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# 2015 Minerals Yearbook

## ALGERIA [ADVANCE RELEASE]

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# The Mineral Industry of Algeria

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In 2015, Algeria supplied the world with such mineral commodities as ammonia, crude petroleum, helium, methanol, natural gas, phosphate rock, refined petroleum products, and urea. The country was the world's third-ranked producer of helium after the United States and Qatar and held 8.2 billion cubic meters of helium resources, including 1.8 billion cubic meters of proven reserves. The country was the world's eighth-ranked net importer of steel (World Steel Association, 2016b, p. 27; Hamak, 2017).

Algeria was the second-ranked supplier of natural gas to Europe after Russia, the world's ninth-ranked producer, and Africa's leading producer of natural gas; it accounted for 2.3% of the world's output and 2.4% of the world's total proven reserves. The country was estimated to hold 20 trillion cubic meters of shale gas, which was the third-largest volume of shale gas resources in the world. Algeria was also the third-ranked crude petroleum producer in Africa after Angola and Nigeria and accounted for 1.6% of the world's crude petroleum and condensate production; it held 12.2 billion barrels of proven crude petroleum reserves, which was 0.7% of the world's total reserves (BP p.l.c., 2016, p. 6, 8, 20, 22; U.S. Energy Information Administration, 2016, p. 1–2, 13).

Algeria's nonfuel mineral production included small quantities of such metals as secondary aluminum, secondary copper, gold, iron and steel, secondary lead, silver, and zinc. In addition to ammonia, phosphate rock, and urea, the country produced a variety of such industrial mineral commodities as barite, cement, clay (such as bentonite, common clay, and kaolin), diatomite, dolomite, feldspar, gypsum, lime, nitrogen, perlite, pozzolan, rhyolite, salt, sand and gravel, stone (limestone and marble), tuff, and sulfur. Algeria was responsible for 2% of the world's pumice (pozzolan) output (table 1; Crangle, 2017; Jasinski, 2017).

The Ministère de l'Industrie et des Mines [Ministry of Industry and Mining (MIM)] estimated the major mineral resources in the country to be more than 3 billion metric tons (Gt) of iron ore, 2 Gt of phosphate rock, more than 1 Gt of salt, 100 million metric tons (Mt) of lead and zinc, 22 Mt of barite, 7 Mt of feldspar, 6.3 Mt of celestine, 1.4 Mt of manganese, 23,400 metric tons (t) of tungsten trioxide, and more than 100,000 kilograms (kg) of gold (Mining Journal, 2009, p. 3; National Agency of Investment Development 2015a, p. 1, 5).

## Minerals in the National Economy

Algeria's gross domestic product (GDP) increased in real terms by 3.7% in 2015 compared with an increase of 3.8% in 2014. The value of hydrocarbon sector activity, which accounted for 19.2% of the GDP in 2015 compared with 27.1% in 2014, decreased in real terms by 0.3% in 2015 compared with a decrease of 0.6% in 2014. The slight decrease in 2015 was attributed to a 50% decrease in the international price of crude petroleum. Algeria's Saharan Blend price decreased to $53.00 per barrel in 2015 from $100.20 per barrel in 2014 and $109.00 per barrel in 2013 (Banque d'Algérie, 2016, p. 26, 27; 2017, p. 107; International Monetary Fund, 2016, p. 25; Organization of the Petroleum Exporting Countries, 2016, p. 86).

The mining and quarrying sector activity accounted for about 2.9% of the GDP in 2015 compared with about 2.8% in 2014. Employment in the state-owned mining companies increased by 2.8% to 30,255 people in 2014, from 29,424 people in 2011. The number of employees in private mining companies in 2014 increased slightly to 20,427 from 20,406 in 2013. In 2014, state-owned Sonatrach S.p.A. was Algeria's and Africa's leading oil company in terms of natural gas production and the number of employees (60,921 in 2014), an increase from 55,160 in 2013 (Sonatrach S.p.A., 2015, p. 47; M.T. Bouarroudj, Acting General Director of Mines, Ministère de l'Industrie et des Mines, 2016, written commun., August 2, 2015).

## Government Policies and Programs

The Government issued a new mining law, law No. 14 of February 24, 2014, which replaced ordinance No. 07–02 of March 1, 2007, which amended and supplemented the mining law. The mining law guarantees parity for all investors, allows separate surface and underground mine tenure, ensures that disputes can be appealed to international arbitrators, gives incentives for importing equipment for mining operations, and provides custom-tariff exemptions and rebates on mineral extraction royalties. The law, however, does not give priority to state-owned companies over private companies in issuing mining permits as was the case with the old mining law. The Government continued its golden share policy, which was initiated in 2010, concerning foreign investment in the country, but it was expected that this provision would be removed in the near future. The policy gives the Government majority ownership (that is, at least a 51% share) in the local operations of new mining ventures in the country as well as a seat on the company's board of directors but not voting rights (EY, 2015, p. 11; PWC, 2015, p. 20).

In 2015, the Algerian mining sector was administered by the MIM. The MIM was responsible for regulating geologic and mining activities in the country through its respective agencies. The law No. 14 of February 24, 2014, assigned the Agence du Service Géologique de l'Algérie [Geological Survey Agency of Algeria (ASGA)], which had been the Office National de Recherché Géologique et Minière [National Office of Geologic and Mining Research (ORGM)], to be responsible for the country's geologic activities and research. Agence Nationale des Activités Minières [National Agency for Mining Activities (ANAM)] was responsible for issuing mining and quarrying permits and promoting investment opportunities in the mining sector. The MIM had been promoting economic diversity by promoting investment in major mineral industry projects, such as aluminum and steel mills and ammonia and

other fertilizer plants. According to the Directorate General of Mines of the MIM, Algeria had 1,900 valid mining permits and 1,370 mining operations that produced 30 mineral commodities in 2014. In 2015, 40 new privately owned companies were created in the mining and quarrying sector, which increased the total number in the country to 1,118 by yearend. Of the mining operations, 80% were private and 20% were either state-owned or partnerships between the state and private companies (Agence Nationale des Activités Minières, 2015; EY, 2015, p. 11; National Agency of Investment Development, 2015b, p. 15; Ministère de l'Industrie et des Mines, 2016, p. 52).

The hydrocarbon sector was regulated by ordinance No. 06–10 of July 29, 2006, which is a supplement to law No. 05–07 of April 28, 2005. The ordinance grants Sonatrach 51% ownership of all hydrocarbon projects in the country. Environmental laws applicable to the mineral industry include law No. 03–10 of July 19, 2003, and associated decrees and law No. 05–12 of September 4, 2005 (Ministère de l'Energie, 2016).

