CRUDE OIL

Reserves and Production

In 2000, Indonesia ranked seventeenth among world oil producers, with approximately 1.9 percent of the world's daily production. The GOI places Indonesia's crude oil reserves at 9.6 billion barrels, with proven reserves of 5.1 billion barrels and potential reserves of 4.5 billion barrels. The figures are slightly lower than in 1999. Totaling $14.4 billion in 2000, oil and gas exports (including LNG) accounted for 23.1 percent of Indonesia's export earnings, up from 20.1 percent in 1999.

Indonesia produced an average of 1.4 million barrels per day (b/d) in 2000 comprising 1.3 million b/d of crude oil and 141 thousand b/d of condensate in 2000. Crude and condensate production was down nearly 6 percent over the previous year's level of 1.5 million b/d (1.351 million b/d of crude and 149 thousand b/d of condensate). Monthly statistics confirmed a generally downward trend in 2000 with crude production dropping from 1.305 million b/d in January to 1.255 million b/d in December and condensate production dropping from 156.7 thousand b/d to 148.9 thousand b/d. In June 2001, Indonesia's actual crude oil production averaged 1.345 million b/d consisting of 1.215 million b/d of crude and 120.2 thousand b/d of condensate.

Six major producers -- Caltex, YPF Maxus, BP, Conoco, ExxonMobil, and Vico, -- accounted for the bulk of the 86,000 b/d drop in 2000 from the previous year's output. Caltex, Indone-sia's largest producer accounting for 49.9% of Indonesia's total crude production, produced 705,800 b/d in 2000. This was 5.4 percent lower than 1999 production of 746,000 b/d. Production of Sumatra Light Crude (Minas) and the heavy, sweet Duri crude continued to decline.

Lower production resulted in production losses averaging 30,000 b/d from Caltex alone in 2000. Civil unrest, blockades to operational sites, labor strikes, rampant theft, damage to production facilities, and uncertainty about future control of the Coastal Plains Pekanbaru (CPP) block were some factors contributing to the decline. (Note: In August 2001, the GOI extended the CPP block contract to safeguard its production and to allow time for the GOI and Riau government to resolve their disputes over future operatorship.) This cost Indonesia an estimated US $300 million in lost oil revenue in 2000. Caltex foresees production losses averaging closer to 40,000 b/d in 2001, resulting in monetary losses of $400-$500 million.

Condensate production from ExxonMobil's Arun field declined by 33.3 percent to 28,200 b/d. On the positive side, production from Medco, Indonesia's largest private oil producer, was up 79 percent to 67,200 b/d from 37,500 b/d in 1999.

Exploration and Investment

Of an estimated 60 oil basins, over 22 have been extensively explored. Most oil exploration is currently being carried out in the basins of Western Indonesia under PSCs. The bulk of Indonesia's oil reserves are located onshore and offshore in Central Sumatra and Kalimantan. The Government has placed increased emphasis on developing oil reserves in remote locations, such as Papua, where proven reserves are estimated at 87.5 million barrels.

Three new production sharing contracts were signed in May 2001. Five new contracts for oil and gas exploration and development were signed in 2000, up slightly from 4 in 1999 but significantly below the record 29 signed in 1997. Two existing contracts were extended in 2000. The 5 new contracts were awarded in May 2000 -- one production sharing contract (PSC) and four Technical Assistance Contracts (TACs). The new PSC was Energy Equity Pty. Ltd. for Bone block offshore Sulawesi. The four TACs comprised Energy Equity Pty. Ltd. for Gajah Besar oil field in South Sumatra; PT. Indama Putra Kayapratama for Kaya oil field in South Sumatra; PT. Binatek Reka Kruh for Kruh field in South Sumatra; and a joint venture between PT. Wahana Sad Karya and First Union Resources for Jatirangon oil field in West Java. The two extended contracts were Seram/Bula block in onshore Maluku and Kufpec Indonesia Ltd. for Seram offshore Maluku. The seven contractors have agreed to invest a total of US $112.3 million for exploration during the first ten years and to pay US $1.1 million as an information bonus. The total number of active oil contracts rose to 155.

