



2014 Minerals Yearbook

MACEDONIA

THE MINERAL INDUSTRY OF MACEDONIA

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Macedonia is a small, landlocked, and primarily mountainous country that borders Albania, Bulgaria, Greece, Kosovo, and Serbia. Macedonia is endowed with a variety of mineral resources, such as metals (antimony, arsenic, chromium, copper ore, gold, iron ore, lead, manganese, nickel, silver, and zinc); industrial minerals (clays, including bentonite and kaolin, feldspar and mica as byproducts, gypsum, limestone, marble, sand and gravel, silica sand, talc, titanium, and volcanic materials); and mineral fuels and related materials (lignite, rare earths, and uranium). In 2014, Macedonia produced a number of metals, including aluminum, copper, ferroalloys, lead, nickel, steel, and zinc. Industrial minerals that were produced included bentonite, dolomite, feldspar, gypsum, lignite, limestone, marl, sand and gravel, silica sand, and talc (Davies, 2010; Spasovski and others, 2011, p. 486; National Geographic, 2015).

Minerals in the National Economy

According to the National Bank of the Republic of Macedonia, the real gross domestic product (GDP) increased by 3.8% in 2014 compared with an increase of 2.7% in 2013. The increase was attributed to the opening of new export facilities, investments in infrastructure, and an improvement in the labor market. The country's nominal GDP was \$8.0 billion (MKD407 billion)¹ in 2014. Together, mining and quarrying; manufacturing; electricity, gas, steam, and air conditioning supply; water supply; and sewerage and waste management and remediation activities accounted for 15.6% of the total GDP in 2014 compared with 15.7% in 2013, and construction accounted for 6.4% compared with 7.1% in 2013. Industrial production, in terms of output, increased by 12% in 2014 compared with an increase of 7% in 2013. Within the industrial sector, manufacturing production, in terms of output, increased by 20.1% in 2014 compared with an increase of 10.2% in 2013. Mining and quarrying production increased by 6% in 2014 compared with an increase of 8.0% in 2013. Within the mining and quarrying sector, coal and lignite mine output decreased by 1.7% in 2014 compared with an increase of 0.8% in 2013, and that of metal ores increased by 6% in 2014 compared with an increase of 12.3% in 2013; other mine production increased by 17.8% in 2014 compared with an increase of 8.7% in 2013 (National Bank of the Republic of Macedonia, 2014a, p. 19; International Monetary Fund, 2015, p. 1; State Statistical Office Republic of Macedonia, 2015a; 2015c; 2015e, p. 504; U.S. Department of State, 2015, p. 23).

In 2014, the number of companies involved in mining and quarrying was 180 compared with 164 in 2013. Of that number, 16 were involved in metal mining; 11, mining support activities; 6, coal mining; 3, crude petroleum and natural gas extraction;

and the other 144, other mining and quarrying activities. Total employment in the mining industry was estimated to be 4,164 in 2014 compared with 4,146 in 2013; of this total, 2,443 were employed in the mining of metal ores; 164, in mining support activities; 68, in coal and lignite mining; and 1,489, in other mining and quarrying activities. Total employment in the manufacturing industry was estimated to be 111,559 in 2014 compared with 104,214 in 2013; of the total in 2014, 5,848 were employed in the manufacture of basic metals, 3,130, in the manufacture of industrial mineral products; and 496, in the manufacture of coke and refined petroleum (State Statistical Office of Republic of Macedonia, 2015b, p. 9; 2015f, p. 286).

Government Policies and Programs

In 2010, an Agreement of the Energy Charter, the Energy Community Agreement, the United Nations Framework Convention on Climate Change, and the Kyoto Protocol were signed and ratified by the Government. The strategy for energy development in Macedonia was scheduled to continue until 2030, with the following objectives: (1) maintenance, revitalization, and modernization of existing infrastructure, and the construction and use of new modern infrastructure for energy production; (2) improvement of production, transmission, and use of energy, (3) increased use of natural gas; (4) and integration of the energy sector of Macedonia in the regional and European markets (Ministry of Economy, 2010, p. 1–2).

