THE MINERAL INDUSTRY OF

PAKISTAN

By Chin S. Kuo

Pakistan's economy endured the worst recession in years brought on initially by reported economic mismanagement and worsened by international sanctions. In March, the Government managed to avoid defaulting on its $32 billion foreign debt by securing a temporary bailout of $1.6 billion from the International Monetary Fund. Gross domestic product (GDP) growth was forecast to be 3% (Far Eastern Economic Review, 1999). Industries jarred with plant closings, and exports and imports fell, reflecting the severe recession, the lack of new investment, and the downturn in consumer demand. Inflation, however, remained at 8%, and foreign exchange reserves were down to $1.5 billion in September. The Government offered piecemeal incentives, such as tax breaks for some industries, cheaper electricity, and plans for low-cost housing, to revive the construction industry. Foreign investment was expected to be less than $200 million, and the budget deficit, 3.5% of the GDP in 1999.

Commodity Review

Copper, Gold, and Silver.—The $323 million Saindak copper, gold, and silver mine in the Chagai District of Balochistan was to be revived through supplementary grants of $29 million by the Government. The operating cost of the mine was estimated to be $330 million per year (Mining Journal, 1999b). Saindak Metals Ltd. had previously sought a short-term loan of $24 million from China to restart the mine and smelter, but nothing had come of that effort. The company planned to lease out its copper mine and smelter for 10 to 15 years. It also sought Iran's help to supply oil to the mine.

Steel.—The Government planned to sell 26% of Pakistan Steel Mills Corp. to investors. The partial privatization was being carried out under the auspices of the World Bank. The company planned to retrench 5,600 employees, which would be a 25% cut in the workforce. The Bin Qasim Plant at Karachi, which was built using Russian technology, was operating at an average of 62% of its 1.1-million-metric-ton-per-year (Mt/yr) crude steel capacity. The company planned to increase capacity to 1.3 Mt/yr and eventually to 3 Mt/yr (Metal Bulletin, 1999b).

Tin.—Consumption of tinplate in Pakistan totaled 187,000 metric tons (t) in 1998. Siddiqsons Tinplate Ltd. started commercial production of a 120,000-metric-ton-per-year (t/yr) tinplate line at Winder in Balochistan. Sollac of France and Mitsubishi Corp. of Japan were shareholders in the plant. The $30 million plant was to operate at 70% of capacity in the first year; Sollac contracted to supply 50% of blackplate feedstock, and Mitsubishi, 25% (Metal Bulletin, 1999a).

Cement.—The ailing cement industry relied on the country's housebuilding scheme and some 5,000 kilometers (km) of road construction projects. The housing plan alone would increase demand for cement to 12.5 Mt/yr. Installed cement capacity was more than 16.8 Mt/yr, but consumption was only about 9.5 Mt/yr (Financial Times, 1999). As a result, many cement plants were forced to cut back output by 40% to 50%. Cement manufacturers also wanted the Government to reduce taxes on cement bags. Construction of roads, bridges, and other infrastructure could be put on hold under pressure to reduce the Government debt to international financial institutions.

Coal.—The coal industry was small with an output of 3 to 4 Mt/yr. The country, however, possesses significant coal reserves. The Geological Survey of Pakistan submitted a plan for the development of new coal mines. The plan was to extract coal for power generation and the cement sector (Mining Magazine, 1999).

A feasibility study of the Thar coal deposits in Sind Province for power generation was underway. Sind Coal Authority had local private investment for the development of coal mines at Thar. Related infrastructure development projects also were being pursued. Other applications for coal, such as gasification and briquetting, would be pursued. Sind had 98% of the domestic coal resources (Mining Journal, 1999c).

Natural Gas and Oil.—Pakistan's energy needs came from mainly oil and gas—natural gas made up 37%, and oil and petroleum products, 44%. The country had 651 billion cubic meters (Gm^3) of proven gas reserves in 1999, but discoveries of new gasfields could add an additional 113 to 396 Gm^3 (Journal of Commerce, 1999a)

Lasmo Plc. of the United Kingdom discovered a second gasfield in the Kirthar concession in Sind Province. The find lies close to the Bhit Gasfield. The well could produce at initial rates of 566,000 cubic meters per day. Lasmo was the concession operator in partnership with Kirthar Pakistan. The companies owned a 47.5% stake each, and the remaining equity was owned by Oil & Gas Development Corp., which had an option to increase its equity to 20% (Middle East Economic Digest, 1999a).

