

## INDUSTRY NEWS

The continued low price of zinc has resulted in a major reduction in grassroots exploration, with activity largely restricted to known prospects and in the vicinity of mine sites. In response to the downturn, significant concessions for Prospecting Licence holders were announced last year by the Minister of State in the Department of Communications, Marine and Natural Resources, Mr. John Browne T.D. These included a once-off under-expenditure moratorium and a cap on minimum expenditure requirements. On the industry side, **Outokumpu-Tara Mines** had resumed production at their Navan mine in September 2002, **Arcon** announced details of the best mineralised drill intersection ever achieved at Galmoy (and included an estimated tonnage for the newly-discovered R Zone), while **Minco** and **Noranda** continued to meet with encouragement at their base metal prospect near Pallas Green, Co. Limerick. The recent gold price rise has also caused renewed interest in gold exploration. **Conroy Diamonds and Gold** announced further intersections of gold mineralization at the Tullybuck-Lisglassan deposit in Co. Monaghan, and fifteen Prospecting Licences have been recommended to another company for gold exploration in Co. Donegal. We are also pleased to note that the Irish exploration scene has been boosted by the addition of three new entrants, **Cranderry Ltd**, a junior Irish company, **Fractore Pty**, a junior Australian exploration company, and **Tournigan Gold Corporation**, a Canadian exploration company.

### Development

- **Galmoy (Zn, Pb)**

During 2002, **Arcon Mines Ltd.** milled 660,000t of ore grading 10.1% Zn and 2.8% Pb at their underground zinc-lead mine at Galmoy, Co. Kilkenny. This yielded 102,000t of zinc concentrate (53.1% Zn) and 2,500t of lead concentrate (48.3% Pb). Total production to end 2002 amounts to 3.1Mt of ore milled at 10.6% Zn and 1.11% Pb. At the end of December 2002 ore reserves were 3.3Mt at 11.0% Zn and 2.1% Pb.

In March 2003, Arcon announced a resource estimate and the fourth set of results from their near-mine drilling programme. The new mineralized zone (the R Zone) is estimated to contain an Indicated Resource of 2.0Mt grading 20.6% Zn, 8.1% Pb and 75g/t Ag. The R Zone lies approximately 125 metres southeast of the CW South orebody. It has an average thickness of 9m, compared with the average thickness of the CW orebody of 5.6m, and the resource zinc grade is approximately double that of the average grade of the CW ore. Arcon state that the resource "...doubles the mine's contained metal content and will extend the mine's life into the next decade." (Arcon Press Release, 6<sup>th</sup> March 2003).

- **Lisheen (Zn, Pb)**

The underground zinc-lead Lisheen Mine in Co. Tipperary is a 50:50 joint venture between **Anglo American** and **Ivernia West**, and is operated by Anglo American. During 2002 the mine milled 1.56Mt of ore at 11.15% Zn and 2.07% Pb. This produced 281,000t of zinc concentrate at 54.5% Zn and 36,000t of lead concentrate at 62% Pb.

Total production since mining commenced in 1999 is 3.57Mt at 11.34% Zn and 2.55% Pb. Reserves at end December 2002 stood at 12.8Mt at 11.26% Zn and 1.96% Pb, with additional Resources of 2.32Mt at 9.86% Zn and 1.23% Pb..

- **Navan (Zn, Pb)**

The Navan mine of **Outokumpu Tara Mines Limited** is Europe's largest zinc concentrate producer. Current production capacity is 200,000t of zinc in concentrates annually, and this will rise to 240,000t in 2004. The concentrates are exported mainly to European smelters, and the mine employs some 650 people. During 2002 (Sept-Dec) the mine milled 755,000t of ore grading 7.02% Zn and 1.57% Pb. This yielded 89,000t of zinc concentrate (55.12% Zn) and 13,000t of lead concentrate (63.31% Pb).

Since mining commenced in 1977, total production amounts to 55.2Mt at 8.35% Zn and 2.06% Pb. Reserves at 31<sup>st</sup> December 2002 were as follows: Ore Reserves (Proven and Probable), 11.9Mt at 9.18% Zn, 2.07% Pb; Mineral Resources (Measured, Indicated and Inferred), 17.4Mt at 7.1% Zn, 2.3% Pb. These figures include the Main Mine and the South West Extension (SWEX) only.

