

## RECENT DEVELOPMENTS IN EXPLORATION AND MINING

During the last six months the mining sector has generally performed well, with Ireland's three underground base metal mines continuing to account for a significant amount of European mine production. In 2005, Ireland produced 41% of Europe's zinc and 27% of its lead. That production also represents 6% of Western World zinc output, and 3% of lead. All three mines have continued to drill in search of further resources in the vicinity of their mines. Although the zinc price has, in general, remained buoyant, the strength of the euro against the dollar was a concern for the mining companies, since metal prices are dollar denominated. While there has been some correction in the exchange rate, the rise in oil prices has also impacted on energy costs.

The discernable increase in optimism in the exploration sector has resulted in a significant increase in applications for Prospecting Licences, although the impact on the ground has yet to be seen.

### Development

- **Navan (Boliden)**

Production at the **Boliden – Tara Mines** underground zinc – lead mine at Navan, Co. Meath during the second half of 2005 amounted to 1.33Mt (milled tonnage) grading 8.53% Zn and 1.62% Pb. This produced 189,000t of zinc concentrate (55.0% Zn) and 24,000t of lead concentrate (58.0% Pb). Total production (1977 to end 2005) amounts to 60Mt grading 8.37% Zn and 2.04% Pb.

At the end of 2004 (the latest date for which figures are available), Tara's JORC Classified Ore Reserves for the entire orebody amounted to 16.3Mt at 8.7% Zn and 1.9% Pb with an additional 20.2Mt of Mineral Resources grading 7.2% Zn and 2.1% Pb.

An electric motor breakdown at one of the grinding mills caused production disruptions in June. Production of zinc and lead concentrates declined by approximately 40 per cent over the 6 weeks that it took to carry out repairs. The mine returned to full production in mid-July.

In September, Outokumpu sold their remaining 16.1% shareholding in Boliden, Tara's parent company. The shareholding was purchased by institutional investors.

- **Lisheen (Anglo American)**

During the latter half of 2005, **Anglo American** milled 0.75Mt of ore grading 11.53% Zn and 1.99% Pb from the underground mine at Lisheen, Co. Tipperary. This produced 1147,000t of zinc concentrate (53.1% Zn), and 17,000t of lead concentrate (62.0% Pb). Total production (1999 to end 2005) is 8.04Mt grading 11.69% Zn and 2.22% Pb. Reserves at end June 2005 were 10.58Mt grading 14.04% Zn and 2.16% Pb, with additional Resources of 3.99Mt at 13.71% Zn and 2.23% Pb.

In October 2005, An Bord Pleanála granted planning permission to Anglo American to work minerals in the Bog Zone, northeast of the current underground workings. These minerals lie within the existing State Mining Lease area.

- **Galmoy (Galmoy Mines Limited, formerly Arcon Mines)**

During the second half of 2005, **Galmoy Mines Ltd.** milled 0.32Mt grading 14.3% Zn and 3.6% Pb from its underground zinc-lead mine at Galmoy, Co. Kilkenny. This provided 75,000t of zinc concentrate (51.3% Zn) and 12,600t of lead concentrate (64.1% Pb). Total production since start of

mining to end June 2005 is 5.06Mt at 11.4% Zn and 2.2% Pb. Reserves at the end of March 2005 (latest date for which figures are available) were 4.02Mt at 13.6% Zn and 4.0% Pb. Production from the high grade R zone at Galmoy is underway, following the issue of 3 new State Mining Licences between January and August 2005. The company achieved a 67% increase in turnover in 2004, to €37.3M (€22.3M in 2003), and a profit of €1.4M in 2004, compared to a loss of €9.7M in 2003.

In April, Lundin Mining acquired Arcon International Resources, the parent company of Arcon Mines Ltd. Lundin, which is listed on the Toronto and the Stockholm Stock Exchanges, is a Canadian mining and exploration company with a primary focus in Europe. The principal asset of the company is the Zinkgruvan zinc-lead-silver mine in Sweden. Lundin Mining also holds more than 95% of the shares in North Atlantic Natural Resources (NAN), whose primary asset is the Storliden copper-zinc mine in Northern Sweden. In addition, Lundin Mining holds a copper/gold exploration project in the Norrbotten Mining District in northern Sweden.

Arcon continued its near mine exploration programme, with particular attention being paid to areas on strike along the 'en echelon' G Fault system that links Galmoy with the nearby Lisheen zinc-lead deposit.