The Ministère de l'Energie [Ministry of Energy], which was responsible for the country's energy resources, had been trying to increase the participation of international oil companies in the petroleum and natural gas sector by introducing amendments to the hydrocarbon law. Under the revised law (law No. 13–01 of February 20, 2013, which amended hydrocarbon law No. 05–07 of April 28, 2005), taxes are assessed on profits rather than on revenue; this change is intended to make exploration of smaller fields more viable. An important challenge for the Government was to be able to meet current and future demand for natural gas for direct-reduced-iron (DRI) plants, nitrogen and phosphate fertilizer plants, and steel mills while maintaining current levels of natural gas exports and meeting the increased domestic demand for natural gas for electric power generation and other types of consumption. The Government planned to provide 20% of Europe's natural gas demand (Nield, 2014; EY, 2015, p. 20, 22).

## Production

Notable increases in Algeria's mineral commodity production in 2015 compared with those of 2014 included crude steel and continuously cast steel, which increased by 57%; cement, by 27%; normal (leaded) gasoline by 23%; and common clay, limestone, marble, and pozzolan, by 11% each. Notable decreases included zinc metal, which decreased by 25%; iron ore, by 23%; kerosene, by 16%; and sulfuric acid, by 14%. Data on mineral production are in table 1.

## Structure of the Mineral Industry

Algeria's hydrocarbon sector operations were conducted by Sonatrach and several international oil companies, which were working in Algeria under production-sharing agreements with Sonatrach. In 2015, Sonatrach was responsible for 75% (on average) of natural gas, condensate, and crude petroleum production in Algeria, and the remainder was produced by international oil companies working in Algeria, including Anadarko Petroleum Corp. of the United States; BP Algeria, which was a subsidiary of BP p.l.c.; Compañía Española de Petróleos, S.A.U. (CEPSA) of Spain; Dragon of the United Arab Emirates; Enel Group and Eni Algeria Production BV of Italy; Maersk Olie og Gas AS of Denmark; OAO Gazprom of Russia; Petroceltic International of Ireland; Repsol YPF S.A. of Spain; Royal Dutch Shell PLC of the United Kingdom; Statoil ASA of Norway; Talisman Energy Inc. of Canada; and Total Algeria S.p.A. of France (Sonatrach S.p.A., 2015, p. 13, 18–20, 22; 2016a; U.S. Energy Information Administration, 2016).

Sonatrach was the 12th-ranked oil company in the world in terms of the volume of its hydrocarbon production. The state-owned company carried out diverse operations in mining and the extraction of crude petroleum and natural gas; it was responsible for the exploration, production, pipeline transportation, and marketing of hydrocarbons and their byproducts. Sonatrach had 154 affiliates and subsidiaries, 105 of which were in Algeria and 49 of which were in such countries as Argentina, Mali, Niger, Peru, and Spain (table 2; Sonatrach S.p.A., 2016b).

The Government-owned Entreprise Nationale de Fer et du Phosphate (Ferphos Group S.p.A.) managed Algeria's production of iron ore, phosphate rock, pozzolan, and other building materials. Its subsidiaries included Société des Mines de Phosphates S.p.A. (SOMIPHOS), which was the state's sole phosphate-rock-mining company; Société des Mines de Fer d'Algérie S.p.A. (SOMIFER), which was an iron-ore-mining company; and Société des Pouzzolanes et des Matériaux de Construction S.p.A. (SPMC), which produced pozzolan and other building materials (Agence Nationale du Patrimoine Minier, 2013).

The state-owned industrial group Manal S.p.A. [also known as Société de Manadjem El Djazair (Algerian Mines Co.)] was created by Presidential Decree No. 11–85 of February 16, 2011. Manal assumed responsibility for the development, exploration, mining, distribution, and marketing of the country's nonferrous metals, marble, and salt. Manal also oversaw financial, industrial, and partnership aspects of mining operations in Algeria (Ministry of Energy, 2014).

## Mineral Trade

In 2015, Algeria's exports decreased in value by 42% to $35.1 billion from $61.2 billion (revised) in 2014 and $65.8 billion in 2013. The value of hydrocarbon exports, which accounted for 94% of the country's total exports in 2015, decreased to $33.1 billion compared with $58.4 billion in 2014, of which 194.3 million barrels (Mbbl) was crude petroleum valued at $10.0 billion, 128.8 Mbbl was refinery products valued at $6.8 billion, 82.2 Mbbl was liquefied petroleum gas (LPG) valued at $2.7 billion, 44.9 Mbbl was condensate valued at $2.2 billion, 26.6 Mt was liquefied natural gas (LNG) valued at $4.7 billion, and 27.4 billion cubic meters was natural gas valued at $6.6 billion. Other nonfuel mineral exports included ammonia ($502 million), urea ($439 million), phosphate rock ($37 million), helium and hydrogen ($34 million each), and other minerals ($10 million). In 2015, the value of crude petroleum exports accounted for 30% of Algeria's total exports; refined petroleum products, 20%; natural gas, 20%; LNG, 14%; LPG, 8%; and condensate, 7% (Banque d'Algérie, 2016, p. 27–28).

In 2015, Algeria's imports decreased by about 12% in value to $51.6 billion from $58.3 billion in 2014. The top import categories were industrial equipment ($16.6 billion), semifinished products (about $11.5 billion), iron and steel

($6.9 billion), refined petroleum products ($2.4 billion), and raw materials ($1.5 billion). Imports of steel products increased in tonnage to 6.3 Mt in 2015 from 6.0 Mt in 2014. The country's cement imports decreased to 3.15 Mt in 2015 from 5.73 Mt in 2014 (Arab Union for Cement and Building Materials, 2016; Banque d'Algérie, 2016, p. 28; World Steel Association, 2016a, p. 57; 2016b, p. 27).

United States exports to Algeria decreased in value by about 27% to about $1.9 billion in 2015 from about $2.6 billion in 2014. The main export categories included industrial engines ($431 million), generators ($212 million), drilling and oilfield equipment ($117 million), fuel oil ($47 million), and other petroleum products ($16 million). The value of United States imports from Algeria has been decreasing since 2008 when it peaked at about $19.4 billion. The value of United States imports from Algeria, which mainly were hydrocarbon products, decreased by about 26% to $3.4 billion in 2015 from $4.6 billion in 2014. Fuel oil imports decreased to $3.1 billion in 2015 from $4.2 billion in 2014; crude petroleum imports decreased to $65 million in 2015 from $252 million in 2014 and a peak of $11.5 billion in 2007; imports of LPG decreased to zero in 2015 from $69 million in 2014 and a peak of $4.7 billion in 2008; and imports of petroleum products decreased to about $85 million from about $100 million in 2014. The decrease in United States petroleum products imports from Algeria followed the general trend of decreased global petroleum exports to the United States because of an increase in United States domestic production (U.S. Census Bureau, 2016a, b).

