



2007 Minerals Yearbook

ALGERIA

THE MINERAL INDUSTRY OF ALGERIA

By Mowafa Taib

Algeria had a diverse mineral industry in 2007 that was responsible for producing substantial quantities of building materials, helium, and hydrocarbons, but rather moderate amounts of nonfuel minerals. Algeria was the world's second ranked producer of helium after the United States and accounted for about 11.6% of total world output. It held about 21% of total world identified resources of helium, and the size of its reserve base was second only to that of Qatar. Algeria held 2.5% of the world's total natural gas reserves and accounted for 2.8% of the world's natural gas output in 2007, which ranked it sixth after Russia, the United States, Canada, Iran, and Norway. Algeria had 1% of the total world crude oil reserves and, in 2007, it accounted for 2.2% of the world's crude oil production, which made it the second ranked crude oil producer in Africa after Nigeria (BP p.l.c., 2008, p. 6, 8, 22, 24; Pacheco, 2008).

The Algerian Ministry of Energy and Mines (MEM) managed the mining sector activities through its agencies, La Direction Générale des Hydrocarbures (the General Directorate of Hydrocarbons), La Direction Générale des Mines (the General Directorate of Mines), Sonatrach S.p.A., and Sonatrach's subsidiaries and partners. Through its policies, the MEM sought to promote effective involvement of private investors, both domestic and international, in the development of the country's mining industry. The goal of the policies was to meet the national industrial sector's raw material needs, create jobs in regions with low economic activity, and export surplus mining products (Ministry of Energy and Mines, 2008, p. 6).

Nonfuel mineral operations were regulated by law No. 01-10 of July 3, 2001, and associated decrees. Natural gas and petroleum operations were regulated by ordinance No. 06-10 of July 29, 2006, which modified and supplemented law No. 05-07 of April 28, 2005, in terms of its relation to hydrocarbons. Environmental laws applicable to the mineral industry included law No. 03-10 of July 19, 2003, and associated decrees, and law No. 05-12 of September 4, 2005.

Minerals in the National Economy

Algeria's hydrocarbon exports, which were valued at \$59.5 billion¹ in 2007, were 11% greater than that of the previous year. They accounted for 22% of the gross domestic product and 94% of the country's exports of goods and services. The Government revenue attributed to hydrocarbon production, processing, and sales activities was equal to 76% of the Government income. The continued increase in world crude oil and natural gas prices during 2007 resulted in a 4% increase in the value of Algerian petroleum products exports compared with that of 2006. Most of the exports were shipped through the

country's ports or pumped to Europe through undersea gas and oil pipelines (Banque d'Algérie, 2008).

Other mineral commodity exports included base metals, which were valued at \$147.9 million; iron and steel, \$87.1 million; industrial minerals, \$65.1 million; and precious minerals, \$1.6 million. On the other hand, the value of Algeria's mining products imports decreased by 31.5% in 2007 compared with 2006 imports. The total 2007 investment made by international mining companies in Algeria's mining operations, including prospecting, exploration, and exploitation, was \$51.4 million, whereas investment in the hydrocarbon sector was about \$6.4 billion, which represented a 29% increase compared with 2006 investment levels (Ministry of Energy and Mines, 2008, p. 60, 65, 66; Sonatrach S.p.A., 2008b).

In 2007, 28,403 people were employed in the mining sector, which was 2% higher than the number of mining employees in 2006. More than one-half (52%) of the mining sector workers were employed by privately owned companies and 48%, by Government-owned enterprises. Aggregate and stone production companies accounted for 59% of the mining sector workforce; clay production companies, 9%; phosphate production companies, 6%; and iron ore production companies, 5%. Similarly, the number of workers at Sonatrach rose by 5.1% in 2007 to 41,886 employees (Ministry of Energy and Mines, 2008, p. 9, 10; Sonatrach S.p.A., 2008a, p. 86).

