

# 2010 Minerals Yearbook

SYRIA [ADVANCE RELEASE]

### THE MINERAL INDUSTRY OF SYRIA

### By Mowafa Taib

Crude oil and phosphate rock continued to be Syria's major contributions to the world supply of minerals in 2010. The country was responsible for about 2% of the world's supply of phosphate rock and ranked ninth in the world in terms of the volume of its phosphate rock production. Syria produced 0.5% of the world's crude oil and 0.2% of the world's natural gas output in 2010. Other mineral commodities produced in Syria included cement, gypsum, industrial sand, marble, natural crude asphalt, nitrogen fertilizer, phosphate fertilizer, salt, steel, and volcanic tuff (BP p.l.c., 2011, p. 8, 22; Jasinski, 2011).

#### **Minerals in the National Economy**

In 2010, the Syrian economy grew at a slower rate than in 2009 as the country's gross domestic product (GDP) increased by 3.2% compared with a revised increase of 6.0% in 2009. Crude oil production, which averaged 385,000 barrels per day (bbl/d), was 2.7% more than that of 2009, which averaged 375,000 bbl/d. The annual real growth of the oil sector was only 0.2% in 2010. Despite exporting 148,000 bbl/d of crude oil in 2009, the International Monetary Fund designated Syria as a net oil importing country and estimated its overall oil deficit to reach \$1.2 billion per year. Oil revenue accounted for 20% to 25% of Government revenue.

The value of Syrian exports of goods and services increased by 33% to \$20.5 billion from \$15.4 billion in 2009, and the value of imports of goods and services increased by about 15% to \$24.0 billion from \$20.9 billion in 2009. The increase in prices of such commodities as crude oil and phosphate rock was partly behind the increase in the value of exports as oil prices for Syria increased on average by about 32% in 2010. The increase in the value of imports was driven by high crude oil prices and by higher domestic demand for nonoil imports, including agricultural equipment, heavy machinery, iron and steel products, and vehicles (Bank Audi, 2010, p. 1, 7; International Monetary Fund, 2011, p. 74, 87–88).

#### **Production**

In 2010, notable increases in the production of mineral commodities compared with that of 2009 included the increase in phosphate rock production by 70%; phosphate fertilizer, 47%; dry gas, 37%; and silica sand, 11%. Significant decreases in mineral commodity output compared with that of 2009 included the decrease in phosphoric acid production, 39%; marble materials and sulfuric acid, 35% each; and salt, 16% (table 1).

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

Law No. 26 of October 21, 2009, grants the state ownership of all surface and subsurface mineral resources within the country's borders and territorial waters. All mining and quarrying activities require permits from the General Establishment of Geology and Mineral Resources (GEGMR). In 2010, GEGMR awarded 720 quarrying and mining licenses, including 652 to private sector companies and 68 to public sector companies (General Establishment of Geology and Mineral Resources, 2011a, b).

Law No. 14 of 2009 created the General Corporation for Refining and Distribution of Petroleum Products, which includes Banias Refinery Co., Homs Refinery Co., Syrian Company for Distribution and Storage of Petroleum Products, and Syrian Company for Gas Distribution. Law No. 15 of 2009 created General Petroleum Corp. (GPC), which includes Syrian Gas Co., Syrian Petroleum Co. (SPC), and Syrian Petroleum Transportation Co. GPC's mission is to establish policies related to the development, exploration, and investment in the hydrocarbon sector and to monitor international oil companies' projects in the country (Ministry of Petroleum and Mineral Resources, 2009a, b).

A number of international oil companies were working on exploration and production of hydrocarbons in Syria, including Gulfsands Petroleum p.l.c. of the United Kingdom (Block 26), HBS International Egypt Ltd. (Block 22), INA Industrija Nafte of Croatia (Block 10), IPR Mediterranean Exploration Ltd. of the United States (Block 24), Loon Energy Corp. of Canada (Block 9), Morrell Broom Co. (Block 11), Royal Dutch Shell plc of the Netherlands (Blocks 57 and 58), Sayuz Co. of Ukraine (Block 12), Stratic Energy Corp. of Canada (Block 17), and Suncor Energy Inc. of Canada (Al Shaer and Al Sharefea gasfields and Block 2) (General Petroleum Corp., 2010; Gulfsands Petroleum p.l.c., 2011).

Several Chinese oil companies had been active in the Syrian oil market in recent years. China National Petroleum Corp. (CNPC) was developing oilfields owned by GPC. In September, CNPC acquired a 35% stake in Syrian Shell Petroleum Development Co. (SSPD). SSPD had interests in three oil production licenses that cover 40 oilfields in Deir-ez-Zour. CNPC was also a 50-50 partner with Oil and Natural Gas Corp. Ltd. (ONGC) of India in joint venture with Himilaya Energy Syria, which owned an 18% interest in AL Furat Petroleum Co. CNPC was also planning to build and finance a 100,000-bbl/d-capacity oil refinery at a cost of \$2 billion in Dayr az Zawr. China Petroleum and Chemical Corp. (Sinopec) was a joint-venture partner with GPC in Oudeh Petroleum Co. (Bank Audi, S.A.L., 2010, p. 3; Royal Dutch Shell plc, 2010; Al Furat Petroleum Co., 2011).

