

THE MINERAL INDUSTRY OF

SYRIA

By Bernadette Michalski

Hydrocarbons dominate Syria's mineral industry, particularly the development of nonassociated natural gas deposits in the north and northeast and the development of domestic reservoirs containing light, low-sulfur crude oils providing a higher-priced export crude than traditionally available in Syria. Other significant mineral industries include gypsum and phosphate rock mining, the manufacture of fertilizers and cement, and the manufacture of steel from domestic and imported scrap. The Nation's gross domestic product (GDP) was approximately \$14,000 million.¹ Mining and manufacturing accounted for about 14% of the GDP (Middle East Economic Digest, 1996).

Crude oil production averaged 604,000 barrels per day (bbl/d) in 1996. The Al-Furat Petroleum Co., a joint venture between Syrian Petroleum Co., Royal Dutch/Shell, and Deminex, is the country's largest producer with 32 fields in production yielding a total of 390,000 bbl/d of Syrian Light crude oil. The Syrian Petroleum Co. produces 150,000 bbl/d of heavy Suwaidiyah crude oil, and the Deir Es-Zor Petroleum Co. produces about 60,000 bbl/d of light crude oil. Details of Syrian mineral production are shown in table 1.

Exports totaled \$4 billion in value, of which approximately \$2.6 billion was derived from petroleum. Crude oil export prices improved over 1995. Suwaidiyah (24° API) crude oil averaged \$17.74 per barrel in 1996 compared with \$14.92 per barrel in 1995. Syrian Light (36.4° API) crude oil averaged \$20.54 per barrel in 1996 compared with \$16.70 per barrel in 1995.

Exports of Syria's other significant mineral product, phosphate rock, was reported at more than 1 million metric tons (Mt) in 1996, most of which was destined for Europe.

Syria had a state socialist economic system with a growing and vigorous private sector. However, the mineral industry remained owned and controlled by the Government. All mining, processing, and distribution companies were Government-operated firms. Hydrocarbon exploration concessions, however, have been granted to foreign companies on behalf of the Syrian Government.

The construction of an integrated iron and steel plant at Al-Zara near Hamah in east-central Syria was proposed. The plant was expected to include an 800,000-metric ton per year (t/yr) capacity U.S. Midrex direct reduction unit. Plant construction would also include two electric arc furnaces capable of producing 770,000 t/yr of liquid steel and two ladle furnaces for refining the liquid steel. The cost was projected at \$750 million.

¹Where necessary, values have been converted from Syrian pounds (£Syr) to U.S. dollars at the rate of £Syr11.2=\$1.00.

The Syrian Saudi Co. for Cement was formed in 1995 with 42% equity provided by a Saudi Arabian private business group, 14% provided by the Syrian public sector company, the General Establishment for Cement, and 44% as public offering. Other cement producers are the Syrian Co. for Cement, the Rastan Cement Co., and the Adra Cement Co. Each of these companies were undergoing a million ton expansion program.

Syria's fertilizer manufacturing industry was centered around Homs. There were three plants in operation—two produce nitrogenous fertilizers and the third produces phosphate fertilizers. A second phosphate plant was to be developed near Palmyra. This proposed 500,000 t/yr capacity triple superphosphate plant has undergone considerable delays.

Natural gas production is about to rise substantially as a result of the expansion of processing facilities and the development of five nonassociated gasfields in the Palmyra region. Three of these fields were in production by the close of 1996 and the two remaining fields are expected to enter production in 1997 and 1998. As a result, Syria's dry natural gas production should rise to about 5.8 billion cubic meters (m³) by 2000. Consumption was expected to rise rapidly near the close of this decade, eventually accounting for 30% of the total annual energy consumption compared with about 10% of annual energy consumption in 1996. Several projects were underway, including the conversion of two power stations to natural gas fuel, the Baniyas with a 680-megawatt (MW) capacity and the Mardikh with a 630-MW capacity, and the construction of a gas-fueled power station at Tishrin with a 400-MW capacity. The later project was granted partial financing of \$89.4 million by the Kuwait Fund for Arab Economic Development. Syria was also investigating the possibility of piping natural gas to Lebanon and Turkey.

The Al-Furat Petroleum Co. development plans included construction of a natural gas gathering system encompassing the Umar, North Umar, Sharifah, Ash Shajar, Shahil, Al Isba, and Tanak Fields.

Syrian refining policy was to operate its two refineries at full capacity to maximize the production of middle distillates; however, this policy resulted in large surpluses of fuel oil and diesel oil, most of which was exported to Cyprus and Lebanon, while domestic consumption required the import of about 5 million barrels of middle distillates annually. Studies were being evaluated for the overhaul and conversion of the Homs and Baniyas refineries with the objective of producing a higher proportion of light products.

Proven recoverable natural gas reserves were 234.5 billion cubic meters as of January 1, 1997. About 55% is nonasso-

ciated gas, 25% is cap gas, and the remaining 20% is associated gas. Recoverable petroleum reserves are 2.5 billion barrels. Syria's known hydrocarbon reserves are concentrated in seven major fields, the largest of which was Suwaydiyah in the extreme northeast section of the country. Proven reserves of this field alone were reported at 1 billion barrels of liquid hydrocarbons and 5.6 billion cubic meters of natural gas.

