an agreement with Highlands Gold to acquire a 60% interest in the project by funding \$16 million in exploration during a 4-year period.

Meekatharra Minerals Ltd. of Australia started a 4,000-m diamond drilling program on its Ciemas copper-gold porphyry project in West Java. The target area was known to contain anomalous gold, copper, and molybdenum. The Ciemas geochemical anomaly was initially outlined and subsequent magnetic and radiometric anomalies were identified by using airborne geophysics. The company has a 55% interest in the project subject to the terms of a strategic alliance with Teck Corp. of Canada. Meekatharra Minerals also received final environmental approval from the Government for the development of the Way Linggo gold-silver project in Sumatra. The company holds an 85% interest in the project, and the Government holds the remaining 15%. Current resources were estimated to contain 5.8 t of gold and equivalent (Mining Journal, 1997c). The project was scheduled to produce 930 kilograms per year of gold and 15.5 t/yr of silver.

P.T. Tambang Timah, the state-owned tin company, planned to explore for gold deposits in seven exploration concessions—five are in Kalimantan; one, in North Sumatra; and one, on the southern coast of Java. The company would allocate approximately \$2 million per year for exploration.

Four foreign investment companies won contracts of work to open gold mines in West Sumatra. P.T. Biliton Indonesia BV was to open a gold mining complex in the area of Solok and Sawahlunto Sijunjung and be active in the mining of other minerals in addition to gold. P.T. Scorpion Salido Mas was to cover a mining area in Persisir Selatan. P.T. Scorpion Mangani's mining area would be in Agam and Pasaman and in Kota. P.T. Newcrest Sumatra Minerals' activities would be in West Sumatra and in Riau.

In a mine incident, five unlicensed miners working in the shaft of an abandoned mine in an area where the U.S.-based Newmont Gold Co.'s Minahasa Mine had begun producing gold died from poisonous fumes. Newmont Gold started construction of the Minahasa Mine in North Sulawesi in 1995. In 1997, the mine produced 5.3 t of gold. A \$4 million exploration program

conducted by Newmont Gold was concentrating on identifying extensions of established ore bodies and developing new ore zones. The Batu Hijau gold mine on Southwest Sumbawa Island operated by P.T. Newmont Nusa Tenggara (PTNNT), an Indonesian joint venture of Newmont Gold Co. purchased two semi-autogenous, 120,000-t/d grinding mills from ABB Industries Spain. The mine was expected to be on-stream in 1999. Production was planned for 245,000 t/yr of copper and 17.1 t/yr of gold. Projected mine life was more than 20 years. PTNNT is owned by Newmont Gold, 45%; Sumitomo Corp., 35%; and P.T. Pukauafu Indah, 20%. The Export-Import Bank of Japan joined nine Japanese commercial banks in financing the \$1.9-billion project with loans totaling \$500 million.

BHP Co. Ltd. of Australia awaited the approval of its contract of work application for the lateritic nickel project on Gag Island, 150 kilometers (km) west of Irian Jaya. The company began a feasibility study for development of a nickel mine and expected to complete its resource-definition engineering and environmental studies by the end of 1998.

P.T. Inco returned to full production at yearend as hydroelectric power was restored after the worst drought in Southeast Asia in half a century had eased, although two of the three electric furnaces were shut down in mid-November because of a power shortage. About 85% of the power came from its 165-megawatt (MW) hydroelectric powerplant. Production for 1997 was about 31,800 t of nickel in matte. The company planned to expand its output to 45,400 t in 1998. The \$580 million expansion project to increase production capacity by 50% to 68,000 t/yr was on schedule. Full production was expected by 2000.

P.T. Tambang Timah planned to increase the capacity of its tin smelter at Mentok on Bangka Island from 42,500 to 50,000 t/yr by installing a seventh kiln. In 1997, the company rebuilt two 30-cubic-foot dredges purchased from Malaysia and produced 47,000 t of tin in concentrate.

Indo Metals Ltd. of Canada participated in the drilling program for polymetallic mineralization at the Wai Ira prospect on Haruku Island. The terms of the joint-venture agreement allowed the company to acquire 49% of Ingold Holdings Indonesia Inc.'s interest in the property. Ingold Holdings Indonesia has an 80% to 85% stake; the remaining 20% to 15% is held by P.T. Aneka Tambang.

