

GREECE

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Despite certain hopes expressed early in the year for renewed interest in the mining and quarrying industry during 2003, activities remained more or less stable at the same level as those of 2002. Slight changes were recorded in metalliferous ore production while the prospects for the development of a major and a minor gold project in northern Greece lessened. Small gains were noticed in the industrial minerals sector of the industry. Further developments, however, regarding the country's mineral wealth seem to be a Herculean task, mainly for environmental reasons.

Other negative factors during 2003 were: the exchange rate between the Euro and the US dollar, high sea-freight charges which hinder exports of mineral products, and bureaucracy and permitting procedures. Weakening competitiveness poses another challenge for sustainable economic growth which clearly affects the country's existing opportunities for further development of its mineral resources. Realising this situation, certain Greek mining companies continued their policy of expanding their activities abroad in the Balkans or elsewhere in order to maintain dynamic development and retain their worldwide commercial activity.

Mineral Developments

Bauxite: Production from the three mining companies involved in this activity reached a total of 2.42 Mt, 3% less than that of 2002. Silver and Baryte Ores Mining Co, now S&B Industrial Minerals, produced 1.3 Mt of which around 700,000 t was exported. Delphi-Distomon Mining Co, a daughter company of Aluminium de Grece, produced around 850,000 t which were domestically consumed. The remaining tonnage was produced from the newcomer to the bauxite sector, Hellenic Mining Enterprises (ELMIN). Around 34% of the total production was exported mainly to countries of the EU and the states of the former Soviet Union. Minor quantities were exported to North America. In the domestic market, Aluminium de Grece is the exclusive consumer of Greek bauxite with an annual demand of around 1.5 Mt for the production of 750,000 t of alumina and 165,000 t of aluminium. As from December 2003, 60% of the shares of the company, which belonged to the Pechiney Group, were transferred to ALCAN, the new owner of the French group. A final decision is pending from the new owner regarding the construction of a 215 MW natural gas power station to meet the electricity demands of the company after March 2006, when the current tariff agreement with the Public Power Corp of Greece expires.

Nickeliferous Laterites: LARCO SA with its metallurgical facilities located in the Larymna area around 80 km north-northwest of Athens is the sole producer of nickeliferous laterites in the EU and produces nickel in the form of nickel alloy. Ore production achieved a record figure of 2.64 Mt. Production from its opencast mines in Central Evia exceeded 1.65 Mt, whilst its

underground mine at Agios Giannis at Larymna amounted to 635,000 t and that from opencast operations in the Kastoria area, northern Greece, to 337,000 t. Mineral exploration schemes continued to be implemented mainly by the company in localities in Evia and northern Greece. Contained nickel in alloy was 18,000 t, less by 5% than that of 2002 due to a lower feed grade. The quotations of nickel prices in world markets in US dollars and its lower exchange rate against the Euro was counterbalanced by higher nickel prices and improvement in productivity. The major issues that the company will be facing in the near future besides its high financial obligations is the expected demand by the Public Power Corp of Greece (PPC) for higher electricity prices when the current agreement expires in March 2006.

Magnesite: Grecian Magnesite SA, which for 45 years has been supplying processed magnesite and its products to world markets, was in 2003 the sole producer of magnesite ore from its quarries in the Gerakini area of the Chalkidiki peninsula, northern Greece. It owns a fully integrated production site close to its magnesite deposits together with a port and other facilities. In September 2003 the company was registered as an ISO 9001: 2000 compliant company. Despite the lower exchange rate of the US dollars against the Euro and the high freight charges throughout 2003, the company retained its predominant position in the world market of caustic calcined magnesia with exports exceeding 100,000 t. In the middle of 2003, Grecian Magnesite signed an agreement with the UCM Group plc of UK that involved the production of electrical grade magnesia. The new facility with a capacity of 8,000 t/y is expected to be operational early in 2004. Total production of feed ore for further treatment reached 390,000 t, of caustic calcined magnesia 102,000 t, deadburnt magnesia 44,000 t and basic monolithic refractories 25,000 t. During 2003 Grecian Magnesite industrial activities outside Greece were further strengthened with the establishment of Grecian Magnesite Netherlands, which joins the other daughter companies in Spain, the US and Turkey.

