

THE MINERAL INDUSTRY OF MACEDONIA

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In 1994, the international trade embargo placed against Serbia and Montenegro by the United Nations and the continuing civil war in Bosnia and Herzegovina had a negative effect on Macedonia's economy causing dislocations within Macedonia's mineral industry. By world and European standards Macedonia was not a major producer of minerals, however, mineral commodities that were important to the country's economy included copper, lead and zinc, and steel. Following secession from Yugoslavia in early 1992, Macedonia also encountered serious difficulties with respect to international recognition, owing to Greece's demand that the term "Macedonia" be applied only to the northern province of Greece bordering with the former Yugoslav Republic of Macedonia. The political dispute with Greece over the "Macedonia" eponym resulted in a de facto trade embargo because of Greece's reported closure of its border to Macedonia, coupled with the international economic sanctions placed against Serbia and Montenegro with which Macedonia has a common border.

Although the primary concern of the Government of Macedonia was reportedly the issue of international recognition, apparently some effort continued to be directed at maintaining levels of industrial production that would ensure minimally acceptable levels of unemployment. The production table for Macedonia was compiled from data presented in a variety of statistical publications of the former Yugoslavia through 1991. The major portion of the country's production statistics, however, was obtained from "Industrijska Proizvodnja," an annual statistical compendium published in Belgrade through 1990 that presented production data by constituent federal republics, as well as by total output for the former Yugoslavia. (See table 1.) Because of the virtual trade embargo that developed around Macedonia, detailed official information concerning foreign trade for 1994 remained largely unavailable. Table 2 lists the apparent administrative bodies as well as subordinate production units of the main branches of the country's mineral industry for 1994. (See table 2.)

The transition of Macedonia's economy to a market-based system will require a reevaluation of the country's mineral resources from a market perspective. For a detailed

presentation of the system that was used to determine reserves in the former Yugoslavia, see "The Mineral Industry of Russia" chapter in this series.

Apart from reports concerning several mineral industry closures at yearend, available reports dealing with the country's mineral production described substantial idle capacities in 1994 in both the iron and steel and nonferrous metals sectors of the country's mineral industry. Owing to the depletion of its coal stocks and inability to obtain supplies from outside the country, Fenimak, the country's nickel producer, announced the closure of its operations at yearend 1993.

Macedonia's inland system of transportation consisted of railroads, highways, and waterways. Although information concerning the total lengths of the railroad and inland waterway systems was not yet available, the highway and road system reportedly 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. The country was entirely landlocked and possessed neither a merchant marine fleet nor natural gas and petroleum pipelines.

Because Macedonia had not been directly affected by the civil war that occurred in the former Yugoslavia, the country's industries and infrastructure remained intact. However, owing to Macedonia's relative political isolation and commercial restrictions with respect to Greece and Serbia and Montenegro, few markets appear to be available that can absorb the output of the country's mineral industry.

¹ Text prepared in Mar. 1995.

Major Sources of Information

Ministry of Industry
Skopje, Macedonia

Major Publications

Industrijska Proizvodnja, 1988-90, published in
Belgrade (Serbia and Montenegro)

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

(Metric tons unless otherwise specified)