The Ministry of Petroleum and Mineral Resources and the Ministry of Industry carried out the majority of mining activity in Syria through several state-owned companies. These companies included General Fertilizers Co., General Company for Iron and Steel Products (Hadeed Hama), General Company for Marble and Asphalt (GEMA), General Company for Phosphate and Mines (GCOPHAM), and General Organization

for Cement and Building Materials (GOCBM). Some private local and international investors were also involved in building new greenfield cement plants, including Al-Badia Cement Co. J.S.C. and Lafarge Cement Syria S.A. Private finished steel producers included Al Wahib Group, Arabian Steel Co. (ASCO), Hmisho Steel S.A., International Company for Steel Rolling (ICSR), Joudco Steel Ltd., and Syria Steel and Iron Co. (SALB) (table 2).

#### **Commodity Review**

#### Metals

Iron and Steel.—According to the World Steel Association, Syria's net imports of steel products, which included crude, semifinished, and finished steel, totaled 2.2 million metric tons (Mt) in 2010, which was the same amount as in 2009. Steel products were imported mainly from Ukraine, which accounted for 44% of total steel imports, by volume, followed by Russia, which accounted for 13% of total steel imports (Arab Steel, 2010; World Steel Association, 2011, p. 25).

Hmisho Steel produced low- and medium-carbon-content rebar from its newly built mill in Latakia. The company was building a new billet plant with an electric arc furnace (EAF), a ladle furnace, and a four-strand billet continuous-casting machine at Adra Industrial City. The capacity to produce 500,000 metric tons per year (t/yr) of steel was supplied by Daniel Centro Metal Co. of Italy. International Company for Steel Rolling, which commissioned production of its rolling mill plant in 2009 at Hisyah Industrial Zone near Homs, produced rebar from its 300,000-t/yr-capacity plant (Hmisho Steel S.A., 2010; International Company for Steel Rolling, 2010).

#### **Industrial Minerals**

Cement.—Cement production capacity in Syria reached about 10 million metric tons per year (Mt/yr) for the first time at the end of 2010 because of the entry of two greenfield plants into production in October. The first plant was Lafarge Cement Syria's plant at Manbej, which is located 160 kilometers (km) northeast of Aleppo and 25 km south of the border with Turkey. The plant had the capacity to produce 2.6 Mt/yr. The second was Al-Badia Cement Co. JSC's plant at Abu Ash-Shamat, which is located 80 km northeast of Damascus. The plant, which began clinker production in October, had the capacity to produce 1.6 Mt/yr of cement. A second production line with the capacity to produce an additional 1.6 Mt/yr of cement was included in the design plan but no decision had been made on when it would be constructed (Al-Badia Cement Co. JSC, 2010; Lafarge Cement Syria S.A., 2010).

In 2010, GOCBM, which operated eight state-owned cement plants in Syria, produced more than 5 Mt of cement from Adra Cement and Building Material Co.; Al Shahaba Cement and Building Material Co.; Arabian Cement Co.; Rastan Cement and Building Material Co.; the Syrian Cement Manufacturing and Building Material Co. in Hama; and Tartus Cement and Building Material Co. A cement plant that was operated by Military Housing Establishment of the Ministry of Defense

produced 293,000 metric tons (t) of cement. GOCBM was in the process of upgrading and expanding the capacity of the Tartus plant to 1.85 Mt/yr from 1.23 Mt/yr. Pharon Commercial Investment Group of Saudi Arabia financed the \$50 million expansion plan in return for 400,000 t/yr of the plant's future production. Pharon Group upgraded the Adra cement plant to increase its capacity to about 1.5 Mt/yr from 845,000 t/yr in return for 461,000 t/yr of post-expansion production (Syrian Arab News Agency, 2010; General Organization for Cement and Building Materials, 2011).

In February, one of the two production lines of Al Shahaba cement plant at Sheikh Said in Aleppo was shut down. The second production line was expected to be closed 6 months later as part of the Government plan to close the entire plant to improve the air quality in the residential area around the plant, which was located 5 km from the Aleppo city center (Al Shahaba Cement and Building Material Co., 2010).

Industrial (Silica) Sand.—In December, First Glass, which was a subsidiary of Kaveh Glass Industry Group of Iran, commenced production of flat glass from its newly constructed plant at Adra Industrial City, which is located 30 km north of Damascus. The \$164 million plant, which was the first flat-glass plant to be built in Syria, had the capacity to produce 10,000 t/yr of glass, which could be expanded to 180,000 t/yr in the future (Kaveh Glass Industry Group, 2010; Zawya, 2010).