Structure of the Mineral Industry

One thousand nonfuel mineral operations were active in Algeria in 2007, of which 74% was privately owned and 26% was owned by the Government. The majority (70%) was aggregate, construction sand, or crushed stone operations that were located in 46 of the country's 48 Provinces. Private-sector companies controlled the aggregate, common clay, gypsum, and sand production units. Large- and medium-sized public-sector enterprises operated barite, bentonite, cement, natural gas, petroleum, and phosphate rock production facilities. The joint ventures of private and state-owned companies dominated the gold production sector [Entreprise d'Exploitation des Mines d'Or S.p.A. (ENOR)], the helium production sector (Helios S.p.A.), and the steel production sector (Ministry of Energy and Mines, 2008, p. 8).

In 2007, a total of 553 new mining licenses and 133 mining sites were granted as a result of four rounds of bidding that targeted small- and medium-size operations, thus putting the number of registered mining licenses to 2,078. Subsequently, the number of partnership operations that were signed with companies from Australia, Canada, Egypt, and India amounted to 31, including 13 for gold, 6 for zinc and lead, 5 for limestone and cement, and 1 each for bentonite, copper, kaolin, manganese, and silica sands (Ministry of Energy and Mines, 2008, p. 4).

¹Where necessary, currency values have been converted from Algerian dinars (DA) to U.S. dollars (US\$) at the average rate of DA69.9=US\$1.00 for 2007 and DA72.647=US\$1.00 for 2006.

Production

Overall hydrocarbon production was 2% higher in 2007 than in the previous year. In 2007, 69% of hydrocarbon output was produced by Sonatrach and 31% was produced by its partners. The hydrocarbon products that were produced are as follows: 63.8 million metric tons (Mt) of crude oil, 13.7 Mt of condensates, 152.8 billion cubic meters of natural gas, 40 million cubic meters of liquefied natural gas (LNG), and 8.0 Mt of liquid petroleum gas (LPG). About 19 Mt of petroleum refinery products was produced by the country's three refineries, which were located in Algiers, Arzew, and Skikda (Sonatrach S.p.A., 2008a, p. 3, 52).

Table 1 shows notable increases in the production of aggregates (28%), construction sand (20%), phosphate rock (19%), and steel (10%). The table shows decreases in the production of barite (3%) iron ore (15%), gold (47%), marble blocks (34%), salt (29%), and silver (27%).

Commodity Review

Metals

Gold and Silver.—Gold and silver production declined substantially for the second year in a row. In 2007, gold production was 236 kilograms (kg) compared with 377 kg in 2006 and 637 kg in 2005. Similarly, silver production, which was produced as a secondary product by the gold mines, declined to 46 kg in 2007 compared with 63 kg and 110 kg in 2006 and 2005, respectively. Gold and silver were mined by ENOR, which was a partnership company of London-based GMA Resources p.l.c. (which held a 52% interest) and Banque d'Algérie, Société Nationale d'Assurance, and Sonatrach. The company mined the Tirek-Amesmessas site, which is located 450 kilometers (km) south of the city of Tamanrasset in southwestern Algeria. The decline in production in 2007 was because of technical problems that caused a temporary halt in the processing of the ore at Tirek. However, the heap-leaching process was resumed in late 2007 at the open pits in the Amesmessas and the Tirek gold mines, which are located 60 km from each other. Estimates of proven and probable reserves in the 1,417-square-kilometer area were 748,000 t of high-grade gold deposits with a total output of 9.1 t of gold (GMA Resources p.l.c., 2008; Middle East Economic Digest, 2008).

In addition to GMA Resources, several companies conducted prospecting and exploration activities for gold and other metals in Algeria in 2007. Cancor Mines Inc. of Canada prospected for gold and copper at the Tan Chaffao property and for gold and silver at the Ouzzal North 1a site; both properties are located in Tamanrasset Province. Gold Houria Raphael, which held 30.5% interest in a joint venture with state-owned Gold and Industrial Minerals [a subsidiary of Office National de Recherche Géologique et Minière (ORGM)], explored for gold at Abbegui in Tamanrasset Province (Ministry of Energy and Mines, 2008, p. 17, 18).

