USGS
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2005 Minerals Yearbook

INDONESIA

U.S. Department of the Interior
U.S. Geological Survey

June 2007

THE MINERAL INDUSTRY OF INDONESIA

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The territory of Republic of Indonesia, which includes more than 17,000 islands, of which 1,000 are permanently settled, is located along the equator in the Pacific Ocean. Indonesia is the third most populous country in the Asia and the Pacific region behind China and India. Indonesia is divided into 32 Provinces, of which 3 are special provincial territories—Nangroe Aceh Darussalam, Yogyakarta Special Territory, and Jakarta Metropolitan Special Territory. Each Province is divided into regencies and cities. A regency usually includes a capital city and the surrounding area, as well as a great area of hinterlands. A regency and a city are at the same level in the governmental hierarchy. During the past decade, one of the many challenges facing Indonesia was the need to distribute wealth, especially from the mining sector, while retaining the participation of foreign investors in the mining sector. In 1999, the House of Representative passed two laws—law No. 22/1999, Regional Political Autonomy, and law No. 25/1999, Fiscal Decentralization—which went into effect on January 1, 2001. Mining companies were confused about these laws, which were contradicted by law No. 11/1967 on general mining. Without any clear mining policy, many foreign investors were concerned about the legal and political stability in the country and had deferred new investments (Indonesia's Investment Coordinating Board, 2005§[1]).

In 2005, the Indonesian economy showed remarkable growth. Owing to domestic demand, the real gross domestic product (GDP) growth rate increased by 5.6%, which was higher than the growth rate of 5.1% in 2004. Supported by high investment in sectors other than the mineral sector, economic growth increased by 6.1% in the first quarter in 2005 and then declined to 5.1% in the fourth quarter because of sluggish consumption and falling investment in the second half of the year. Excluding investment in finance, gas, and oil, foreign direct investment nearly doubled to $8.9 billion in 2005 from $4.6 billion in 2004, which was far from the peak of $39.7 billion in 1995. Domestic investment increased to $3.2 billion. In 2005, the Government approved 61 foreign investment mining projects with a total value of $775.9 million compared with 21 projects with a total value of $67.8 million in 2004. All sectors experienced positive growth. The largest contribution to economic growth was from trade. The mining and quarrying sector contributed only 0.1% of total growth (Bank Indonesia, 2006, p. 7).

Government Policies and Programs

Indonesia's principal mineral resources are coal, copper, gold, nickel, oil, and tin. Mining provides significant local employment directly at the mine site and indirectly through the supply of goods and services from Indonesian sources. A significant part of Indonesia remains unexplored; some of these land areas are the most prospective for mineral development in the Asia and the Pacific region. The mining sector could have the potential to become a much larger contributor to the country's economy and to regional development. The Government announced an "Investment Climate Improvement Package" containing 85 regulatory and institutional reforms to improve the investment climate; it was expected to take effect in 2006. The package included improving investment licensing and permitting procedures and synchronizing regulations and procedures between the Central Government and local administration. The Government planned various incentives for investment projects in specific sectors. To improve transparency in taxation, the Government would review the value-added tax on particular commodities to promote exports. The Government intended to simplify importing procedures on capital equipment and goods for investment purposes. Labor regulations were expected to be amended to define the relationship between employers and employees (Jakarta Post, The, 2006c§).

The Government planned to reform the country's tax regime by the revision of several tax bills, which included law No. 16/2000 on general taxation arrangements and procedures, law No. 17/2000 on income tax, and law No. 18/2000 on value-added tax on goods and services and luxury sales tax. The draft revisions of these bills were submitted to the House of Representatives for approval; however, the business community, which included foreign investors, expressed concerns about several new provisions that granted more authority to tax officials. Initially, these bills were intended to improve the country's fiscal conditions and to provide a more-friendly tax regime to attract foreign investors. The business community urged the Government to reverse these tax bills so that the tax collecting office would have sufficient powers to fulfill its tax collection duties but not abuse its power. The Government hoped the reform tax bills could be passed in 2006 and would be implemented in 2007 (Jakarta Post, The, 2006e§).

After more than 5 years of discussion, the draft of the new mining law that will replace the general mining law No. 11/1967 had not been completed. Replacement of law No. 11/1967 was considered to be necessary because the old law was not compatible with current conditions in the mining sector, which had changed considerably during the past several years. The new draft bill would be called the Mineral and Coal Mining Law. The fundamental changes in the new draft bill are as follows: the term contract of work (COW) would be replaced by mining licenses—mining business licenses, people's mining licenses, and mining assignments. The draft bill treats foreign and domestic investors the same, which is quite different from law No. 11/1967. The draft bill would strengthen such environmental concerns as mining safety, waste disposal, and postmining land reclamation. The draft bill was submitted to the House of Representatives for consideration in May 2005 (Petrominer, 2006g).

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

To ensure a sufficient supply of coal in the domestic market, the Government imposed a 5% tax on coal exports starting on December 25, 2005. Indonesia exported about 70% of its coal output. The Government set the base price at $30 per metric ton on January 5, 2006, and the base price was to be reviewed on the 23rd of every month. The Indonesian Coal Mining Association indicated that the coal export tax levies would raise export prices and reduce the country's competitiveness for coal against such countries as Australia, China, South Africa, and Vietnam (Petrominer, 2005e; Jakarta Post, The, 2006b§).

