

# 2006 Minerals Yearbook

# SYRIA

#### By Thomas R. Yager

In 2006, Syria played a significant role in the world's production of phosphate rock; the country's share of global phosphate rock output amounted to 2%. Other domestically significant mining and mineral processing operations included cement, crude petroleum, natural gas, and petroleum products (Jasinski, 2007).

#### Minerals in the National Economy

In 2006, the output of the petroleum sector amounted to 23.6% of the gross domestic product. Exports of crude petroleum and petroleum products accounted for 40% of total exports in 2006 compared with nearly 58% in 2003 (International Monetary Fund, 2007, p. 36-37).

#### Production

In 2006, the production of salt increased by 21%; sulfur, 19%; phosphate rock, 5%; and dry natural gas, 3%. Crude petroleum production continued its long-term decline; output decreased by 9% in 2006. Gypsum production declined by 5%.

#### **Structure of the Mineral Industry**

Many of Syria's significant mining and mineral processing operations (cement, petroleum products, phosphate rock, phosphatic fertilizers, phosphoric and sulfuric acid) were owned by the Government. Crude petroleum and natural gas production was controlled by a mixture of state-owned and private companies. Most of the steel mills were privately owned.

#### **Commodity Review**

#### **Industrial Minerals**

**Cement.**—Syria's cement plants had a total capacity of about 5.4 million metric tons per year (Mt/yr); national cement demand amounted to 6.5 Mt/yr. Cement was imported from Egypt, Jordan, Lebanon, and Turkey. State-owned General Organization for Cement and Building Materials (GOCBM) and Military Housing Cement Group produced an estimated 4.7 Mt/yr. GOCBM planned to increase the national cement production capacity to 10 Mt/yr; the company planned to lease its plants to private investors for a period of 15 years for capacity upgrades and to allow private investors to build new plants. The tenders for the leases were cancelled in August 2006. Ehdasse Sanat Corp. of Iran was expected to complete a new plant in Hama with a capacity of 1 Mt/yr by early 2007. Sinohydro Corp. of China signed an agreement with privately owned Farzat Company to build a new plant near Damascus with a capacity of 1.8 Mt/yr (Pepper, 2005; Kalhasan and Lederer, 2006; Middle East Economic Digest, 2006a).

#### Mineral Fuels

**Natural Gas.**—In 2006, Syria had five natural-gas processing plants with a combined capacity of nearly 10.7 billion cubic meters per year. Syria planned to increase its natural gas production capacity by about 4.4 billion cubic meters per year by 2010. In 2006, Stroytransgas OJSC of Russia was building a gas-processing plant with a capacity of 2.2 billion cubic meters per year near Palmyra as part of the Middle Area Gas Project. The Government was negotiating with Stroytransgas for the construction of another new plant with a capacity of 1.1 billion cubic meters per year. INA Naftaplin of Croatia planned to build a plant with a capacity of between 1.1 and 1.3 billion cubic meters per year at its Hayan block (Pepper, 2006).

In May 2006, Marathon Oil Company of the United States signed a production-sharing agreement with Syrian Gas Company (SGC) for natural gas and petroleum at al-Shaaer and al-Shareefa fields near Palmyra. These fields were expected to produce as much as 730 million cubic meters per year of natural gas. Marathon or SGC could develop another gas-processing plant (Pepper, 2006).

**Petroleum.**—Syria's production of crude petroleum declined to 416,000 barrels per day (bbl/d) in 2006 from 458,000 bbl/d in 2005 and 495,000 bbl/d in 2004. The al-Furat Petroleum Company (AFPC) was Syria's leading producer of crude petroleum. AFPC and Deir ez-Zor Petroleum Company produced light crude.

In October 2006, Royal Dutch Shell Group signed agreements to explore for natural gas and petroleum in Blocks 13 and 15 in southeastern Syria. Soyuzneftgas of Russia signed an agreement in May to explore in Block 12.

Banias Refinery Company and Homs Refinery Company had a combined capacity of about 242,000 bbl/d. In 2006, the Government was negotiating with National Iranian Oil Company International and Petróleos de Venezuela to build a new refinery with a capacity of 150,000 bbl/d. The Government was also considering a joint venture with private investors to build another refinery with a capacity of 150,000 bbl/d (Middle East Economic Digest, 2006b).