Indonesia's cement consumption was 26 million metric tons per year (Mt/yr) in 1997 and was predicted to grow at a rate of 10% during the next 2 years. P.T. Indocement Tunggal Prakarsa awarded ABB Building Material a contract for the complete electrification of the new 7,500-t/d production line at its Citeureup-Bogor cement plant. Production startup of the line was expected in December 1998. Financing for the project was arranged through Marubeni Corp. of Japan.

Lafarge, through its Indonesian subsidiary, P.T. Semen Andalas, planned to build a cement plant with a capacity of 1.4 Mt/yr near Medan in North Sumatra. Lafarge holds a 56% interest in P.T. Semen Andalas which operates a cement plant at Banda in North Sumatra.

Cement producer, P.T. Semen Cibinong, and Myanmar Cement Corp. agreed to build and operate a \$210 million joint-venture cement plant in the Thilawa industrial zone at Pyadong, south of Yangon, Myanmar (formerly Rangoon, Burma). P.T. Semen

Cibinong would own 70% of the joint venture, and Myanmar Cement, the rest. Foreign banks would provide 65% of the financing. Construction for the plant was to begin in mid-1997 and be completed in 2000. The plant would produce 1 Mt/yr of clinker and 300,000 t/yr of cement.

Indonesia has considerable reserves of phosphate rock. P.T. Istana Kanematsu Indonesia started a phosphate mining and processing plant at Ciamis, about 200 km southeast of Jakarta, in 1997. The company is a joint venture between Kanematsu Corp. of Japan and P.T. Elang Istanamas. The project was completed at a cost of \$60 million in the fourth quarter of 1996, and output was about 500,000 t/yr of phosphate products for the domestic market. A second company, P.T. Kresna Duta Satria, was exploring a deposit of phosphate rock at Tubon in East Java, about 900 km east of Jakarta.

Foreign companies under contracts of work with P.T. Tambang Batubara Bukit Asam, the state-owned coal company, accounted for most of the coal production. The Government forecasted that coal output would reach 80 million metric tons (Mt) by 2000 owing to increasing use of coal for power generation. RTZ-CRA Indonesia, however, predicted that the rising labor costs and low productivity could slow Indonesia's booming coal industry (Coal Age, 1997). The company jointly owns 50% of P.T. Kaltim Prima Coal, which operates the largest coal mine in the country at Pinang in East Kalimantan.

Murchison United's exploration program was on the Ambor coal project in East Kalimantan. The company could earn a 50.1% interest in the project by spending \$3.85 million, preparing a bankable feasibility study, and arranging project finance. On-site drill logging indicated that the coal was low in ash and sulfur.

Marubeni Corp. and Sumitomo Corp., both of Japan, agreed to provide \$100 million for the further expansion of P.T. Indominco Mandiri's Bontang coal mine in East Kalimantan. The mine was estimated to have 1,000 Mt of coal reserves (Mining Journal, 1997a) and began production in April 1997. The \$140 million project was expected to raise its output to 3.6 Mt/yr by 1999, and the mine was expected to become a major regional coal exporter. Morrison Knudsen of the United States was awarded a mine management services contract for 3 years with an option of a 2-year extension.

Dowding Reynard & Associates of South Africa won a \$5.5 million design-and-supply contract in a major developing coal field on Kalimantan. The contractor was to provide a coal-processing plant, a conveying and loadout system, and a powerplant. The 200-metric-ton-per-hour processing plant was scheduled to be on-stream by December 1997.

P.T. Tambang Batubara Bukit Asam was in the process of developing the Ombilin coal reserves in West Sumatra. The project also involved the development of underground mining operations and associated infrastructure, such as a coal-preparation plant and handling facilities. The reserves were estimated to be 100 Mt of thermal coal (Mining Magazine, 1997), most of which would be exported through the port of Teluk Bayur or sent to the cement plant at Padang.

The Government planned to construct four coal briquette plants on Java at a cost of \$30 million. The facilities would go into production in 1998 and have a total capacity of 120,000 t/yr. The household use of coal briquettes was to replace dependence on

imported kerosene and to reduce the loss of forests for firewood. It was predicted that the country would use 5 Mt/yr of coal briquettes by 1999.

Pertamina planned to sell a 1% stake each to 13 Japanese companies in the \$20 billion Natuna offshore natural gas project in the South China Sea, leaving Pertamina with an 11% stake; Mobil Corp. of the United States, a 26% share; and Exxon Corp. of the United States, the remaining 50%. Exxon was negotiating with Pertamina to build a powerplant in West Java on a build-operate-transfer basis that would be fueled by natural gas from the Natuna Gasfield with a 1,350-km pipeline. Mobil also was expected to participate in this project.

