

THE MINERAL INDUSTRY OF

MACEDONIA

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The Republic of Macedonia was a major producer of minerals in the former Yugoslavia. In 1990, the country's output of major minerals, as a percentage of total output for the former Yugoslavia, amounted to 12.3% for copper ore; 36.9% for lead and zinc ore; smelter and refined lead, 25.6% and 26.7%, respectively; and secondary smelter zinc and primary and secondary refined zinc, 100% and 45.3%, respectively. Additionally, steel (electric furnace) production was 16% of total production. With respect to industrial minerals, Macedonia's production of bentonite, dolomite, gypsum, and pumice in 1990 amounted to 65.3%, 58.1%, 10.2%, and 48.7%, respectively, of the former Yugoslavia's total production. Although Macedonia was not directly involved in warfare in other regions of the former Yugoslavia, the country's economy and minerals industry were impacted negatively by the severance of traditional intra-Yugoslavian markets and the international embargoes placed on the Republics involved in the conflict. Additionally, a prolonged lack of international recognition, owing to a dispute with Greece about the name "Macedonia," resulted in the country's virtual commercial isolation for several years. Compared with output levels achieved in 1990, production of selected mineral commodities in 1997 were as follows: aluminum, 73%; ferroalloys, 94%; steel, 36%; lead and zinc ore, 63%; and cement, 78%.

In 1996 and 1997, Macedonia's economy showed some improvement compared with its performance during the preceding 3 years. The country's gross domestic product (GDP) in 1996 increased slightly (0.8%) compared with that of 1995, industrial production rose by 3.2%. In 1997, Macedonia's GDP increased by about 1.5%; industrial production in the first 6-month period of 1997 increased by as much as 2% and 3% (National Bank of Macedonia, 1998).

By the beginning of 1997, more than 95% of Macedonia's enterprises were privately owned. Mineral-producing and mineral-processing enterprises that were state-owned and state-operated in 1997, such as Jugohrom Hemijski-Elektrometalurski Kombinat (ferroalloys), Fenimak (ferronickel), Okta (oil refinery), and Rudnici IZeljezarnica Skopje (steel), were in the process of being denationalized and were seeking buyers and foreign

partners. (See table 2.) In 1997, Samsung Corporation of the Republic of Korea started negotiations with the Government of Macedonia for the purchase of Fenimak. To ensure the success of the negotiations, Samsung proposed to invest \$40 million during 1998-99 to raise Fenimak's production capacity from 5,200 metric tons per year (t/yr) to 11,165 t/yr of ferronickel (U.S. Embassy, Skopje, Macedonia, 1997). At yearend, Balkan Steel International, a Paris-based trading company, reached an agreement with the Government allowing it to manage the hot-strip mill at Rudnici IZeljezarnica Skopje (Skopje) for 1 year starting in January 1998. According to a Government spokesperson, Balkan Steel's management of the strip mill would help prepare the steel producer for full privatization and would supply the Skopje mill with raw materials, as well as cover losses and pay salaries. Balkan Steel International indicated that the mill would produce regular and higher grade steels and would sell to anyone with good price offers. Late in the year, the Swiss trading firm, Duferco, purchased a 54% share in Skopje's electric arc furnace and plate mill (Metal Bulletin, 1998).

Macedonia was entirely landlocked and possessed neither a merchant marine fleet nor pipelines for carriage of natural gas and petroleum. The country's inland transportation and communication system consisted of railroads, highways, and waterways. Although data on the total lengths of railroads and inland waterway systems had not been fully reported, the highway and road system consisted of 10,591 kilometers (km) of paved, gravel, and earth-surfaced road, of which 5,091 km was paved, 1,404 km was gravel, and 4,096 km was earth surfaced.

References Cited

- Metal Bulletin, 1998, Balkan Steel takes over Macedonian hot strip mill: Metal Bulletin, no. 8246, January 22, p. 19.
- National Bank of Macedonia, 1998, Basic economic data: Annual Data for the Republic of Macedonia (press release) September 30, 1 p.
- U.S. Embassy, Skopje, Macedonia, 1997, FYROM—Economic notes, August—September: U.S. State Department Telegram 2509, October, 2 p.