The Indonesian Government issued three energy policies—Inpres No. 1/2006 and No. 2/2006 and regulation No. 5/2006—as the basis for future national energy regulations and laws. The policy set a target for reducing the country's dependence on oil as fuel. Oil used in the energy sector was targeted to be reduced to 20% in 2025 from 55% in 2005. Coal and natural gas use would increase to 33% each in 2025 from 15.7% and 23%, respectively, in 2005. Other energy sources, such as biofuel, geothermal, renewable energy, and liquefied coal, also would be used. The Ministry of Energy and Mineral Resources was responsible for drafting the plan and coordinating the implementation of the plan (Petrominer, 2006b, f).

Trade

In 2005, Indonesia's exports increased by 19.5% to $85.7 billion, and imports increased by 23.7% to $57.5 billion. Oil and gas exports accounted for 22.5% ($19.3 billion) of the export total. Indonesia increased its oil and gas imports to $17.4 billion, or 30.2% of the import total. Mining products accounted for 10.5% of the export total. In terms of value, coal, copper, and tin were the leading exported mineral commodities. Japan was the leading destination for Indonesian non-oil-and-gas products followed by the United States, Singapore, and China. In descending order, Japan, Hong Kong, India, the Republic of Korea, Malaysia, and Taiwan were major markets for Indonesian coal. The main sources for Indonesian imports of non-oil-and-gas products were China, Japan, Singapore, and the United States (Central Bureau of Statistics, 2006).

Commodity Review

Metals

Aluminum.—PT Indonesia Asahan Aluminium (Inalum), which was the only aluminum smelter in Southeast Asia, planned to increase its output to 252,000 metric tons (t) in 2005. During the past several years, low water levels at Lake Toba in northern Sumatra, which was the main source of water for Inalum's hydroelectric powerplant, restricted power supply to the smelter. Owing to the shortage of electricity, the production of aluminum was well below its designed output capacity of 250,000 t from its 510 pots using185-kiloampere prebaked cell. The company planned to produce 244,000 t of aluminum ingot in 2006. The smelter was owned by the 12-company Japanese consortium Nippon Asahan Aluminium Co. Ltd. (59%) and the Government (41%). Inalum exported 60% of its output to China and Japan; the rest went to the domestic market. Alumina was imported from Australia. The Government planned to take over the Talang and the Sigura-gura hydropower electricity generation projects to meet electricity demand in North Sumatra, which was run by Japanese investors associated with Inalum (Antara News, 2006§).

Indonesian bauxite producer PT Aneka Tambang Tbk (PT Antam) completed all mandated studies for the Tayan chemical-grade alumina project in Tayan, West Kalimantan Province. The total investment of the project was estimated to be $220 million. PT Antam signed a joint-venture agreement with Japan's Marubeni Corp. and Showa Denko K.K. (SDK) and Singapore's Strait Trading Amalgamated Resources Private Limited for the chemical-grade alumina project. PT Antam held a 49% share in the project and its partners held the remaining 51%. PT Antam was to supply bauxite to the Tayan project. SDK would provide the technology and technical assistance to produce chemical-grade alumina, and Marubeni would manage the project. The refinery was designed to produce 300,000 metric tons per year (t/yr) of chemical-grade alumina containing 50% (by weight) of alumina from 800,000 t to 1.13 million metric tons (Mt) of bauxite. The product was to be sold through offtake agreements between the project sponsors. The partners would establish a joint-venture company to oversee the Tayan project, which would start operations in 2009. In 2005, PT Antam also signed a memorandum of understanding with Aluminum Corp. of China to build a metallurgical-grade alumina plant in Indonesia (PT Antam Tbk, 2006a; Miningindo.com, 2005a§).

Copper.—After the 2003 landslide at the southern part of PT Freeport Indonesia's Grasberg Mine, the company decided to suspend all mining operations until the second quarter of 2004. In 2004, mining operations were limited to the company's deep ore zone underground mine and extraction of low-grade ore from the open pit. In 2005, mining operations returned to normal and the average ore output increased to 216,200 metric tons per day (t/d), which was higher than the output of 185,100 t/d in 2004; copper ore grades averaged 1.13% compared with 0.87% for 2004. The average grades of silver and gold were 4.88 grams per metric ton (g/t) and 1.65 g/t, respectively. The increase in mining output and higher ore grades in Grasberg Mine reflected an increase in the country's copper, gold, and silver output because PT Freeport was Indonesia's leading copper, gold, and silver producer. PT Freeport and PT Newmont Nusa Tenggara (NNT) accounted for about 100% of Indonesia's copper production and 70% of its gold output. Owing to safety and security issues and regulatory uncertainty in the forest areas, mineral exploration activities in the Block B area in Papua were suspended (Freeport-McMoRan Copper and Gold Inc., 2006, p. 26).

In 2004, Freeport McMoRan Copper and Gold Inc. (Freeport) of the United States informed the Indonesian Government that the company planned to merge Freeport and PT Indocopper Investama. Freeport and Indocopper held 81.28% and 9.36%, respectively, of Freeport shares; the remaining shares were owned by the Indonesian Government. In July 2004, the Indonesian Government requested Freeport to sell Indocopper's 9.36% share to an Indonesian company. The Indonesian Government asked PT Antam to acquire Indocopper's share in Freeport. PT Antam appointed the Hong Kong and Shanghai

Bank as financial adviser to evaluate the potential investment in Freeport in 2005. Owing to the lack of support from the Government and the high market value, PT Antam decided to postpone the plan to acquire the share in Freeport indefinitely (PT Antam Tbk, 2006b, p. 63).