Atlantic Richfield Co. (Arco) of the United States planned to spend \$3 billion to develop a natural gas find in the Wiriagar and the Berau Blocks in Bituni Bay off Irian Jaya. The discovery was estimated to have total reserves of 368 billion cubic meters of natural gas (Far Eastern Economic Review, 1997). Arco holds an 80% interest in the Wiriagar Gasfield, and Kanematsu Corp. of Japan, the rest. Arco has a 40% stake in the Berau Block; Kanematsu, 20%; Occidental Petroleum Corp. of the United States, 22.86%; and Nippon Oil Co. of Japan, 17.14%. Pertamina was studying the possibility of building two liquefied natural gas (LNG) trains, each having a capacity of 3 Mt/yr.

A consortium of Singapore companies signed an agreement with Pertamina to pipe natural gas to Singapore through a 480-km line from Indonesia's West Natuna offshore gasfield. The pipeline was expected to be completed in 2000. Under the deal, Singapore was to import 9.2 million cubic meters per day of natural gas, worth \$300 million per year, for 22 years. The natural gas was expected to fuel a new powerplant in Singapore.

Pertamina planned to get a syndicated loan of \$1.13 billion to finance the construction of its eighth LNG plant at Bontang in East Kalimantan. The plant, expected to be the world's largest, would have a capacity of 2.95 Mt/yr. Production was expected to start in December 1999, and the LNG would be exported to the Republic of Korea and Taiwan. The Bank of Taiwan would arrange the loan, which would also involve Chase Manhattan Corp., Banque Indosuez, Fuji Bank, and Mitsubishi Corp. Total of France would supply nearly 75% of the natural gas requirements of the new plant.

Pertamina awarded production-sharing contracts to international oil and gas companies. These companies had the right to explore and develop petroleum and natural gas reserves in Sumatra and Kalimantan for 30 years. Pertamina also awarded two 20-year technical assistance pacts to Energy Equity to operate its Lapangan Biru and Talang Babat oilfields in West Sumatra. Central Asia Petroleum Ltd., a subsidiary of P.T. Medco Energy Corp., bought a 69% stake in Kazakstan's largest oil company, Mangistaumunaigaz, for \$4.35 billion.

NRG Energy, Inc. of the United States, Ansaldo Energia SpA of Italy, and P.T. Klana Metra Tjujuhdua signed a power contract with P.T. Perusahaan Listrik Negara, the state-owned electric company, to build, own, and operate a 400-MW coal-fired powerplant at Cilegon, West Java. NRG would operate and maintain the powerplant for the 30-year life of the project. Construction of the powerplant was due to begin in mid-1997 and was expected to be fully operational by 2000.

Sumitomo Corp. of Japan unveiled plans to build a \$640

million coal-fired powerplant near Jakarta with Powergen of the United Kingdom and other partners. Sumitomo would invest \$24 million for a 15% stake in the 450-MW project. Toshiba of Japan and Combustion Energy ABB of the United States would supply equipment.

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Major Sources of Information