In 2014, the Commission for Preparation, Organization, and Implementation of Procedure for Granting Concessions for Exploitation of Mineral Resources, in accordance with Article 28, paragraph 1, of the Law on Concessions and PPP [Private Public Partnership], and Article 10, paragraph 2, of the Law on Mineral Resources, announced that it had started granting licenses for detailed geologic exploration and exploitation of mineral resources identified in the Decision for Start of Procedure for Granting Concessions for Detailed Exploration of Mineral Resources (No. 41–9557/1, dated October 22, 2013). The licenses were for the following locations and minerals: (1) Ciflijska Krasta in the municipality of Debrca for limestone, (2) Venule-1 in the municipality of Gradsko for limestone, (3) Kuckovo in the municipality of Gjorce Petrov for limestone, (4) Bel Kamen in the municipality of Krusevo for quartz, and (5) Dukation in the municipality of Vasilevo for clay (Ministry of Economy, 2014).

Production

In 2014, production of refinery products decreased by 99%; silica sands, by 43%; granite, by 36%; bentonite, by 29%; limestone flux, by 23%; talc (crude), by 22%; copper concentrate (gross weight), by 17%; copper concentrate (Cu content) and marl, by 16% each; copper metal (refined, electrowon), by 11%; cement and ferronickel, by 10% each;

¹Where necessary, values have been converted from Macedonian denar (MKD) to U.S. dollars (US\$) at an average rate of MKD50.17=US\$1.00 for 2014 and MKD44.31=US\$1.00 for 2013.

copper mine and concentrate (ore, gross weight) output, by 6%; and nickel, Ni content of FeNi, by 5%. The production of marble and travertine increased by 280%; quartzite, by 105%; steel semimanufactures (slabs), by 89%; crude steel, by 35%; and sand and gravel (construction) by 22% (table 1; State Statistical Office Republic of Macedonia, 2015d).

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Mineral Trade

The total value of trade in 2014 was \$12.2 billion compared with \$10.9 billion in 2013; exports totaled \$4.9 billion in 2014 compared with \$4.3 billion in 2013, and imports totaled \$7.3 billion in 2014 compared with \$6.6 billion in 2013. In 2014, exports of iron and steel decreased by 10% to \$723.2 million from \$805.2 million in 2013; that of petroleum and petroleum products decreased by 23% to \$73.2 million from \$94.7 million; manufactured metals increased by 20% to \$69.9 million from \$58.4 million; manufactured industrial mineral products increased by 2% to \$49.1 million from \$49.9 million; and nonferrous metals decreased by 38% to \$13.6 million from \$22.0 million. The country's main export partners were Germany (41%), Bulgaria and Italy (6% each), Serbia and Greece (5% each), and Belgium (3%) (National Bank of the Republic of Macedonia, 2014b–d).

In 2014, imports of nonferrous metals increased by 67% to \$911 million from \$593 million; manufactured industrial mineral products, by 109% to \$247.6 million from \$118.6 million; manufactured metals, by 11% to \$152.9 million from \$137.8 million; and natural gas, by 3.9% to \$114.5 million from \$110.2 million. Imports of petroleum and petroleum products decreased by about 5% to \$707 million from \$745.7 million in 2013; iron and steel, by 1% to \$361.8 million from \$364.7 million; and coal, coke, and briquets, by 15% to \$39.6 million from \$46.7 million. The country's main import partners were the United Kingdom (12%), Germany (11%), Greece (9%), Serbia (8%), Italy and China (6% each), Bulgaria and Turkey (5% each), and Romania (3%) (National Bank of Republic of Macedonia, 2014b–d).

Macedonia's exports to the United States were valued at \$167 million in 2014 compared with \$62 million in 2013. Of this amount, iron and steel mill products accounted for about \$21.3 million; steelmaking material, \$141,000; iron and steel (advanced), \$100,000; and stone, sand, and cement, \$99,000. In 2014, imports from the United States were valued at \$33.9 million compared with about \$54.8 million in 2013; imports included \$11,000 in iron and steel products (other) (U.S. Census Bureau, 2014a, b).