The Government sent an environmental investigation team to the mining and processing areas of Freeport's Grasberg Mine because of the company's failure to maintain water quality in the Otomina River. Million of tons of hazardous waste from the tailings had reached the surface of the Arafuru coast. Based on the results of monitoring, which included environmental impact analysis and air and water pollution control by the investigation team, the Environment Ministry concluded that Freeport had violated the prevailing environmental provisions in Indonesia. The Indonesian Government ordered Freeport to immediately improve the managerial system of the acidic water waste and the environmental impact of the deposition of tailings in the Modified Ajkwa Deposition Area. Some nongovernment organizations urged the Government to shut down Freeport's operation in Papua (Petrominer, 2006e; Miningindo.com, 2006a§, c§).

Owing to a partial collapse of the pit wall, NNT was forced to mine lower copper ore grades at its copper- and gold-producing mine, Batu Hijau, which is located on Sumbawa Island, West Nusa Tenggara Province. Copper output decreased by 18% to 266,074 t. As a result of higher fuel and labor costs, operational costs increased; however, Batu Hijau Mine remained Newmont's lowest-cost operating mine. Because of geotechnical instability of the operation's east pit wall, mine production was expected to decrease in the next several years. The company applied to the Ministry of Environment (MOE) for a 3-year extension of its submarine sea-tailing permit, which will expire in May 2005. The Government granted a 2-year extension permit, and the tailing disposed volume was reduced to 50.4 Mt from the previous 58.4 Mt. NNT discovered a new copper deposit at the Elang Dodo field in East Sumbawa, East Nusa Tenggara Province. The deposit's reserves could exceed those of Freeport's Grasberg deposit (Newmont Mining Corporation, 2006).

Gold and Silver.—PT Newmont Minahasa Raya's (NMR) gold mining operation ceased in October 2001. Since then, operation activity has been limited to process ore stocks. In 2004, villagers of Minahasa Regency complained that NMR had polluted Buyat Bay. Water and fish that were allegedly contaminated by NMR's tailings, which were disposed of in Buyat Bay, were being blamed for causing villagers to get sick. After long and exhaustive tests, the Government's technical team concluded that the arsenic and mercury contents at Buyat Bay were higher than standard levels, and that the arsenic content in the drinking water and in fish was a health risk to the people of Buyat Bay. The Indonesian Mining Association and the NMR insisted that, according to laboratory results from Japan's Minamata Institute and the World Health Organization, metal contents were within the safety standards. NMR and the residents at Buyat Bay signed an out-of-court compensation settlement in December 2004. The MOE continued to pursue legal action against NMR in 2005. The District Court Judge ordered the MOE and NMR to renegotiate an out-of-court settlement, and they reached agreement on a $30 million "good will" settlement that would be paid out during a 10-year period. The Government, however, retained the legal right to prosecute the executives in charge of NMR (Jakarta Post, The, 2006d§).

The Government granted PT Newmont Horas Nauli's (a subsidiary of PT Newmont Indonesia) request for an extension of the exploration permit in the regency of South Tapanuli in North Sumatra until May 26, 2006. The exploration permit was issued to PT Danau Toba Mining (a subsidiary of Normady Company) in 1997 under the sixth generation of COW; Newmont acquired the exploration permit from Normady in 2001. Owing to ownership transfer problems, PT Newmont Horas Nauli had actually carried out the exploration in the area for 3 years instead of 5 years (3 years plus 2 extended exploration permits of 1 year each). The exploration project was better known as "Newmont Martabe Project," and about 1,033 t of silver and 96 t of gold were discovered in two locations: Baskara and Tor Sipalpal (or Purnama). Newmont considered that the resource was not economical enough to continue further development and decided to transfer the property to the Government. PT Antam was interested in acquiring the property from the Government (Petrominer, 2006a; Antara News, 2005§; Miningindo.com, 2005d§, 2006b§).

PT Avocet Bolaang Mongondow [a joint venture of Avocet Mining of the United Kingdom (80%) and PT Lebong Tandia of Indonesia (20%)] commenced its gold mine production in October 2004. The North Lanut gold mine is located in the center of North Sulawesi Province in the District of Bolaang Mongondow. The mine is located within the area defined by the COW, and included exploration and mining rights of approximately 50,000 hectares (ha). The open pit mine had a designed output capacity of more than 1.6 t/yr of gold. Owing to poor equipment availability and extremely wet conditions, production fell behind expectation initially but the mine was expected to be able to operate at full capacity by upgrading the waste dump retention wall and increasing the mine water discharge capacity in 2006. The operating cost was $200 per ounce of gold. The company continued exploring around the surrounding North Lanut area. Avocet also explored for gold in the Provinces of Papua and South Sulawesi (Avocet Mining PLC, 2006, p. 16-20).