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TABLE 1
INDONESIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1993	1994	1995	1996 e/	1997 e/
METALS					
Aluminum:					
Bauxite, gross weight thousand tons	1,320	1,342	899	1,000	1,100
Metal, primary	205,526	221,900	220,000 e/	225,000	216,150 2/
Chromite sand, dry basis e/	2,500	2,500	10,000	13,300	2,156 2/
Copper, mine output, Cu content	298,648	322,190	443,618	507,484 2/	529,121 2/
Gold, mine output, Au content 3/ kilograms	42,097	42,600	62,909	65,000	68,000
Iron and steel:					
Iron sand, dry basis	341,335	334,895	340,000 e/	335,000	345,000
Metal:					
Ferroalloys, ferronickel	26,330 r/	28,725 r/	53,675 r/	55,000	55,000
Steel, crude	1,947,511	3,220,000	3,500,000 e/	3,400,000	3,450,000
Manganese: e/					
Ore	14,000	14,000	19,000	19,000	20,000
Ferromanganese	10,000	10,000	14,000	14,000	15,000
Nickel:					
Mine output, Ni content 4/	65,800	81,100	88,183	90,000	89,000
Metallurgical products:					
Matte, Ni content	36,987	48,446	49,333	49,000	31,800 2/
Ferronickel, Ni content	5,266	5,745	10,735	11,000	9,999 2/
Silver, mine output, Ag content kilograms	90,301	107,000	182,982	185,000	190,000
Tin:					
Mine output, Sn content	29,000 e/	30,610	38,378	38,500	47,000
Metal	30,415	31,100	38,628	39,000	42,000
INDUSTRIAL MINERALS					
Cement, hydraulic e/ thousand tons	18,934 2/	21,907 r/	23,129 r/	25,000 r/	26,000
Clays:					
Bentonite	13,707	14,409	26,057	26,000	25,000
Fireclay e/	1,950,000	1,950,000	2,000,000	2,000,000	2,000,000
Kaolin powder	42,365	53,236	14,373	15,000	16,000
Diamond: e/					
Industrial stones thousand carats	20	22	22	22	23
Gem do.	7	6	7	7	7
Total do.	27	28	29	29	30
Feldspar	27,835	40,483	49,415	50,000	50,500
Gypsum	1,646	1,286	1,327	1,400	1,350
Iodine kilograms	14,180	89,098	76,824	75,000	73,000
Nitrogen, N content of ammonia e/	2,888,000 2/	2,800,000	2,850,000	2,875,000	2,880,000
Phosphate rock e/	7,000	7,000	7,500	7,500	7,500
Salt, all types e/ thousand tons	650	650	670	670	680
Stone:					
Dolomite	4,534	4,386	4,056	4,000	3,900
Granite thousand tons	2,767	5,129	3,066	3,100	3,200
Limestone do.	4,000 e/	20,814	13,143	15,000	14,000
Marble square meters	3,000	15,286	10,446	12,000	13,000
Quartz sand and silica stone	239,769	588,429	278,925	300,000	320,000
Sulfur, elemental e/	3,500	3,500	3,500	3,500	3,500
Zeolite	60	70	70 e/	75	75

See footnotes at end of table.

TABLE 1--Continued
INDONESIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1993	1994	1995	1996 e/	1997 e/	
MINERAL FUELS AND RELATED MATERIALS						
Coal	thousand tons	27,583	31,470	41,429	45,000	56,000
Gas, natural:						
Gross	million cubic feet	2,661,878	2,940,000	2,900,000 e/	2,950,000	3,000,000
Marketed e/	do.	1,600,000	1,700,000	1,700,000	1,700,000	1,800,000
Petroleum:						
Crude including condensate	thousand 42-gallon barrels	557,661	588,000	580,000 e/	575,000	585,000
Refinery products: e/						
Liquefied petroleum gas	do.	3,600	3,800	3,900	4,000	4,000
Gasoline	do.	45,000	45,000	46,000	46,000	47,000
Jet fuel	do.	6,000	6,200	6,200	6,300	6,300
Naphtha	do.	20,000	18,000	19,000	19,000	19,000
Paraffin wax	do.	190	200	200	200	200
Kerosene	do.	50,000	50,000	51,000	51,000	52,000
Distillate fuel oil	do.	77,000	80,000	79,000	80,000	80,000
Lubricants	do.	1,600	1,800	1,700	1,700	1,800
Residual fuel oil	do.	30,000	30,000	30,000	30,000	31,000
Unfinished oil for processing	do.	43,000	45,000	46,000	46,000	47,000
Refinery fuel and losses	do.	14,000	15,000	15,000	16,000	16,000
Unspecified	do.	2,500	2,000	2,200	2,200	2,200
Total	do.	292,890	297,000	300,200	302,400	306,500

e/ Estimated. r/ Revised.

1/ Table includes data available through May 15, 1998.

2/ Reported figure.

3/ Includes Au content of copper ore and output by Government-controlled foreign contractors' 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.

