

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. According to the *Oil and Gas Journal*, Brunei's proven reserves of crude petroleum were estimated at 1.35 billion barrels and proven reserves of natural gas at 399.27 billion cubic meters (Oil and Gas Journal, 1996). In the Asia and Pacific region, Brunei ranked fourth in liquefied natural gas (LNG) production and seventh in crude petroleum and natural gas production in 1996. In addition to its rich oil and gas reserves, Brunei also has considerable reserves of coal, kaolin, limestone, sand and gravel, and silica sand. However, Brunei had not produced coal since 1939. Among Brunei's industrial mineral resources, only construction aggregates and sand and gravel were produced in 1996.

The oil and gas sector continued to be the major driving force of Brunei's economy in 1996. As a result of increased oil and gas prices in 1996, Brunei's economic growth turned positive, following four consecutive years of negative growth. Contribution of the oil and gas sector to Brunei's gross domestic product (GDP) and total export earnings also rose. In 1996, the oil and gas sector was estimated to contribute 42% to Brunei's GDP and exports of crude petroleum, refined petroleum products, and LNG were estimated to account for 96% of Brunei's export earnings. Brunei's GDP, in current price, was estimated at \$4.7 billion and export earnings from crude petroleum, refined petroleum products, and LNG were estimated at \$2.6 billion in 1996.

In the oil and natural gas sector, 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 of LNG was by Brunei LNG Sdn. Bhd. (BLNG). Marketing of LNG was by Brunei Coldgas Sdn. Bhd. (BC). Transport of LNG was by Brunei Shell Tankers Sdn. Bhd. (BST), which owned seven LNG tankers and chartered to BC 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. BLNG and BC were owned 50% by the Government of Brunei, 25% by the Royal Dutch/Shell Group, and 25% by Mitsubishi Corp. of Japan. In late 1995, BC had merged with BLNG as an integrated company.

In oil and gas production, the output of crude petroleum including condensate averaged 171,000 barrels per day and natural gas averaged about 33 million cubic meters per day in

1996 (State Department Telegram 000926, U.S. Embassy, Bandar Seri Begawan, Brunei, November 25, 1996). According to the *Oil and Gas Journal*, BSP were producing oil and gas from 766 wells. Of those, 329 wells were at two onshore oil and gasfields and the remainder were at seven offshore oil and gasfields. The two onshore oil and gasfields were Rasau and Seria-Tali. The seven offshore oil and gasfields were Southwest Ampa, Champion, Enggang, Fairley, Fairley-Baram, Iron Duke, and Magpie. The offshore Champion Field, located about 70 kilometers northeast of Seria, contains about 40% of Brunei's crude petroleum reserves and the Southwest Ampa Field, located about 13 kilometers off Kuala Belait, holds more than 50% of Brunei's natural gas reserves (Oil and Gas Journal, 1996).

In oil and gas exploration, BSP announced in July 1995 that it made a major gas discovery at Selangkir-1 well, located about 12 kilometers west of the Champion Field. The exploration well was successfully drilled and tested at a gas rate exceeding 2.4 million cubic meters per day during 1995 (Brunei Shell Companies, 1995). The Selangkir reserves were estimated at 8 billion cubic meters of gas. Another joint-venture company, Elf Acquitaine-Jasra, had made several oil and gas discoveries in the Maharaja Lela Fields of Block B in the past years. The joint-venture company planned to develop and produce oil and gas from this field in the next 3 to 4 years.

In 1996, BSP exported about 161,000 barrels per day of crude petroleum mainly to Japan, 32%; Thailand, 23%; South Korea, 22%; Singapore, 14%; and Taiwan, 5%. The remaining 10,000 barrels per day of crude petroleum was consumed by BSP's 8,600-barrel-per-day Brunei Refinery at Seria for production of gasoline, distillate fuel oils, and kerosene. BSP sold its natural gas at the rate of 30.6 million cubic meters per day to BLNG for production of LNG at the Lumut LNG plant. More than 6 million metric tons of LNG were sold by BLNG to BC for export to Japan (89%) and South Korea (11%). About 2% of LNG output was consumed domestically by the utility industry and households.