A total of 165,926 kilometers of seismic (government data combine 2-D and 3-D) activities was carried out in 2000, figures which have trended steadily downward since the 1997 peak. The number of exploration and appraisal wells drilled dropped to 82. The number of wildcat drills, at 66, recovered to historic levels after dipping down to 46 in 1999, the lowest since 1970. Traditionally high, the associated success ratio (successful wells versus wells drilled) reached 50 percent, up from 41.3 percent in 1999, but down from 53.3 percent in 1995.

Pertamina reported that many oil companies shelved their investment plans during the first nine months of 2001. Pertamina attributed the drop to security problems affecting PSC operators and their uncertainty over the impact of new legislation, e.g., decentralization and the newly passed oil and gas law. Investment in the oil and gas sector reached only US $1.64 billion during January-September, far below the US $5.4 billion targeted for the year.

In 2000, petroleum company expenditures on exploration, development and production were forecast to reach $4.1 billion. Actual expenditures in 2000, at $3.6 billion, fell from $4.0 billion in 1999.

Mergers and Acquisitions

The October 10 merger of Chevron and Texaco is official. The new company, ChevronTexaco, is expected to provide improved reporting efficiencies and greater accountability of three joint Indonesian subsidiaries – PT Caltex Pacific Indonesia, ChevronTexaco Darajat, and MCTN CoGeneration, which will now report directly to ChevronTexaco Overseas Petroleum as the Indonesian Business Unit. The merger will also bring Texaco's heretofore separate interest in the Natuna Sea B Block under the Caltex umbrella.

Conoco's acquisition of Gulf Canada led to a change of Gulf Indonesia Resources' president, but Conoco Indonesia and Gulf Indonesia Resources continue to exist as separate enterprises in Indonesia even as the Conoco parent company assumed 75-percent ownership of Gulf Indonesia Resources.

Devon's merger with Santa Fe-Snyder led to a change in the name of the Indonesian operation from "Santa Fe Energy Resources Companies" to "Devon Energy Companies in Indonesia."

The Future

Pundits have been forecasting Indonesia's imminent shift from net oil exporter to net importer since at least the early 1970's. New discoveries and technological advances, such as enhanced oil recovery and deep-water exploitation, have successively postponed this transition. Taking reserves-to-production ratio and consumption levels into account, Indonesia is now forecast to become a net oil importer in the second decade of the 21st century.

To maintain its net exporter position, Indonesia should improve its fiscal terms for oil and gas production for both mature and frontier areas. In mature fields, the 85/15 (government/contractor) split for oil and 70/30 split for gas make thresholds higher than in other parts of the world. In frontier areas, where the split is 60/40 for gas and 65/35 for oil, the balance between risk and reward is generally viewed as insufficient to attract major exploration funds. These problems are exacerbated by small reserve accumulations and high infrastructure costs.

With substantial reserves of natural gas and coal, Indonesia could still remain a net oil exporter for a substantially longer period. To do so, however, the government has to implement legislation and policies that will rationalize use of Indonesia's energy resources. Energy policy reform will enhance efficient use of energy resources. Ideally, key measures would include:

- Proper incentives to encourage industry to expand the domestic use of natural gas and coal;

- General enhancement of the terms of Indonesia's production sharing contracts (PSCs) vis-à-vis other oil producing countries to make the PSCs more competitive;

- Tax consolidation and improvement of the fiscal terms for oil and gas production; and

- Increases in electricity tariffs and elimination of fuel subsidies so that domestic energy pricing is based on costs of production and market conditions.

The new oil and gas law and pending draft legislation for electricity and mining give Indonesia the opportunity to implement some of the changes necessary to allow the country to rationalize its use of energy resources.