Phosphate Rock.—In 2010, phosphate rock production rebounded following a significant decrease in production in both 2008 and 2009. According to the Arab Fertilizer Association, Syria's phosphate rock output was about 3.8 Mt, which was an increase of 70% compared with output in 2009 of 2.1 Mt. The reason for the increase was a worldwide increase in demand for phosphate rock in 2010 following a sharp decrease in 2009. The General Fertilizer Co. produced 61,000 t of phosphoric acid in 2010, which was consumed entirely by the domestic market. Syria's phosphate rock exports reached 3.3 Mt (88% of the total output), and the remaining 12% was used for local phosphate fertilizer production. Phosphate rock exports went mainly to Lebanon (28%), Turkey (12%), Ukraine (11%), Bulgaria (about 11%), and Poland (10%), and the reminder (39%) went to Austria, Belgium, Belarus, France, Germany, India, Italy, Lithuania, Portugal, Switzerland, and Taiwan (Arab Fertilizer Association, 2011, p. 30).

In May, the Governments of Syria and India signed a memorandum of understanding to establish a joint-venture company to develop phosphate rock production facilities in Syria, which would increase production to 10 Mt/yr from the current production of about 3.8 Mt/yr. The new company would upgrade the phosphate rock mines in As Sharqiya and Kunayfis, transportation equipment, and the phosphate rock export terminal at Tartus Port. India was expected to import most of the phosphate rock, phosphoric acid, and phosphate fertilizer produced by the new company. In August, the GCOPHAM signed an agreement with Oswal Chemicals & Fertilizers Ltd. of India to build a 1-Mt/yr-capacity ammonium phosphate plant. In October, the Governments of India and Syria signed an agreement to establish the joint-venture company to produce phosphoric acid (Bank Audi S.A.L., 2010, p. 4; Ministry of Petroleum and Mineral Resources, 2010).

Mineral Fuels

Natural Gas.—Syria's natural gas production increased by 37% to 7.8 billion cubic meters from 5.7 billion cubic meters in 2009. The increase was partly attributable to increased output from Abu Kamal Petroleum, Ebla Petroleum Co., Oudeh Petroleum Co., and Syria-Sino Alkawkab Oil Co. The Government was focusing on developing the natural gas sector to become a net exporter of natural gas. In 2010, however, Syria's entire natural gas production was consumed domestically, and the country imported natural gas from Egypt by way of the Arab Gas Pipeline. The Government, which imported 728 million cubic meters of natural gas in 2009, signed agreements with the Government of Azerbaijan to import up to 1.5 billion cubic meters per year of natural gas through Turkey starting in 2011 (Bank Audi S.A.L., 2010, p. 3).

In April, the Government inaugurated the Ebla gas plant at Al-Freqlus, which was located 162 km northeast of Damascus. The plant, which was operated by Suncor Energy Inc. of Canada, and Petrofac Co. Ltd. of the United Kingdom, had the capacity to produce 2.5 million cubic meters per day of gas. The Hayan gas plant was expected to commence production in early 2011. The plant would produce about 2.7 million cubic meters of clean gas, 5,000 barrels of natural gas condensate, and 180,000 t of cooking gas. Hayan Petroleum Co. operated the plant, which was a joint venture of GPC and the INA Industrija Nafte of Croatia (Bank Audi, S.A.L., 2010; U.S. Energy Information Administration, 2010).

**Petroleum.**—In 2010, production of crude oil and condensates in Syria averaged about 385,000 bbl/d, which was 2.1% more than that of 2009. Syria's proved petroleum reserves as of yearend 2010 were estimated to be 2.5 billion barrels. State-owned SPC produced more than 191,000 bbl/d of crude oil and condensates, and the international companies working in Syria, including Al-Furat Petroleum Co., Dier Ezour Petroleum Co., Dijla Petroleum Co., Hayan Petroleum Co., Oudeh Oil Co., and Sino Syrian Al Kawkab Oil Co., produced about 180,000 bb/d combined (U.S. Energy Information Administration, 2010).

Gulfsands Petroleum increased crude oil production from the Kherbet East and the Yosefieh oilfields of Block 26 by 25% in 2010. The company, which was awarded a 25-year production license to develop the Yousefeieh oilfield by the Government, was the operator of the Block 26 production-sharing contract, which was a 50-50 working interest with Sinochem Corp. of China (Gulfsands Petroleum p.l.c., 2011).

In August, the Governments of Iraq and Syria signed an agreement to build three oil pipelines that would transport crude oil from the Kirkuk oilfields in northwestern Iraq to the Banias Terminal on the Mediterranean Sea coast of Syria. A 1.5-million-barrel-per-day (Mbbl/d) capacity pipeline would be assigned to carry crude oil and a 1.25-Mbbl/d capacity pipeline would carry light crude oil. A third complementary pipeline would be assigned to carry natural gas (Bank Audi S.A.L., 2010, p. 3).

#### Outlook

The outlook for the Syrian economy in general and the mineral industry in particular depends largely on the outcome of the "Arab Spring" popular democracy movement, which began in January 2011 in Tunisia and spread to several countries in the Middle East and North Africa, including Syria. If the outcome results in political and economic reform, stability, more openness, and adoption of free-market principles, Syria could be positioned to receive more local, regional, and international investment. Phosphate rock and phosphate fertilizer production is likely to increase significantly in the 5 five years provided the joint-venture agreements between the Government and Indian fertilizer production companies are implemented.