Commodity Review

Metals

Copper and Gold.—In 2014, the Buchim copper mine was the only operating copper mine in Macedonia; the mine was operated by Solway Investment Group Ltd. of Cyprus. Solway planned to renew the exploration license for copper at the

Kadiica Mine near Pehcevo. The Kadiica Mine was expected to be mined by open pit and underground methods, and the company was expected to use a closed water collection and treatment system. The mine was expected to start operating in 2015 with annual production of 4,500 metric tons (t) of copper (Independent.mk, 2014a; Macedonia Information Centre, 2014a, p. 7; SeeNews, 2015).

In 2014, most of the copper and gold deposits in Macedonia were in the exploration stage. In 2014, Euromax Resources DOOSkopje (formerly known as Phelps Dodge Vardar DOOEL Skopje), which was a joint venture between Euromax Resources (Macedonia) Ltd. of Canada (99.9%) and Euromax Resources (Macedonia) UK Ltd. of the United Kingdom (0.1%), held the licenses for the Ilovica (also known as Ilovitza) porphyry copper-gold system, which is located within the Ilovica property in southeastern Macedonia, 15 kilometers (km) west of the border with Bulgaria. Ilovica is part of a northwest-southeast-trending Tertiary magmatic arc that extends from central Romania through Serbia, Macedonia, southern Bulgaria, and northern Greece, to eastern Turkey. As of November 2013, the resources (measured and indicated) of the Ilovica deposits were estimated to be 237.1 million metric tons (Mt) of sulfides at grades of 0.33 gram per metric ton (g/t) gold and 0.22% copper; the content was estimated to be 79,030 kilograms (kg) (about 2.54 million troy ounces) of gold and 510 t (about 1.12 million pounds) of copper. The total probable reserves were estimated to be 225 Mt of ore (diluted and recovered) at grades of 0.34 g/t gold and 0.2% copper. The total probable oxide reserves were estimated to be 16 Mt at a grade of 0.33 g/t gold. In 2014, Euromax Resources signed an agreement with the European Bank for Reconstruction and Development (EBRD) to sell 20% of the shares of the project for development of the Ilovica porphyry copper-gold mine minus a share from the issued but not distributed shareholding capital of the company. According to the agreement, the EBRD was expected to purchase the shares for \$5 million, which would be used to prepare a feasibility study and the engineering and design work for development of the mine. Royal Gold Co. of the United States was also interested in mining of copper and gold at Ilovica, and the company was expected to invest \$175 million. The mine was expected to be mined by open pit methods, with annual production of 2,955 kg of gold and 16,000 t of copper; the mine life was expected to be 23 years (Euromax Resources Ltd., 2013; 2014a; 2014b, p. 1, 4, 11–12; Macedonian Information Centre, 2014b, p. 6; Melohina, 2014).

In 2013, Reservoir Minerals Inc. of Canada was granted an exploration license for the Konjsko gold project in Kozuf Massif in southern Macedonia. In 2014, Reservoir Minerals conducted a survey at the Konjsko gold project, which included prospecting and systematic rock and soil sampling, and trenching. Rock and soil geochemistry and geologic mapping helped to identify a 2.5-km-long gold anomaly. The channel sampling along 19 meters (m) of outcrop profile (from 72 to 91 m) yielded an average grade of 2.0 g/t gold (ranging from 0.075 to 9.85 g/t gold). The company also was granted a 1.36-square-kilometer (km²) area with gold mineralization, which was an extension of the Konjsko gold project, as well as an exploration license to the 24.53-km² Dvoriste mineral

exploration concession, which was prospective for porphyry-gold mineralization. The Dvoriste license area is located 25 km northeast of Euromax Resources's Ilovica porphyry copper-gold project. Exploration of the Dvoriste license area was expected to start in spring 2015 and to continue in the Konjsko license area in 2015 (Reservoir Minerals Inc., 2014, p. 3, 19–20).