Iron Ore.—Iron ore was produced at six mines in Algeria by two companies, ArcelorMittal Annaba S.p.A. (a subsidiary of ArcelorMittal) and Somifer S.p.A. ArcelorMittal Annaba

operated the Boukhadra and the Ouenza Mines, which are located in the Tebessa Province in northeastern Algeria. The iron ore produced from these two mines was about 1.7 Mt, which was 12% lower than the previous year's production volume of 1.9 Mt. The decrease was because of technical problems that caused the shutdown of some melting units. Somifer produced 295,000 t of iron ore from the Djebel Anini Mine in Setif Province, the Khanguet Mine in Tebessa Province, the Rouina Mine in Ain Defla Province, and the Sidi Maarouf Mine in Jijel Province. No production was reported at the Chaaet El Ballout Mine in Souk Ahras Province where 24,600 t was produced in 2006. Somifer's output in 2007 was 29% lower than that of 2006. Algeria's iron ore production declined by 15.3% in 2007 compared with the 2,340 Mt that was produced in 2006, but it remained 165% higher than that of 2002 (Ministry of Energy and Mines, 2008, p. 16).

Lead and Zinc.—Maghreb Minerals p.l.c. reduced its activities in Algeria following the less-than-expected mineralization indicated by the assays of samples taken from a 5-hole drilling program at the Tan Chaffao deposits in 2006. The company shifted its work to Tunisia but it continued to monitor zinc and lead developments in Algeria (Hanson Westhouse LLP, 2007).

Western Mediterranean Zinc S.p.A., which was a joint-venture of Terramin Australia Ltd. (65% interest), the state mining company Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A (ENOF) (32.5% interest), and ORGM (2.5%), drilled 24 holes and conducted scoping studies on the Tala Hamza deposit of the Oued Amizour zinc project. Tala Hamza is located about 12 km southwest of Bejaia Province. The results of the scoping studies indicated first-stage production of 209,000 metric tons per year (t/yr) of zinc concentrate and 43,000 t/yr of lead concentrate (Terramin Australia Ltd., 2009).

Henan Shaolin Hydro Co. Ltd. (a subsidiary of the Geology and Mineral Resources Exploration Bureau of Henan Province in China) signed an agreement with the MEM to operate the El Abed lead-zinc mine at Tlemcen Province and to build a concentrator with 2,000 t/yr of capacity. It was also awarded another lead-zinc exploration license for the Ain Sedjra and the Boukhdema deposits in Setif Province, which have combined estimated reserves of 800,000 t (Mining Journal China, 2007).

Industrial Minerals

Cement.—Algeria produced about 20 Mt of limestone for cement and 16 Mt of cement, which was 16% and 8% more, respectively, than in 2006. Algeria's cement production had been on the rise since 2001. The 2007 production level represented a 111% increase compared with that of 2001. Cement production took place in 15 plants located in the northern part of Algeria. Twelve of these plants were state-owned and three were privately owned. The private companies included Algerian Cement Corp. and Ciment Blanc d'Algérie S.p.A. Both companies were subsidiaries of Orascom Construction Industries S.A., which was a private Egyptian group of companies. Ciment Blanc d'Algérie began white cement production at Oggaz in Mascara Province in 2007 with initial production of 13,000 t. Orascom operated a cement

plant at Burdj Bouredj in M'Sila Province about 240 km south of Algiers. The plant, which was partially funded by the International Finance Corp., had two production lines, each with a production capacity of 2.5 Mt (International Finance Corp., 2004; Ministry of Energy and Mines, 2008, p. 42).