## Commodity Review

### *Metals*

**Gold.**—Entreprise d'Exploitation des Mines d'Or S.p.A. (ENOR) was the sole gold producer in the country; it operated the Amesmessa-Terik Mine in southwestern Tamanrasset Province in southern Algeria. Gold production from the mine has continued to decrease over the past 5 years from 449 kg in 2011 to 85 kg in 2015. The decrease was attributed to lower grade ore. In 2014, ENOR called for interested companies to bid for an economic and technical feasibility study to develop gold deposits at the Amesmessa, the Tirek, and the ZITA (an intermediate zone) areas but no company was selected as of yearend 2015 (table 2; Entreprise d'Exploitation des Mines d'Or S.p.A., 2014).

In 2015, Cancor Mines Inc., which was a wholly owned subsidiary of Yorbeau Resources Inc. of Canada, had four exploration permits for copper, gold, and silver in the Hoggar region located 2,000 kilometers (km) south of Algiers; they were the Ouzzal North, Tan Chaffao East, Tan Chaffao West, and Tirek North permits. No exploration activities took place since the company suspended operations in 2012 owing to political unrest resulting from the coup d'état in neighboring Mali (Yorbeau Resources Inc., 2016).

**Iron Ore and Iron and Steel.**—Algeria imported 6.3 Mt of semifinished and finished steel products, including 4.5 Mt of long products, about 1.1 Mt of flat products, and 413,000 t of tubular products, to meet the increased demand for steel products in the domestic market. The country's apparent consumption of crude steel equivalent has been steadily increasing in recent years; it was estimated to be about 6.7 Mt in 2015 or 168 kg per capita (World Steel Association, 2016a, p. 57, 67, 72, 77, 80, 83).

Algeria's iron ore production decreased by 23% to about 700,000 t in 2015 from about 911,000 t in 2014. Crude steel production increased by 57% to 650,000 t in 2015 from 415,000 t in 2014. In January 2015, Entreprise Nationale de Sidérurgie became the majority shareholder (51%) in ArcelorMittal Annaba S.p.A after acquiring a 21% share from ArcelorMittal S.A. of Luxemburg. ArcelorMittal Annaba produced crude steel and other steel products at its electric arc furnace plant and mill in El Hadjar, Annaba Province, and iron ore through its subsidiary ArcelorMittal Tebessa S.p.A., which operated the Boukhadra and Ouenza iron ore mines in Tebessa Province (tables 1, 2; Bloomberg L.P., 2015).

Construction at the $2 billion Algerian-Qatar joint-venture steel complex began in early 2015 and production from the first mill was expected in May 2017. Joint-venture partners Qatar Steel International Co. of Qatar, Groupe Industriel Sider (Sider), and Fonds National de l'Investissement planned to build a 4.2-million-metric-ton-per-year (Mt/yr)-capacity steel complex in the Bellara Industrial Zone, which is located in Jijel Province about 300 km east of Algiers. Ownership in the new project would follow Algeria's new partnership rules, which give the Government a 51% share and Qatar Steel International a 49% share. The Government's share would be divided equally between Sider and Fonds National de l'Investissement. The complex would be built in two stages, and a 2-Mt/yr-capacity direct-reduced-iron-based steelworks, including 600,000 metric tons per year (t/yr) of crude steel capacity, would be added at each stage (Construction Review Online, 2015; Med Africa Times, 2015).

Tosyali Industrie du Fer et de l'Acier Algérie (Tosyali Algeria), which was owned by Tosyali Holding of Turkey, had been producing steel products at its iron and steel plant in the city of Oran since 2013. The plant had the capacity to produce 1.6 Mt/yr of liquid steel, which uses 1.4 Mt/yr of domestic and imported scrap iron and steel to produce steel billets and rebar. Tosyali Algeria signed a contract with Sinosteel Corp. of China to build a pelletizing plant in Oran that would produce iron ore for the DRI plant. Imported iron ore would be transferred from the Port of Arzew to the pellet plant. The pelletizing plant would have the capacity to produce 4 Mt/yr of iron ore pellets for use by the DRI plant; the pelletizing plant would be completed in early 2018. The company was also constructing a DRI plant that would have the capacity to produce 2.5 Mt/yr of DRI; the plant, which would use pelletized iron ore as a feedstock, was expected to be completed by yearend 2017 (Tosyali Holding, 2016a, b).

Société Nationale du Fer et de l'Acier [the National Iron and Steel Co. (Feraal S.p.A.)] was created by the Government in 2014 and was owned by Sonatrach (55% interest), Manal (25% interest), and Sider Group (20%). Feraal planned to explore for and develop iron ore deposits at Gara Djebilet and Mecheri Abdelaziz, which are located in southwestern Algeria near the border with Mauritania and hold an estimated 2.5 Gt of iron ore. The iron ore deposits at Gara Djebilet are located in the Reguibat Shield, which extends to Mauritania, and hosts an estimated 1.5 Gt of iron ore grading 56% iron. The Mecheri Abdelaziz deposit is located east of Gara Djebilet and holds an

estimated 700 Mt of iron ore grading 52% iron (Algerian Press Service, 2015a; Société Nationale du Fer et de l'Acier, 2016).

**Lead and Zinc.**—Western Mediterranean Zinc S.p.A. (WMZ) was a joint venture of Terramin Australia Ltd. (65% interest), state-owned Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF) (32.5% interest), and ORGM (2.5% interest). The joint venture was formed in 2009 to develop the Tala Hamza lead and zinc project on the 125-square-kilometer ($km^2$) Oued Amizour exploration permit located 15 km southwest of the Port of Bejaia in northeastern Algeria. In 2013, Terramin entered into a technical cooperation agreement with China Nonferrous Metals Industry's NFC Foreign Engineering and Construction Co. Ltd. of China. NFC undertook a technical and financial assessment of mining methods that were suggested for the Tala Hamza project and presented its findings to ENOF and the ORGM. The joint-venture partners discussed the results of the revised definitive feasibility study, which was completed in 2014, and approved a work program. In 2015, WMZ renewed its exploration license and was awaiting Government approval to begin mining (Terramin Australia Ltd., 2016).

As of yearend 2015, the total resource (measured, indicated, and inferred) at the Tala Hamza deposit was 68.6 Mt grading 1.1% lead and 4.6% zinc at a 2.5%-zinc cutoff grade. The results of an earlier definitive feasibility study, which was completed by Terramin in 2010, indicated that a project could be developed on the Tala Hamza deposit using block caving and conventional processing. The proposed project would have a production capacity of 2 Mt/yr of ore, which would be processed to produce 100,000 t/yr of zinc in concentrate and 25,000 t/yr of lead in concentrate in the first phase. In the second phase, production would increase to 4 Mt/yr of ore to produce 310,000 t/yr of zinc in concentrate grading 53% zinc at an 89% recovery rate and 60,000 t/yr of lead in concentrate grading 64% lead at a 69% recovery rate (Terramin Australia Ltd., 2010, 2015, 2016).