In 2014, the Konstantinovsky Plant of Metallurgical Equipment OOO of Ukraine invested \$200 million in a plant for copper processing and manufacturing of cathodes, copper pipes, and copper wires. The plant was expected to begin operating in late 2015 or early 2016, and to create from 400 to 500 jobs. The company's initial step was to conduct geologic exploration of sites at Vladovo and Staro Nagoricane. In 2008, Euromax Resources conducted an exploration survey of one of the copper sites at Vladovo, the Kazan Dol copper mine. The results showed a shallow-dipping copper-oxide zone with average thickness ranging from 25 to 100 m, and exceeding 200 m in places; the mineralization extends over an area of 800 m by 400 m. The drilling results showed 47 m grading 0.59% copper, and trenching results showed 210 m grading 0.4% copper and 175 m grading between 0.44% copper and 0.39% copper. The Konstantinovsky plant was expected to start developing the Kazan Dol copper mine by 2015 (Independent.mk, 2014b; Ligovski and others, 2014, p. 1; Macedonia Information Centre, 2014a, p. 7; Macedonian International News Agency, 2014).

Iron and Steel.—In 2014, semimanufactured steel was produced by a leading steel producer, Makstil A.D. Skopje. Dufenco Group held a 62.4% stake in Makstil through Dufenco Skopje Investment Ltd.; Minyork Overseas Ltd. held a 19.4% stake, and other shareholders held the remaining 18.2%. The country's production of secondary crude steel increased by 35% to 196,452 t from 145,633 t, and slab production increased by 89% to 187,991 t from 99,689 t as a result of an increase in demand. Makstil operated two units, including a hot-rolling mill and the steelworks of Zelezara Skopje. It employed 791 people (Dimitrievska, 2014; Dufenco, 2014, p. 34; Makstil, 2014).

Lead and Zinc.—Lead and zinc were produced from the Sasa Mine, which was operated by the Solway Investment Group Ltd. of Russia, and the Zletovo and Toranica Mines, which were operated by the Indo Minerals and Metals DOOEL. The Zletovo Mine is located in the eastern part of the Kratovo-Zletovo volcanic complex. The deposit is classified as subvolcanic hydrothermal lead-zinc; the mineral assemblage is composed of chalcopyrite, galena, pyrite, siderite, sphalerite, and the sulfosalts series. The reserves at the Zletovo Mine were estimated to be 16 Mt grading 6% lead and 2% zinc. The Toranica lead-zinc deposit is located in eastern Macedonia in the Sasa-Toranica mining district of the Osogovo Mountains. The Toranica orefield covers 30 km² with mineralization vertically extended between 1,300 and 1,800 m. In 1981, the ore reserves were estimated to be 12.6 Mt grading 4.4% lead and 2.9% zinc. The economic mineralization is related to quartz-graphite schist, and the mineral assemblage is composed of chalcopyrite, galena, pyrite, and sphalerite (Serafimovski and others, 2006a, p. 445–446; 2006b, p. 535–536; Indo Minerals and Metals, DOOEL, 2014).

In 2014, Solway Investment Group invested EUR18 million² (\$22 million) in the Sasa Mine to prepare the mine with facilities and equipment to develop the new site. Solway Investment Group was waiting for the Government to issue new concessions for the Sasa Mine, which was expected to create 50 jobs (SeeNews, 2015).

Industrial Minerals

Cement.—In 2014, the Titan Cementarnica USJE AD (USJE) was the only cement producer in Macedonia; it was operated by Titan Group of Greece. USJE produced cement, clinker, and other related products. Cement production decreased in 2014 to 687,000 t from 762,000 t in 2013 owing to a decrease in consumption. In 2014, USJE cement was used for the construction of the Demir Kapija-Smokvitsa highway. In 2014, 30% of the capacity of oven 3 was used, 71% of the capacity of oven 4 was used, and 35% of the capacity of the cement mills was used (the total capacity of the plant was not specified) (Cementarnica USJE AD, 2014, p. 3).

