

THE MINERAL INDUSTRY OF

BRUNEI

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Brunei, a small country on the northwest coast of Borneo Island in southeast Asia, had extensive reserves of petroleum and natural gas. In 1998, Brunei's estimated proven reserves of petroleum and natural gas were 1.35 billion barrels and 390.77 billion cubic meters, respectively, and Brunei ranked fourth in production of liquefied natural gas (LNG), but seventh in crude petroleum and eighth in natural gas in the Asia and Pacific region (Oil & Gas Journal, 1998). Brunei also had considerable reserves of coal, kaolin, limestone, sand and gravel, and silica sand (Quazi, 1996, p. 1-7). However, mineral resources of coal, kaolin, and silica sand remained unexploited.

Brunei's mineral industry was dominated by the oil and gas industry, which also played a major role in Brunei's economy. Brunei's economic health and Government revenues were heavily dependent on sales of its crude petroleum and LNG. Because of excessive supply and lower prices in the world oil market, export earnings and revenues from oil and LNG declined in 1998. To stimulate economic growth, the Government spent a total of about \$600 million for the development fund, about \$200 million more than its budget plan for 1998 fiscal year. As a result, Brunei's economy grew between 2.5% and 2.7% in 1998, compared with 4% in 1997 (Far Eastern Economic Review, 1999, p. 83).

The contribution by the oil and gas industry to Brunei's gross domestic product declined to about 50% in 1998 from 54% in 1995. The industry also provided about 50% of all Government revenue through payment of income tax and royalties and production sharing. The profit tax on oil and LNG was 50% and 45%, respectively. The royalty on oil was between 8% and 12.5% of crude oil prices. The Government controls 50% of production under production-sharing contracts with foreign oil companies. The export earnings from crude petroleum, refined petroleum products, and LNG declined to about 90% of Brunei's total export earnings in 1998 from 93% in 1995. Brunei's export earnings from crude petroleum, refined petroleum products, and LNG declined to about \$2.1 billion in 1998 from \$2.2 billion in 1995 (International Monetary Fund, 1997).

The oil and natural gas industry consisted of three operating companies, Brunei Shell Companies, Elf Aquitaine-Jasra, and Fletcher Challenge Petroleum. Brunei Shell Companies conducted oil and gas exploration, produced and refined crude petroleum, produced and processed natural gas, marketed crude petroleum, refined petroleum products, and processed natural gas products. Elf Aquitaine and Fletcher only conducted oil and gas exploration. The oil and gas industry employed about 4,600 people. The mining and quarrying industry consisted of more than 20 private-owned companies engaging mainly in

production and marketing of construction aggregates and sand and gravel. Additionally a cement company operated a clinker grinding plant for cement production and marketing.

Within Brunei Shell Companies, exploration and production of crude petroleum and natural gas, trading of crude petroleum and natural gas, and refining of crude petroleum were by Brunei Shell Petroleum Co. Sdn. Bhd. (BSP). Marketing of refined petroleum and petrochemicals products in the domestic market was by Brunei Shell Marketing Sdn. Bhd. (BSM). Production and marketing of LNG were by Brunei LNG Sdn. Bhd. (BLNG). Transport of LNG was by Brunei Shell Tankers Sdn. Bhd. (BST), which owned seven LNG tankers and chartered to BLNG to deliver LNG to customers in Japan and the Republic of Korea. The Government of Brunei and a company in the Royal Dutch/Shell Group of Companies are equal shareholders of BSP, BSM, and BST. However, BLNG was owned 50% by the Government of Brunei, 25% by the Royal Dutch/Shell Group, and 25% by Mitsubishi Corp. of Japan.

According to Wood Mackenzie Consultants, BSP drilled a sidetrack to 2,143 meters to further appraise the new oil find at Mampak 1 and was considering a fast-track development for the new field, about 6 kilometers southwest of the Magpie Oilfield. BSP also drilled the Kenawai 1 onshore well, but no economically viable gas was discovered. Unocal Corp. continued its exploration in block A and block CD in Baram Delta and drilled the Perdana Deep 1. In early 1998, Elf Aquitaine began developing the offshore Maharaja Lela Field on Brunei side (western section) adjacent to the same field offshore Sabah State of Malaysia. Overall reserves of the field were estimated to contain 19 billion cubic meters of natural gas, 18.5 million barrels of condensate, and 9.2 million barrels of crude petroleum. The development of the Maharaja Lela Field by Elf Aquitaine includes installing 2 platforms, drilling 10 wells, and building a multiphase pipeline to deliver the natural gas to Lumut LNG plant for processing (World Oil, 1998).

In oil and gas production, the output of crude petroleum including condensate averaged 151,500 barrels per day (bbl/d) and natural gas averaged 30.41 million cubic meters per day in 1998 (Oil & Gas Journal, 1998). BSP produced oil and gas from two onshore fields in Rasau and Seria-Tali and from seven offshore fields—Southwest Ampa, Champion, Enggang, Fairley, Fairley-Baram, Iron Duke, and Magpie. The offshore Champion Field, about 70 kilometers northeast of Seria, contains about 40% of Brunei's crude petroleum reserves; and the Southwest Ampa Field, about 13 kilometers off Kuala Belait, holds more than 50% of Brunei's natural gas reserves.

In 1998, BSP exported about 142,000 bbl/d of crude petroleum. Of the total crude petroleum exports, 35% went to the Association of Southeast Asian Nations, 30% to the Republic of Korea, 28% to Japan, and 7% to other countries. About 9,750 bbl/d of crude petroleum was delivered to BSP's 8,600-bbl/d oil refinery at Seria for production of gasoline, distillate fuel oils, and kerosene. Refined petroleum products were marketed domestically and overseas. BSP sold and delivered natural gas output to BLNG for production of LNG at the Lumut LNG plant, which has five trains with a total capacity of 5.4 million metric tons per year. In 1998, LNG output was about 5.5 million metric tons, of which about 80% was exported to Japan, 18% to the Republic Korea, and about 2% was consumed domestically.

References Cited

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Major Source of Information

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TABLE 1
BRUNEI: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

Commodity 2/		1994	1995	1996	1997	1998
Gas, natural:						
Gross	million cubic meters	10,171 3/	11,152 3/	11,152 3/	11,135 r/ 3/	11,100
Marketed	do.	9,310	10,210	10,210	10,195 r/	10,200
Petroleum, crude 4/	thousand 42-gallon barrels	64,970 3/	63,875 3/	62,269 3/	59,500 r/ 3/	55,300
Refinery products:						
Gasoline	do.	620	620	620	620	620
Distillate fuel oil	do.	430	430	430	430	430
Residual fuel oil	do.	10	10	10	10	10
Other 5/	do.	330	340	340	340	340
Total	do.	1,390	1,400 r/	1,400 r/	1,400 r/	1,400

r/ Revised.

1/ Table includes data available through March 25, 1998.

2/ In addition to the commodities listed, crude construction materials such as sand and gravel and other varieties of stone presumably are produced, but available information is inadequate to make reliable estimates of output levels.

3/ Reported figure.

4/ Includes condensate.

5/ Includes refinery losses.

Sources: Ministry of Finance, Economic Planning Unit, Brunei Darussalam Statistical Yearbook, 1993-96; Oil & Gas Journal, v. 96, no. 25, December 28, 1998, p. 38; and International Petroleum Encyclopedia, 1998, p. 327.