Helium.—Helium was produced by Helios S.p.A. [a joint-venture company owned by Sonatrach (51%) and Helap S.p.A. (49%)] in its Bethioua plant located in the northeastern part of the country. The flash gas was brought from the gas liquefaction facility of the GL2-Z complex in Azrew. Helium production at this site was about 17 million cubic meters in 2007, which was nearly the full capacity of the plant. Helison Production S.p.A., which was a joint venture between Linde AG of Germany (51%) and Sonatrach (49%), started helium production at its plant in Skikda in April 2007. By yearend, Helison Production was producing 3.1 million cubic meters of helium from its 17-million-cubic-meter-capacity plant. This put Algeria's helium production for 2007 at 20 million cubic meters, which was 25% higher than the output in 2006 (Linde AG, 2007; Sonatrach S.p.A., 2008a, p. 56).

Nitrogen.—Both liquid and gaseous nitrogen were produced from the nitrogen present in the flash gas in the Bethioua plant by Helios. The volume of liquid nitrogen produced was 10.1 million liters and that of gaseous nitrogen was 13.7 million cubic meters, which represented an 18% increase compared with the previous year's production level (Sonatrach, S.p.A., 2008a., p. 56).

Phosphate Rock.—Phosphate rock production was carried out by Société des Mines de Phosphate (SOMIPHOS), which was an affiliate of FERPHOS Group S.p.A. Phosphate rock deposits were located at Djebel Onk in Bir El Ater southeast of Tebessa Province. Mining output of phosphate rock increased by 19% in 2007 to 1.8 Mt. Production of phosphate rock had increased by more than 100% since 2004. Almost all the quantities of phosphate produced were exported. In 2007, SOMIPHOS began preparing for the opening of the Bled El Hadba Mine, which is located 14 km east of the Djebel Onk mining complex. The reserves were estimated to be 125 Mt of phosphates, and production by 2020 was projected to be 5 Mt of phosphate rock annually (FERPHOS Group Newsletter, 2008; Ministry of Energy and Mines, 2008, p. 12).

Mineral Fuels

Petroleum and Natural Gas.—Sonatrach continued its efforts to expand petroleum and gas production and reserves by adding 20 new oil and gas discoveries in 2007. They consisted of nine oil discoveries, eight gas discoveries, two condensate gas discoveries, and one oil and condensate gas discovery. Eight of these discoveries were totally owned by Sonatrach and 12 were shared with other partners. Sonatrach embarked on projects to increase the capacity and the liquefaction of gas, as well as the separation of LPG. It signed a partnership agreement with the Spanish company Fertiberia S.A, which was a subsidiary of the Villar Mir Group, to form two joint ventures, one for producing ammonia from a plant at Arzew in Oran Province with a capacity of 1.1 million metric tons per year, and one for marketing the fertilizers produced by this plant. In 2007, a total of 114 exploratory wells were drilled and

146 development drills were performed, one-half of which were with Sonatrach associates (Organization of Arab Petroleum Exporting Countries, 2008, p. 15, 16; Sonatrach S.p.A., 2008a).

Construction work on the Medgaz pipeline began in 2007 in the departure terminal at Beni Saf on the Algerian coast. The project was aimed at transmitting natural gas from Hassi R'Mel inside Algeria to the reception terminal at Almeria's El Perdigal beach in Spain by way of the Saharan Atlas Mountains through Beni Saf and under the Mediterranean Sea. The project was designed to export 8 billion cubic meters per year of natural gas, and the first gas was expected to arrive at Almeria, Spain, in July 2009 (Sonatrach S.p.A., 2008a).

Outlook

Algeria's hydrocarbon sector is expected to continue to be a focus of Government attention because of its revenue generation abilities and its lion's share of the country's exports. It will also continue to attract international investors as a result of Algeria's abundant reserves and proximity to the European consumption markets. The mining industry is expected to grow to meet the needs of the domestic market for industrial minerals and building material, and to export precious and basic minerals.