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

TABLE 2
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 1997

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity	
Aluminum:				
Bauxite	P.T. Aneka Tambang (Government, 100%)	Kijang, Bintan Island	1,300	
Metal	P.T. Indonesia Asahan Aluminium (Nippon Asahan Aluminum Co. of Japan, 59%; Government, 41%)	Kual Tanjung, North Sumatra	225	
Cement	P.T. Indocement	Citeureup, West Java	8,000	
Do.	P.T. Semen Cibinong	Narogong, East Java	1,400	
Do.	P.T. Semen Gresik	Gresik, East Java	1,500	
Do.	P.T. Semen Padang	Indarung, West Java	2,200	
Coal	P.T. Adaro Indonesia (Indonesia Coal Pty. Ltd. of Australia, 50%; ENADIMSA of Spain, 20%; P.T. Tirtamas Majutama, 15%; P.T. Asminco Bara Utama, 15%)	Paringin and Tutupan, South Kalimantan	6,000	
Do.	P.T. Allied Indo Coal (Allied Indonesia Coalfields Pty. Ltd. of Australia, 60%; P.T. Mitra Abadi Sakti of Indonesia, 20%; others, 20%)	Parambahan, West Sumatra	500	
Do.	P.T. Tambang Batubara Bukit Asam (Government, 100%)	Bukit Asam, South Sumatra	4,000	
Do.	Perum Tambang Batubara (Government, 100%)	Ombilin, West Sumatra	1,000	
Copper, in concentrate	P.T. Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 80%; Government, 10%; others, 10%)	Ertsberg and Grasberg, Irian Jaya	550	
Gold	metric tons	P.T. Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 80%; Government, 10%; others, 10%)	Ertsberg and Grasberg, Irian Jaya	55
Do.	P.T. Kelian Equatorial Mining (Kelian Pty Ltd. of Australia, 90%; P.T. Harita Jaya Raya of Indonesia, 10%)	Sangatta, East Kalimantan	15	
Do.	P.T. Prima Lirang Mining (Billiton BV of the Netherlands, 90%; P.T. Prima Maluku Indah of Indonesia, 10%)	Lerokis, Wetar Island	2	
Petroleum, crude	thousand barrels per day	Atlantic Richfield Indonesia, Inc. (subsidiary of Arco of the United States)	Arjuna and Arimbi, offshore, West Java	170
Do.	Maxus Southeast Asia Ltd. (subsidiary of Maxus Energy of the United States)	Cinta and Rama, offshore, Southeast Sumatra	95	
Do.	Pertamina (Government, 100%)	Jatibarang, West Java, and Bunyu, offshore East Kalimantan	80	
Do.	P.T. Caltex Pacific Indonesia (Texaco Inc., 50%; Chevron 50%, both of the United States)	Minas, Duri, and Bangko, central Sumatra	700	
Do.	Total Indonesia (subsidiary of Compagnie Francaise des Petroles of France)	Handi and Bakapai onshore and offshore East Kalimantan	180	
Gas:				
Natural	million cubic feet per day	Mobil Oil Indonesia, Inc. (subsidiary of Mobil Corp. of the United States)	Arun, Aceh in North Sumatra	1,700
Do.	Roy M. Huffington (subsidiary of HUFFCO of the United States)	Badak, East Kalimantan	1,000	
Liquefied	P.T. Arun LNG Co. Ltd. (Government, 55%; Mobil Oil, 30%; the Japan Indonesia LNG Co., 15%)	Balang Lancang, Aceh in North Sumatra	10,000	
Do.	P.T. Badak LNG Co. Ltd. (Government, 55%; HUFFCO Group, 30%; the Japan Indonesia LNG Co., 15%)	Bontang, East Kalimantan	7,900	
Nickel:				
In ore	P.T. Aneka Tambang (Government, 100%)	Pomalaa, South Sulawesi and on Gebe Island, Moluccas	34	
In matte	P.T. International Nickel Indonesia (Inco Ltd. of Canada, 78%; Sumitomo Metal Mining Co. Ltd. of Japan, 20%; others, 2%)	Soroako, North Sulawesi	45	
Nitrogen	P.T. Aseah-Aech Fertilizer (Government, 60%; other members of Association of Southeast Asian Nations, 40%)	Lhokseumawe, North Sumatra	506	
Do.	P.T. Pupuk Iskandar Muda (Government, 100%)	do.	506	
Do.	P.T. Pupuk Kalimantan Timur (Government, 100%)	Bontang, East Kalimantan	1,012	
Do.	P.T. Pupuk Sriwijawa (Government, 100%)	Palembang, South Sumatra	1,438	
Steel, crude	P.T. Krakatau Steel (Government, 100%)	Cilegon, West Java	3,500	

TABLE 2--Continued
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 1997

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity
Tin:			
In ore	P.T. Koba Tin (Renison Goldfields Consolidated Ltd. of Australia, 75%; Government, 25%)	Koba, Bangka Island	6
Do.	P.T. Tambang Timah (Government, 100%)	Onshore and offshore islands of Bangka, Belitung, and Singkep	45
Metal, refined	Peleburan Timah Indonesia (Government, 100%)	Mentok, Bangka Island	42