Illegal gold mining caused severe environmental damage to rivers on the islands of Kalimantan and Sulawesi. The 250-kilometer (km) Kalhayan River hosted 500 dredging machines from Palangkaraya City to Gunung Mas Regency in Kalimantan. The Provincial Government of Central Kalimantan recorded more than 6,500 dredges in 2003. Four or five persons operated each dredge. Most illegal miners used mercury to extract gold, and mercury contamination was noticeable in the illegal mining areas. In March 2004, fire broke out at the illegal mining tunnels adjacent to PT Antam's underground gold mine operation at Pongkor, West Java. PT Antam planned to produce 3 t of gold and 25 t of silver in 2005; owing to the brittle rock structure of tunnel walls within the mine, however, the company was forced to mine lower-grade ore. As a result, output of gold and silver decreased to 2.9 t and 24.6 t in 2005 from 3.7 t and 27.6 t in 2004, respectively. PT Antam planned to redesign the mine plan and hoped to increase output in the future. The company planned to produce 2.3 t of gold in 2006 (Petrominer, 2005d, 2006h).

Iron and Steel.—Owing to depleted resources, PT Antam ceased its iron sand mining activities at Cilacap, Central Java, in 2005. Iron sand was produced from its two small-scaled iron sand mines at Kutoarjo and Lumajang. PT Antam assigned these two operations to its subsidiary, PT Antam Resourcindo, and planned to sell them. The company allocated $200,000 for the mine closure and post mining activities at Cilacap (PT Antam Tbk, 2006b, p. 63).

During the past 2 years, Indonesian steel production increased to more than 3 million metric tons per year (Mt/yr) but the country consumed more than 4 Mt/yr. Indonesia's only integrated steel producer, state-owned PT Krakatau Steel, planned to increase its steel output to 3.5 Mt/yr by 2008 to meet increasing domestic demand for hot-rolled coil, plate, and wire. The Government suggested that a new steel plant be built in South Kalimantan Province because the Province was rich in coal and iron ore. The cost of the new plant was estimated to be about $500 million. The company planned to raise funds either by selling its assets or through an initial public offering. Krakatau signed a memorandum of understanding with Chinese companies Chuan Wei Group Co. Ltd. and Sichuan Chuan Wei Co. Ltd., and PT Sumbergas Sakti Prima of Indonesia to mine iron ore and to build a pelletizing plant in Kalimantan; the plant would have an output capacity of 4.3 Mt/yr. Krakatau had the capacity to produce 1.9 Mt/yr of slab and 500,000 t/yr of billet from its direct-reduced iron and electric arc furnace processes. The company imported its iron ore pellet mainly from, in order of amount imported, Brazil, Chile, and Bahrain and considered sourcing pellets from Australia in its expansion plan. Krakatau sold 75% of its steel output to local customers (Coordinating Ministry for Economic Affairs, 2006).

Blue Scope Steel of Australia planned to invest $105 million to build a steel plant in Cilegon, West Java. The plant was designed to produce 90,000 t/yr of metal-coated steel and 55,000 t/yr of color-coated steel. The plant was scheduled to begin operating in 2008 (Jakarta Post, The, 2006f§).

Nickel.—Owing to increased demand, the supply of nickel continued to tighten in 2005 as China and the Republic of Korea expanded their stainless steel output capacities; as a result, the price of nickel in the world market remained high at yearend. Despite an increase in production costs, the net income of PT Antam and PT International Nickel Indonesia Tbk (PT Inco) increased in 2005. About 20% to 25% of PT Antam's nickel ore output was used as feedstock to produce ferronickel, which contained about 80% iron and 20% nickel; the remainder was exported. PT Antam exported its saprolite nickel ore to Japan and limonite nickel ore to Australia. In March and September 2005, PT Antam shut down its FeNi II smelter for a routine overhaul. As a result, production of nickel contained in ferronickel decreased by 17%. Nickel was mined at PT Antam's sites at Pomalaa in Southeast Sulawesi Province and Gebe, Gee, and Tanjung Buli in North Maluku Province. Owing to depleted resources, Gebe was closed in 2004. The Mornopo Mine in North Maluku Province was put into operation in the fourth quarter of 2005. PT Antam planned to maintain a total output of about 3.5 Mt of saprolite and 1.2 Mt of limonite from its mines. The construction of the FeNi III smelter and the expansion of the ferronickel capacity at the Pomalaa site to 26,000 t/yr from 11,000 t/yr were underway, and operation of both was expected to begin in the first quarter of 2006. The FeNi III smelter was to use nickel ore feed from PT Antam's nickel deposits in Buli, North Baluku Province, and from PT Inco's deposit in East Pomalaa. During the past 3 years, nickel demand in China increased, but PT Antam's main ferronickel customers were in Europe and the Republic of Korea. PT Antam considered that China would be a potential future market once the FeNi III smelter started operation (Metal Bulletin, 2005; Miningindo.com, 2005b§).

Owing to the Government's decision to remove price subsidies on diesel fuel, the diesel fuel price for industrial uses increased by two-fold in Indonesia. PT Inco used high sulfur fuel oil for its furnaces. Because production costs increased, PT Inco's net earnings decreased by 5.5%. PT Inco planned to invest $250 million to increase its nickel-in-matte output capacity to 91,000 t/yr in Soroako, South Sulawesi Province, by 2009. The company was waiting for Government approval to build a new dam at Karebbe on the Larona River to raise its power-generating capacity by 33%. PT Inco also planned to develop two nickel deposits, Bahodopi in Central Sulawesi Province and Pomalaa in Southeast Sulawesi Province. The Government asked PT Inco to raise from 1% to 2% of the company's royalty and community development fund in the company plan by 2009. According to the 1996 revised COW, PT Inco will start paying a new royalty on April 1, 2008 (PT International Nickel Indonesia Tbk, 2006; Miningindo.com, 2005c§).