### *Industrial Minerals*

**Barite.**—Barite production was estimated to have increased by 6% to 60,000 t in 2015 from 56,829 t in 2014 and 30,245 t in 2013. The increase was attributed to increased domestic demand. Société des Mines de Baryte d'Algérie S.p.A. (SOMIBAR) produced barite from the Amin Mimoun Mine in Khenchela Province, the Boucaid Mine in Tissemsilt Province, and the Mellal Mine in Tlemcen Province (tables 1, 2).

Société Nationale de la Baryte S.p.A. (BARYTAL), which was a joint venture between Sonatrach (60% interest) and Manal (40% interest), continued with the development of the Draissa barite deposit located in Bechar Province in western Algeria. Production at the Draissa Mine was expected to have the capacity to produce 100,000 t/yr of barite and to begin operations in 2017 (Bariyo and O'Driscoll, 2013).

**Cement.**—Cement production increased by 27% in 2015 to an estimated 26.6 Mt from 21.0 Mt in 2014. The increase was attributed to capacity increases resulting from the commissioning of greenfield plants and capacity expansion projects at existing plants. Cement consumption was estimated to be about 30 Mt in 2015 compared with about 27 Mt in 2014 and was expected to further increase to 33 Mt in 2016. Thus, cement imports were estimated to decrease significantly to 3 Mt by 2015 from 5.7 Mt in 2014 and to zero by 2016 as more than 10 Mt/yr of added capacity would be in operation by yearend 2016 (International Cement Review, 2015, p. 30−31).

LafargeHolcim S.A. of France was a significant cement producer in Algeria. The company owned and operated the Lafarge Ciment de M'Sila, the Lafarge Ciment d'Oggaz, and the Lafarge Logistique Algérie (LLA) S.p.A. cement plants and two industrial aggregates facilities. The plants had a combined production capacity of 10.6 Mt/yr of cement. Lafarge's output of cement increased slightly (0.7%) in 2014 compared with that of 2013. LafargeHolcim continued with the construction of a new integrated greenfield cement plant in Biskra. The plant was expected to have the capacity to produce 2.7 Mt/yr of cement and production was scheduled to begin in March 2016 (LafargeHolcim S.A., 2016, p. 12, 160).

The state-owned Groupe Industriel des Ciments d'Algérie (GICA), which had 12 subsidiaries in the country and had the capacity to produce 14 Mt/yr of cement in 2015, sought to increase its share of the cement market by increasing its production capacity to 18.5 Mt/yr by 2017 through expansions and the commissioning of greenfield plants. In 2015, GICA increased the capacities of the Ain El Kebira cement plant in Setif Province and the Oued Sly cement plant in Chlef Province by 4 Mt/yr. Three new plants were expected to add 4.2 Mt/yr of cement production capacity and would be located at Beni Zireg in Bechar Province (1 Mt/yr of capacity), El Bayadah Province (1 Mt/yr of capacity), and Sigus at Oum El Bouaghi Province (2.2 Mt/yr of capacity). GICA's development plan, which was expected to create 5,000 direct and 15,000 indirect jobs, included constructing three cement export terminals along the eastern, central, and western Mediterranean coast of Algeria. GICA also planned to increase its capacity of aggregates production to 7 Mt/yr by 2017 (table 2; International Cement Review, 2015, p. 30−31; Groupe Industriel des Ciments d'Algérie, 2016).

**Nitrogen.**—In 2015, Fertial S.p.A and Sorfert Algérie S.p.A. were the two major companies that produced ammonia and urea in Algeria. Fertial, which was a joint venture of Grupo Villar Mir of Spain (66% interest) and Asmidal Group (34% interest), had the capacity to produce 660,000 t/yr and 330,000 t/yr of ammonia at its plants in Arzew and Annaba, respectively. El Sharika El Djazairia El Omania lil Asmida S.p.A (AOA) had the capacity to produce 1.5 Mt/yr of ammonia and 2.6 Mt/yr of urea. Sorfert Algérie, which was a joint venture of OCI N.V. of the Netherlands (51% interest) and Sonatrach (49% interest), produced 1.0 Mt of ammonia in 2015 and about 1.3 Mt of urea at its fertilizer complex in the Arzew Industrial Zone that included two plants—a 1.60-Mt/yr-capacity anhydrous ammonia plant and a 1.26-Mt/yr-capacity granulated urea plant. Sorfert Algérie was expected to supply 1.1 Mt/yr of urea to the domestic market and 700,000 t/yr of ammonia for export, mainly to Western Europe (table 2; Fertial, S.p.A., 2016; OCI N.V., 2016).

AOA, which was a joint venture of Suhail Bahwan Group (Holding) L.L.C. of Oman (51% interest) and Sonatrach (49% interest), had built two plants for ammonia and urea in

the Arzew Industrial Zone near Oran in northwestern Algeria. As of yearend 2015, the plants were on trial runs following the amendment of the partnership agreement between Sonatrach and Suhail Bahwan in 2014. AOA was expected to have the capacity to produce 4,000 metric tons per day (t/d) of ammonia and 7,000 t/d of urea, and the entire output of urea was expected to be exported to countries in the Americas and Europe. A fourth ammonia plant was being built at Arzew. El Bahia fertilizer plant had been proposed by Fertiberia S.A. (a subsidiary of Grupo Villar Mir of Spain) in 2007. In 2014, the Government signed an energy and investment contract with Fertiberia to reactivate the construction of the El Bahia fertilizer plant. The $1.5 billion plant was expected to produce 1.1 Mt/yr of ammonia for export and would begin production in 2017 (Algerian Press Service, 2014; Suhail Bahwan Group (Holding) L.L.C., 2016).

**Phosphate Rock.**—Most of the phosphate rock produced by SOMIPHOS was exported to such European countries as France, Greece, Italy, Poland, and Ukraine, as well as to Brazil, India, and Turkey. Algeria's output of phosphate rock, which averaged 1.3 Mt/yr over the past 5 years, had been low considering the country's large resources, which were estimated to be more than 2 Gt. Thus, the Government planned to increase the country's phosphate rock production capacity to 10 Mt/yr by 2020. In 2015, the National Agency of Investment Development was negotiating with fertilizer manufacturers from India and Indonesia to carry out feasibility studies for building a phosphate-based fertilizer plant in the country (Algerian Press Service, 2015b; National Agency of Investment Development 2015a, p. 5).

### *Mineral Fuels*

**Natural Gas and Petroleum.**—Algeria's production of crude petroleum and condensate increased slightly in 2015 compared with an increase of about 1% in 2014. Dry natural gas output increased by 2% in 2015 compared with that of 2014. The number of producing wells in Algeria in 2015 decreased to 1,968 from 2,042 in 2014, and the number of completed wells increased to 250 from 215 in 2014. In 2015, 24 oil and gas discoveries, of which 11 were for crude petroleum and 13 for natural gas, were made in Algeria compared with 32 in 2014, of which 18 were for crude petroleum and 13 were for natural gas (Organization of Arab Petroleum Exporting Countries, 2016, p. 20, 22; Organization of the Petroleum Exporting Countries, 2016, p. 25–26).