New Discoveries and Fields Coming on Line

Indonesia offered nine exploration blocks in the first half of 2001. While 20 companies made preliminary inquiries, only eight bidders in the end competed for six blocks, with no bids tendered on three. This was the first round in which the Ministry's Directorate of Oil and Gas (MIGAS) managed the licensing, a function formerly carried out by state petroleum company Pertamina. The nine blocks and bidders are detailed in the table below:

NAME	LOCATION	BIDDERS
Popodi	Makassar Strait	Exol
Donggala	Makassar Strait	Exol Unocal TotalFinaElf
Papalang	Makassar Strait	Exol
Taritip	Makassar Strait	None
Jangeru	Makassar Strait	None
Tanjung Aru	Makassar Strait	Exol Amerada Hess
Nila	Natuna Sea	Gulf Indonesia Conoco
Bawean I	NE Java Sea	BP Santos
Bawean II	NE Java Sea	None

The Makassar Strait blocks are immediately east of Unocal's existing deepwater blocks and further in to the strait. The blocks run from north to south in the order listed above. The Nila block fills in an area not already assigned in the West Natuna Sea area that is already under active development. The Bawean blocks are near BP and Santos' current Production Sharing Contracts (PSC). The tender was opened for bids on March 1 and closed on June 15, and, for the first time, information was provided through e-marketplace Indigopool.com, an internet company affiliated with petroleum services company Schlumberger. The relatively sparse response suggests that Indonesia should consider improving PSC terms as described above.

Higher Oil Production Expected

According to Pertamina Director for Upstream Business Iin Arifin Takhyan, Indonesia's crude oil production may improve in the near future. Oil fields now under development could increase crude production to 1.6 million b/d (1.45 million b/d of oil and 0.15 million b/d of condensate) in 2004 from current production rates of 1.21 million b/d of oil and 123 thousand b/d of condensate. The additional output would come from the Belanak block in West Natuna operated by Conoco and the Cepu block in Java operated by ExxonMobil. The Belanak block is projected to produce 100 thousand b/d of oil and condensate and Cepu block to produce 150 thousand b/d.

PSC Update

EXXONMOBIL was created from the merger of Exxon and Mobil in December 1999, leading to the consolidation of Exxon, Esso, and Mobil operations in Indonesia. Mobil in 1998 celebrated 100 years of doing business in Indonesia, including 30 years as a production-sharing contractor, 20 years as a producer of liquefied natural gas and 10 years as a producer of liquefied petroleum gas.

In June 2000, ExxonMobil acquired a 51-percent interest in the Cepu block, located in Central/East Java, through its Mobil Cepu Limited acquisition of a Technical Assistance Contract from PT Humpuss Patragas. Ampolex

Cepu Pte. Limited, another Exxon-Mobil subsidiary, owns the remaining 49-percent interest. Also in Central/East Java, ExxonMobil owns 30 percent in the Blora TAC and 68 percent in the Madura PSC.

ExxonMobil Corporation announced on April 12, 2001 that Mobil Cepu Limited, an affiliated company, had made a major oil discovery in Indonesia. The Banyu Urip No. 3 (BU-3) well verified the existence of a reserve estimated to be well in excess of 250 million barrels in the Mobil Cepu-operated Cepu block. The well encountered nearly 1,000 feet (305 meters) of gross oil and over 300 feet (91 meters) of gross gas pay, and oil was tested at a rate of nearly 4,500 b/d from Middle Miocene carbonate and sandstone formations. Indonesia state-owned oil company Pertamina has accepted an option to acquire a 10-percent share in the project. (Note: Pertamina later argued that it should have a larger share. ExxonMobil Indonesia and Pertamina are discussing how much more Pertamina might acquire.) Planning for a phased, fast-track development is now under way. Initial production is expected from the Banyu Urip discovery by 2003 through six to ten wells utilizing an early production system in parallel with activities leading to full field development.

ExxonMobil natural gas operations in North Sumatra include the Arun, Pase, and South Lhoksukon fields, and a 50-percent interest in A-Block (Gulf is operator). (See additional details in the LNG chapter.)