BHP Petroleum of Australia discovered natural gas in the Zamzama 2 appraisal well in the Dadu area of Sind Province. Hydrocarbons were found in the Khadro and the Pab Formations. The well tested at 1.416 million cubic meters per day (Mm^3/d). BHP Petroleum held a 47.5% stake; Monument Resources (Pakistan) and Premier Exploration Pakistan,

23.75% each; and Government Holdings, the remaining 5% (Middle East Economic Digest, 1999b, p. 21).

Qatar agreed to export natural gas to Pakistan, and both countries proceeded with the $3 billion Gulf South Asian gas import project to build a 1,609-km gas pipeline between them. Gulf South Asia Corp. led a consortium for the project that included Brown & Root of the United States, Crescent Petroleum, Itochu Corp. of Japan, and Total SA of France. The pipeline would supply between 28 and 57 Mm^3/d of natural gas from Ras Laffan to Gadani near Karachi. Qatar General Petroleum Corp. would get a fixed annual rate of return. Pakistan's demand for natural gas was expected to outstrip domestic production.

Afghanistan, Pakistan, and Turkmenistan agreed to reactivate a $2-billion, 1,440-km natural gas pipeline despite the pullout of Unocal Corp. of the United States (Journal of Commerce, 1999d). When Unocal withdrew from the project citing instability in Afghanistan in December 1998, the project was nearing financial closure. The pipeline would bring natural gas from Turkmenistan's Daulatabad Gasfield to Multan in Punjab via Afghanistan.

A $2.5 billion, 1,638-km gas pipeline plan was being advanced by a consortium that was led by Broken Hill Pty. Co. Ltd. of Australia and included National Iranian Oil and Gas Co. The pipeline was estimated to supply 45 Mm^3/d of natural gas. It would run from Iran to Pakistan and was proposed to extend to India for that country's various power projects.

In 1999, Pakistan's oil demand rose by 7% and was projected to reach 28.7 million metric tons (Mt) by 2005. Domestic production, however, would be only 10 Mt of refined products. In 1999, the country imported 12 Mt of petroleum products, while 23 foreign-owned oil companies were exploring 235,000 square kilometers (km^2), including offshore areas, and at least 100 wells would be drilled each year for optimal exploration activity. Of the 16 oil and gas discoveries made by Pakistan during the past 2 years, 5 were expected to add substantial reserves, which could result in an increase of 35% to the nation's total reserves (Journal of Commerce, 1999c). The Government was pursuing privatization of the petroleum sector for investment in exploration, as well as oil and gas processing, transportation, and marketing.

Petronas of Malaysia planned to invest a minimum of $13 million initially in Pakistan's oil and gas exploration. Petronas Carigali (Pakistan) Ltd., which was its subsidiary, would explore for oil and gas in an area in Sind in a joint venture (Journal of Commerce, 1999e).

A joint venture of Oil & Gas Development Co. (55%), Government Holdings (5%), and Novus Petroleum of Australia (40%) was granted a petroleum exploration license for a 2,013-km^2 area in the Suleman block in Balochistan. Government Holdings would be the operator. A second license for a 2,093-km^2 area in the Guddu block in Punjab and Sind was awarded to a joint venture of IPR Transoil Corp. (95%) of the United States and Government Holdings (5%). IPR would be the operator, and the joint venture would invest a minimum of $3 million (Middle East Economic Digest, 1999b, p. 22).

Hardy Exploration & Production Ltd. and Government Holdings were awarded a contract to explore a 193-km^2 area in the Mamro block in the Sukkur District in Sind, near the Kadanwari, the Miano, and the Sawan gasfields. One exploration well should be drilled and at least $1.7 million spent. The contract was renewable for three 1-year increments.

Premier & Shell Pakistan acquired an exploration license for a 6,248-km^2 area in the Dadhar block in Balochistan. The block lies in the Dadhar, the Kalat, and the Sibi Districts. Premier Exploration Pakistan Ltd., which was a unit of Premier & Shell, would be the operator and 95% interest holder; the Government would hold the remaining 5%. The company planned to acquire geologic and seismic data during the next 2 years and could drill at least one well in the third year of the license (Oil & Gas Journal, 1999). It would spend $5.8 million on the concession. The Petroleum and Natural Resources Ministry invited bids for exploration licences in blocks in East Kadanwari, Zone III of Sind; in Khaur, Zone II of Punjab; and in West Phujli, Zone III of Sind.