#### Outlook

Syria's production of crude petroleum is likely to continue to decline to 352,000 bbl/d in 2008 and 330,000 bbl/d in 2012 because of maturing oilfields and aging equipment. Production of natural gas is expected to increase in response to likely increases in domestic demand. Cement and steel production are also likely to increase because of growth in the construction sector. Syria is expected to be a net petroleum importer by 2010 because of declining crude petroleum production (Pepper, 2006; International Monetary Fund, 2007, p. 37).

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## TABLE 1 SYRIA: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

| Commodity                              |                            | 2002                | 2003                 | 2004                 | 2005 <sup>e</sup>       | 2006 <sup>e</sup>    |
|----------------------------------------|----------------------------|---------------------|----------------------|----------------------|-------------------------|----------------------|
| Cement, hydraulic                      | thousand metric tons       | 4,679               | 4,824                | 4,757                | 4,700 <sup>r</sup>      | 4,700                |
| Gas, natural:                          |                            |                     |                      |                      |                         |                      |
| Gross <sup>e</sup>                     | million cubic meters       | 9,300               | 9,401 <sup>2</sup>   | 9,700                | 8,300 <sup>r</sup>      | 8,600                |
| Dry                                    | do.                        | 6,800               | 6,850                | 7,110 <sup>r</sup>   | 6,090 <sup>r, 2</sup>   | 6,290 <sup>2</sup>   |
| Gypsum                                 |                            | 350,088             | 376,715              | 431,561              | 467,000 <sup>r, 2</sup> | 443,800 <sup>2</sup> |
| Nitrogen:                              |                            |                     |                      |                      |                         |                      |
| N content of ammonia                   |                            | 142,800             | 161,100              | 115,000              | 120,000                 | 120,000              |
| N content of urea                      |                            | 88,500              | 90,700               | 91,000 °             | 91,000                  | 91,000               |
| Petroleum:                             |                            |                     |                      |                      |                         |                      |
| Crude                                  | thousand 42-gallon barrels | 200,000 r           | 192,000 <sup>r</sup> | 181,000 <sup>r</sup> | 167,000 <sup>2</sup>    | 152,000 <sup>2</sup> |
| Refinery products:                     |                            |                     |                      |                      |                         |                      |
| Liquefied petroleum gas                | do.                        | 3,399               | 3,318                | 3,318                | 3,300                   | 3,300                |
| Gasoline                               | do.                        | 11,959              | 10,739               | 11,413               | 11,000                  | 11,000               |
| Naphtha                                | do.                        | 4,842               | 5,812                | 7,028                | 7,100                   | 7,100                |
| Jet fuel                               | do.                        | 1,491               | 1,618                | 1,943                | 2,000                   | 2,000                |
| Kerosene                               | do.                        | 495                 | 301                  | 448                  | 450                     | 450                  |
| Distillate fuel oil                    | do.                        | 31,093              | 29,139               | 30,758               | 31,000                  | 31,000               |
| Residual fuel oil                      | do.                        | 39,667              | 31,921               | 30,210               | 30,000                  | 30,000               |
| Asphalt                                | do.                        | 2,800               | 2,500                | 2,500                | 2,500                   | 2,500                |
| Other                                  | do.                        | 950                 | 850                  | 900                  | 900                     | 900                  |
| Total                                  | do.                        | 96,700              | 86,200               | 88,500               | 88,300                  | 88,300               |
| Phosphate:                             |                            |                     |                      |                      |                         |                      |
| Phosphate rock, mine output:           |                            |                     |                      |                      |                         |                      |
| Gross weight                           | thousand metric tons       | 2,483               | 2,414                | 2,883                | 3,500 <sup>r, 2</sup>   | 3,664 <sup>2</sup>   |
| $P_2O_5$ content                       | do.                        | 770                 | 750                  | 890                  | 1,080 <sup>r</sup>      | 1,130                |
| $P_2O_5$ equivalent:                   |                            |                     |                      |                      |                         |                      |
| Phosphatic fertilizers                 |                            | 123,000             | 91,000               | 127,000              | 130,000                 | 130,000              |
| Phosphoric acid                        |                            | 102,000             | 73,000               | 97,000               | 100,000                 | 100,000              |
| Salt                                   |                            | 145,018             | 128,265              | 141,445              | 110,000 <sup>r, 2</sup> | 133,000              |
| Steel:                                 |                            |                     |                      |                      |                         |                      |
| Crude                                  |                            | 70,000              | 70,000               | 70,000               | 70,000                  | 70,000               |
| Semimanufactured                       |                            | 400,000             | 600,000              | 800,000              | 800,000                 | 800,000              |
| Stone: <sup>e</sup>                    |                            |                     |                      |                      |                         |                      |
| Dolomite, refractory grade             | thousand metric tons       | 5,000               | 5,000                | 5,000                | 5,000                   | 5,000                |
| Gravel and crushed rock                | do.                        | 6,000               | 6,000                | 6,000                | 6,000                   | 6,000                |
| Marble blocks                          | do.                        | 340 <sup>2</sup>    | 340                  | 340                  | 340                     | 340                  |
| Sand, construction                     | thousand cubic meters      | 450                 | 450                  | 450                  | 450                     | 450                  |
| Sand, industrial                       | thousand metric tons       | 850                 | 850                  | 850                  | 850                     | 850                  |
| Volcanic tuff                          | do.                        | 650                 | 650                  | 650                  | 650                     | 650                  |
| Sulfur                                 |                            |                     |                      |                      |                         |                      |
| Byproduct of petroleum and natural gas |                            | 11,740 <sup>r</sup> | 13,516 <sup>r</sup>  | 14,996 <sup>r</sup>  | 36,074 <sup>r</sup>     | 43,000               |
| Sulfuric acid:                         |                            |                     |                      |                      |                         |                      |
| Gross weight                           |                            | 344,000             | 250,000              | 362,000              | 360,000                 | 360,000              |
| S content                              |                            | 112,000             | 82,000               | 118,000              | 117,000                 | 117,000              |