Stone, Dimension.—In 2013, Fox Marble Holdings plc of United Kingdom signed a 20-year agreement through its local subsidiary (the name was not specified) to operate a marble quarry in the municipality of Prilep. The quarry contains high-quality white Sivec® marble. In 2014, Fox Marble entered into a sublease agreement with New World Holdings (Malta) Ltd. of Malta to acquire the rights to a second Sivec marble quarry (Prilep Omega Sivec Quarry), which was located near the existing Sivec quarry (Fox Marble Holdings plc, 2014a, p. 6–7, 43; 2014b).

Minerals Fuels and Related Materials

Macedonia produced coal and petroleum products, but not natural gas and crude petroleum, and the country had been highly dependent on energy imports since 2000. In 2014, the main sources of energy, by total consumption of primary energy, were coal, crude oil, petroleum products, and natural gas. Macedonia produced only low-calorie lignite coal, and the all other types of minerals fuels, including oil, natural gas, and other types of coal, were imported (Dameski, 2012; Ministry of Economy, 2010, p. 5, 19, 35).

Coal.—In 2014, lignite was a major resource for electricity production. The country's total coal reserves were estimated to be 664 Mt of coal. In 2014, coal was produced by AD ELEM in Brod-Gneotino Mariovo, Oslomej, Popovjani, Suvodol, and Zivojno, and the BRIK Berovo and Drimkol Mines were operated by concessionaries that were privately owned companies. In Macedonia, there were two categories of coal mines: (1) those that produced lignite from the Brod-Gneotino, Mariovo, Oslomej, Popovjani, Suvodol, and Zivojno Mines for use by state-owned thermal powerplants within AD Elem, and (2) those that produced lignite from BRIK Berovo and Drimkol for wide consumption (Dameski, 2012; AD ELEM, 2015).

²Where necessary, values have been converted from euros area euros (EUR) to U.S. dollars (US\$) at an average rate of EUR0.82=US\$1.00 for 2014 and EUR0.73=US\$1.00 for 2013.

The Suvodol coal mine, which covers 3 km², has a coal seam with an average thickness of 14.97 m. As of June 2008, the estimated coal reserves at the Sudovol Mine were 36 Mt. The annual production of coal at the mine ranged between 6 and 7 Mt. The coal produced at the Suvodol and the Brod-Gneotino coal mines was used by the thermal powerplant at Bitola. The Zivojno deposit, which is located in the Pelagonia region approximately 35 km southeast of the town of Bitola, had reserves that were estimated to be 105.8 Mt of coal with 14.8% ash. The annual production capacity at the Zivojno coal mine ranged between 2.5 and 3.0 Mt of coal. The production of coal from the Mariovo, the Negotino, the Popvjani, and the Zivojno coal mines would also be used by the thermal powerplant at Bitola. The thickness of the coal seams at these mines was between 0.4 and 8 m, and the depth varied from 33 to 195 m based on the relief on the surface. The reserves of the Mariovo coal mine cover an area of 14 km²; the total coal reserves were estimated to be 96.7 Mt with 23.2% ash. The production capacity of the Mariovo coal mine was about 2.0 Mt of coal. The coal produced from the Oslomej coal mine would be used to meet coal demand at the Oslomej thermal powerplant. The Oslomej coal mine's annual production ranged from 530,000 t to 1.07 Mt of coal; the estimated coal reserves were 11 Mt of coal. The production capacity of the BRIK Berovo Mine ranged from 35,000 to 70,000 t/yr, and that of the Drimkol Mine ranged from 40,000 to 70,000 t/yr of coal (Ministry of Economy, 2010, p. 35; 2014, p. 10; AD ELEM, 2012a, p. 2; 2012b, p. 2, 4; 2012c, p. 4; Dameski, 2012; ÁF Mercados Energy Markets International, 2013, p. 32).

Natural Gas and Petroleum.—In 2014, Lukoil Macedonia Ltd., Makpetrol AD, and OKTA Crude Oil Refinery A.D. Skopje (OKTA) supplied fuel in Macedonia. OKTA was the leading fuel supplier in Macedonia. As of 2014, the shareholders of the company were EL.P.ET. Balkani S.A., which was a subsidiary of HELLENIC Petroleum S.A. (81.51%), Pucko Petrol (10.87%), and OKTA employees (7.62%). OKTA obtained its fuel supply through the Thessaloniki refinery in northern Greece; a pipeline was used to transport petroleum products to Macedonia. In 2014, OKTA focused on oil trading; the supply of crude oil and petroleum products was affected by fluctuations in prices (HELLENIC Petroleum S.A., 2014, p. 7–8; 2015).

