

## BULGARIA

*By Dr Vladimir Kousseff.  
Geotechmin, Consulting & Engineering Co. Sofia*

The year 2002 was a difficult one for Bulgaria's ore-mining industry, low world prices of non-ferrous metals having had a serious impact on the profitability of operations. In addition, the mining sector was adversely affected by the economic situation in the country in the aftermath of the 2001 elections – the diminishing popularity of the Cabinet led to the creation of a political imbalance and lack of decisive leadership. Nevertheless, Bulgaria's credit rating was retained at B+, the same as the previous year.

The policy of privatisation of key industrial sectors has proceeded with mixed results. Around 97% of metallic mines are now in private hands but the process has slowed in the coal-mining sector and there are still some geological research establishments that remain in public ownership. In the case of coal, the lack of a clearly-defined strategy for the privatisation process has resulted in some operations being put into liquidation and the failure of some potentially effective pits.

Also, some of the geological research establishments still under state ownership are being hampered by their inability to compete effectively in a free market and some are finding it difficult to survive. Three of the largest remain under state ownership because of administrative and corporate reasons.

In practice, only foreign companies working in Bulgaria are achieving successful and serious research. For example, Balkan Mineral and Mining, the subsidiary of Navan Mining plc (the bankrupted Irish company), is carrying out a detail study of the gold deposits in the Krumovgrad region. The results are encouraging although the company's consultant, RSG Global, has decreased substantially the size of the Ada Tepe deposits, reducing them to 6.1 Mt at an average grade of 4.6 g/t Au.

Elsewhere, Hereward Ventures plc, which is carrying out a study of the gold deposits of Rozino, Dikanite and Gornoselec (all in the Pernik region), signed a co-operation agreement during the year with Gold Fields Ltd concerning their possible future development.

In the hydrocarbons sector, Anshuc Bulgaria is meeting with some success in its efforts to develop oil fields in the Lovech region, and Petrco and Ramko are investigating the Galata deposit near Varna for natural gas.

### **Coal mines**

Coal mining in Bulgaria is vital since around 45% of electricity generation in the country is from coal and about 44% from nuclear. Reserves of lignite are estimated at some 2,500 Mt and there are also around 250 Mt of reserves of bituminous coal. Hard coal reserves are limited. Because of the importance of

coal to the economy, it is considered that the administrative control imposed by the State is justified and must continue. Thus, although the industry is undergoing a period of substantial restructuring and privatisation, the process is not without its problems.

About 80% of annual coal production of some 27 Mt/y is from the large Maritsa lignite field. The Chukurovo, Belibryag, Stanyanci and Vetren open-pit mines have been in private hands for over a year but, as regards the underground mines, only Lev and a part of the Bela Voda operations has been privatised. Underground mines such as Bobov Dol (sub-bituminous), Pirin, Chernomore, Balkan 2000 and Antra are still state-owned and waiting for investors.

Doubts about privatisation and ownership have arisen as a result of the disputes surrounding the privatisation of one of Bulgaria's largest coal mines, Mariza-Iztok. A joint-ownership company was created, Mariza-Iztok AD, between Mariza-Iztok EAD and RWE Rheinbraun of Germany but conflicting interests were evident between the Bulgarian owners and the investors in Rheinbraun and this delayed the finalisation of the privatisation process. Apart from deterring potential foreign investors in Bulgaria's coal sector, the unsuccessful privatisation of Mariza-Iztok has also resulted in crucial social and political problems.

Bulgaria's coal mines also face the perennial problem of late payment by the consumers of their product, chiefly the National Electricity Co. The company is the biggest debtor amongst coal consumers and by far the biggest customer for coal. With the coal mines having few other outlets for their product and State policy on coal continuing to be unclear, the future of Bulgaria's coal-mining industry remains in some doubt.

The energy strategy recently adopted by Parliament, reflects neither the forthcoming curtailment of some coal-fired electricity generation capacity in Kozloduyi, nor the requirements of the EC concerning the foreign investment needed in the coal sector to bring Bulgaria into line with the environmental measures to restrict CO<sub>2</sub> emissions as required in the Kyoto protocol.