Sonatrach planned to begin initial shale gas production in 2022 and had set a production target of 28.3 million cubic meters per day by 2025 based on favorable market conditions and the acquisition of production technology. In 2014, the Government, through Sonatrach, carried out an oil and gas licensing round and offered 31 blocks situated in four sedimentary basins for shale oil and shale gas. Sonatrach, however, awarded only four blocks in the bidding round (Baxter, 2014a, b; Aloulou, 2015; Crisp, 2015).

Algeria, which was the first country in the world to export LNG in 1964, had two LNG export terminals—one at the Port of Arzew in the northwest and one at the Port of Skikda in the northeast of the country. The country exported natural gas to Europe through three transcontinental pipelines to Italy and Spain. The Government planned to construct two additional transcontinental natural gas pipelines—the Gasdotto Algeria Sardegna Italia (GALSI) pipeline and the Trans-Saharan Gas Pipeline (TSGP). The GALSI pipeline would have the capacity to transport 8 billion cubic meters per year of natural gas to Italy by way of a subsea section pipeline. The TSGP was expected to run more than 4,000 km through the Sahara to transport between 20 billion and 30 billion cubic meters per year of natural gas from Warri, Nigeria, to Algeria (by way of Niger), where it would be connected with the Medgaz pipeline to Spain (U.S. Energy Information Administration, 2016, p. 13).

Algeria's installed refining capacity of crude petroleum and condensate remained at 650,800 barrels per day (bbl/d) in 2015. The country's largest refinery, owned by Société Nationale de Raffinage de Pétrole S.p.A., was located in Skikda Province and had the capacity to refine 355,300 bbl/d of crude petroleum and 122,200 bbl/d of condensate. Other petroleum refineries were located at Arzew (80,800 bbl/d), El Harrach (58,100 bbl/d), Hassi Messaoud (21,500 bbl/d), and Adrar (12,900 bbl/d). The Government was building four new 100,000-bbl/d-capacity refineries in Biskra, Ghardaia, Ouargla, and Tiaret Provinces. Construction of the new refineries and expansion projects at the existing refineries were expected to be completed by 2018 (Organization of the Petroleum Exporting Countries, 2016, p. 32; U.S. Energy Information Administration, 2016, p. 13).

Sonatrach planned to invest $74 billion from 2016 to 2020 in the crude petroleum and natural gas sectors to reverse the decline in production despite the decline of oil prices in global markets. The investment would be directed toward increasing offshore oil and gas exploration and acquiring 45,000 km and 120,000 $km^2$ of two- and three-dimensional seismic maps; drilling 1,328 development wells and 500 wildcat wells; increasing the country's oil refining capacity by installing four new oil refineries; as well as developing the country's nonconventional natural gas resources (Sonatrach S.p.A., 2015, p. 4).

## Outlook

Algeria, which has been a net importer of cement and steel, is likely to become self-sufficient in these commodities by 2018 after the new cement and steel plants become operational. The Government plans to develop the country's mining industry to help offset the negative effects of the decline in petroleum commodity prices and to diversify the country's exports which have been largely dominated by hydrocarbons. Production and, to a large extent, exports of barite, crude petroleum, natural gas, nitrogen fertilizers, phosphate rock, phosphate-based fertilizers, refined petroleum products, and zinc are expected to increase in the short and medium term following the completion of projects that are currently under construction or at the feasibility stage.

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TABLE 1
ALGERIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Thousand metric tons unless otherwise specified)

| Commodity[2] | | 2011 | 2012 | 2013 | 2014 | 2015[e] |
|---|---|---|---|---|---|---|
| METALS | | | | | | |
| Gold, mine output, Au content | kilograms | 449 | 264 | 140 | 85 | 85 |
| Iron and steel: | | | | | | |
| Iron ore: | | | | | | |
| Gross weight | | 1,320 | 1,784 | 1,067 | 911 | 700 [3] |
| Fe content | | 693 | 946 | 565 | 483 | 370 |
| Pig iron | | 360 | 350 | 300 | 300 | 300 [3] |
| Steel: | | | | | | |
| Crude | | 551 | 557 | 440 | 415 | 650 [3] |
| Continuously cast | | 545 | 550 | 417 [r] | 415 [r] | 650 [3] |
| Silver, mine output, Ag content | kilograms | 91 | 42 | 27 | 16 | 16 |
| Zinc: | | | | | | |
| Metal, smelter output | metric tons | 15,611 | 16,000 [e] | 20,000 [e] | 20,000 [r, e] | 15,000 |
| Alloys | do. | 686 | 801 [r] | 611 [r] | 248 [r] | 309 [3] |
| INDUSTRIAL MINERALS | | | | | | |
| Barite, crude | do. | 40,000 | 36,211 | 30,245 | 56,829 | 60,000 |
| Calcite | | 339 | 232 | 267 | 335 | 356 |
| Cement, hydraulic | | 19,000 | 19,000 | 18,500 | 21,000 | 23,300 |
| Clay: | | | | | | |
| Bentonite | metric tons | 29,000 | 26,278 | 27,668 | 31,510 | 33,500 |
| Common clay | | 11,000 | 10,167 | 11,829 | 12,467 | 13,800 |
| Kaolin | metric tons | 71,065 | 100,970 | 42,504 | 181,068 | 192,000 |
| Diatomite | do. | 2,132 | 2,137 [r] | 2,007 [r] | 2,415 [r] | 2,360 [3] |
| Dolomite | do. | 2,260 | 743 | 60 | 60 [e] | 64 |
| Feldspar | | 148 | 163 | 259 | 230 | 245 |
| Gypsum | | 1,610 | 1,958 | 2,078 | 2,130 | 2,340 |
| Lime, hydraulic | | 63 | 66 | 48 | 49 | 54 |
| Nitrogen, N content: | | | | | | |
| Ammonia | | 593 | 713 | 580 | 1,130 | 1,130 |
| Urea | | -- | -- | 40 [e] | 420 | 440 |
| Phosphate rock: | | | | | | |
| Gross weight | | 1,287 | 1,250 | 1,151 | 1,418 | 1,289 [3] |
| $P_2O_5$ content[e] | | 386 | 375 | 345 | 425 | 420 |
| Pozzolan | | 141 | 325 | 388 | 315 | 350 |
| Salt, brine and sea salt | | 238 | 178 | 173 | 193 | 181 |
| Sand and gravel: | | | | | | |
| Construction sand | thousand cubic meters | 4,100 | 2,898 | 2,635 | 2,998 | 3,200 |
| Granulates: | | | | | | |
| Aggregates, crushed stone and gravel | do. | 41,000 | 56,040 | 54,898 | 60,905 | 65,000 |
| Crushed sand[e] | do. | 14,000 | 16,000 | 18,000 | 20,000 | 21,000 |
| Silica sand[e] | | 100 [r] | 125 [r] | 150 [r] | 170 | 180 |
| Stone: | | | | | | |
| Marble: | | | | | | |
| Blocks | thousand cubic meters | 9 | 15 | 18 | 32 | 36 |
| Crushed | | 119 | 287 | 239 | 203 | 225 |
| Limestone | | 20,000 [e] | 20,000 [e] | 21,932 [3] | 24,880 [3] | 27,600 |
| Tuff[e] | thousand cubic meters | 1,700 | 1,700 | 1,700 | 1,700 | 1,800 |
| Sulfur, S content: | | | | | | |
| Byproduct of petroleum processing | | 100 [r] | 85 [r] | 90 [r] | 110 [r] | 110 |
| Sulfuric acid | | 14 [r] | 9 [r] | 7 [r] | 5 [r] | 4 [3] |

See footnotes at end of table.