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## $\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{SYRIA: PRODUCTION OF MINERAL COMMODITIES}^1$

(Metric tons unless otherwise specified)

Sele:	Commo	2006	2007	2008	2009	2010	
Crude	META	ALS					
Manufacturedf**	Steel:						
NDIUSTRIAL MINERALS   Asphalt   thousand metric tons   113 ° 2   132 ° 2   120 ° 2   5,176 ° 2   6,000 ° 6,0	Crude	thousand metric tons	69 <sup>r, 2</sup>	70	63 <sup>r, 2</sup>	61 <sup>r, 2</sup>	63 <sup>2</sup>
NDIUSTRIAL MINERALS   Asphalt   thousand metric tons   113 ° 2   132 ° 2   120 ° 2   5,176 ° 2   6,000 ° 6,0	Manufactured <sup>e, 3</sup>	do.	800	800	1,000	1,000	1,000
Cement hydraulic	INDUSTRIAL	MINERALS					
System	Asphalt	thousand metric tons	113 r, 2	132 r, 2	120 r, 2	132 r, 2	106 <sup>2</sup>
No content of ammonis	Cement, hydraulic	do.	4,965 r, 2	5,150 r, 2	5,646 r, 2	5,176 r, 2	6,000 e
N. content of ammonia*   120,000   120,000   165,000   180,000   168,500   2 N content of urea   117,120   103,236   103,236   110,400   12   118,825   115,500   2 Phosphater cock, mine output:	Gypsum	do.	444	448	573	403	540
No content of urea   117,120 % 2   103,236 6 % 2   110,400 % 2   118,825 % 2   115,500 % 2	Nitrogen:						
Phosphate cock, mine output:   Gross weight   thousand metric tons   P.Os content   do.   1,080 °.2   1,135   966   740   1,130     P.Os content   do.   1,080 °.2   1,135   966   740   1,130     P.Os content   do.   1,080 °.2   1,135   966   740   1,130     P.Os content   Phosphatic fertilizers   238,425 °.2   217,825 °.2   164,225 °.2   150,050 °.2   176,000 °.2     Phosphatic fertilizers   100,000   100,000   100,000   100,000   100,000   100,000   100,000     P.Os cquivalent   137,000 °.2   81,000   88,600   78,23 °.2   81,066 °.2     Sand and gravel   thousand metric tons   1,300   1,702   1,621   1,382   1,445     Store:   Dolomite, refractory grade   do.   5,000   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   thousand square meters   325 °.2   336 °.2   299 °.2   270 °.2   300 °.1     Marble blocks   thousand metric tons   650   810   901   958   910     Sulfur   Byproduct of petroleum and natural gas   28,041 °.2   28,374 °.2   26,314 °.2   25,461 °.2   26,000 °.3     Sulfur   Gross weight   thousand metric tons   117,000   117,000   117,000   117,000   233,000     Scontent   MNERAL FUELS AND RELATED MATERIALS   Gross weight   117,000   117,0	N content of ammonia <sup>e</sup>		120,000	120,000	165,000	180,000	168,500 <sup>2</sup>
Phosphate rock, mine output:         A 3,664         3,678         3,221         2,466         3,765           P <sub>2</sub> O <sub>2</sub> oquivalent:         1,080 ° ²         1,135         966         740         1,130           P <sub>2</sub> O <sub>3</sub> oquivalent:         238,425 ° ²         217,825 ° ²         164,225 ° ²         150,050 ° ²         176,000 ²           Phosphoric acid*         100,000         100,000         100,000         100,000         100,000         61,000           Salt         137,000 ° ²         81,000         88,600         78,263 ²         81,066 ²           Sand and gravel         thousand metric tors         137,000 ° ²         81,000         88,600         78,263 ²         81,066 ²           Storie:         Dolomite, refractory grade*         do.         5,000         5,000         5,000         5,000         5,000         5,000         5,000         5,000         6,0	N content of urea		117,120 r, 2	103,236 r, 2	110,400 r, 2	118,825 r, 2	115,500 <sup>2</sup>
Cross weight   Cross   Cr	Phosphate:						
P₂O₂ content         do.         1,080 °²         1,135         966         740         1,130           P₂O₂ cquivalent:         Phosphatic fertilizers         238,425 °²         217,825 °²         164,225 °²         150,050 °²         176,000 °²           Phosphoric acid°         100,000         100,000         100,000         100,000         100,000         100,000         160,000           Sand and gravel         thousand metric tons         1,300         1,702         81,000         88,600         78,263 °²         81,666 °²           Stone:         Dolomite, refractory grade°         do.         5,000         5,000         5,000         5,000         5,000         5,000         5,000         5,000         6,000         1,000         1,000         1,000         1,000	Phosphate rock, mine output:						