UNOCAL produces more than 50,000 barrels of oil and 225 million cubic feet of gas per day from 9 offshore fields. The company reported offshore oil and gas finds in 2001 with two successful exploration wells on the Ranggas prospect offshore East Kalimantan. The Ranggas-2 well encounter 155 feet of net oil pay and 118 feet of net natural gas pay, while the Ranggas-3 well found 306 feet of net oil pay and 123 feet of net gas pay. Based on drilling to date, Unocal estimated the gross unrisked resource potential for the Ranggas structure at between 190 to 650-million barrels of oil equivalent. Unocal now plans to drill four to eight wells on adjacent prospects beginning later this year.

Currently, Unocal estimates its current offshore discoveries at three other sites at between 210 to 320 million barrels-of-oil equivalent (MMBOE). Unocal announced in June 1999 that it had made a significant discovery in the Kutai Basin Rapak Block PSC with the successful drilling of the Janaka North 1 well. The Rapak PSC is located east of the Makassar Straits PSC, where, in March 1998, Unocal discovered hydrocarbon reserves in the Seno structure. In October 1997, Unocal made its first discovery in the adjacent Merah Besar structure.

Unocal leads in the exploration of Indonesia’s deepwater resources in the Kutai Basin offshore East Kalimantan, where the company has expended US $400 million in drilling capital and discovered 7 oil and gas fields. Unocal is currently moving forward with development of the West Seno field -- Indonesia’s first deepwater production which is expected to come on line in early 2003 and produce 60,000 barrels of oil per day. The total forward expenditure on this project will be approximately US $700 million.. Once in production, the field, at 3,000 feet of water, will be Indonesia's first very deep water site. In addition, a plan for the development of the Merah Besar oil and gas discovery, which straddles the Makassar and East Kalimantan PSC (Unocal), has been approved by Pertamina. Natural gas from both discovery areas is eligible for participation in the gas supply packages for the Bontang LNG plant.

Unocal is 100-percent owner/operator of the East Kalimantan PSCs. In 2000, Unocal bought out ExxonMobil's 50-percent share in the Makassar Straits PSC, where they had been equal partners since September 1996 when Unocal first acquired a 50-percent interest and operatorship from then Mobil. Additionally, Unocal bought back ExxonMobil's 30-percent share of the Rapak PSC, leaving Lasmo with its 30 percent share. In May 1999, Unocal assigned 20 percent of its working interest in the Ganal and Sesulu PSCs to Lasmo while retaining an 80-percent share. Unocal remains operator of these PSCs.

CALTEX extended its operatorship of the Coastal Plains Pekanbaru (CPP) PSC, expiring in August 2001, at the very last minute. President Megawati ordered Minister of Energy and Mineral Resources Purnomo Yusgiantoro on August 1 to extend Caltex's contract for another year. In the face of opposition and demonstrations by Riau residents, Caltex, Pertamina, and the Riau government met on August 8 and agreed that Caltex would provide new community development programs, increase training opportunities, and drill at least nine additional wells. The agreement also stated that Pertamina and the Riau government would form a team to recommend, within three months, an operational arrangement to cover the period after the extension expires in August 2002. Caltex expressed its willingness to participate in the future operation of the CPP block if it made sense economically and if the GOI and Riau favor such participation.

In May 2001, Caltex also signed the new exploration Kisaran PSC, which is located in North Sumatra province and adjacent to existing production operations. Caltex is targeting new oil and gas reserves, and plans to commence a 3D seismic acquisition program before the end of 2001.