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised.

<sup>1</sup>Table includes data available through November 16, 2007.

<sup>2</sup>Reported figure.

### TABLE 2 SYRIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

#### (Thousand metric tons unless otherwise specified)

| C            | ommodity             | Major operating companies                                      | Location of main facilities           | Annual capacity |
|--------------|----------------------|----------------------------------------------------------------|---------------------------------------|-----------------|
| Cement       |                      | Tartous Company for Cement & Building Materials <sup>1</sup>   | Tartous                               | 1,802.          |
| Do.          |                      | al-Chaba Cement & Building Materials <sup>1</sup>              | Aleppo                                | 923.            |
| Do.          |                      | Arabian Cement Co. for Cement <sup>1</sup>                     | do.                                   | 898.            |
| Do.          |                      | Adra Co. for Cement and Building <sup>1</sup>                  | Adra                                  | 845.            |
| Do.          |                      | Syrian Co. for Manufacturing Cement <sup>1</sup>               | Hama                                  | 432.            |
| Do.          |                      | Rastan Co. for Cement and Building Materials <sup>1</sup>      | Rastan                                | 131.            |
| Do.          |                      | Military Housing Cement Group (Government, 100%)               | Musselemieh                           | 336.            |
| Natural gas  | million cubic meters | ConocoPhillips Company                                         | Processing plant at Deir ez-Zor       | 4,750.          |
| Do.          | do.                  | al-Furat Petroleum Company (Syrian Petroleum Company, 50%;     | Processing plant at Omar              | 2,400.          |
|              |                      | Royal Dutch Shell, 33.3%; Bergamo Holding, 16.7%)              | •••                                   |                 |
| Do.          | do.                  | Syrian Petroleum Company (Government, 100%)                    | Processing plant at Palmyra           | 2,200.          |
| Do.          | do.                  | do.                                                            | Processing plant at Jebissa           | 1,060.          |
| Do.          | do.                  | do.                                                            | Processing plant at Suwaidiyah        | 240.            |
| Nitrogen:    |                      |                                                                |                                       |                 |
| Ammonia ar   | nd urea <sup>2</sup> | General Fertilizers Company (subsidiary of General             | Homs                                  | 256 ammonia;    |
|              |                      | Organization for Chemical Industries)                          |                                       | 137 urea.       |
| Fertilizers  |                      | do.                                                            | do.                                   | 109.            |
| Petroleum:   |                      |                                                                |                                       |                 |
| Crude        | thousand 42-gallon   | al-Furat Petroleum Company                                     | al-Thayyem                            | 20,000.         |
|              | barrels              | 1-                                                             | -1 T-1 -                              | 19 200          |
| Do.          | do                   |                                                                |                                       | 18,300.         |
| Do           | do                   | <u>do.</u>                                                     | Omar/Omar North                       | 14,600.         |
| Do.          | do                   | do.                                                            | Malen/Azraq                           | 11,000.         |
| Do.          | do                   | do.                                                            | Sijan                                 | 11,000.         |
| Do.          | do                   | do.                                                            | Jarnof/Saban                          | 9,100.          |
| Do.          | do.                  | do.                                                            | al-Ward                               |                 |
