BOSNIA AND HERZEGOVINA

By Walter G. Steblez

In 1999, Bosnia and Herzegovina remained divided into two administrative zones—the Federation of Bosnian Moslems and Croatians (FBC) formed one autonomous zone (about 51% of Bosnia and Herzegovina), and Republica Srpska (RS) with a predominantly Serbian population formed the other. The country's mineral resources also were divided on this basis with little movement during the year for a countrywide reintegration of political and economic processes. The economy of Bosnia and Herzegovina continued to show high growth levels from the low postwar economic base of 1995.

The country's gross domestic product increased by about 10% compared with 18% in 1998. On balance, Bosnia and Herzegovina was able to sustain growth despite some disruption of trade, additional refugee costs, and low levels of foreign investment caused by the conflict in the Kosovo Province of Serbia and Montenegro (World Bank, 2000). With unemployment remaining at a high 36%, economic growth mainly stemmed from the overall economic stabilization in the country and from foreign aid, which helped sustain increases in Government spending. Given the complex social and political arrangements within and between RS and the FBC, the process of denationalizing state-owned industries continued at a slow and uneven pace.

Commodity Review

Metals

Bauxite.—The country's metal mining and processing industries were located within both administrative zones. Bauxite deposits in the FBC include Citluk, Mostar, Posusje, Stolac, Tomislavgrad, and Zitomislici in the southern part of the country and Bosanska Krupa and Jajce in the northwest; those in RS were in Vlasenica and Zvornik in the eastern part of the region and Bosanska Kraijina in the Banja Luka area. The reconstruction and refitting of bauxite mines remained a concern for the FBC and RS. Bosnia and Herzegovina's bauxite resources were estimated to be about 41 million metric tons (Mt) of marketable grade ore that contains about 50% Al₂O₃ and about 5% SiO₂.

The alumina refineries were situated near bauxite mining operations at Mostar in the FBC and at Zvornik in RS. Primary aluminum in Mostar was produced by Aluminij d.d. Mostar (AM), which sustained damage during the conflict from 1992 to 1995 and was closed for about 4 years. AM's aluminum plant reopened in 1997. In 1999, the installation of the remaining 64 electrolytic pots began as part of the company's fourth phase, which completed the installation of 256 pots for an operational capacity of about 97,000 metric tons per year (t/yr) of primary aluminum. The U.S. Trade and Development Agency assisted in the restart of operations at Mostar through a US\$432,600 grant for the feasibility study for restarting operations at the plant (U.S. Trade and Development Agency, 2000).

In October, AM signed an agreement with DEBIS International Trading GmbH of Germany for the delivery of electric power to AM beginning on January 1, 2000, which would meet one-half of the smelter's power requirements through the end of 2004. An additional contract that involved the modernization of AM's smelting operations was signed with DEBIS. The modernization would start in 2000 and include a fully automated system of alumina feed and potline control (Aluminij d.d. Mostar, 1999). In early 2000, AM and Swissbased trading company Glencore International AG reached a toll-smelting agreement in which alumina would be delivered to AM by Glencore in exchange for primary aluminum. The agreement called for Glencore to supply AM with alumina through 2002. According to AM spokespersons, aluminum production in 1999 amounted to 70,000 metric tons (t) (American Metal Market, 2000).

Lead and Zinc.—Lead and zinc resources have been mined in the Srebrenica region (Sase mine) in RS and at Olovo and Vares in the FBC. Reserves were estimated to be about 12 Mt of ore that grades 1.8% to 4% lead and 2.5% to 6% zinc. The largest lead and zinc mining operation was in RS, although its production status in 1999 was not well known. Rehabilitating lead and zinc mining was high on the RS's reconstruction and development agenda during 1999. On the basis of independent studies. RS reconstruction and development plan for 1999 evaluated the Sase mine's reconstruction and restart at a cost of about US\$3 million to be economically feasible (Republica Srpska, 1999, Reconstruction and development, 1999-Energy and mining, accessed April 11, 2000, at URL http://www.srpska.org/development/enrgy.html). The U.S. Trade and Development Agency provided funding that amounted to US\$218,500 to help rehabilitate the Olovo lead and zinc mine and the Buzim manganese mine in the FBC (U.S. Trade and Development Agency, 2000).