GULF INDONESIA RESOURCES, a subsidiary of Gulf Canada Resources Ltd., confirmed a successful delineation well (Suban-3) in 1999 on its Suban field onshore Sumatra, with a flow rate of 272 b/d of crude and condensate and 27.8 MMCF/D, which was followed up in 2000 with Suban-4. The Suban field was discovered in January 1999 and is located 20 kilometers southwest of Gulf's producing Dayung field and 64 kilometers from the Corridor project's central gas plant at Grissik. Gulf's PSC partner, **TALISMAN ENERGY**, announced that the Suban-6 appraisal well confirmed the extension of the Batu Raja Reef encountered in Suban-4 into the central fault block of the Suban fields, which may result in a substantial increase in reserves. As of mid-2001, preparations had begun to test Suban-6 and drill Suban-7. Partners in the Corridor Block are Gulf (54 percent), Talisman Energy (36 percent) and Pertamina (10 percent).

MEDCO, Indonesia's largest private oil company, began exporting crude oil in 2000 and formally changed its name to "PT Medco Energi Internasional Tbk." The company operates eight exploration and production working areas and holds two PSC licenses in Burma. In Indonesia, it acquired 75-percent working interests in the West Simenggaris and West Madura blocks from subsidiaries of Australia-based City View Energy Corporation and purchased Union Texas' shares in Senoro-Toili Ltd., an oil company in Sulawesi working the Senoro Toili block. Also in 2000, Medco discovered the Soka oil and gas field in South Sumatra.

Medco has projected 20 million barrels of oil reserves in its new Matra field discovery in South Sumatra. The field is about 26 km from Medco's Kaji Semoga field, which produces Kaji light sweet crude (API gravity of 40 degrees and zero sulfur). The field pumps 69,200 b/d to Pertamina's 133,000 b/d Plaju refinery with an additional 15,000 b/d exported under a term contract to Japan's Mitsui. The new Matra field is expected to come onstream by the fourth quarter of 2002. Medco as yet has no projections on Matra's initial or peak crude production rates, but believes the oil is similar to its Kaji crude. Medco is now Indonesia's third largest crude producer after Caltex and Repsol YPF. With the Matra discovery, Medco's recoverable oil reserves are estimated at 241 million barrels of crude and 140 billion cubic feet of natural gas.

In November 1999, Medco concluded a debt restructuring agreement, converting 40 percent of its debt to equity and extending payment terms of the remainder. New Links, a joint venture between the Indonesian Panigoro family and Credit Suisse First Boston, now owns 87 percent of Medco, which is traded on the Jakarta Stock Exchange. New Links is currently in negotiations to divest part of its shares.

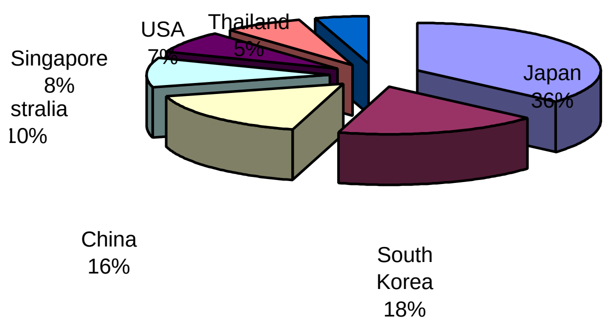
DEVON ENERGY reported that its most recent well, the North Gemah-1, is the fiftieth successful well of 51 total wells in the Jabung block. The well, drilled to a total depth of 6,801 feet, tested a new geologic structure having a hydrocarbon column in excess of 700 feet. The well flow tested at combined rates of 29 million cubic feet per day (MMCFD) of natural gas and 1,000 barrels per day of condensate from selected zones. Devon Energy's local affiliate operates the Jabung block with a 30 percent working interest. Other partners include Amerada Hess (Indonesia-Jabung) Ltd. with 30 percent, Kerr-McGee Sumatra Ltd with 30 percent and Pertamina EP with 10 percent. Devon also announced the successful completion of the wildcat KOI-1 well on its Salawati block offshore Irian Jaya. The well was drilled to a depth of 4,523 feet in 105 feet of water. It tested at combined rates in excess of 900 barrels of oil per day and 2.5 MMCF of gas per day from two intervals. This well expands the offshore exploration potential in the area of the existing Teluk Bureau A and Teluk Bureau C discoveries. Devon continued its development of the onshore East Java Tuban block, drilling the Sukowati-1 exploratory well near its existing Mudi field, which produces an average of 11,000 b/d. The well flowed an estimated 6,400 b/d at 2,000 meters in June 2001 from a carbonate reservoir that also yielded results for ExxonMobil's exploration of the Cepu block.