TABLE 1—Continued
ALGERIA: PRODUCTION OF MINERAL COMMODITIES[1]

(Thousand metric tons unless otherwise specified)

| Commodity[2] | | 2011 | 2012 | 2013 | 2014 | 2015[e] |
|---|---|---|---|---|---|---|
| MINERAL FUELS AND RELATED MATERIALS | | | | | | |
| Helium, liquid[e] | million cubic meters | 17 | 17 | 25 | 25 | 25 |
| Methanol | | 118 | 111 [r] | 78 | 108 [r] | 102 |
| Natural gas: | | | | | | |
| Gross | million cubic meters | 190,127 | 182,599 | 179,489 | 186,824 [r] | 183,825 [3] |
| Dry | do. | 82,767 [r] | 86,454 [r] | 79,647 [r] | 83,296 [r] | 84,583 [3] |
| Plant liquids | do. | 15,292 [r] | 14,128 [r] | 13,216 [r] | 16,047 [r] | 16,047 [3] |
| Petroleum: | | | | | | |
| Crude, including condensate | thousand 42-gallon barrels | 599,330 | 561,005 | 574,875 | 579,985 [r] | 578,890 [3] |
| Refinery products: | | | | | | |
| Liquefied petroleum gas | do. | 6,059 [r] | 5,402 [r] | 5,986 [r] | 9,271 [r] | 8,833 |
| Gasoline, normal | do. | 10,710 | 10,000 | 9,600 | 9,270 [r] | 11,430 |
| Gasoline, super | do. | 9,131 | 8,944 | 8,618 | 10,105 | 10,105 |
| Naphtha | do. | 57,017 | 52,101 | 53,755 | 54,100 | 54,100 |
| Kerosene and jet fuel | do. | 8,893 | 9,600 | 13,584 | 15,403 | 12,921 |
| Distillate fuel oil | do. | 55,654 | 51,474 | 52,533 | 69,496 | 67,963 |
| Lubricants | do. | 821 | 2,100 | 2,100 | 2,500 | 2,500 |
| Residual fuel oil | do. | 49,778 | 31,646 | 35,684 | 50,881 | 50,954 |
| Bitumen | do. | 1,058 | 1,060 | 1,000 | 1,000 | 1,000 |
| Total | do. | 199,121 [r] | 172,000 [r] | 183,000 [r] | 222,000 [r] | 220,000 |

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. [r]Revised. do. Ditto. -- Zero.
[1]Table includes data available through December 31, 2016.
[2]In addition to the commodities listed, secondary aluminum, secondary copper, and secondary lead may have been produced in small quantities and crude construction materials (for local consumption), caustic soda, fertilizer, fuller's earth, perlite, and rhyolite were produced, but available information was inadequate to make reliable estimates of output.
[3]Reported figure.

TABLE 2
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

| Commodity | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|---|---|---|---|
| Barite | Société des Mines de Baryte d'Algérie S.p.A. (SOMIBAR) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)] | Amin Mimoun Mine, Khenchela Province | 35,000 |
| Do. | do. | Boucaid Mine, Tissemsilt Province | 20,000 |
| Do. | do. | Mellal Mine, Tlemcen Province | NA |
| Do. | Société Nationale de la Baryte (BARYTAL) S.p.A. (Sonatrach S.p.A., 60%, and Manal, 40%) | Draissa, Bechar Province | 100,000 [1] |
| Do. | Société des Baryte SARL (SOBAR) | Chaabet Abou Fares, Tipaza Province | 7,000 |
| Cement: | | | |
| Portland | Lafarge Ciment de M'Sila (LafargeHolcim S.A., 99.99%) | Hydra, M'Sila Province | 5,000,000 |
| Do. | Lafarge Ciment d'Oggaz (LafargeHolcim S.A., 99.99%) | Oggaz, Mascara Province | 4,400,000 |
| Do. | Lafarge Logistique Algérie (LLA) S.p.A. (LafargeHolcim S.A., 99.99%) | Bab-Ezzouar | 1,200,000 |
| Do. | Entreprise des Ciments et Dérivés d'Ech Cheliff [Groupe Industriel des Ciments d'Algérie (GICA)] | Ech Cheliff | 2,100,000 |
| Do. | Société des Ciments Beni Saf [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and Pharoan Group, 35%] | Beni Saf, Ain Temouchent Province | 1,200,000 |
| Do. | Entreprise des Ciments et Dérivés d'Ech Cheliff [Groupe Industriel des Ciments d'Algérie (GICA)] | Oued Sly, Chlef Province | 4,000,000 |
| Do. | Société des Ciments Zahana [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and ASEC Cement, 35%] | Zahana, Djelfa Province | 1,200,000 |
| Do. | Société des Ciments d'Aïn-Touta [Groupe Industriel des Ciments d'Algérie (GICA)] | Ain Touta, Batna Province | 1,000,000 |
| Do. | Société des Ciments d'Aïn-Kébira [Groupe Industriel des Ciments d'Algérie (GICA)] | Ain El Kebira, Setif Province | 1,000,000 |
| Do. | Société des Ciments de Hamma-Bouziane [Groupe Industriel des Ciments d'Algérie (GICA)] | Hamma-Bouziane, Constantine Province | 1,000,000 |
| Do. | Société des Ciments de Sour El Ghozlane [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and Buzzi Unicem S.p.A., 35%] | Sour El Ghozlane, Bouira Province | 1,000,000 |
| Do. | Société des Ciments de Hadjar Soud [Groupe Industriel des Ciments d'Algérie (GICA)] | Bekkouche Lakhda, Skikda Province | 950,000 |
| Do. | Société des Ciments de la Mitidja [Groupe Industriel des Ciments d'Algérie (GICA), 65%, and LafargeHolcim S.A., 35%] | Meftah, Blida Province | 1,000,000 |
| Do. | Société des Ciments Saïda [Groupe Industriel des Ciments d'Algérie (GICA)] | Hassasna, Saida Province | 500,000 |
| Do. | Tebessa Cement Company S.p.A. [Groupe Industriel des Ciments d'Algérie (GICA)] | Tebessa Province | 500,000 |
| Do. | Société des Ciments de l'Algérois [Groupe Industriel des Ciments d'Algérie (GICA)] | Rais-Hamidou | 450,000 |
| White | Ciment Blanc d'Algerie S.p.A. (LafargeHolcim S.A., 100%) | Oggaz, Mascara Province | 550,000 |
| Clay: | | | |
| Bentonite | Société des Bentonites d'Algérie S.p.A. (BENTAL) [a subsidiary of Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)] | Hammam Boughrara, Tlemcen Province | 18,000 |
| Do. | do. | M'Sila Province | 17,000 |
| Do. | do. | Maghnia Mine, Tlemcen Province | 16,000 |
| Kaolin | Société des Kaolins d'Algérie S.p.A. (SOALKA) [Federal White Cement Ltd., 63%, and Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF), 37%] | El Milia Mine, Jijel Province, and Jebel Debbagh Mine, Guelma Province | 65,000 |
| Do. | SARL Faïenceries Algériennes | Adjarda, Chekfa | 95,000 |
| Coke | ArcelorMittal Annaba S.p.A. (ArcelorMittal, 70%, and Groupe Industriel Sider, 30%) | El Hadjar, Annaba Province | 1,200,000 |
| Copper, cathode | Société Algérienne du Zinc S.p.A. (Entreprise Nationale de Métallurgie de Transformation des Métaux Non Ferreux, S.p.A., 100%) | Ghazaouet | 30,000 |
| Diatomite | Société des Diatomees d'Algérie (DIATAL) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)] | Tahalait quarry, Sig, Oran Province | 2,000 |