### **Non-ferrous metals**

During the year, the underground operations of the former Gorubso combine were successfully privatised and lead and zinc mining were resumed. Shareholders in Rudmetal JSC – the owner of the mines, comprise mining specialists from the region and Minstroi Holdings. The latter also owns mines in the Zlatograd region.

Unfortunately, the continued reduction in the prices for non-ferrous metals, as well as the weakening of the US dollar towards the end of 2002, impeded the development of Bulgaria's nonferrous metal mines, through a shortage of capital investment and reduced spending on research, modern mining equipment and environmental projects. In the copper-mining sector, despite the difficult economic climate, the leading producers, Ellatsite Copper and Asarel Medet managed to maintain open pit production and ore beneficiation.

However, one producer, Osogovo AD, was declared insolvent as a result of an unsuccessful privatisation.

The future of Navan Chelopech and especially the Chelopech mine, the biggest gold producer in Europe, was unclear. During 2002, output totalled 609,185 t of ore averaging 1.6% Cu and 4.04 g/t Au (48,000 oz). However, the problem concerning the removal of arsenic from the concentrate remained unresolved. Negotiations were taking place concerning the purchase of the mine, between the owners, Navan Mining plc and Deutsche Bank (the latter is Navan's principal creditor of the Irish company declared in insolvency) and Dundee Precious Metals Inc. of Canada. There were high expectations that the Canadian company would take control of Chelopech.

Evromangan Ltd halted manganese mining at its large Obrochishte pit in 1999. However, in February 2003, it was announced that the owner of Evromangan, Olberg Holdings of Switzerland, intends bring in new modern mining equipment and to recommence mining this year at an annual rate of 400,000 t/y of ore. During 2002, a UK company was given authority to restore the mining process in the pit and to explore an extension of the reserves to the southeast. If successful, the UK company, in co-operation with the municipality of Obrochishte, are going to register a new company, Batova, for the purpose of exploiting that part of the mine, with a production target of 500,000 t/y for the next 20-25 years. This is regarded as realistic since the mine is believed to rank fourth in the world in terms of its manganese resources.

### **Industrial minerals**

In the industrial minerals sector, two of the leading operators, Kaolin AD and Bentonit AD, export most of their products, and the revenues obtained have allowed both companies to invest in improving production quality, increasing their resource bases and introducing new technology, with accompanying improvements in social policy and to the benefit of their workforces.

Table next page

**Mineral and Metal Production ('000 t unless stated otherwise)**

<b>Commodity</b>		<b>2000</b>	<b>2001</b>	<b>2002</b>
Hard coal /total		27,094	27,122	26,556
- brown coal		3,211	3,151	3,232
- lignite		23,765	23,855	23,202
- black coal		100	101	109
- anthracite		18	14	13
Crude oil		41	32	33
Gas	'000 m <sup>3</sup>	15,300	22,200	10,800
Iron ore		589	464	373
Iron concentrate		332	218	167
Manganese ore		-*	1,515	4
Dry Mn concentrate		-*	414	-
Steel		2,023	1,942	1,860
Copper ore		22,829	24,878	26,030
Copper concentrate - 20%		462	437	422
Blister copper		178	157	181
Cathode copper		32	34	40
Gold	kg	868	1,540	1,110
Silver	kg	54	57	60
Lead and Zinc ore		531	662	753
Lead concentrate - 70%		15	23	28
Zinc concentrate - 52%		18	21	25
Lead, all forms		84	83	66
Zinc		84	88	82
Raw kaolin		1,011	959	1,026
Silica sand		689	677	607
Bentonite clay		296	320	211
Fire clay		34	37	38 70
Raw baryte		875	825	656
Perlite		17	12	10
Na pegmatite		22	22	34
Gypsum		170	167	156
Rock salt		1,700	1,931	1,800

\*In 2000, no manganese ore was mined and there was no production of Mn-concentrate by privatised companies.