Macedonia imported natural gas from Russia through the only natural gas pipeline (South Stream) that passed through Ukraine, Romania, and Bulgaria, which had a carrying capacity of 800 million cubic meters per year. In December 2014, the Government of Russia announced the possibility of constructing a new natural gas pipeline that was expected to replace South Stream, and it was expected to pass through Macedonia and Serbia, which might ensure energy stability in the region (Ministry of Economy, 2010, p. 4, 41; Independent.mk, 2014c).

Outlook

The Government of Macedonia is actively trying to attract foreign investment for the development of infrastructure projects and the mineral industry. In 2014, foreign companies were engaged in the development of copper, gold, lead, and zinc deposits. In addition, the Government of Macedonia is actively working to improve the country's energy sector.

Given these efforts, it is likely that Macedonia will be able to increase its output of copper and gold and continue to expand production of coal, oil, and natural gas. Development of oil and gas reserves could help the country prevent long-term environmental problems associated with the use of coal.

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TABLE 1
MACEDONIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2010	2011	2012	2013	2014	
METALS						
Aluminum, secondary	309	423	426	101	--	
Copper, mine and concentrate output:						
Ore, gross weight	thousand metric tons	4,199	4,118	4,435	4,646	4,367
Concentrate:						
Gross weight		37,678	35,976	45,266	46,677	38,987
Cu content ^c		7,500 ^r	7,200 ^r	9,100 ^r	9,300 ^r	7,800
Metal, refined, electrowon		--	--	1,000 ^r	1,890 ^r	1,690
Iron and steel:						
Ferroalloys:						
Ferronickel		62,665 ^r	75,174 ^r	83,478 ^r	86,961 ^r	78,496
Ferrosilicon		30,044	56,167	42,402	72,279	73,014
Silicomanganese		36,705	50,756	14,179	--	--
Total		129,414	182,097	140,059	159,240	151,510
Steel:						
Crude, secondary, plates		314,042 ^r	351,412 ^r	224,174 ^r	145,633 ^r	196,452
Semimanufactures, slabs		291,886	385,816	216,935	99,689	187,991
Lead concentrates:						
Gross weight		55,802 ^r	50,398 ^r	52,951 ^r	57,873 ^r	59,203
Pb content		31,249 ^r	28,223 ^r	29,653 ^r	32,409 ^r	33,154
Nickel, Ni content of FeNi		14,413	17,290 ^r	19,200 ^r	20,001	18,054
Zinc concentrates:						
Gross weight		65,743 ^r	56,264 ^r	56,074 ^r	61,815 ^r	63,140
Zn content		32,872 ^r	28,132 ^r	28,037 ^r	30,908 ^r	31,570
INDUSTRIAL MINERALS						
Cement	thousand metric tons	820	981	683	762	687
Clays, bentonite		12,798	14,463 ^r	6,900 ^r	26,819 ^r	19,166
Feldspar, crude		32,209 ^r	36,163 ^r	26,506 ^r	24,834 ^r	26,156
Gypsum, crude		143,118	162,984	157,844	162,661	156,492
Lime for cement		--	--	--	381	10,836
Limestone flux		1,063,839	1,142,662	818,559	976,452	753,429
Marl		749,750	861,666	954,495	788,049	660,827
Sand and gravel, construction (excluding quartz and quartzite)		64,789	2,443	124,442	126,773	154,256
Silica sands (quartz sands or industrial sands)		26 ^r	52 ^r	68 ^r	58 ^r	33
Stone, excluding quartz and quartzite:						
Crushed and broken		130,105	104,209	60,403	98,138	358,821
Dolomite:						
Agglomerated		4,748	5,249	5,392 ^r	5,100 ^r	5,542
Not frayed, not calcined		116,290	125,700	129,120	122,142	132,723
Sintered		20,625 ^r	25,032 ^r	17,168 ^r	14,334 ^r	15,576
Granite, crude		--	--	--	1,177	752
Marble and travertine, crude		52	53	76	144	548
Quartzite		6,595	49,590	16,865	35,899	73,698
Talc, crude		1,292	547	692 ^r	621 ^r	483
MINERAL FUELS AND RELATED MATERIALS						
Lignite	thousand metric tons	6,583	7,902	7,310	6,633	6,470
Petroleum, refinery products:						
Gasoline	thousand 42-gallon barrels	19,035	12,890	5,371	1,690	18
Kerosene	do.	2,463	3,476	2,141	600	--
Distillate fuel	do.	38,909	31,787	7,795	2,526	42
Liquefied petroleum gas	do.	2,105	1,701	849	243	--
Residual fuel	do.	11,002	6,090	2,404	1,083	12
Others	do.	38,985	36,870	14,425	3,121	--
Total	do.	112,499	92,814	32,985	9,263	72