Total and Atlas Group of Pakistan formed the joint venture Total Atlas Lubricants Pakistan to manufacture and market lubricants and greases in Pakistan. Total would hold 80% stake in the new company, and Atlas, the remaining 20%. Sales of lubricants in the country were estimated to be 275,000 t/yr with automotive industry accounting for 80% and industrial market users the remaining 20% (Journal of Commerce, 1999f). Pakistan State Oil controlled 20% of Pakistan's lubricants business, followed by Shell Pakistan and the U.S. companies Caltex and Mobil Corp.

Kot Addu Power Co. (Kapco) was running out of fuel oil owing to shrinking supplies from Pakistan State Oil. Kapco needed 5,000 metric tons per day of fuel oil; Pakistan State Oil cited import constraints owing to the foreign exchange crisis as the main reason. Kapco operated one of Pakistan's biggest thermal powerplants with a capacity of 1,600 megawatts and supplied 1,000 megawatts per day of electricity to the Water and Power Development Authority. The country was in one of its worst power shortages as electricity output slumped to less than one-half of its capacity (Journal of Commerce, 1999b).

Uranium.—The Pakistan Atomic Energy Commission developed a new uranium field in Tumman Leghari in Punjab. The plan was to extract uranium for the country's nuclear-power-generation facilities in Karachi in Sind and Chashma in the Mianwali District of Punjab (Mining Journal, 1999a).

References Cited

Far Eastern Economic Review, 1999, Economic monitor—Pakistan: Far Eastern Economic Review, v. 162, no. 17, April 29, p. 73.

Financial Times, 1999, Cement groups nail hopes to Pakistan house building: Financial Times [London], September 17, p. 16.

Journal of Commerce, 1999a, Iran, Pakistan discuss plan for pipeline: Journal of Commerce, May 10, p. 15A.

———1999b, Kapco running dry on oil supplies: Journal of Commerce, January 11, p. 11A.

———1999c, Pakistan seeks more investors for oil and gas exploration: Journal of Commerce, April 23, p. 9A.

———1999d, Pakistan-Turkmenistan pipeline project revived: Journal of Commerce, May 5, p. 12A.

———1999e, Petronas plans to invest in Pakistan: Journal of Commerce, April 26, p. 12A.

———1999f, Total, Atlas to produce, market greases in Pakistan: Journal of Commerce, April 13, p. 9A.

Metal Bulletin, 1999a, Pakistan starts up first tinning line: Metal Bulletin, no. 8387, June 24, p. 19.
———1999b, Pakistan Steel gears up for partial privatization: Metal Bulletin, no. 8380, May 31, p. 21.
Middle East Economic Digest, 1999a, Lasmo discovers more gas in Sind: Middle East Economic Digest, v. 43, no. 13, April 2, p. 28.
———1999b, News in brief: Middle East Economic Digest, v. 43, no. 28, July 16, p. 21-22.
Mining Journal, 1999a, New uranium field in South Punjab: Mining Journal, v. 333, no. 8553, October 15, p. 305.
———1999b, Saindak funding hope: Mining Journal, v. 333, no. 8545, August 20, p. 140.
———1999c, Thar power feasibility: Mining Journal, v. 333, no. 8545, August 20, p. 141.
Mining Magazine, 1999, Pakistan looks at the coal options: Mining Magazine, v. 181, no. 4, October, p. 271.
Oil & Gas Journal, 1999, Exploration: Oil & Gas Journal, v. 97, no. 17, April 26, p. 33.

Major Sources of Information

Balochistan Development Authority
Quetta, Pakistan

Geological Survey of Pakistan
Quetta, Pakistan

Oil & Gas Development Corp.
Islamabad, Pakistan

Pakistan Mineral Development Corp.
Karachi, Pakistan

Pakistan Petroleum Limited
Islamabad, Pakistan

Water and Power Development Authority
Lahore, Pakistan

Major Publications

Federal Bureau of Statistics, Karachi:
Foreign Trade, monthly.
Pakistan Statistical Yearbook, annual.
Statistical Bulletin, monthly.