PyOs squivalent:   Phosphatic fertilizers   238,425 **.2   217,825 **.2   164,225 **.2   150,050 **.2   176,000 **.2   Phosphatic fertilizers   100,000   100,000   100,000   100,000   61,000   61,000   5alt   137,000 **.2   81,000   88,600   78,263 **.2   81,066 **.2   Sand and gravel   thousand metric tons   1,300   1,702   1,621   1,382   1,445   58   58   58   58   58   58   58	Gross weight	thousand metric tons	3,664	3,678	3,221	2,466	3,765
Phosphatic fertilizers	P <sub>2</sub> O <sub>5</sub> content	do.	1,080 r, 2	1,135	966	740	1,130
Description   100,000   100,000   100,000   100,000   61,000   51,000   52   53   53   54   53   54   54   54   54	P <sub>2</sub> O <sub>5</sub> equivalent:						
Salt   137,000   12   81,000   88,600   78,263   2   81,066   2   2   2   2   2   2   2   2   2	Phosphatic fertilizers		238,425 r, 2	217,825 r, 2	164,225 r, 2	150,050 r, 2	176,000 <sup>2</sup>
Sand and gravel   Stone:	Phosphoric acid <sup>e</sup>			100,000	100,000		61,000
Stone:   Dolomite, refractory grade*   do.   5,000   5,000   5,000   5,000   5,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   6,000   Marble materials   do.   dul   2   369   2   299   2   270   2   300   8   Marble blocks   thousand square meters   325   62   318   62   283   62   301   62   218   2   283   62   283	Salt		137,000 r, 2	81,000	88,600	78,263 <sup>2</sup>	81,066 2
Dolomite, refractory grade*   do.   5,000   5,000   5,000   5,000   6,000	Sand and gravel	thousand metric tons	1,300	1,702	1,621	1,382	1,445
Gravel and crushed rock*         do.         6,000         800         200	Stone:						
Gravel and crushed rock®         do.         6,000         200 ° 200	Dolomite, refractory grade <sup>e</sup>	do.	5,000	5,000	5,000	5,000	5,000
Marble blocks         thousand square meters         325 °.2         318 °.2         283 °.2         301 °.2         218 °.2           Volcanic tuff         thousand metric tons         650         810         901         958         910           Sulfur         Byproduct of petroleum and natural gas         28,041 °.2         28,374 °.2         26,314 °.2         25,461 °.2         26,000 °           Sulfuric acid:         Gross weight°         360,000         360,000         360,000         360,000         360,000         360,000         233,000           S content°         117,000         117,000         117,000         117,000         117,000         117,000         76,000           MINERAL FUELS AND RELATED MATERIALS         8,600         7,825 °         7,574 °         7,948 °         8,000           Dry         do.         5,700 °         5,600 °         5,300 °         5,700 °         7,800           Natural gas plant liquids°         thousand 42-gallon barrels         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650         3,650 <td></td> <td>do.</td> <td>6,000</td> <td>6,000</td> <td>6,000</td> <td>6,000</td> <td>6,000</td>		do.	6,000	6,000	6,000	6,000	6,000
Volcanic tuff	Marble materials	do.	401 <sup>2</sup>	369 r, 2	299 r, 2	270 r, 2	300 <sup>e</sup>
Volcanic tuff   thousand metric tons   650   810   901   958   910	Marble blocks	thousand square meters	325 r, 2	318 r, 2	283 r, 2	301 r, 2	218 2
Byproduct of petroleum and natural gas   28,041 °.2   28,374 °.2   26,314 °.2   25,461 °.2   26,000 ° Sulfuric acid:	Volcanic tuff	thousand metric tons	650	810	901	958	910
Sulfuric acid:   Gross weight   360,000   360,000   360,000   360,000   233,000   S content	Sulfur						
Scontent   Scontent	Byproduct of petroleum and na	itural gas	28,041 r, 2	28,374 r, 2	26,314 r, 2	25,461 r, 2	26,000 e
S content   S co	Sulfuric acid:						
S content	Gross weight <sup>e</sup>		360,000	360,000	360,000	360,000	233,000
Gas, natural:         According         Million cubic meters         8,600         7,825 2         7,574 2         7,948 2         8,000           Dry         do.         5,700 r         5,600 r         5,300 r         5,700 r         7,800           Natural gas plant liquidse thousand 42-gallon barrels         3,650         1,01,050         1,680         1,680	•		117,000	117,000	117,000	117,000	76,000
Gross <sup>c</sup> million cubic meters         8,600         7,825 <sup>2</sup> 7,574 <sup>2</sup> 7,948 <sup>2</sup> 8,000           Dry         do.         5,700 <sup>r</sup> 5,600 <sup>r</sup> 5,300 <sup>r</sup> 5,700 <sup>r</sup> 7,800           Natural gas plant liquids <sup>c</sup> thousand 42-gallon barrels         3,650	MINERAL FUELS AND REL	ATED MATERIALS					
