

# TUNISIA

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**T**unisia is the smallest of the north African 'Maghreb' countries. It is a low-lying country bordered along much of its eastern part by the Mediterranean Sea. The country supports a population of only 9.4 million, with all but a small nomadic population confined to the cities. The executive President and National Assembly are elected by universal adult suffrage for five-year periods.

Oil and gas are key factors in the country's economy, which has seen significant growth in industrial GDP in recent years. Tunisia's main oil-producing fields are El Borma, Ashtart and Sidi el Kilani, and gas is produced from El Borma and the offshore Miskar field. An oil refinery is located at Bizerte and there is a growing chemicals industry. Minerals contribute some 3-4% of the country's GDP, the most important product being phosphate rock, which also underpins the chemicals industry and provides substantial export revenues from fertilisers. Mining of iron ore supports a small but important iron and steel industry and the country also produces zinc and lead.

## **Phosphate**

Mining occurs primarily in the Gafsa area where the phosphate beds are exposed on the flanks of elongated dome-like anticlinal structures. The beds can frequently be traced for tens of km along one or both flanks of these structures, which extend eastwards for more than 130 km from the Algerian border near Tamerza. Mining is by open pit and underground methods, with two of the more recently developed mines being Kefeddour and Moulares. Production is controlled and operated by parastatal Compagnie des Phosphates de Gafsa, which has nine open-pit and underground operations in the Gafsa region. Tunisia is second only to Morocco in Africa in terms of

its phosphate production, producing almost 8 Mt/y. Estimated reserves are 3,500 – 4,000 Mt of phosphate.

## **Lead-Zinc**

The single most important zinc-lead operation is the Bougrine carbonate-hosted deposit, which was re-opened by Toronto-based Breakwater Resources in 1998 after being closed down by Metall Mining in 1996 in response to low metal prices. The remaining resource was estimated to be 4 Mt at grades of 12.6% zinc and 2.4% lead. In the early part of 2000, Breakwater also commenced a diamond-drilling programme on the nearby Kebbouch-Sud property about 12 km from Bougrine, following up a hole previously drilled by the Tunisian Government which intercepted 10.1% lead over 14.4 m. Early results released by Breakwater included 2.5% zinc and 0.5% copper over 12.7 m, 8.7% zinc and 0.8% copper over 2.6 m and 5.0% zinc and 0.7% copper over 31.0 m.

Vancouver-based Aurora Gold Corp. entered into five option agreements with UK junior explorer High Marsh Holdings Ltd in mid-1999 to acquire 100% interests in five zinc properties located within the same Zones des Domes, a 250 km by 50 km belt of gypsum domes and diapirs, that hosts Bougrine. Aurora intended to explore for replacement-style deposits of galena and sphalerite, accompanied by barite and fluorite. Towards the end of 1999, High Marsh Holdings was awarded a further three exploration licences in the Zone des Domes after evaluation of data from the Tunisian Geological Survey.

In a subsequent development, Consolidated Global acquired the Djebba property from High Marsh Holdings and then, in mid-2000, formed a joint venture with International Bravo Resource Corp. to explore the

property for stratabound carbonate-hosted zinc-lead mineralisation. The Djebba property extends over 16 km<sup>2</sup> in the Beja district (Atlas Mountains) of north-western Tunisia, about 110 km from Tunis. A previous resource estimate put mineralisation at Djebba at about 2.66 Mt at a grade of 6.14% zinc and 3.34% lead. Zinc mineralisation has been reported over a strike length of at least 2 km and appears to be open along strike for as much as a further 2 km.

Aurora Gold Corp. entered into an exploration agreement with Billiton UK relating to Aurora's Hammala property, some 170 km southwest of Tunis. The property encompasses substantial soil geochemical anomalies overlying strata equivalent to those hosting Bougrine.

Other companies reported to be active in the region during the year include BHP, Cominco, Noranda, and the Metal Mining Agency of Japan.