Iron.—With major iron ore deposits located in SR, the reconstruction and restart of full production of iron ore at the Ljubija mine in Prijedor at a cost of about US\$12 million was given primary consideration. The disposition of the ore was to involve either shipments to the Zeljezara Zenica steelworks in the FBC or to a new steel plant under consideration in RS. Zeljezara Zenica, which was Bosnia and Herzegovina's major steel mill, with a prewar crude-steel production capacity 750,00 t/yr produced very little crude steel in recent years (U.S. Department of State, 1998-99). The production of rolled and forged steel products, however, exceeded 900,000 t in 1998 and

forged steel products, however, exceeded 900,000 t in 1998 and 1 Mt in 1999.

Industrial Minerals

The variety of industrial minerals that were produced mainly for local use included asbestos, construction aggregates, dimension stone, gypsum, kaolin, limestone, and magnesite. In 1999, major commercial activity in the industrial minerals sector involved preparing the Cementara Kakanj cement plant for privatization. The European Bank for Reconstruction and Development and Austrian, British, French, German, and Swedish concerns expressed interest in acquiring equity in Cementara Kakanj. About 86% of the cement plant's equity was state owned, and 14% was employee owned.

Mineral Fuels

Coal mining in Bosnia and Herzegovina was organized into two separate operations. In the FBC, the Middle Bosnia and the Tuzla coal mines supplied the Kakanj and the Tuzla powerplants with more than 80% of their total coal production. In SR, the lignite surface mine at Gacko and the brown coal surface mine at Ugljevik were fully integrated with the respective Gacjo and Ugljevik powerplants. Coal reserves for the entire country were estimated to be 3.8 billion metric tons, of which 40% was brown coal and 60% was lignite. About 20% of Bosnia and Herzegovina's resources of brown coal and 40% of lignite are in RS. The U.S. Trade and Development Agency provided a grant to the FBC to conduct a rehabilitation feasibility study for the Middle Bosnia and the Tuzla coal mines in an effort to assist in the rehabilitation of the country's coal industry (U.S. Trade and Development Agency, 2000).

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TABLE 1

BOSNIA AND HERZEGOVINA: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1995	1996	1997	1998	1999
METALS					
Aluminum:					
Bauxite	75,000	75,000	75,000	75,000	75,000
Alumina	50,000	50,000	40,000	40,000	40,000
Metal, ingot, primary and secondary	15,000	15,000	15,000	10,000	10,000
Iron and steel:					
Ore and concentrate:					
Ore gross weight	150.000	100.000	100.000	100.000	100.000
Ore Fe content	52,000	35,000	35,000	35,000	35,000
	50,000	40,000	40,000	40,000	40,000
Aggiomerate	50,000	40,000	40,000	40,000	40,000
Metal:					
Ferroalloys:					
Ferrosilicon	1,000	1,000	1,000	1,000	1,000
Silicon	200	100	100	100	100
Pig iron	100,000	100,000	100,000	100,000	100,000
Crude steel:	115,000	115,000	110,000	110,000	110,000
Semimanufactures	100,000	100,000	100,000	90,000	90,000
Lead:					
Mineral concentrator output:					
Ore gross weight (Ph-Zn ore)	10,000	10,000	10.000	10,000	10,000
Ph content of ores	200	200	200	200	200
Dh concentrate	400	400	400	400	400
Motol amoltan primary and accordany	400	100	400	100	100
Menergy and secondary	100	100	100	100	100
Manganese ore:	2 000	2 000	2 000	2 000	2 000
Gross weight	2,000	2,000	2,000	2,000	2,000
Mn content	600	500	500	500	500
Zinc:					
Zinc content of Pb-Zn ore	300	300	300	300	300
Concentrate output, gross weight	600	600	600	600	600
INDUSTRIAL MINERALS					
Asbestos, all kinds	500	500	500	500	500
Barite concentrate	2,000	2,000	2,000	2,000	2,000
Cement thousand tons	226	150	200	300	300
Clavs:					
Bentonite	800	800	800	800	800
Ceramic clay, crude	20.000	20.000	20.000	20.000	20,000
	20,000	20,000	20,000	20,000	20,000
Cauda	2 000	2 000	2 000	2 000	2 000
	3,000	3,000	3,000	5,000	3,000
Calcined	1,500	1,500	1,500	1,500	1,500
Gypsum:					
Crude	30,000	30,000	30,000	30,000	30,000
Calcined	3,000	3,000	3,000	3,000	3,000
Lime thousand tons	50	50	50	50	50
Magnesite, crude	2,000	2,000	2,000	2,000	2,000
Nitrogen, N content of ammonia	2,000	500	500	500	500
Glass sand	50,000	50,000	50,000	50,000	50,000
Salt, all sources	50.000	50.000	50.000	50.000	50,000
Sand and gravel excluding glass sandhousand cubic meters	500	500	500	500	500
Sodium compounds:	200	200	200		
Soda ash	10,000	10.000	5 000	5 000	5 000
Coustia anda	10,000	10,000	5,000	5,000	5,000
	10,000	10,000	5,000	5,000	3,000
Sodium bicarbonate	1,000	1,000	500	500	500
Stone, excluding quartz and quartzite, dimension, crude:					
Ornamental square meters	20,000	20,000	20,000	20,000	20,000
Other cubic meters	2,000	2,000	2,000	2,000	2,000
Crushed and brown, n.e.s. thousand cubic meters	500	500	500	500	500
Sulfur, byproduct of metallurgy	1	1	1	1	1
MINERAL FUELS AND RELATED MATERIALS					
Brown coal and lignite thousand tons	1,808 r/ 3/	1,808 r/3/	1,810 r/ 3/	1,764 r/ 3/	1.800
Coke	100				
Petroleum refinery products thousand 42-gallon harrels			500	500	500
(D 1 1 7			230		