TABLE 1
PAKISTAN: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity		1995	1996	1997	1998	1999
METALS						
Aluminum, bauxite, gross weight		3,057	4,056	4,934	4,954	11,216
Antimony ore:						
Gross weight		40 e/	--	--	--	--
Sb content e/		6 3/	--	--	--	--
Chromite ore:						
Gross weight		17,000 e/	27,987	23,763	8,885	16,279
Cr_2O_3 content		7,650 e/	12,594	10,693	3,998	7,325
Iron and steel:						
Pig iron e/	thousand tons	1,100	1,500	1,400	1,500	1,500
Steel, crude	do.	409	416	479	494	500 e/
Lead, refined, secondary e/		2,500	2,000	2,000	2,000	2,000
INDUSTRIAL MINERALS						
Abrasives, natural, emery		132	135	150 e/	150 e/	150 e/
Barite		15,360	18,582	23,390	20,657	16,845
Cement, hydraulic	thousand tons	8,586	8,900 e/	9,001	8,901	9,300
Chalk		7,170	6,545	5,350	4,357	6,283
Clays:						
Bentonite		5,759	15,290	16,450	17,000 r/	15,349
Fire clay		139,548	122,936	111,145	66,672	152,379
Fuller's earth		12,862	13,415	12,307	14,659	15,565
Kaolin (china clay)		30,746	54,860	66,235	70,777	64,692
Other		198,199	200,525	200,000 e/	200,000 e/	200,000 e/
Feldspar		21,163	32,572	25,169	31,191	29,235
Fluorspar		2,753	363	1,050	1,000 e/	220
Gypsum, crude		313,868	503,915	464,942	243,978	244,538
Magnesite, crude		16,891	3,202	4,057	3,157	2,175
Nitrogen, N content of ammonia		1,492,500	1,606,200	1,548,600	1,797,200	1,998,900
Phosphate rock:						
Gross weight		10,460	10,000 e/	11,045	11,000 e/	11,500 e/
P_2O_5 content e/		1,780	1,700	1,880	1,870	1,950
Pigments, mineral, natural, ocher e/		6,000	6,100	2,600	3,180 3/	3,200
Salt:						
Rock	thousand tons	935	940 e/	1,042	1,038	1,019
Marine	do.	17	18 e/	19	15	16
Total	do.	952	958 e/	1,061	1,053	1,035
Sand:						
Bajri and common		175,572	166,380	170,000 e/	175,000 e/	175,000 e/
Glass e/		170,000	165,000	165,000	122,000 3/	130,000
Sodium compounds, n.e.s.:						
Caustic soda		100,000 e/	108,900	263,300	216,000	220,000 e/
Soda ash, manufactured e/		200,000	215,400 3/	220,000	220,000	230,000
Stone:						
Aragonite and marble		471,761	571,765	314,309	354,818	391,754
Dolomite		198,051	161,754	176,096	99,741	188,573
Limestone	thousand tons	9,769	14,870	9,016	8,749	9,437
Other (as "ordinary stone") e/	do.	6 3/	7	10	15	18
Strontium minerals, celestite		1,625	2,500 e/	3,000 e/	598	634
Sulfur:						
Native e/		195 3/	200	150	150 r/	150
Byproduct, all sources		27,000 e/	27,000 e/	22,002	18,988	21,166
Total e/		27,200	27,200	22,200	19,100	21,300
Talc and related materials, soapstone		35,043	34,095	45,414	48,927	67,670
MINERAL FUELS AND RELATED MATERIALS						
Coal, all grades	thousand tons	2,997	3,345	3,102	3,164	3,461
Coke	do.	720	735	720 e/	850	900 e/
Gas, natural: e/						
Gross production	million cubic feet	595,000	598,000	600,000	714,142 3/	313,426 3/
Marketed production (sales)	do.	500,000	500,000	500,000	600,000	300,000
Natural gas liquids e/	thousand 42-gallon barrels	1,800	1,080	1,080	1,080	564 3/
Petroleum:						
Crude e/	do.	23,000	23,500	24,000	16,885 3/	19,986 3/

See footnotes at end of table.

TABLE 1--Continued
PAKISTAN: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity		1995	1996	1997	1998	1999
MINERAL FUELS AND RELATED MATERIALS--Continued						
Petroleum--Continued:						
Refinery products: e/						
Gasoline	thousand 42-gallon barrels	7,500	8,760 3/	8,800	8,900	8,589 3/
Jet fuel	do.	4,500	4,745 3/	4,600	4,700	5,255 3/
Kerosene	do.	3,300	4,015 3/	4,000	3,707 r/ 3/	2,714 3/
Distillate fuel oil	do.	14,000	12,775 3/	13,000	13,500	14,000
Residual fuel oil	do.	12,500	13,505 3/	13,500	13,419 r/ 3/	13,500
Lubricants	do.	1,300	1,400	1,400	1,400	1,500
Other	do.	4,300	5,110 3/	5,100	5,000	5,000
Total	do.	47,400	50,300 r/	50,400	50,600 r/	50,600

e/ Estimated. r/ Revised. -- Zero.

1/ Estimated data are rounded to no more than three significant digits; may not add to totals shown.

2/ Table includes data available through October 12, 2000.

3/ Reported figure.