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TABLE 1
ALGERIA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity ^{2,3}	2003	2004	2005	2006	2007
METALS					
Gold metal kilograms	365	593 ^r	637 ^r	377	236
Iron and steel:					
Iron ore, gross weight	1,378	1,554	1,579	2,340	1,982
Metal:					
Pig iron	965	994	952	1,093 ^r	1,193
Steel, crude	1,051	1,014	1,007	1,158 ^r	1,278
Lead, Metal, refined ^c	6	5	5	5	--
Mercury kilograms	175,600	73,451	276	--	--
Silver metal do.	500	40	110 ^r	63 ^r	46
Zinc:					
Concentrate, Zn content metric tons	2,796	231	4,463	572	--
Metal, smelter output ^c	32	25	30	30	--
INDUSTRIAL MINERALS					
Barite, crude	46	48	53	65	63
Cement, hydraulic	9,000	11,000	12,800 ^r	14,702 ^r	15,886
Calcite	NA	190	193	191	204
Clays:					
Bentonite	25	46 ^r	53 ^r	27	33
Common	6,449 ^r	6,118 ^r	7,383 ^r	7,308 ^r	9,529
Dolomite	3	4	5	8	1
Fuller's earth	3	2	1	20 ^r	75
Kaolin	19 ^r	24 ^r	34	33	107
Diatomite	3	1 ^r	4 ^r	2	2
Feldspar	NA	24 ^r	34 ^r	66 ^r	83
Gypsum ⁴	350	460 ^r	635 ^r	1,033	1,198
Lime, hydraulic	100 ^e	163 ^e	163 ^e	55 ^r	93
Nitrogen, N content of ammonia	578	543	550	470	500
Phosphate rock:					
Gross weight	905	820 ^r	878	1,510	1,800
P ₂ O ₅ content ^c	267 ^r	300	260	450 ^r	536
Pozzolan	500	508	494	433	570
Salt, brine and sea salt	191	176 ^r	197 ^r	260	183
Sand and gravel:					
Construction sand thousand cubic meters	1,880 ^r	1,366 ^r	1,599	2,143	2,553
Bricks do.	NA	NA	NA	117	122
Granulates:					
Aggregates, crushed stone, and gravel do.	13,769	17,022	22,377 ^r	21,220 ^r	27,225
Crushed sand do.	NA	NA	3	4	6
Silica sand do.	NA	NA	203	48 ^r	519
Stone:					
Aragonite do.	NA	NA	1,400	NA ^r	31,302
Dolomite	NA	NA	4	8	9
Quartzite	NA	NA	13	6	35
Marble:					
Blocks thousand cubic meters	24	22	22 ^r	16	11
Crushed	105	121	154	148	170
Miscellaneous types of dressed stone thousand cubic meters	2	2	5	4	12
Rhyolite do.	NA	NA	3	3	3
Tuff do.	685	791	755 ^r	951	1,729
Sulfur, S content of sulfuric acid ^c	20	21	22	22	22
MINERAL FUELS AND RELATED MATERIALS					
Coke	450	439	398	423 ^r	419
Gas, natural:					
Gross million cubic meters	137,634	144,281	151,775	149,509	153,000
Dry ⁵ do.	83,000 ^r	82,000 ^r	98,000 ^r	88,000 ^r	85,000
Helium, liquid do.	17	17	17	15	20
Methanol	116	107	94	130	118
Natural gas plant liquids thousand 42-gallon barrels	325,000 ^r	361,000 ^r	416,000 ^r	409,000 ^r	423,000

See footnotes at end of table.