PT Weda Bay Nickel (a subsidiary of Weda Bay Minerals Inc. of Canada) continued its nickel exploration on the island of Halmahera in Indonesia. In 2005, Weda Bay terminated the long-term product supply agreement with OM Group Inc. of the United States. Under the terms of the agreement, Weda Bay repaid the initial loan of $2.5 million provided by OM Group. After completion of the project, Weda Bay can either pay OM Group $20 million or make an annual payment equivalent to 1% of the net smelter revenue for 30 years. At yearend 2005, the measured and indicated laterite resources in Halmahera were estimated to be 155 Mt at grades of 1.45% Ni and 0.09% Co. The company had completed a prefeasibility study, and a bankable feasibility study was begun and was expected to be completed in 2006 (Weda Bay Minerals Inc., 2005).

Tin.—Indonesia was the second ranked tin-producing country in the world behind China. The Indonesian tin sector was dominated by two companies—PT Koba Tin and PT Tambang Timah Tbk (PT Timah). Under the regional autonomy law, the Bangka Belitung Regency government was allowed to issue operating licenses to locals to smelt tin and licenses to local companies to export crude tin to China, Malaysia, and Thailand for refining. These small smelters could not sell their products directly on the international market because they did not have brand names. The products, however, were exported to Singapore, and Singapore-based traders resold the tin to major smelters in China, Malaysia, and Thailand. Indonesia replaced China as the leading tin exporting country in the world. The Central Government published tin production data only from PT Kobe Tin and PT Timah. More than 20 small tin smelters in Bangka had a combined output capacity of 60,000 t/yr. The

Central Government had ordered the local government to stop issuing tin smelting licenses in Bangka and to collect royalties from these smelters. The total tin metal output capacity in Indonesia was estimated to be more than 130,000 t/yr (Tin Bulletin, 2006).

In 2005, PT Timah's tin concentrates output increased by 15% to 42,615 t. Offshore production was 9,373 t, which was 36% higher than that of 2004, and accounted for 22% of the company's total production. The increase in offshore output was credited to the improvement in the maintenance of dredges. Inland output was mainly from illegal miners who operated on the company's inland properties. Illegal miners also sold their output to local tin smelters; the supply of tin concentrates, therefore, was tightened and increased the acquisition costs for PT Timah. With the availability of tin concentrates, refined tin output increased by 20% to 41,799 t. PT Timah exported about 97% of its output. Even with higher sale volume and revenue, the company's operating profit was lower than that of 2004 because the per-metric-ton production cost of refined tin increased by 18% and the average per-metric-ton tin price on the world market was lower ($7,502 in 2005 and $8,482 in 2004). In an effort to increase the company's value, PT Timah diversified its business into coal and silica sand production; tin, however, remained its core business (PT Tambang Timah Tbk, 2006).

Industrial Minerals

Cement.—The Indonesian cement sector was dominated by the following producers, in order of size: the PT Semen Gresik Group, which included PT Semen Padang and PT Semen Tonasa; PT Indocement Tunggal Prakarsa; PT Holcim Indonesia; and PT Semen Andalas Indonesia. These producers accounted for 93% of the country's cement production. According to the Indonesia Cement Association, the country's total output capacity was 44.59 Mt/yr. Domestic consumption accounted for 92.8%, or 31.51 Mt, of the total output in 2005, which was 4.9% higher than that of 2004. The increase in cement consumption was from infrastructure projects in Banten and West Java. The Indonesian population was concentrated mainly in Java. Of the domestic cement consumption, almost 61% was from Java; 21%, from Sumatra; 6%, from Sulawesi; 5%, from Kalimantan; and 7%, from other areas. In 2005, exports of cement increased by 11.6% to 3.29 Mt, mainly to countries in the Asia and the Pacific region (Indonesia Cement Association, 2006).

In 1998, Cementos Mexicanos, S.A. de C.V. (CEMEX) of Mexico through its subsidiary CEMEX Asia Holdings signed a conditional sale and purchase agreement with the Indonesia Government to buy 14% of Semen Gresik shares and had the right to buy additional shares until it became majority shareholder. CEMEX purchased an additional 11.5% shares in Semen Gresik through a stock exchange. The Government held a 51% share, and the public held the remainder. The deadline for the Government to implement the option was October 1, 2001. The local government and PT Semen Padang (a subsidiary of Semen Gresik) opposed the sale. The local government passed a decree that expropriated Semen Padang from Semen Gresik. The Government planned to buy back the Semen Gresik shares from CEMEX, but CEMEX did not want to sell. In December 2004, CEMEX filed a dispute complaint with the International Center for the Settlement of Investment Disputes for the Indonesian Government to pay $500 million in damages for not upholding its contractual obligations but later decided to sell its shares in Semen Gresik to local investor Rajawali Group for $337 million. The transaction was subject to the approval of the Government and fulfillment of other conditions (Jakarta Post, The, 2006a§).