TABLE 1
MACEDONIA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1993	1994	1995	1996	1997
METALS					
Aluminum: Metal, ingot, primary and secondary	2,000	5,000 3/	3,700 3/	4,000	4,000
Cadmium, smelter output kilograms	100	100	100	100	100
Chromite:					
Ore, gross weight	5,000	5,000	5,000	5,000	5,000
Concentrate (produced largely from imported ores)	3,000	3,000	3,000	3,000	3,000
Copper: Mine and concentrator output:					
Ore, gross weight thousand tons	2,500	2,000	2,000	2,000	2,000
Cu content of ore	7,224 3/	7,534 3/	7,140 3/	7,000	6,500
Concentrate, gross weight	25,000	20,000	20,000	20,000	20,000
Gold kilograms	680	640	650	650	650
Iron and steel:					
Iron ore:					
Gross weight thousand tons	20,000	20,000	20,000	20,000	20,000
Fe content of ore	1,000	1,000	1,000	1,000	1,000
Concentrate	15,000	15,000	15,000	15,000	15,000
Pellets	10,000	10,000	10,000	10,000	10,000
Agglomerate	5,000	5,000	5,000	5,000	5,000
Metal:					
Ferroalloys:					
Ferrosilicon	4,376 r/ 3/	3,166 r/ 3/	3,765 r/ 3/	3,780 3/	460 3/
Silicon	20,000	58,740 3/	57,200 3/	57,220 3/	55,000
Total	1,000	1,000	1,000	1,000	1,000
Pig iron	25,376 3/	62,906 3/	61,965 3/	62,000	59,500
Steel, crude:	20,000	20,000	20,000	20,000	20,000
From oxygen converters	37,000	30,000	30,000	30,000	30,000
From electric furnaces	100,000	55,000	60,000	60,000	60,000
Total	137,000 3/	85,000 3/	90,000	90,000	90,000
Semimanufactures	20,000	91,000	65,000	65,000	60,000
Lead:					
Mine output, ore gross weight (Pb, Zn ore)	400,000	900,000	900,000	846,244 r/ 3/	850,000
Concentrate, gross weight	8,000	17,000	17,000	16,885 3/	17,000
Smelter, primary and secondary	10,000	22,000	23,000	23,000	20,000
Refined, primary and secondary	36,080 r/ 3/	30,464 r/ 3/	30,000 r/	30,000 r/	25,000
Nickel: Metal, Ni content of FeNi	4,493 r/ 3/	3,980 r/ 3/	3,500	3,000	3,000
Silver kilograms	24,117 r/ 3/	22,303 r/ 3/	25,000	20,000 r/	20,000
Zinc:					
Concentrate	15,000	15,000	15,000	15,017 3/	15,000
Metal:					
Zn, refined, primary and secondary:					
Smelter	7,000	7,000	7,000	7,000	7,000
Electrolytic	22,611 r/ 3/	24,205 r/ 3/	21,335 r/ 3/	20,000 r/	20,000
INDUSTRIAL MINERALS					
Cement 3/ thousand tons	499	486	524	491 r/	500
Clays, bentonite 3/	35,000	30,000	30,000	30,000	30,000
Diatomite	5,000	5,000	5,000	5,000	5,000
Feldspar	15,000	15,000	15,000	15,000	15,000
Gypsum:					
Crude	30,000	25,000	25,000	25,000	25,000
Calcined	7,000	5,000	5,000	5,000	5,000
Lime	20,000	20,000	20,000	20,000	20,000
Pumice and related materials, volcanic tuff	75,000	75,000	75,000	75,000	100,000
Sand and gravel, excluding glass sand thousand cubic meters	130	130	130	130	130
Stone, excluding quartz and quartzite, dimension, crude:					
Ornamental square meters	200,000	266,700 3/	192,300 3/	186,783 r/3/	190,000
Crushed and brown, n.e.s. thousand cubic meters	400	400	400	400	400
Other cubic meters	10,000	13,100 3/	12,100 3/	10,000	10,000
Sulfur, byproduct of metallurgy thousand tons	6	6	6	6	6
Talc:					
Crude	10,000	10,000	10,000	10,000	10,000
Washed	7,000	7,000	7,000	7,000	7,000

See footnotes at end of table.

TABLE 1--Continued
 MACEDONIA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity	1993	1994	1995	1996	1997	
MINERAL FUELS AND RELATED MATERIALS						
Lignite	thousand tons	7,706 3/	6,830 3/	7,000	6,500	6,500
Petroleum refinery products	thousand 42-gallon barrels	8,000	8,000	8,000	8,000	8,000

e/ Estimated. r/ Revised.

1/ Table includes data available through June 1998.

2/ In addition to commodities listed, common clay and diatomite also are produced, but available information was inadequate to make reliable estimates of output levels.

3/ Reported figure.

TABLE 2
 MACEDONIA: STRUCTURE OF THE MINERAL INDUSTRY IN 1997

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity e/
Cement	Azbestcements "Usje" Preduzece za Proizvodnju Cementa	Plant at Skopje	2,190
Chromite, concentrate	Jugohrom, Hemijsko-Elektrometalski Kombinat	Concentrator at Radusa	150
Copper ore	Bucim, Rabortna Organizacija za Rudarstvo i Metalurgija za Baker	Mine and mill at Bucim, near Radovis	7,000
Ferroalloys	Jugohrom, Hemijsko-Elektrometalski Kombinat	Plant at Jegunovce	80
Iron ore	Skopje, Rudnici i Zeljezarnica Skopje	Mines at Tajmiste, Demir Hisar, and Damjan	1,000
Lead-zinc ore	Prepobotuvacki, Kombinat Zletovo-Sasa: Sase, Rudnici za Olovo i Cink	Mine and mill near Kamenica	300
Do.	Zletovo, Rudnici za Olovo i Cink	Mine and mill near Probistip	700
Lead metal	Zletovo, Topilnica za Cink i Olovo	Imperial smelter at Titov Veles	40
Do.	do.	Refinery at Titov Veles	40
Nickel:			
Ore	Feni-Rudnici i Industrija za Nikel, Celik i Antimon	Mine and opencast mine near Kavadarci	2,300
Metal 1/	do.	Ferronickel plant at Kavadarci	161
Pig iron	Skopje, Rudnici i Zeljezarnica Skopje	5 Elkem electric furnaces at Skopje	430
Steel, crude	do.	Plant at Skopje	980
Zinc metal	Zletovo, Topilnica za Cink i Olovo	Imperial Smelter plant and refinery at Titov Veles	65

1/ Nickel in ferronickel.