## Exploration

- **Company Activities**

**Conroy Diamonds and Gold Plc** (Conroy) have continued their gold exploration programme in the Lower Palaeozoic rocks of the Longford – Down massif. The programme has involved both regional and follow-up work. In April 2005 Conroy announced that, as a result of regional soil sampling programme, they had identified ten new targets that warranted follow-up work. Best values included 739ppb Au and 434ppb Au, with anomalies ranging up to 500m in length. In September, Conroy said that, as a result of follow-up closely-spaced deep overburden sampling, they had outlined a new gold-bearing structure 850m east of Tullybuck-Lisglassan and immediately north of the Orlock Bridge fault, a structure that the company have long regarded as very significant in terms of the potential for significant gold mineralization in the region. The 250m long structure, open in both directions, is elongate NW-SE, a similar orientation to other mineralized structures in the region. Conroy plans to carry out a programme of trenching to determine the extent of the gold mineralization, and to identify drill targets.



*County Map of Ireland showing locations mentioned in the text. Adare (AD), Ballinalack (BK), Cregganbaun (CB), Caherconlish (CC), Galmoy (GY), Keel (KL), Kilmallock (KM), Lisheen (LI), Navan (NA), Pallas Green (PG), Tullybuck-Lisglassan (TL)*

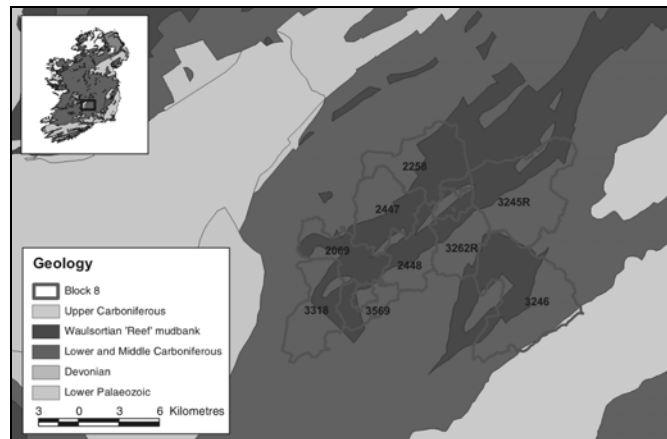
**Minco** (24%) and joint venture partner **Noranda** (76%) continued their drilling programme on the Pallas Green project in east Co Limerick. The current programme began in April 2005, and will comprise 9,000 metres of drilling. The target is carbonate-hosted zinc-lead mineralization of Lisheen/Silvermines-type, located within the basal part of the Waulsortian Reef limestones. In August, Minco announced the intersection of a 5.3m interval (at 357m depth) grading 14.97% Zn and 4.5% Pb near Caherconlish. This intersection was followed by a 100m step-out to the SW that intersected 1.45m @ 5.39% Zn and 1.18% Pb (at a depth of 367m), and 2.7m @ 9.78% Zn and 0.02%

Pb. Drilling in the area of Tobermalug, some 2.4km NE of Caherconlish, intersected a 24.1m zone of disseminated and massive Zn/Pb sulphides averaging 5.49% Zn and 0.68% Pb, at a depth of 320m. This included an 8.05m intersection of 10.20% Zn and 1.48% Pb at 326m depth. Noranda is now owned 100% by Falconbridge.

**Tara Mines** have two blocks of licences in Co. Limerick, the Adare Block (ten licences) in the west of the county, and the Kilmallock Block, in southeast Co. Limerick. In the Adare block Tara have, during the past six months carried out a programme of soil geochemistry, geophysics (including EM), and diamond drilling. In the Kilmallock licences, Tara drilled three holes as well as completing soil geochemistry and geophysical surveys (gravity and ground magnetics). In Co. Wexford, Tara hold 21 licences over Lower Palaeozoic metasediments and metavolcanics, and have, with Boliden Exploration (Sweden), commenced a major geological review of the block.

- **Prospecting Licence Information**

On the 31<sup>st</sup> December 2005, a total of twenty-six companies held 241 Prospecting Licences, primarily for base metals. During the preceding six months, a total of twenty-one licences were issued. **Teck-Cominco**, a multinational newcomer to Ireland was granted a block of six licences in Co Westmeath, including the area (1344) that contains the subeconomic Ballinalack zinc-lead deposit. They also received a block of two licences in Co Longford, northeast of the Keel deposit. **Tara Mines** were granted a block of ten licences west of (and adjoining) the ground that contains the Navan deposit. **Belmore Resources** were issued two licences in east Co Clare. One area (3642) lies immediately south of a block of eight licences held by Central Mining Finance, while another area (3679) adjoins the block to the west. **Gary R. Brown** was granted a single licence (area 934) in Co Galway that contains the small Murvey molybdenum deposit. A further twelve licences have been advertised and offered to a number of different applicants.