In the industrial minerals sector, production of construction aggregates, sand and gravel, and stone was by numerous privately owned small-scale companies operated in the Lumapas area for construction aggregates, in the Temburong Valley area for gravel, and in the Tunggulian area for sand. According to the Public Works Department of the Ministry of Development, there were eight construction aggregates quarries operated in the Temburong area. The top eight stone quarries in 1996 were Puni Sdn. Bhd., Butir Quarry Sdn. Bhd., Tobishima Jaya Sdn. Bhd., Hock Sin Quarry Sdn. Bhd., Syarikat Perusahaan Brunei

Sdn. Bhd., New Temburong Quarry Sdn. Bhd., Bee Seng Quarry Sdn. Bhd., and Kuari Timbunan Sdn. Bhd. Stone aggregates production totaled about 1 million cubic yards or about 2 million metric tons in 1996.

To meet the domestic demand, Brunei imported about 360,000 metric tons of stone, mainly granite, from Sabah, Malaysia, annually. Sand production from the Tunggulian area totaled about 1.22 million cubic yards or about 2.3 million metric tons in 1996.

In 1996, a 500,000-metric-ton-per-year clinker grinding plant was completed and came on-stream. Brunei imported raw materials including clinker and gypsum from neighboring countries in the Southeast Asia region for its cement manufacturing. The new cement plant, located near the port city of Muara, was owned and operated by Butra Cement Sdn. Bhd.

Butra Cement was a joint venture of Brunei, Indonesia, and Taiwan.

References Cited

Brunei Shell Companies, 1995, Offshore east: 1995 Annual Review, p. 16.
Oil and Gas Journal, 1996, Worldwide look at reserves and production: Oil and Gas Journal (Tulsa,OK), v. 94, no. 53, p. 40, 52.

Major Sources of Information

Ministry of Finance, Bandar Seri Begawan, Brunei
Economic Planning Unit
Ministry of Development, Bandar Seri Begawan, Brunei
Public Works Department
Brunei Shell Companies, Annual Review, 1995

TABLE 1
BRUNEI: PRODUCTION OF MINERAL COMMODITIES e/ 1/

Commodity 2/	1992	1993	1994	1995	1996	
Gas, natural:						
Gross	million cubic meters	9,850 r/ 3/	9,959 r/ 3/	12,000 r/	12,000 r/	12,000
Marketed	do.	8,700	9,120 r/	10,990 r/	10,990 r/	10,990
Natural gas liquids:						
Condensate	thousand 42-gallon barrels	4,500	4,600	4,700	7,000 r/	7,600
Natural gasoline	do.	240 r/	240 r/	240 r/	250 r/	250
Liquefied petroleum gas	do.	90	90	90	90	90
Total	do.	4,830 r/	4,930 r/	5,030 r/	7,340 r/	7,940
Petroleum:						
Crude	do.	60,225 r/ 3/	57,305 r/ 3/	59,200	55,300 r/	54,800
Refinery products:						
Gasoline	do.	620	630	620	620	620
Distillate fuel oil	do.	430	440	430	430	430
Residual fuel oil	do.	10	10	10	10	10
Other 4/	do.	330	340	330	340	340
Total	do.	1,390	1,420	1,390	1,420	1,420

e/ Estimated. r/ Revised.

1/ Table includes data available through Mar. 21, 1997.

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

3/ Reported.

4/ Includes refinery losses.

Source: Ministry of Finance, Economic Planning Unit, Brunei Darussalam Statistical Yearbook, 1993, p. 67; Oil and Gas Journal, 1996, Worldwide look at reserves and production: Oil and Gas Journal (Tulsa, OK), v. 94, no. 53, p. 52.