Mineral Fuels

Coal.—As a result of rising coal demand and high coal prices, Indonesian coal output increased by less than 9% to 142.9 Mt in 2005 compared with that of 2004, which was less than the Government's target output of 153 Mt. Owing to increased demand for coal in Asia, coal output was expected to increase to 160 Mt in 2006. Besides legal coal producers, Indonesia had thousands of illegal coal miners for whom the Government could account. The actual coal output could be up to 20% higher than the Government's reported figure. As the coal price rose on the international markets and China reduced its coal exports to meet domestic demand, coal exports from Indonesia increased to 128.6 Mt in 2005; of that amount, 106.9 Mt was bituminous coal. Regional exports within Asia accounted for 75% of the total. Domestic coal demand accounted for 30% of the total output. Powerplants, which were the leading consumers, accounted for 63% of the total demand, and cement plants consumed about 15% of the total. During the next couple of years, several coal-fired powerplants in the Central Java and West Java Provinces were scheduled to begin operations. Coal demand in Indonesia was expected to increase to 47.7 Mt in 2010 and to reach 72 Mt in 2020 (Petrominer, 2005b; Central Bureau of Statistics, 2006).

PT Kaltim Prima Coal (KPC) [a subsidiary of PT Bumi Resources Tbk (PT Bumi)] was Indonesia's leading coal producer. KPC was formerly jointly and equally owned by BP Amoco Indonesia and PT Rio Tinto Indonesia. According to the terms of the COW, the partners were required to divest part of their holdings to local interests. Negotiations took a long time because no Indonesian purchaser was able to obtain the financing needed to buy it. In 2003, PT Bumi acquired 100% of KPC for $500 million, including assumed debts. KPC operations were located near Sangatta, which is the capital of the East Kutal Regency in East Kalimantan Province. Since 2003, KPC has expanded mine output to 30 Mt/yr in 2005. The Bengalon Mine, which is located 25 km from the existing operation, will start production in 2006. KPC's coal production target was 36 Mt/yr in 2006 and 60 Mt/yr in 2010. Of the 90,960 ha work areas, only 15% had been exploited, including the Bengalon Mine. The total minable reserves were 634 Mt with 2,945 billion metric tons of resources. PT Bumi planned to sell 100% ownership in Arutmin Indonesia and 95% ownership in KPC and Indocoal Resources Ltd. to PT Borneo Lumbung Engergi (a subsidiary of PT Renaissance Capital) for $3.25 billion. The transaction required Government approval under the terms of the COW (Petrominer, 2006c, d).

Natural Gas and Petroleum.—In 2005, Indonesia produced an average of 1.061 million barrels per day (Mbbl/d) of oil,

which was 98.7% of the Government target; this was a decline from the average of 1.095 Mbbl/d produced in 2004. It was the 12th consecutive year in which oil output declined. Most of the production fields were mature and depleted. Only relatively small reserves were discovered by explorers. Maintenance activities in several production fields also were plagued by floods and electricity disruptions, which hampered the efforts to raise production. The main reason for the declining oil production was the absence of new exploration during the past several years. Oil production capacity from old wells/fields was expected to continue to decline. Major international oil companies have reduced their drilling expenditures during the past several years. Chevron Indo Asia, China National Offshore Oil Co. (CNOOC), Conoco Philips Indonesia, Medco Energi International TBK's PT Exspan Nusantara, PT Pertamina, and Total E&P Indonesie were the leading oil producers. The Government set the target to produce 1.3 Mbbl/d by 2009. To meet the 1.3 Mbbl/d target, the Government offered incentives to contractors to develop marginal oilfields (U.S. Embassy, Jakarta, Indonesia, 2006, p. 12).

The Government assumed that the world oil price was $24 per barrel in its 2005 budget. The House of Representatives allocated $2.0 billion to subsidize fuel prices in the 2005 budget, which was approved in 2004 and, at the request of the Government, revised to $9.8 billion in 2005 when prices of oil increased to $55 per barrel. Because of the continuous increase in oil prices on the world market, the Government required decreasing fuel subsidies to meet the subsidized budget approved by the House of Representatives. In September 2005, the Government decided to increase prices for premium gasoline, diesel oil, and kerosene and eliminated the price disparity between industrial fuel and nonindustrial fuel. Following the price hike, average fuel consumption decreased by more than 20% by yearend. With industrial fuel no longer subsidized, cement and metal producers switched to coal to reduce production costs and raised the selling prices on their products (Petrominer, 2005a).

Indonesia had 2.56 trillion cubic meters of proven natural gas reserves, which were the largest reserves in the Asia and the Pacific region. The country started exporting liquefied natural gas (LNG) in 1977 and was the leading LNG exporter in the world. LNG was from two areas—Arun in Aceh Province and Bontang in East Kalimantan Province. Owing to a slowly depleting resource, Arun was expected to cease output in 2012. To cover the shortage of gas production from the Arun field, ExxonMobil Oil Indonesia developed two gas blocks, the Pase and the NSO. In 2005, the Government decided not to extend the production-sharing contract with ExxonMobil in Aceh Province and the company was expected to leave. Because of operational constraints, Bontang production experienced a shortfall in recent years. Indonesia's LNG production decreased to 25.2 Mt in 2004 from 29.8 Mt in 1999. A third LNG production center at Tangguh in western Papua Province, which is operated by a BP Indonesia-led consortium that includes CNOOC of China, and Japan Oil, Gas, and Metals National Corp; Mitsubishki Corp.; and Nippon Oil, Exploration, of Japan will come online in 2008. The Tangguh project had secured a $2.6 billion loan from the Asian Development Bank, the Japan Bank for International Corp., and seven other international banks. The plan for the Tangguh project was to build two LNG trains with a total production capacity of 7.6 Mt/yr. Indonesia had signed 6.9-Mt/yr LNG supply contracts with China, the Republic of Korea, and Mexico. The first LNG shipment to Fujian, China, was scheduled for 25 years by yearend 2008. In 2005, the Indonesian Government approved the construction of the Tangguh project (Petrominer, 2006i).