r/ Revised. -- Zero.

1/ Table includes data available through August 2000.

2/ In addition to commodities listed, common clay was also produced, but available information was inadequate to make reliable estimates of output. 3/ Reported figure.

TABLE 2 BOSNIA AND HERZEGOVINA: STRUCTURE OF THE MINERAL INDUSTRY IN 1999

(Thousand metric tons unless otherwise specified)

				Annual
Co	ommodity	Major operating companies	Location of main facilities	capacity
Alumina		Energoinvest	Plants at Birac-Zvornik	600
Do.		do.	Plant at Mostar	280
Aluminum		do.	Smelter at Mostar	92
Bauxite		do.	Mines at Vlasenica, Jajce, Bosanska, Krupa,	2,000
			Posusje, Listica, Citluk, and other locations	
Coal:			<u>.</u>	
Brown		SOUR Titovi Rudnici Uglja, Tuzla	Mines in BiH	12,000
Lignite		do.	do.	7,000
Cement		Gik Hidrogradnja, Tvornica Cementa BiH	Plant at Kakanj	650
Ferroalloys		Elktrobosna, Elektrohemijska i Eletrotermijska	Plant at Jajce	80
		Industrija		
Iron ore		Rudarsko Metalurski Kombinat Zenica	Mines at Vares, Ljubija, and Radovan	5,000
Lead-zinc ore		Energoinvest	Mine and mill at Srebrenica	300
Manganese ore		Mangan-Energoinvest	Mine and concentrator at Buzim	100
Petroleum, refined	thousand barrels per day	EnergoinvestRafinerija Nafte Bosanski Brod	Refinery at Bosanski Brod	100
Pig iron		Rudarsko Metalurski Kombinat Zenica (RMK Zenica)	4 blast furnaces at Zenica	2,250
Do.		do.	2 blast furnaces at Vares	100
Do.		do.	Electric reduction furnaces at Iljas	100
Salt	cubic meters per year	Hemijski Kombinat "Sodaso," Rudnik Soli i Solni Bunari	Rock salt mines at Tusanj	120,000
Do.	do.	do.	Rock salt production from brine at Tuzla	2,000,000
Steel, crude		Rudarsko Metalurski Kombinat Zenica	Plant at Zenica	2,060