| Do.          | do.                  | do.                                                            | Tanak                                 | 6,600.          |
| Do.          | do.                  | Syrian Petroleum Company                                       | Suwaidiyah, Jebissa, and<br>Karatchok | 45,600.         |
| Do.          | do.                  | Deir-ez Zor Petroleum Company (Syrian Petroleum Company,       | Qahar                                 | 10,200.         |
|              |                      | 50%, and Total S.A., 50%)                                      | -                                     |                 |
| Do.          | do.                  | do.                                                            | Jafra                                 | 4,700.          |
| Do.          | do.                  | do.                                                            | al-Mazraa and Attala North            | 3,700.          |
| Do.          | do.                  | al-Khabur Petroleum Co. (Syrian Petroleum Company, 50%)        | Kishma                                | 5,800.          |
| Do.          | do.                  | Tanganyika Oil Co.                                             | Tishreen                              | 2,190.          |
| Refined      | do.                  | Banias Refinery Company (Government, 100%)                     | Banias                                | 49,300.         |
| Do.          | do.                  | Homs Refinery Company (Government, 100%)                       | Homs                                  | 39,100.         |
| Phosphate:   |                      |                                                                |                                       | ·               |
| Phosphate ro | ock                  | General Company for Phosphate and Mines (Government, 100%)     | Alsharqia (A and B Mines)             | 3,050.          |
| Do.          |                      | do.                                                            | Kneifis                               | 800.            |
| Phosphatic f | ertilizers           | General Fertilizers Company                                    | Homs                                  | 450.            |
| Phosphoric a | ncid                 | do.                                                            | do.                                   | 165.            |
| Salt         |                      | General Company for Phosphate and Mines                        | Deir al-Zour                          | 72.             |
| Steel:       |                      |                                                                |                                       |                 |
| Billet       |                      | General Company for Iron and Steel Products (Government, 100%) | Hama                                  | 60.             |
| Rolled       |                      | Merri Family                                                   | Tartous                               | 300.            |
| Do.          |                      | Arab Steel Co.                                                 | Lattakia                              | 250.            |
| Do.          |                      | JoudCo Steel                                                   | do.                                   | 150.            |
| Do.          |                      | Middle East Steel Industries                                   | Yabroud                               | 140.            |
| Do.          |                      | General Company for Iron and Steel Products                    | Hama                                  | 78.             |

See footnotes at end of table.

#### TABLE 2--Continued SYRIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2006

#### (Thousand metric tons unless otherwise specified)

|              | Commodity   | Major operating companies   | Location of main facilities    | Annual capacity |
|--------------|-------------|-----------------------------|--------------------------------|-----------------|
| Sulfur       | metric tons | Homs Refinery Co.           | Homs                           | 14,600.         |
| Do.          | do.         | do.                         | Processing plant at Suwaidiyah | 7,410.          |
| Do.          | do.         | Syrian Petroleum Company    | Processing plant at Jebissa    | 7,300.          |
| Sulfuric aci | id          | General Fertilizers Company | Homs                           | 560.            |

<sup>1</sup>Subsidiary of General Organization for Cement and Building Materials, which is 100% Government owned. <sup>2</sup>Expressed in nitrogen equivalent.