Railway transportation was available in northern and western Syria servicing the major cities and the three principal ports of Baniyas, Latakia, and Tartus. The existing hydrocarbon pipelines include the Iraq Petroleum Co. (IPC) pipeline traversing Syria from east to west. The pipeline had been closed for Iraqi use since 1982; however, sections of the pipeline were converted to domestic use. More than 100 kilometers (km) of the IPC pipeline was used for natural gas transmission forming part of the 377-km pipeline from the Jubaisseh gas processing plant to the fertilizer complex and refinery in Homs. Another section of the IPC line transported crude oil to the Homs refinery from the Al-Thayyim, Al Ashara, and Al-Ward Fields, which were connected by spur lines to the main pipeline. With the onset of production, two spur lines were constructed connecting the Al-Thayyim Field along with its smaller satellite fields and the Umar Field to the IPC pipeline.

Installed power generation capacity was 3,280 MW, with thermal power stations accounting for two-thirds and hydroelectric powerplants accounting for the remainder.

Syria's posture during the Gulf crisis ended years of isolation from the Gulf States, gaining the Government substantial financial resources to undertake several infrastructure rehabilitation projects. The passage of less restrictive investment laws made Syria one of the more active business

locations in the Middle East.

The discovery of nonassociated natural gasfields and the increased utilization of associated natural gas was expected to reduce the demand for fuel oil and thus increase refined product export potential. The \$600 million refurbishing of the two petroleum refining facilities should bring the refining industry more in concert with domestic requirements.

Syria planned to take advantage of the growing availability of natural gas feedstock and its indigenous reserves of phosphate by further developing its fertilizer industry.

Reference Cited

Middle East Economic Digest, 1996, Oman: Middle East Economic Digest, v. 41, no. 6, p. 28.

Major Sources Of Information

Baniyas Refining Co.

P.O. Box 26

Baniyas, Syria

Telephone: [963] 43 238/307

General Company of Homs Refinery

P.O. Box 352

Homs, Syria

Telephone: [963] 31 22771/22768

Fax: [963] 31 20478

General Company for Phosphate and Mines

Palmyra Road, P.O. Box 288

Homs, Syria

Telephone: [963] 31 20405

TABLE 1
SYRIA: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1992	1993	1994	1995	1996 e/
Cement, hydraulic thousand tons	3,700	4,500	5,000	4,463 r/	5,000
Gas, natural: e/					
Gross million cubic meters	5,000	5,000	5,000	5,000	5,000
Dry do.	2,800	2,800	2,800	2,900	3,000
Gypsum	234,432	299,812	301,600	335,683 r/	325,000
Iron and steel, steel, crude e/	70,000	70,000	70,000	70,000	70,000
Natural gas liquids e/ thousand 42-gallon barrels	1,800 2/	1,800	1,800	1,800	1,800
Nitrogen:					
N content of ammonia	80,500	66,700	67,000	29,577 r/	30,000
Urea	43,700	75,000	75,000 e/	62,435 r/	65,000
Petroleum:					
Crude	175,600	208,000	211,335	222,650	220,500
Refinery products:					
Liquefied petroleum gas thousand 42-gallon barrels	1,800	1,800	2,000 r/	2,100 r/	2,122 2/
Gasoline do.	10,900	9,800	11,100 r/	11,907 r/	11,406 2/
Naphtha do.	5,000	5,000	3,000 r/	1,676 r/	1,685 2/
Jet fuel do.	4,500	4,500	3,000 r/	1,753 r/	1,728 2/
Kerosene do.	1,400	1,600	1,400 r/	1,484 r/	1,491 2/
Distillate fuel oil do.	27,400	25,000	27,000	29,951 r/	30,078 2/
Residual fuel oil do.	34,700	35,000	35,000 r/	34,891 r/	35,038 2/
Asphalt do.	1,400	1,400	1,600 r/	1,900 r/	1,916 2/
Other do.	1,800	1,800	1,800 e/	1,800 e/	1,900 2/
Total do.	88,900	85,900	85,900 r/	87,462 r/	87,364 2/
Phosphate rock:					
Gross weight thousand tons	1,270	931	1,203	1,551	2,000
P ₂ O ₅ content e/ do.	395	286	371	477 2/	615
Salt e/	84,000	113,000	127,000	111,000 2/	112,000
Stone, sand and gravel: e/					
Stone, dimension, marble cubic meters	18,000	18,000	18,000	18,000	18,000
Sand and gravel thousand tons	4,095	4,200	4,200	4,200	4,200
Sulfur, byproduct of petroleum and natural gas e/	10,000 r/	10,000 r/	10,000 r/	9,824 r/	10,000

e/ Estimated. r/ Revised.

1/ Table includes data available through Oct. 15, 1997.

2/ Reported figure.