PT Pertamina and ExxonMobil signed a cooperation contract with BP Migas to jointly manage the Cepu oilfield and gasfield, which is located in the regencies of Bojonegoro and Tuban in East Java Province and Blora in Central Java Province. ExxonMobol has spent more than $450 million to acquire and explore in the area. The Government proposed that the two parties establish a joint-venture company in which each party has a 45% equity share and the local government has a 10% share (Petrominer, 2005c).

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TABLE 1
INDONESIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Metric tons unless otherwise specified)

Commodity		2001	2002	2003	2004	2005
METALS						
Aluminum:						
Bauxite, wet basis, gross weight	thousand metric tons	1,237	1,283	1,263	1,331	1,442
Metal, primary[e]		180,000	160,000	200,000	247,000 [r]	252,000
Chromite sand, dry basis[e]		1,000	1,000	1,000	1,000	1,000
Copper:						
Mine, Cu content		1,048,694	1,171,726	1,005,837	840,318	1,041,000
Metal						
Smelter, primary		217,500	211,200	247,400	211,600	275,000
Refinery, primary		212,500	192,400	223,300	210,500	262,900
Gold, mine output, Au content[2]	kilograms	162,605	142,238	141,019	91,710 [r]	130,620
Iron and steel:						
Iron sand, dry basis		469,132	378,376	245,409	89,664	21,901
Metal:						
Ferroalloys:						
Ferronickel		47,769	42,306	43,894	39,538	36,690
Ferromanganese[e]		12,000	12,000	12,000	12,000	12,000
Pig iron, direct reduced iron	thousand metric tons	1,480	1,450 [r]	1,170 [r]	1,440 [r]	1,268
Steel, crude	do.	2,781 [r]	2,462 [r]	2,042 [r]	3,682 [r]	3,675
Nickel:						
Mine output, Ni content[3]		102,000	123,000	143,000	133,000	160,000
Matte, Ni content		63,471	59,500	70,200	81,120 [r]	78,490
Ferronickel, Ni content		10,302	8,807	8,933	7,945	7,338
Silver, mine output, Ag content	kilograms	269,825	293,520	285,206	261,960 [r]	320,590
Tin:						
Mine output, Sn content		61,863	88,142	71,694	65,772	90,000 [e]
Metal[4]		53,796	67,455	66,284	49,872	65,300
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand metric tons	31,100	31,500 [r, e]	31,000 [r, e]	33,230 [r]	33,917
Clays:[e]						
Bentonite		5,000	5,000	5,000	5,000	5,000
Fire clay	thousand metric tons	1,900	1,900	1,900	1,900	2,000
Kaolin powder		15,000	15,000	15,000	15,000	15,000
Diamond:[e]						
Industrial stones	thousand carats	23	23	23	23	23
Gem	do.	7	7	7	7	7
Total	do.	30	30	30	30	30
Feldspar[e]		24,000	24,000	24,000	24,000	24,000
Gypsum[e]		6,000	6,000	6,000	6,000	6,000
Iodine[e]		75	75	75	75	75
Nitrogen, N content of ammonia	thousand metric tons	3,665	4,200	4,250	4,120	4,400 [e]
Phosphate rock[e]		600	600	600	600	600
Salt, all types[e]	thousand metric tons	680	680	680	680	680
Stone:						
Dolomite[e]		3,000	3,100	3,100	3,100	3,100
Granite	thousand metric tons	3,975	4,966	3,939	3,340 [r]	4,170
Limestone[e]	cubic meters	16,000	16,500	16,000	16,000	16,500
Marble[e]	do.	1,000	1,000	1,000	1,000	1,000
Quartz sand and silica stone[e]	do.	145,000	145,000	150,000	150,000	150,000
Sulfur, elemental[e]		68,500	73,500	78,500	83,500	83,000
Zeolite[e]		400	400	400	400	400
MINERAL FUELS AND RELATED MATERIALS						
Coal:						
Anthracite[e]		40,807 [5]	42,690 [5]	50,000	50,000	50,000
Bituminous	thousand metric tons	92,500	103,329	114,000 [e]	131,530 [r]	142,920
Gas, natural:						
Gross	million cubic meters	79,470	85,959	89,324	83,740	85,830
Marketed[e]	do.	44,000	51,000	54,000	52,000	53,000
Petroleum, crude including condensate	thousand 42-gallon barrels	489,460	432,000	413,000	362,000	352,000

See footnotes at end of table.

TABLE 1--Continued
INDONESIA: PRODUCTION OF MINERAL COMMODITIES[1]

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised.
[1]Table includes data available through November 1, 2006.
[2]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.
[3]Includes a small amount of cobalt that was not recovered separately.
[4]Output by Central Government-controlled foreign contractors operations. Tin output from small tin smelters is not available but may be as much as 40,000 metric tons per year.
[5]Reported figure.