PETRONAS, a Malaysian company, which also conducts exploration activity in Pakistan and Vietnam, should be able to expand its presence in Indonesia readily but currently has only a modest presence in its neighbor's oil and gas sector. Petronas, through its Petronas Carigali subsidiary, owns a 50% interest in the Pasemah block, South Sumatra, which it acquired from Medco (which still has the remainder) in 2000, and the Ketapang block offshore Java (in an equal partnership with Gulf Indonesia). Petronas also announced on September 18, 2001, that it had been awarded a stake in the Tanjung Aru block located offshore Kalimantan in the Makassar Straits. Petronas Carigali will hold 50 percent and Amerada Hess has the other half and will operate the block. The block covers 4,160 square meters with water depths ranging from 150 to 1,700 meters in the rich Kutai basin.
The Malaysian state-owned petroleum company also has a 25-percent equity in Premier Oil Ltd which has exploration and production interests in Indonesia and is actively involved in the supply of natural gas from the West Natuna offshore area to Singapore. At one time, Petronas was also rumored to be interested in acquiring the Indonesia properties of Repsol-YPF.

Marketing the Crude

Indonesia, through Pertamina and its foreign partners, sells crude oil under one-year contracts, which include a price adjustment mechanism. Indonesian crude generally commands a premium because of its low sulfur content. Indonesia's representative Minas crude (in crude marketing terms, referred to as Sumatra Light Crude) produced in Central Sumatra has an American Petroleum Institute (API) gravity of 34.5 degrees at 60°F and a sulfur content of between 0.06 percent and 0.10 percent by weight.

Export Market of Indonesian Crudes in 2000



Effective October 1, 1999, Pertamina changed the pricing formula for official export prices of Indonesian crudes. The Indonesian Crude Price (ICP) formula has three components: the Asian Petroleum Price Index (APPI), Rim Intelligence Company, and Platts. The APPI component is derived from twice weekly APPI price assessments adjusted by a basket of regionally traded crude oils (including Indonesian Sumatra Light Crude and Malaysian Tapis) using a 52-week moving average. Pertamina lowered the portion of the APPI panel quotes from 33.3 percent to 20.0 percent and increased the portion of spot assessments of Platt and RIM to 40.0 percent each. The purpose of the

adjustment was to better reflect prices in the world market by putting more emphasis on the spot market. The Ministry of Energy and Mineral Resources reviews the oil pricing formula semi-annually.
Asian countries are the largest markets for Indonesian crude. Japan accounted for 34 percent of Indonesian crude oil exports in 2000, followed by South Korea (17 percent), China (15 percent), Australia (9 percent), Singapore (7 percent), and the United States (6 percent).

In 2001, Pertamina opened an office in Singapore through its wholly owned Hong Kong-based subsidiary Pertamina Energy Trading (ex-Perta Oil). The new office promotes and facilitates trade in crude oil and fuel between Singapore and Indonesia, offers logistical services to Pertamina, and represents Pertamina's interests. Pertamina's former office in Singapore was closed following 1997-1998 Asian financial crisis.

Imports

Indonesia remains a significant importer of crude oil. In 2000, Indonesia imported over 219,100 B/D of crude (an annual total of 80.0 million barrels), at a cost of $2.3 billion for the year, mainly from Saudi Arabia (45 percent), Nigeria (17 percent), Malaysia (10 percent), China (7%), and Vietnam (6 percent). Oil product imports increased by almost 12.5 percent to 90 million barrels for the year.

Crude imports by Country