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

| Commodity | | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|---|---|---|---|---|
| Dolomite | | Société Algérienne des Granulats S.p.A. (ALGRAN) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF), 100%] | Djebel Taioualet | 8,000 |
| Feldspar | | Tufeal SARL | Bouaita | 83,000 |
| Do. | | La Société des Feldspaths d'Algérie (SOFELD) [Entreprise des Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF), 57%, and Entreprise de la Céramique Ouest, 43%] | Ain Barbar | 200,000 |
| Fertilizer: | | | | |
| Nitrogenous: | | | | |
| Ammonia | | Fertial S.p.A. (Grupo Villar Mir, 66%, and Asmidal Group, 34%) | Arzew | 660,000 |
| Do. | | do. | Annaba Province | 330,000 |
| Do. | | Sorfert Algérie S.p.A. (OCI N.V., 51%, and Sonatrach S.p.A., 49%) | Arzew Industrial Zone | 1,600,000 |
| Do. | | El Sharika El Djazairia El Omania lil Asmida S.p.A. (AOA) [Suhail Bahwan Group (Holding) L.L.C., 51%, and Sonatrach S.p.A., 49%] | do. | 1,460,000 [1] |
| Ammonium nitrate | | Fertial S.p.A. (Grupo Villar Mir, 66%, and Asmidal Group, 34%) | do. | 580,000 |
| Urea | | Sorfert Algérie S.p.A. (OCI N.V., 51%, and Sonatrach S.p.A., 49%) | Arzew | 1,260,000 |
| Do. | | Fertial S.p.A. (Grupo Villar Mir, 66%, and Asmidal Group, 34%) | do. | 400,000 |
| Do. | | El Sharika El Djazairia El Omania lil Asmida S.p.A. (AOA) [Suhail Bahwan Group (Holding) L.L.C., 51%, and Sonatrach S.p.A., 49%] | do. | 2,555,000 [1] |
| Compound (nitrogen-phosphate-potassium) | | Fertial S.p.A. (Grupo Villar Mir, 66%, and Asmidal Group, 34%) | do. | 150,000 |
| Phosphatic | | do. | do. | 280,000 |
| Do. | | do. | Annaba Province | 300,000 |
| Gold | kilograms | Entreprise d'Exploitation des Mines d'Or S.p.A. (ENOR) (Sonatrach S.p.A., 100%) | Amesmessa-Tirek gold mine, Tamanrasset Province | 500 |
| Gypsum | | 32 private sector units and 13 public sector units | Batna, Bejaia, Biskra, Bouira, Chlef, Ghardaia, Mascara, Medea, Mila, M'Sila, Oum El Bouaghi, Oran, Setif, and Tiaret Provinces | 2,000,000 |
| Helium | million cubic meters | Helios S.p.A. (Sonatrach Valorisation Hydrocarbonés, 51%, and Helaps S.A., 49%) | GL1Z and GL3Z complexes, Arzew | 17 |
| Do. | do. | Helison Production S.p.A. (Linde AG, 50%, and Sonatrach S.p.A., 50%) | GL1K and GNL2K complexes, Skikda | 25 |
| Iron and steel: | | | | |
| Iron ore | | ArcelorMittal Tebessa S.p.A. (Ferphos S.p.A., 51%, and ArcelorMittal, 49%) | Ouenza Mine, Tebessa Province | 1,200,000 |
| Do. | | do. | Boukhadra Mine, Tebessa Province | 525,000 |
| Do. | | Société des Mines de Fer d'Algérie S.p.A. (SOMIFER) (Ferphos Group S.p.A.) | Khanguet Mine, Tebessa Province | 50,000 |
| Do. | | do. | Anini Mine, Setif Province | 170,000 |
| Do. | | do. | Rouina Mine, Ain Defla Province | 140,000 |
| Steel: | | | | |
| Crude | | ArcelorMittal Annaba S.p.A. (Groupe Industriel Sider, 51%, and ArcelorMittal, 49%) | Electric arc furnace at El Hadjar, Annaba Province | 400,000 |
| Do. | | do. | Hot-strip mill at El Hadjar, Annaba Province | 1,800,000 |
| Do. | | Tosyali Industrie du Fer et de l'Acier Algérie (Tosyali Algeria) (Tosyali Holding, 50%) | Steel mill at Oran | 1,600,000 |
| Processed | | do. | Cold-rolling mill at El Hadjar, Annaba Province | 1,050,000 |
| Do. | | do. | Bar and wire rod mills at El Hadjar, Annaba Province | 850,000 |
| Do. | | do. | Seamless tube mill at El Hadjar, Annaba Province | 700,000 |
| Do. | | Entreprise Nationale de Tubes et de Transformation de Produits Plats (Groupe Industriel Sider, 100%) | Welded tube plant at Ghardaia | 128,000 |
| Do. | | Société Algérienne de Fabrication Tubes en Spirale (Groupe Industriel Sider, 100%) | Welded tube plant at El Hadjar, Annaba Province | 70,000 |