TABLE 2
INDONESIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2005

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity[e]
Aluminum:			
Bauxite	PT Aneka Tambang Tbk (Government, 65%)	Kijang, Bintan Island, Riau	1,300
Metal	PT Indonesia Asahan Aluminum (Nippon Asahan Aluminum Co. Ltd. of Japan, 59%, and Government, 41%)	Kual Tanjun, North Sumatra	270
Cement	PT Indocement Tunggal Prakarsa Tbk	Cirebon and Citeureup, West Java; Tarjun, South Kalimantan	15,600
Do.	PT Semen Andalas Indonesia	Aceh Besar	1,400
Do.	PT Semen Baturaja (Persero)	Baturaja-Ogan Komering Ulu, South Sumatra	1,250
Do.	PT Semen Bosowa Maros	Kabupaten Maros, Sulawesi Selatan	1,800
Do.	PT Holcim Tbk (former known as PT Semen Cibinong)	Narogong, East Java	9,700
Do.	PT Semen Gresik (Persero) Tbk	Gresik and Tubar, East Java	8,200
Do.	PT Semen Padang (Persero)	West Sumatra	5,440
Do.	PT Semen Tonasa (Persero)	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	22,000
Do.	PT Arutmin Indonesia (PT Bumi Resources Tbk, 80%, and Bakrie Group, 20%)	Mulia, Senakin, and Satui, South Kalimantan	11,000
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. of the Republic of Korea, 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. of the United States, 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Papua	800
Do.	PT Newmont Nusa Tenggara (Newmont Gold Mining Co. of the United States, 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	210
Gas:			
Natural millon cubic feet per day	ExxonMobil Oil Indonesia	Arun and Aceh, North Sumatra	1,700
Do.	Roy M. Huffington (subsidiary of HUFFCO Group of the United States)	Badak, East Kalimantan	1,000
Do.	Total Indonesie	Offshore, East Kalimantan	2,100
Liquefied	PT Arun LNG Co. Ltd. (Government, 55%; Mobil Oil, 30%; Japan Indonesia LNG Co., 15%)	Balang Lancang amd Aceh, North Sumatra	10,000
Do.	PT Badak LNG Co. Ltd. (Government, 55%; HUFFCO Group, 30%; Japan Indonesia LNG Co., 15%)	Bontang, East Kalimantan	7,900

See footnote at end of table.

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

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Locations of main facilities	Annual capacity[e]
Gold metric tons	Aurora Gold Ltd. (100%)	Balikpapan, Central Kalimantan	60
Do.	PT Aneka Tambang Tbk (Government, 65%)	Bogor, West Java	3
Do.	PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Papua	110
Do.	PT Newmont Nusa Tenggara (Newmont Gold Mining Co. of the United States, 45%; Sumitomo Corp., 35%; PT Pukuafu Indah, 20%)	Sumbawa Island, West Nusa Tenggara	16
Do.	PT Nusa Halmahera (PT Aneka Tambang Tbk, 17.5%, and PT Newcrest Mining Ltd. 82.5%)	Halmahera Isand, Maluku	24
Do.	PT Prima Lirang Mining (Billiton BV of the Netherlands, 90%, and PT Prima Maluku Indah of Indonesia, 10%)	Lerokis, Wetar Island	3
Nickel:			
In ore	PT Aneka Tambang Tbk (Government, 65%)	Pomalaa, South Sulawesi and on Gebe Island	80
Do.	PT International Nickel Indonesia Tbk (Inco Ltd. of Canada, 59%; Sumitomo Metal Mining Co. Ltd. of Japan, 20%; others, 21%)	Soroako, South Sulawesi	70
In matte	PT Aneka Tambang Tbk (Government, 65%)	Pomalaa, South Sulawesi	24
Do.	PT International Nickel Indonesia (Inco Ltd. of Canada, 59%; Sumitomo Metal Mining Co. Ltd. of Japan, 20%; others, 21%)	Soroako, South Sulawesi	68
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 Sriwijawa (Government, 100%)	Palembang, South Sumatra	1,440
Petroleum, crude thousand barrels per day	Atlantic Richfield Indonesia, Inc. (subsidiary of Arco Co. of the United States)	Arjuna and Arimbi, offshore West Java	170
Do.	China National Offshore Oil Co.	Off of southeast Sumatra	100
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.	PT Caltex Pacific Indonesia (Texaco Inc., 50%, and Chevron Corp., 50%, both of the United States)	Minas, Duri, and Bangko, central Sumatra	700
Do.	Total Indonesie (subsidiary of Compagnie Francaise des Petroles of France)	Handi and Bakapai onshore and offshore East Kalimantan	180
Silver	PT Aneka Tambang Tbk (Government, 65%)	Bogor, West Java	25
Do.	PT Freeport Indonesia Co. (Freeport-McMoRan Copper & Gold Inc. of the United States, 81.28%; Government, 9.36%; others, 9.36%)	Ertsberg and Grasberg, Papua	220
Do.	PT Kelian Equatorial Mining (Rio Tinto Group, 90%; 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

[e]Estimated; estimated data are rounded to no more than three significant digits.