Gold: After seven years of attempts to develop the Olympias auriferous mixed sulphide deposit on the eastern coast of the Chalkidiki peninsula in northern Greece, the project almost ground to a halt – there are only slight chances of reviving it. From its origins in 1996, the project drew criticism from local groups which considered it environmentally unsound, while state support for the project remained neutral. Finally, following long and tedious discussions with the appropriate authorities throughout 2003, TVX Hellas, now a wholly-owned company of Kinross Gold Operations, withdrew from the project after receiving compensation of €11 million and securing immunity towards any future legal and financial obligations that might arise from the project. The new mine owner, Greek Goldfields SA, is headed by a Greek construction company and backed by financial houses abroad. In the middle of 2003 the prefectures of Evros and Rhodopi in northeast Greece rejected the environmental report of Thracian Gold Mines SA, a joint venture of Newmont Corp and S&B Industrial Minerals for the development of the Perama refractory gold deposit. The Greek participant in the project is considering withdrawing in view of the difficulties that lie ahead in implementing it.

Industrial Minerals

For the industrial mineral sector, 2003 was satisfactory, bearing in mind the very competitive world market, the increase in freight charges and the poor performance of the US dollar against the Euro. Both production and exports of treated products tonnage and value-wise remained either at the same level as the previous year or have shown noticeable increases. At the same time, certain new industrial mineral products were in the process of entering the world market.

S&B Industrial Minerals SA continued to play a dominant role in world markets for perlite and bentonite. Raw perlite production from its quarries on Milos island reached 960,000 t while sales of treated ore exceeded 590,000 t, of which 90% was exported to European and North American markets. In 2003 the company continued to be the world leader in bentonite production from its quarries in Greece and abroad. Domestic production of run-of-mine ore was 1.1 Mt and that of activated bentonite 840,000 t. The newcomer in the perlite business, Aegean Perlite SA produced from its facilities on the island of Yali about 70,000 t which were shipped abroad.

The country's two largest cement companies continued to be active in 2003 in the industrial minerals sector through their daughter companies Lava Mining and Quarrying SA belonging to the Aget Hercules group and Interbeton Construction Materials SA belonging to the Titan group. Cement demand during 2003 in anticipation of the Olympic Games in August 2004 pushed gypsum production to a record level of 933,000 t. Most of it came from quarries in the Altsi area of Crete, whilst smaller quantities were produced from quarries in western Greece and Zakynthos island in the Ionian sea. Each of the above two companies produced around 270,000 t.

Lave SA produced 890,000 t of pumice from its quarry sites on the island of Yali in the Aegean sea. Exports, which exceeded 640,000 t, were mainly to US markets where demand continues to be strong. Pozzolane production exceeded 1.1 Mt and was almost exclusively consumed by the Greek cement industry with Lava's production amounting to 540,000 t and that of Interbeton 360,000 t.

Early in the year, Ionian Kalk Northern Greece SA, a joint venture of Ionian Kalk SA with OMYA, started production of certain products based on calcium carbonate raw material. A recently-discovered deposit of attapulgite (fuller's earth in the US), a complex hydrated magnesium aluminium silicate and saponite (part of the montmorillonite group of minerals), in northern Greece is being brought on-stream by Geohellas SA, to commence production early next year. Other industrial minerals produced during 2003 include feldspars (81,000 t) by MEVIOR SA, hydromagnesite, quartz and silica sand by ELVIOR SA and zeolites. Marble production during 2003 exceeded 2 Mt with exports reaching 400,000 t.

The marble industry ranked 10th in the world with an estimated turnover of €680 million.

Energy minerals

Total lignite production in 2003 from the opencast mines of the PPC in the Ptolemais-Amynteo-Florina area in northern Greece and the Megalopolis deposit in central Peloponessus reached 68.2 Mt against 70.7 Mt in 2002. Another 200,000 t was produced by Larco SA for internal consumption in its metallurgical plant at Larymna. Over 66% of the country's electrical energy needs were met by lignite burning-power stations.

Greek mineral production in 2003 (t)

Bauxite	2,418,000
Nickeliferous laterite ore	2,632,100
Magnesite - caustic magnesia	97,000
Dead burnt magnesia	44,000
Basic monolithic refractories	25,000
Perlite (raw ore)	961,000
Perlite (treated)	580,000
Bentonite (raw ore)	1,100,000
Bentonite (activated)	842,000
Pumice	893,000
Pozzolane	1,113,000
Gypsum	933,000
Kaolin	40,000
Feldspars	81,000
Zeolites	6,000
Quartz and quartz sand	16,000
Hunterite	20,000
Calcium and magnesium carbonate	170,000
Lignite	68,400,000