*Map showing currently held Prospecting Licence areas over the southern part of the zinc-rich 'Rathdowney Trend' for which exploration data has just been released.*

## Exploration Support

In order to encourage exploration, the Exploration and Mining Division maintains a number of complementary exploration support programmes. The central theme in each of these programmes is the provision of data, free of charge and in digital format. The current status is outlined below.

- **The MAPS Project**

The MAPS (Minerals Administration Programme Support) Project is designed to provide online clients with all the available background data to assess ground, and undertake permitting and eBusiness. MAPS consists of an industry-focused website ([www.minex.ie](http://www.minex.ie)), a web-enabled GIS application ("GEMS"), a back-office workflow system, and an integrated online business facility. Those elements of the system that are currently outstanding include the back-office system (due for completion in early 2006) and the full online business facility, which will be completed in 2006.

- **Data Availability Programmes**

*Exploration Company Reports Data Release.* Since 1<sup>st</sup> May 2005, the Exploration and Mining Division have concentrated their efforts on completing the online availability of all non-confidential exploration company data held in the Division. In the last six months, additional reports relating to some 343 Prospecting Licence Areas have been uploaded onto the minex.ie website. Of these, 87 represent new area coverage. The 35 year stock of company reports awaiting public release has now been cleared. Online data is now available for over 650 Prospecting Licence Areas (in excess of 40% of the ground covered by PL Areas, see Figure). Although not available online, a wealth of additional historic company reports relating to pre-2000 exploration can also be accessed via the Geological Survey of Ireland's Open File.

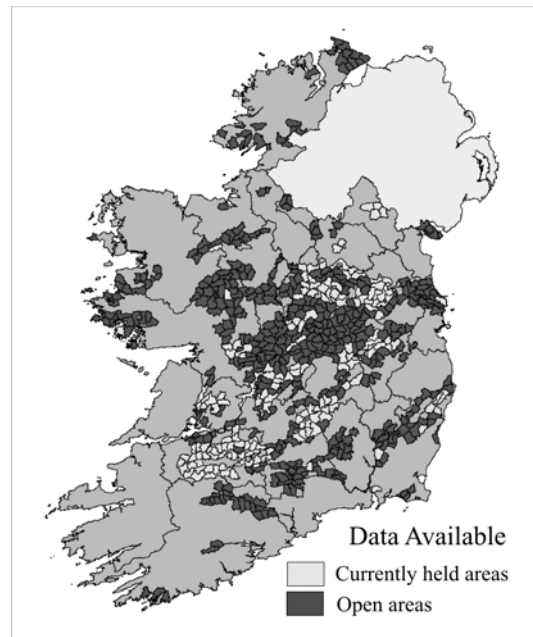
*Digital Prospecting Licence Data.* A colour Prospecting Licence Area map is published on 1<sup>st</sup> May and 1<sup>st</sup> November each year. A digital version of this map on CD-ROM is available. Please email: [EMDTechnical.info@dcmnr.gov.ie](mailto:EMDTechnical.info@dcmnr.gov.ie) to obtain a free copy.

*Airborne Geophysical Data Release.* No additional airborne data has been released since August 2004.

- **Target Areas Programme**

The Target Areas Programme was established to stimulate exploration interest in specific areas of the country by providing focused information and added value to the ongoing data release programmes. Three digital products have been produced to date:

- 1) Gold Occurrences in Ireland (2004),
- 2) The Ballinalack Zn-Pb Deposit (2005) and
- 3) Cregganbaun and Adjacent Gold Target Areas (2005). Each CD-ROM contains relevant GIS data (together with a free GIS viewer), plus a collection of relevant company reports and technical papers. A fourth target area product, The Airborne Magnetic Interpretation Project, in partnership with PGW Europe Ltd., has continued to be delayed due to other work priorities



**Map showing Prospecting Licence Areas for which exploration data are available online. The coverage relates to all data released since 1<sup>st</sup> January 2000.**

## **PDAC Convention, Toronto, March 2006**

The 74<sup>th</sup> Annual Convention and Trade show of the Prospectors and Developers Association of Canada (PDAC) will be held in Toronto from 5<sup>th</sup> to 8<sup>th</sup> March 2006. The Exploration and Mining Division will take its usual stand location at the Trade Show, adjacent to colleagues from Northern Ireland (Department of Enterprise, Trade and Investment, and the Geological Survey of Northern Ireland), in a combined 'Ireland' exhibit. The PDAC meeting is the biggest of its kind in the world, and in 2005 had an estimated attendance of 11,500, the largest in its history.