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

| Commodity | | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|---|---|---|---|---|
| Lime | | SODEPAC (ERCO Group) | Hassasna | 93,000 |
| Do. | | Société de Chaux de l'Ouest | Oran Province | 65,000 |
| Do. | | Unité Chaux de Chettaba (Société des Produits Dérivés de l'Est, 100%) | Chettaba | 11,000 |
| Methanol | | Société Nationale de Pétrochimie S.p.A. (Sonatrach S.p.A., 100%) | Methanol plant, Arzew | 113,000 |
| Natural gas: | | | | |
| Crude | million cubic meters | Sonatrach S.p.A. | Numerous gasfields, including Adrar, Hamra, Hassi R'Mel, and Sbaa | 45,000 |
| Do. | do. | Statoil ASA, 49.5%, BP p.l.c., 46%; Sonatrach S.p.A., 4.5%[2] | In Amenas | 6,270 |
| Do. | do. | Sonatrach S.p.A., 35%; BP Algeria p.l.c., 33.15%; Statoil ASA, 31.85% | In Salah | 6,900 |
| Do. | do. | Sonatrach S.p.A., 35%; Total S.A., 35%; Repsol YPF, S.A., 30% | Tin Fouye Tabankort | 5,640 |
| Do. | do. | Compañía Española de Petróleos, S.A.U. (CEPSA), 39%; Sonatrach S.p.A., 36%; Anadarko Petroleum Corp., 9%; Eni S.p.A., 5%; Maersk Olie og Gas AS, 5%; Talisman Algeria, 2% | Ourhoud | 22,000 |
| Refined | do. | Société Nationale de Raffinage de Pétrole S.p.A. (NAFTEC) | RA1K refinery, Skikda Province | 352,700 |
| Liquefied | do. | do. | GL2Z complex, Azrew | 17,820 |
| Do. | do. | do. | GL1Z complex, Azrew | 17,560 |
| Do. | do. | do. | GL3Z complex, Azrew | 5,576 |
| Do. | do. | do. | GL1K complex, Skikda Province | 6,942 |
| Do. | do. | do. | GL2K complex, Arzew | 2,992 |
| Petroleum: | | | | |
| Crude | 42-gallon barrels per day | Sonatrach S.p.A. | About 50 oilfields, including Acheb West, Amassak/Tin-Yaguene, Draa Tamra, Edjeleh, El Borma, El Gassi, Gassi-Touil East, Guellala, Hassi Messaoud North and South, Ohanet North, Rhourde El Baguel, Tin-Fouye Tabankort, and Zarzaitine | 1,700,000 |
| Do. | do. | Anadarko Petroleum Corp., 25%; Lasmo Oil Ltd., 25%; Maersk Olie og Gas AS, 25%; Sonatrach S.p.A., 25% | Hassi Berkine oilfield | 285,000 |
| Do. | do. | Sonatrach S.p.A., 37.70%; Anadarko Petroleum Corp., 18.10%; ConocoPhillips Algeria, 16.90%; Eni Oil Algeria, Maersk Olie Algeriet, and Talisman Algeria, 9.10% each | El Merk oilfield | 135,000 |
| Refined | do. | Société Nationale de Raffinage de Pétrole S.p.A. (NAFTEC) | RA1K refinery, Skikda Province | 355,300 |
| Do. | do. | do. | RA1K refinery, Skikda (condensate) | 122,200 |
| Do. | do. | do. | RHM refinery, Hassi Messaoud | 21,500 |
| Do. | do. | do. | RA1G refinery, El Harrach, Algiers | 58,100 |
| Do. | do. | do. | RA1Z refinery, Arzew | 80,800 |
| Do. | do. | Soralchin Refinery [Société Nationale de Raffinage de Pétrole S.p.A. (NAFTEC), 70%, and China National Petroleum Corp. (CNPC), 30%] | Adrar Province | 12,900 |
| Phosphate rock | | Société des Mines de Phosphates S.p.A. (SOMIPHOS) (Ferphos Group S.p.A.) | Djebel Onk (Djemidjema and Kef Essenoun), Tebessa Province | 1,600,000 |
| Pozzolan | | Société des Pouzzolanes et des Matériaux de Construction | Rockbet El Hassi | 452,000 |
| | | S.p.A. (SPMC) (Ferphos Group S.p.A.) | | |
| Do. | | Entreprise Nationale de Fer et de Phosphate (Ferphos Group S.p.A.) | Beni Saf | 600,000 |
| Salt, crude: | | | | |
| Rock | | Entreprise Nationale d'Exploitation des Carrières de Sels Industriels et Domestiques et Commercialisation des Sels (ENASEL) S.p.A. | El Outaya, Biskra Province | 30,000 |
| Solar | | do. | Bethioua, Oran Province; El Meghaier, El Oued Province; Guergour Lamri, Setif Province; Ouled Zouai, Oum El Bouaghi Province; Sidi Bouziane, Relizane Province | 400,000 |

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

| Commodity | | Major operating companies and major equity owners | Location of main facilities | Annual capacity |
|---|---|---|---|---|
| Stone: | | | | |
| Limestone | | Mittal Steel Annaba SPA | Oued N'hal | 250,000 |
| Marble: | | | | |
| Blocks | cubic meters | Entreprise Nationale du Marbre S.p.A. | Oran and Skikda Provinces | 70,000 |
| Do. | do. | SMS Bouhouita SARL | Skikda Province | 160 |
| Crushed | | Commercialisation du Marbre et de Dérivés de Marbre S.p.A. and Entreprise Nationale du Marbre S.p.A. | Chlef, Oran, Skikda, Tizi Ouzou, and Tlemcen Provinces | 17,000 |
| Tuff | thousand cubic meters | CTIC-CRCC Group (China) | Annaba, Boumerdes, Mascara, Mostaganem, Oran, Relizane, and Sidi Bel Abbes Provinces | 10,300 |
| Do. | do. | Six public sector units and 59 private units | Ain Temouchent, Tiaret, and Tipaza Provinces | 2,000,000 |
| Unspecified | | Société Algérienne des Granulats S.p.A. (ALGRAN) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF), 100%] | Aggregate quarries at Adrar, Oufarnou, Arzew, Ghedir, Gustar, Keddara, Oued Fodda, Teioueit, and Timezrit | 3,000,000 |
| Do. | | Société des Diatomitees d'Algérie S.p.A. (DIATAL) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF), 100%] | Oggaz limestone quarry, near Sig | 12,500 |
| Do. | | Société des Bentonites d'Algérie S.p.A. (BENTAL) [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles S.p.A. (ENOF), 100%] | Limestone quarries near Beni Saf and M'Said | 12,000 |
| Sulfuric acid | | Société Algérienne du Zinc S.p.A. (Entreprise Nationale de Métallurgie et de Transformation des Métaux Non Ferreux, 100%) | Ghazaouet | 70,000 |
| Do. | | Fertial S.p.A. (Grupo Villar Mir, 66%, and Asmidal Group, 34%) | Annaba and Arzew | 50,000 |

Do., do. Ditto. NA Not available.
[1]Under construction.
[2]Working interest.