Commodity 3/	1990	1991	1992	1993	1994
METALS					
Aluminum: Metal, ingot; primary and secondary	5,490	5,000	4,000	2,000	2,000
Antimony: Mine and concentrate output:					
Ore, gross weight	1,500 4/	--	--	--	--
Concentrate, gross weight	25 4/	--	--	--	--
Cadmium, smelter output kilograms	210	160	110	100	100
Chromite:					
Ore, gross weight	10,800 4/	6,000	6,000	5,000	5,000
Concentrate (produced largely from imported ores)	22,100 4/	14,000	10,000	3,000	3,000
Copper: Mine and concentrator output:					
Ore, gross weight thousand tons	3,710 4/	3,850 4/	3,000	2,500	2,000
Cu content of ore	8,630 4/	9,200	7,200	7,000	6,500
Concentrate, gross weight	36,400 4/	36,000	30,000	25,000	20,000
Iron and steel:					
Iron ore:					
Gross weight thousand tons	44,000	25,000	20,000	20,000	20,000
Fe content of ore	3,000	1,000	1,000	1,000	1,000
Concentrate	55,000	30,000	15,000	15,000	15,000
Pellets	50,000	25,000	10,000	10,000	10,000
Agglomerate	31,000	20,000	5,000	5,000	5,000
Ferroalloys:					
Ferrochromium, low C	5,760 4/	3,360 4/	3,960 4/	4,380 4/	3,160 4/
Ferrosilicochromium	4,200 4/	2,000	1,500	--	--
Ferrosilicon	51,800 4/	35,000	30,000	20,000	15,000
Silicon	1,800 4/	1,800	1,000	1,000	1,000
Total	63,560	42,160	36,460	26,000	16,000
Pig iron	53,000	50,000	20,000	20,000	20,000
Crude steel:					
From oxygen converters	65,000 4/	65,000	42,000	37,000	30,000
From electric furnaces	182,000 4/	80,000	160,000	100,000	60,000
Total	247,000	145,000	202,000	137,000	90,000
Semimanufactures	65,000	45,000	20,000	20,000	20,000
Lead:					
Mine and concentrate output:					
Ore, gross weight (Pb, Zn ore)	1,360,000 4/	900,000	400,000	400,000	400,000
Pb content of ore	47,000	30,000	12,000	12,000	12,000
Concentrate, gross weight	33,000	20,000	15,000	15,000	15,000
Smelter, primary and secondary	33,000	18,000	10,000	10,000	10,000
Refined, primary and secondary	22,000	14,000	8,000	8,000	8,000
Nickel: Metal, Ni content of FeNi	--	--	450	3,500	3,500
Silver kilograms	15,500 4/	12,000	10,000	10,000	10,000
Zinc:					
Zn content of Pb Zn ore	32,000	18,000	16,000	16,000	16,000
Concentrator output, gross weight	23,000	15,000	8,000	8,000	8,000
Metal:					
Zn, smelter, primary	56,700 4/	50,000	30,000	30,000	30,000
Zn, refined, primary and secondary:					
Smelter	18,300 4/	7,370 4/	7,000	7,000	7,000
Electrolytic	34,100 4/	32,000	25,000	25,000	25,000
INDUSTRIAL MINERALS 3/					
Cement thousand tons	639 4/	600	500	500	500
Clays: 3/					
Bentonite	67,000	45,000	40,000	35,000	30,000
Diatomite	6,120 4/	4,000	5,000	5,000	5,000
Feldspar	30,900 4/	30,000	20,000	15,000	15,000
Gypsum:					
Crude	58,000 4/	44,000	30,000	30,000	25,000
Calcined	15,000 4/	11,000	7,000	7,000	5,000
Lime	47,000 4/	40,000	20,000	20,000	20,000
Pumice and related materials: Volcanic tuff	250,000	200,000	100,000	75,000	75,000
Sand and gravel, excluding glass sand thousand cubic meters	194 4/	150	130	130	130

See footnotes at end of table.

TABLE 1-CONTINUED
MACEDONIA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES

(Metric tons unless otherwise specified)

Commodity 2/	1990	1991	1992	1993	1994
INDUSTRIAL MINERALS--Continued 3/					
Stone, excluding quartz and quartzite:					
Dimension: Crude:					
Ornamental square meters	450,000	400,000	300,000	200,000	200,000
Crushed and brown, n.e.s. thousand cubic meters	900	700	400	400	400
Other cubic meters	20,000	15,000	10,000	10,000	10,000
Sulfur: Byproduct of metallurgy thousand tons	9	8	6	6	6
Talc:					
Crude	20,100 4/	20,000	15,000	10,000	10,000
Washed	18,000 4/	17,000	10,000	7,000	7,000
MINERAL FUELS AND RELATED MATERIALS					
Lignite thousand tons	6,640 4/	6,000	5,000	5,000	5,000
Refinery products thousand 42-gallon barrels	15,000	12,000	10,000	8,000	8,000

1/ Previously published and 1994 data are rounded by the U.S. Bureau of Mines to three significant digits.

2/ Table includes data available through Mar. 1995.

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

4/ Reported figure.

TABLE 2
MACEDONIA: STRUCTURE OF THE MINERAL INDUSTRY FOR 1994

(Thousand of metric tons unless otherwise specified)

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

1/ Nickel in ferronickel.