TABLE 1—Continued
ALGERIA: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity ^{2,3}	2003	2004	2005	2006	2007	
MINERAL FUELS AND RELATED MATERIALS—Continued						
Petroleum:						
Crude, including condensate	thousand 42-gallon barrels	555,356 ^r	590,314 ^r	619,710 ^r	614,148 ^r	615,324
Refinery products:						
Liquefied petroleum gas	do.	6,000 ^r	7,000 ^r	6,000 ^r	6,000 ^r	6,000
Gasoline	do.	13,000 ^r	17,000 ^r	17,000 ^r	19,000 ^r	17,000
Naphtha	do.	34,000 ^r	25,000 ^r	26,000 ^r	26,000 ^r	28,000
Kerosene and jet fuel	do.	8,000 ^r	8,000 ^r	8,000 ^r	8,000 ^r	8,000
Distillate fuel oil	do.	37,000 ^r	42,000 ^r	44,000 ^r	49,000 ^r	49,000
Lubricants	do.	1,000 ^r	1,000 ^r	1,000 ^r	1,000 ^r	1,000
Residual fuel oil	do.	33,000 ^r	36,000 ^r	34,000 ^r	36,000 ^r	37,000
Other	do.	2,000 ^r	2,000 ^r	37,000 ^r	34,000 ^r	36,000
Total	do.	134,000 ^r	138,000 ^r	173,000 ^r	179,000 ^r	182,000

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto.
NA Not available. -- Zero.

¹Table includes data available through February 2009.

²In addition to the commodities listed, secondary aluminum, secondary lead, and secondary copper may be produced in small quantities; crude construction materials for local consumption, and fertilizer, perlite, and urea are produced, but available information is inadequate to make estimates of output.

³In addition to the commodities listed, about 700 metric tons per year (t/yr) of caustic soda is estimated to have been produced.

⁴Includes about 50,000 t/yr of plaster.

⁵Excludes gas used in flaring, reinjection, transmission losses, and venting.