Dry   do.   5,700 °   5,600 °   5,300 °   5,700 °   7,800     Natural gas plant liquids	Gas, natural:						
Dry         do.         5,700 °         5,600 °         5,300 °         5,700 °         7,800           Natural gas plant liquids°         thousand 42-gallon barrels         3,650         3,650         3,650         3,650         3,650           Petroleum:         Crude         do.         146,000         138,850         139,081         137,576         140,525           Refinery products:         Liquefied petroleum gas         do.         1,680         1,680         1,680         1,715           Gasoline         do.         12,007 °         12,921         11,339 °         11,589 °         12,958           Naphtha         do.         7,080         7,411 °         6,409 °         4,072 °         7,080           Kerosene and jet fuel         do.         3,248         1,655 °         1,781 °         1,580 °         3,248           Distillate fuel oil         do.         29,346         28,600 °         27,863 °         29,689 °         29,346           Residual fuel oil         do.         3,647 °         3,052 °         3,390 °         2,898 °         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Gross <sup>e</sup>	million cubic meters	8,600	7,825 <sup>2</sup>	7,574 <sup>2</sup>	$7,948^{-2}$	8,000
Petroleum:           Crude         do.         146,000         138,850         139,081         137,576         140,525           Refinery products:         Liquefied petroleum gas         do.         1,680         1,680         1,680         1,680         1,715           Gasoline         do.         12,007 °         12,921         11,339 °         11,589 °         12,958           Naphtha         do.         7,080         7,411 °         6,409 °         4,072 °         7,080           Kerosene and jet fuel         do.         3,248         1,655 °         1,781 °         1,580 °         3,248           Distillate fuel oil         do.         29,346         28,600 °         27,863 °         29,689 °         29,346           Residual fuel oil         do.         32,887         29,798 °         29,142 °         27,415 °         33,653           Asphalt         do.         3,647 °         3,052 °         3,390 °         2,898 °         3,000           Other         do.         1,000         1,000         3,500         3,500         3,500	Dry	do.	5,700 <sup>r</sup>	5,600 <sup>r</sup>	5,300 <sup>r</sup>	5,700 <sup>r</sup>	7,800
Crude         do.         146,000         138,850         139,081         137,576         140,525           Refinery products:           Liquefied petroleum gas         do.         1,680         1,680         1,680         1,680         1,715           Gasoline         do.         12,007 °         12,921         11,339 °         11,589 °         12,958           Naphtha         do.         7,080         7,411 °         6,409 °         4,072 °         7,080           Kerosene and jet fuel         do.         3,248         1,655 °         1,781 °         1,580 °         3,248           Distillate fuel oil         do.         29,346         28,600 °         27,863 °         29,689 °         29,346           Residual fuel oil         do.         32,887         29,798 °         29,142 °         27,415 °         33,653           Asphalt         do.         3,647 °         3,052 °         3,390 °         2,898 °         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Natural gas plant liquids <sup>e</sup>	thousand 42-gallon barrels	3,650	3,650	3,650	3,650	3,650
Refinery products:           Liquefied petroleum gas         do.         1,680         1,680         1,680         1,680         1,715           Gasoline         do.         12,007 °         12,921         11,339 °         11,589 °         12,958           Naphtha         do.         7,080         7,411 °         6,409 °         4,072 °         7,080           Kerosene and jet fuel         do.         3,248         1,655 °         1,781 °         1,580 °         3,248           Distillate fuel oil         do.         29,346         28,600 °         27,863 °         29,689 °         29,346           Residual fuel oil         do.         32,887         29,798 °         29,142 °         27,415 °         33,653           Asphalt         do.         3,647 °         3,052 °         3,390 °         2,898 °         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Petroleum:						