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

¹Table includes data available through August 25, 2015.

²In addition to commodities listed, common clay, diatomite, gold, and lime were produced, but available information was inadequate to make reliable estimates of output.

TABLE 2
MACEDONIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum, secondary	J.S.A. Teal Co.	Tetovo City	2,000
Do.	RZ Institute (Mines and Ironworks Institute AD)	Skopje	2,000
Cement	Cemetarnica USJE AD (Titan Group, 100%)	Plant at Skopje	2,100 ^e
Coal	AD ELEM	Brod-Gneotino, Mariovo, Negorino, Oslomej, Popvjani, Suvodol, and Zinojno	13,070
Do.	Concessionaires, privately owned companies	BRIK Berovo and Drimkol	140
Copper, gold, and silver:			
Ore	Solway Investment Group Ltd.	Mine and mill at Buchim, west of Radovis	4,000
Metal	do.	Solvent extraction and electrowinning plant at Buchim, west of Radovis	40
Feldspar	AD Nemetali Ograzden	Strumica	NA
Ferroalloys:			
Ferromanganese	Skopski Leguri DOOEL	Plant at Skopje	NA
Ferronickel, Ni content	FENI Industries (Cunico Resources)	Ferronickel plant at Kavadarci	78 ^e
Ferrosilicon	Jugohrom Ferroalloys DOO (Camelot Group)	Plant at Jegunovce	73
Silicomanganese	Skopski Leguri DOOEL	Plant at Skopje	NA
Lead-zinc concentrate	Solway Investment Group Ltd.	Mill at Sasa, north of Makedonska Kamenica	750
Lead-zinc ore	do.	Mine at Sasa, north of Makedonska Kamenica	1,000 ^e
Do.	Indo Minerals and Metals DOOEL	Zletovo Mine near Probistip	26
Do.	do.	Toranica Mine near Dolga Livada	NA
Lead-zinc, smelting	do.	Topilnica, City of Vesel	100
Lignite	AD ELEM (state owned)	Mine at Suvodol	6,500
Limestone	AD Nemetali Ograzden	Strumica	NA
Do.	do.	Mine at Oslomej	1,000
Do.	do.	Star Rudnik Mine at Oslomej	310 ^e
Do.	do.	Brod-Gneotino Mine, south of Suvodol near Brod	2,000
Marble	Mermeren Kombinat AD	Prilep	NA
Do.	Fox Marble Holdings plc	do.	NA
Petroleum, refined	OKTA A.D. Skopje (EL.P.ET Balkani S.A., 81.51%; Puko Petrol, 10.87%; company employees, 7.62%)	Oil refinery at Skopje	2,500
Steel, crude, secondary	Makstil A.D. Skopje (Duferco Group, 62.4%; Minyork Overseas Ltd., 19.4%; other shareholders 18.2%)	Plant at Skopje	360
Steel, semimanufactured	do.	do.	750 ^e
Do.	ArcelorMittal Skopje (ArcelorMittal)	do.	1,000

^eEstimated. Do., do. Ditto. NA Not available.