TABLE 2
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity	
Ammonia	Le Groupe Asmidal	Alzofert plant, Arzew	660,000	
Do.	do.	Fertial plant, Annaba	330,000	
Barite	Société des Mines de Baryte d'Algérie S.p.A. [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A (ENOF)]	Draïssa Mine and plant	100,000	
Do.	do.	Mizab	25,000	
Do.	do.	Boucaïd	40,000	
Bentonite	Bentonites Company of Algeria (BENTAL), [a subsidiary of Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)]	Hammam Boughrara M'Sila	18,000 15,000	
Cement:				
Portland	Algerian Cement Co., (ACC) (Orascom Construction Industries S.A., 100%)	M'Sila	5,000,000	
Do.	Ciment Blanc d'Algérie S.p.A. (Orascom Construction Industries S.A., 100%)	Oggaz, Mascara Province	2,500,000	
Do.	Entreprise des Ciments et Dérivés d'Ech—Cheliff	Chlef	2,000,000	
Do.	Société des Ciments de la Mitidja (Entreprise des Ciments et Dérivés du Centre)	Meftah	1,000,000	
Do.	Société des Ciments de Sour El Ghozlane (Entreprise des Ciments et Dérivés du Centre)	Sour El Ghozlane	1,000,000	
Do.	Société des Ciments Zahana (Entreprise des Ciments et Dérivés de l'Ouest)	Zahana	1,200,000	
Do.	Société des Ciments Beni Saf (Entreprise des Ciments et Dérivés de l'Ouest)	Beni Saf	1,000,000	
Do.	Société des Ciments Saïda (Entreprise des Ciments et Dérivés de l'Ouest)	Hassasna	500,000	
Do.	Société des Ciments d'Aïn-Touta (Entreprise des Ciments et Dérivés de l'Est)	Ain Touta	1,000,000	
Do.	Société des Ciments d'Aïn-Kébira (Entreprise des Ciments et Dérivés de l'Est)	Ain-Kebira	1,000,000	
Do.	Société des Ciments de Hamma-Bouziane (Entreprise des Ciments et Dérivés de l'Est)	Hamma-Bouziane	1,000,000	
Do.	Société des Ciments de Hadjar Soud (Entreprise des Ciments et Dérivés de l'Est)	Bekkouche	900,000	
Do.	Tabessa Cement Company S.p.A.	Tebessa	525,000	
Do.	Société des Ciments de l'Algérois (Entreprise des Ciments et Dérivés du Centre)	Rais-Hamidou	368,000	
White	Ciment Blanc d'Algérie S.p.A. (Orascom Construction Industries S.A., 100%)	Oggaz, Mascara Province	550,000	
Coke	Mittal Steel Annaba S.p.A. (Mittal Steel Co. N.V. of the Netherlands, 70%; and Groupe Industriel Sider, 30%)	El Hadjar	1,200,000	
Copper, cathode	Société Algérienne du Zinc (Entreprise Nationale de Métallurgie et de Transformation des Métaux Non Ferreux, S.p.A., 100%)	Ghazaouet	NA	
Diatomite	Diatoms Company of Algeria S.p.A (Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A (ENOF))	Tahalait Quarry, Sig	2,000	
Dolomite	Algerian Aggregates S.p.A. (ALGRAN)	Djebel Taioualet	8,000	
Feldspar	TUFEAL SARL	Bouaita	83,000	
Fertilizers:				
Nitrogenous, ammonium nitrate	Le Groupe Asmidal	Alzofert plant, Arzew	495,000	
Do.	do.	Fertial plant, Annaba	330,000	
Do.	do.	do.	240,000	
Do.	Fertalge Industries S.p.A.	Arzew	360,000	
Phosphatic ¹	do.	Fertial plant, Annaba	800,000	
Gold, content of mine output	Entreprise d'Exploitation des Mines d'Or S.p.A. [GMA Resources p.l.c., 52%; Sonatrach S.p.A., 16.38%; Banque d'Algérie, 16.22%; Société Nationale d'Assurance, 8.43%; Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A., (ENOF) 4.8%]	Tirek Mine	3	
Do.	do.	Amesmesa Mine	3 ¹	
Gypsum	About 60 small- or medium-scale operations	35 units in 14 Provinces	1,200,000	
Helium million cubic meters	Helios S.p.A. (Sonatrach Valorisation Hydrocarbonés, 51%, and Helap S.p.A., 49%)	GI2Z complex, Arzew	17	
Do.	do.	Helison Production S.p.A. (Linde AG, 50%, and Sonatrach S.p.A., 50%)	GL1K complex. Skikda	17