Liquefied petroleum gas         do.         1,680         1,680         1,680         1,680         1,715           Gasoline         do.         12,007 °         12,921         11,339 °         11,589 °         12,958           Naphtha         do.         7,080         7,411 °         6,409 °         4,072 °         7,080           Kerosene and jet fuel         do.         3,248         1,655 °         1,781 °         1,580 °         3,248           Distillate fuel oil         do.         29,346         28,600 °         27,863 °         29,689 °         29,346           Residual fuel oil         do.         32,887         29,798 °         29,142 °         27,415 °         33,653           Asphalt         do.         3,647 °         3,052 °         3,390 °         2,898 °         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Crude	do.	146,000	138,850	139,081	137,576	140,525
Gasoline         do.         12,007 ° 12,921         11,339 ° 11,589 ° 12,958           Naphtha         do.         7,080         7,411 ° 6,409 ° 4,072 ° 7,080           Kerosene and jet fuel         do.         3,248 1,655 ° 1,781 ° 1,580 ° 3,248           Distillate fuel oil         do.         29,346 28,600 ° 27,863 ° 29,689 ° 29,346           Residual fuel oil         do.         32,887 29,798 ° 29,142 ° 27,415 ° 33,653           Asphalt         do.         3,647 ° 3,052 ° 3,390 ° 2,898 ° 3,000           Other         do.         1,000 1,000 3,500 3,500 3,500 688	Refinery products:						·
Naphtha         do.         7,080         7,411 r         6,409 r         4,072 r         7,080           Kerosene and jet fuel         do.         3,248         1,655 r         1,781 r         1,580 r         3,248           Distillate fuel oil         do.         29,346         28,600 r         27,863 r         29,689 r         29,346           Residual fuel oil         do.         32,887         29,798 r         29,142 r         27,415 r         33,653           Asphalt         do.         3,647 r         3,052 r         3,390 r         2,898 r         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Liquefied petroleum gas	do.	1,680	1,680	1,680	1,680	1,715
Kerosene and jet fuel         do.         3,248         1,655 г         1,781 г         1,580 г         3,248           Distillate fuel oil         do.         29,346         28,600 г         27,863 г         29,689 г         29,346           Residual fuel oil         do.         32,887         29,798 г         29,142 г         27,415 г         33,653           Asphalt         do.         3,647 г         3,052 г         3,390 г         2,898 г         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Gasoline	do.	12,007 <sup>r</sup>	12,921	11,339 <sup>r</sup>	11,589 <sup>r</sup>	12,958
Distillate fuel oil         do.         29,346         28,600 °         27,863 °         29,689 °         29,346           Residual fuel oil         do.         32,887         29,798 °         29,142 °         27,415 °         33,653           Asphalt         do.         3,647 °         3,052 °         3,390 °         2,898 °         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Naphtha	do.	7,080	7,411 <sup>r</sup>	6,409 <sup>r</sup>	4,072 <sup>r</sup>	7,080
Residual fuel oil         do.         32,887         29,798 r         29,142 r         27,415 r         33,653           Asphalt         do.         3,647 r         3,052 r         3,390 r         2,898 r         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Kerosene and jet fuel	do.	3,248	1,655 <sup>r</sup>	1,781 <sup>r</sup>	1,580 <sup>r</sup>	3,248
Asphalt         do.         3,647 °         3,052 °         3,390 °         2,898 °         3,000           Other         do.         1,000         1,000         3,500         3,500         688	Distillate fuel oil	do.	29,346	28,600 <sup>r</sup>	27,863 <sup>r</sup>	29,689 <sup>r</sup>	29,346
Other do. 1,000 1,000 3,500 3,500 688	Residual fuel oil	do.	32,887	29,798 <sup>r</sup>	29,142 <sup>r</sup>	27,415 <sup>r</sup>	33,653
Other do. 1,000 1,000 3,500 3,500 688	Asphalt	do.	3,647 <sup>r</sup>	3,052 <sup>r</sup>	3,390 <sup>r</sup>	2,898 <sup>r</sup>	3,000
Total do. 90,895 86,117 85,104 82,423 91,688	Other	do.	1,000	1,000	3,500	3,500	688
	Total	do.	90,895	86,117	85,104	82,423	91,688