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners			Location of main facilities	Annual capacity
Iron ore	ArcelorMittal Annaba S.p.A.			Ouenza Mine	3,600,000
Do.	do.			Boukhadra Mine	1,000,000
Do.	Somifer S.p.A.			Khanguet Mine	61,000
Do.	do.			Sidi Maarouf Mine	50,000
Do.	do.			Anini Mine	150,000
Do.	do.			Rouina Mine	100,000
Do.	do.			Chaabet El Ballout Mine	--
Do.	do.			Tissemeran Mine	NA
Kaolin	Société des Kaolins d'Algérie S.p.A.			Tamazert, El Milia	12,000
Do.	SARL Faïenceries Algériennes			Adjarda, Chekfa	95,000
Lime	SODEPAC (ERCO Group)			Hassasna	93,000
Do.	Société de Chaux de l'Ouest			Oran	65,000
Do.	Unité Chaux de Chettaba (Société des Produits Dérivés de l'Est, 100%)			Chettaba	11,000
Limestone	Mittal Steel Annaba SPA			Oued N'hal	250,000
Marble:					
Blocs	cubic meters	Entreprise Nationale du Marbre S.p.A.		Oran and Skikda Province	10,460
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
Methanol		Société Nationale de Pétrochimie S.p.A. (Sonatrach S.p.A 100% owned subsidiary, through Holding Raffinage et Chimie des Hydrocarbures)		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	12,000
Do.	do.	do.		Numerous gasfields	33,000
Liquefied	do.	do.		GL2Z complex, Bethioua	18,000 ²
Do.	do.	do.		GL1Z complex, Bethioua	16,000 ²
Do.	do.	do.		GL1K complex, Skikda	6,000 ²
Do.	do.	do.		GL4Z complex, Arzew	2,000 ²
Petroleum:					
Crude	42-gallon barrels per day	do.		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, and Zarzaitine	1,700,000
Refined	do.	Société Nationale de Raffinage de Pétrole-NAFTEC S.p.A.		RA1K refinery, Skikda	320,000
Do.	do.	do.		RA1G refinery, Algiers	58,000
Do.	do.	do.		RA1Z refinery, Arzew	70,000
Do.	do.	do.		RHM refinery, Hassi-Messaoud	30,000
Phosphate rock		Société des Mines de Phosphates S.p.A. (SOMIPHOS) (a subsidiary of FERPHOS Group S.p.A.)		Djebel Onk, Kef Snoun	1,800,000
Pozzolan		Pozzolan Society and Building Materials SPMC)		Rockbet El Hassi	452,000
Do.		Société des Ciments Béni Saf (ERCO group)		Beni Saf	11,000
Do.		Entreprise Nationale du Fer et du Phosphate		do.	600,000
Salt, crude:					
Rock		Entreprise Nationale d'Exploitation des Carrières de Sels Industriels et Domestiques et Commercialisation des Sels S.p.A.		El Outaya, Biskra	138,000
Solar		Several private companies		Bethioua, Oran; El Meghaier, El Oued, Guergour Lamri, Setif Ouled Zouai, Oum el Bouaghi, and Sidi Bouziane, Relizane	45,000

See footnotes at end of table.

TABLE 2—Continued
ALGERIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Steel:			
Crude	ArcelorMittal Annaba S.p.A. (Mittal Steel Co. N.V. of the Netherlands, 70%, and Groupe Industriel Sider, 30%)	Blast furnaces at El Hadjar, Annaba	2,100,000
Do.	do.	Electric arc furnace at El Hadjar, Annaba	400,000
Processed	do.	Hot strip mill at El Hadjar, Annaba	1,800,000
Do.	do.	Cold rolling mill at El Hadjar, Annaba	1,050,000
Do.	do.	Bar and wire rod mills at El Hadjar, Annaba	850,000
Do.	do.	Seamless tube mill at El Hadjar, Annaba	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	70,000
Stone	L'Algérienne des Granulats S.p.A. [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)]	Aggregate quarries at Adrad Oufarnou, Arzew, Ghedir, Gustar, Keddara, Oued Fodda, Teioueit, and Timezrit	3,000,000
Do.	Société des Diatomites d'Algérie S.p.A. [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)]	Oggaz limestone quarry, near Sig	12,500
Do.	Société des Bentonites d'Algérie S.p.A. [Entreprise Nationale des Produits Miniers Non Ferreux et des Substances Utiles, S.p.A. (ENOF)]	Limestone quarries near Béni Saf and M'Said	12,000
Sulfuric acid	Société Algérienne du Zinc (Entreprise Nationale de Métallurgie et de Transformation des Métaux Non Ferreux, 100%)	Ghazaouet	70,000
Tuff	2 public sector units (51%) and 24 private sector units (49%)	26 units in 13 Provinces	1,730,000
Urea	Fertalge Industries S.p.A.	Arzew	400,000

Do., do. Ditto. NA Not available.

¹Capacity includes 500,000 to 600,000 metric tons per year (t/yr) of compound fertilizer [nitrogen, phosphorus, and potassium (NPK), or phosphorus and potassium (PK)], or triple superphosphate (TSP), and 240,000 t/yr of single superphosphate (SSP).

²One cubic meter of liquefied natural gas is equivalent to 584 cubic meters of natural gas. Natural-gas-equivalent capacities (in billions of cubic meters) were GI.2Z--10.3. GI.1Z--10.2. GI.1K--4. and GI.3Z--1.1.