<sup>&</sup>lt;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. do. Ditto.

 $<sup>^1\!\</sup>text{Table}$  includes data available through November 30, 2011.

<sup>&</sup>lt;sup>2</sup>Reported figure.

<sup>&</sup>lt;sup>3</sup>Mostly from imported crude and semimanufactured steel.

## $\label{eq:table 2} \textbf{SYRIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2010}$

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

Comn	nodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Asphalt		General Company for Marble and Asphalt (GEMA)	Al Bishri, Dayr az Zawr and	100
		(Government, 100%)	Kafriyah, Lattakia	
Cement		Adra Cement and Building Materials Co. 1	Adra	1,500
Do.		Al-Badia Cement Co. J.S.C. (Al Muhaidib Holding Co., 29.5%; Syrinvest Holding B.V., 26%; Public stockholders, 15%; Menaf S.A.S., 12%; Ziad Al Zaim, 7.5%; Al Fozan Holding Co., 5%; private, 5%)	Abu As-Shamat	1,600
Do.		Al-Hasakeh Cement L.L.C. (Guris Holdings, 100%)	Clinker mill at Al-Hasakeh	1,000
Do.		Al-Shahaba Cement and Building Materials Co. <sup>1</sup>	Sheikh Said, Aleppo	740
Do.		do.	Maslamieh, Aleppo	220
Do.		Arabian Cement Co. <sup>1</sup>	do.	876
Do.		Guris Raqqa Cement Co. (Guris Holdings, 100%)	Clinker mill at Raqqa	1,500
Do.		Lafarge Cement Syria (Lafarge S.A., 98.67%, and Mas Economic Group, 1.33%)	Manbej, north of Aleppo	2,600
Do.		Military Housing Cement Group (Government, 100%)	Musselemieh	336
Do.		Rastan Cement and Building Materials Co. <sup>1</sup>	Rastan	130
Do.		Syrian Manufacturing Cement Co. <sup>1</sup>	Hama cement plant 1	1,330
Do.		do.	Hama cement plant 2	328
Do.		do.	Hama cement plant 3	1,200
Do.		Tartous Cement and Building Materials Co. <sup>1</sup>	Tartus	1,825
Gypsum		General Company for Marble and Asphalt (GEMA) (Government, 100%)	Ar Reqqah, Jayrud, and Lattakia,	573
Natural gas	million cubic meters	Al-Furat Petroleum Co. [Syrian Petroleum Co, 50%, and a consortium of Syria Shell Petroleum Development B.V., Himalaya Energy Services BV, and China National Petroleum Corp. (CNPC), 50%]	Processing plant at Omar	2,400
Do.	do.	Ebla Petroleum Co. [Suncor Energy Inc., 50%, and General Petroleum Corp. (GPC), 50%]	Ash Shaer and Cherrife	2,500
Do.	do.	Syrian Gas Co. (Government, 100%)	Arak	13,770
Do.	do.	do.	Dubayat	14,872
Do.	do.	do.	Processing plant at Deir ez-Zor	4,750
Do.	do.	do.	Processing plant at Palmyra	2,200
Do.	do.	do.	Processing plant at Jebissa	1,060
Do.	do.	do.	Processing plant at Suwaidiyah	240
Do.	do.	do.	Abu Rabah, Al -Fayed north, Qumqum, Bilas, Al-Rasm, and Abu Al Dhuhr	1,825
Nitrogen:				
Ammonia <sup>2</sup>		General Fertilizers Co. (Government, 100%)	Homs	237
Urea		do.	do.	280
Fertilizers		do.	do.	200
Marble materials		General Company for Marble and Asphalt (Government, 100%)	Zobar, Lattakia, and Sabboura	90
Petroleum:				
Crude	thousand 42-gallon barrels	Abu Kamal Oil Co. [General Petroleum Corp. (GPC), 50%, and Tatneft Oil Co., 50%]	Al Kishima oilfield, Abu Kamal	365
Do.	do.	Al-Furat Petroleum Co. [General Petroleum Corp. (GPC), 50%; Syria Shell Petroleum Development B.V., 31.25%; Himalaya Energy Syria BV, 18.75%]	AI Izba, Al Ward, Galban, Jarnof/Saban, Maleh/Azraq, Omar/Omar North, Sijan, Tanak, and Thayyam	43,800
Do.	do.	Deir Ezzor Petroleum Company [General Petroleum Corp.	al-Mazraa, Attala North Jafra,	10,950

See footnotes at end of table.

## TABLE 2—Continued SYRIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2010

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

Commodit	ty	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum-Continued				
Crude—Continued	thousand	Dijla Petroleum Co. [General Petroleum Corp. (GPC), 50%, and	Khurbet East	18,250
42-	gallon barrels	Gulfsands Petroleum, p.l.c., 50%]		
Do.	do.	Oudeh Petrouleum Co. [General Petroleum Corp. (GPC), 50%, and Dublin International (Syria) Ltd. Co., 50%]	do.	7,300
Do.	do.	Syria-Sino Alkawkab Oil Co. [General Petroleum Corp. (GPC),	Oudeh	3,650
		50%, and China Petroleum and Chemical Corp. (Sinopec), 50%]		
Do.	do.	Syrian Petroleum Co. (Government, 100%)	Jebissa, and Swaidiyah- Karatchok	73,000
Refined	do.	Banias Refinery Co. (Government, 100%)	Banias	59,090
Do.	do.	Homs Refinery Co. (Government, 100%)	Homs	58,578
Phosphate rock		General Company for Phosphate and Mines (GCOPHAM) (Government, 100%)	Alsharqiya (A and B Mines)	2,500
Do.		do.	Khunayfis	1,000
Phosphatic fertilizers		General Fertilizers Co. (Government, 100%)	Homs	450
Phosphoric acid		do.	do.	165
Salt		General Company for Phosphate and Mines (GCOPHAM)	Dayr az Zawr	72
Steel:				
Billet		General Company for Iron and Steel Products (Hadeed Hama) (Government, 100%)	Hama	70
Rolled		Al Wahib Group	Tartus	100
Do.		Arabian Steel Co. (ASCO)	Jableh	300
Do.		General Company for Iron and Steel Products (Hadeed Hama)	Hama	78
Do.		Hmisho Steel S.A.	Lattakia	500
Do.		International Company for Steel Rolling	Hessya	300
Do.		Joudco Steel Ltd.	do.	150
Do.		Middle East Steel Industries	Yabroud	140
Do.		Orient Co.	Aleppo	300
Do.		Syria Steel and Iron Co. (SALB)	Adra	250
Sulfur	metric tons	Homs Refinery Co.	Homs	40,000
Do.	do.	do.	Processing plant at Suwaidiyah	7,410
Do.	do.	Syrian Petroleum Co. (Government, 100%)	Processing plant at Jebissa	7,300
Sulfuric acid		General Fertilizers Co. (Government, 100%	Homs	560
Volcanic tuff		General Company for Marble and Asphalt (Government, 100%)	Qurries at Daraa, Assowaida, Al Hasakah, and Arraqah	1,000

Do., do. Ditto.

<sup>&</sup>lt;sup>1</sup>Subsidiary of the General Organization of Cement and Building Materials (GOCBM), which is 100% Government owned.

<sup>&</sup>lt;sup>2</sup>Expressed in nitrogen equivalent.