### **Knocknacran (Gypsum)**

Gypsum has been continuously mined near Kingscourt, Co. Cavan since 1936, with a 2002 production figure of some 400,000t from **Irish Gypsum's** opencast mine at Knocknacran. The company has announced its intention to apply for Planning Permission during 2003 for a new underground gypsum mine within the area of its current State Mining Lease.

## **Exploration**

- **General**

Very little base metal exploration has been carried out during the past six months, primarily due to the historically low price of zinc. The exception has been in near-mine exploration. There has also been something of a resurgence in gold exploration, attributable to the rise in the price of that metal.

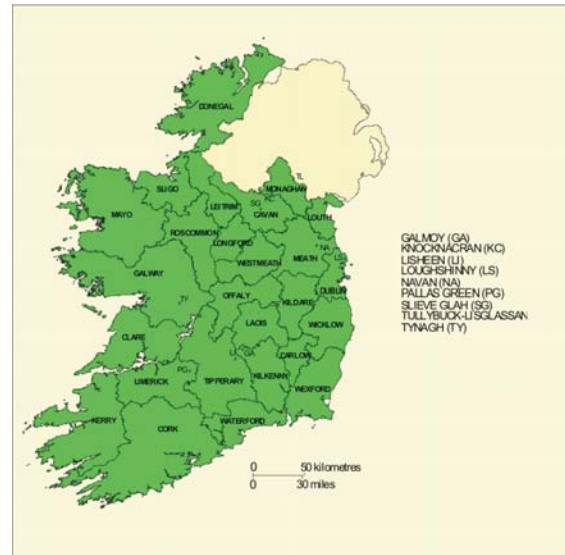
- **Company Activities**

During 2002, **Arcon Exploration Plc** carried out exploration on 16 Prospecting Licences. Six of these, including a Licence in which Arcon is in joint venture with Westland Exploration Ltd (a subsidiary of Ennex International), comprise a contiguous block around the Galmoy Mine. Following the successful debt restructuring of the parent company (**Arcon International Resources Plc**) and a rights issue, drilling recommenced in August under a policy of concentrating on areas surrounding the mine.

One of the first tested areas was a gravity high, southeast of the CW South Zone of the mine. The first hole, 3245-99, intersected 10.71m of zinc/lead mineralization running 19.51% Zn and 3.65% Pb at 130m depth, and many of the subsequent 21 published resource-grade holes have intersected even higher grade mineralization in what has been named the R Zone. The best intersection to date (31.27m at 31.85% Zn, 9.37% Pb) is, in terms of contained metal, the best intersection of Waulsortian Limestone Formation-hosted mineralization recorded in Ireland. Recently Arcon announced an estimated resource for the R Zone (see **Development** above).

**Asarco Exploration Company Inc.** (a subsidiary of **Grupo Mexico**) currently holds 15 Prospecting Licences over Carboniferous plays in the east and south Irish midlands. Changes in company structure over the past number of years, coupled with market realities, have resulted in significantly reduced budgets. Despite this, Asarco has retained a positive programme in Ireland with some encouraging results in Co. Kildare. In 2002 Asarco was granted three Prospecting Licences in Cos Tipperary and Limerick. Interest in this area results from the occurrence of significant disseminated Zn and Pb mineralization in Waulsortian lithologies associated with faulting, delineated with the aid of detailed gravity and aeromagnetic surveys.

**Aurum Exploration Ltd** was incorporated in May 2002 by the Irish-based technical staff of Navan Mining Ltd, following the cessation of that company's exploration activities and withdrawal from Ireland. Aurum currently operate as both a mineral exploration service and mineral exploration company. Aurum has acquired proprietary rights to all Navan's Irish assets, including extensive drillhole, geochemical and geophysical databases. In addition, the company continues to manage Navan's remaining interests in their joint venture with Tara Mines Ltd in Ireland (mostly in the Tynagh area), and is contracted to operate the Licences currently held under this joint venture agreement (47% Navan, 53% Tara), for which results to date have been encouraging. Aurum currently hold eight Prospecting Licences in Ireland for base and precious metals.



**County Map of Ireland showing locations mentioned in the text.**

**Conroy Diamonds and Gold Plc's** gold-dominated exploration programme in the Republic of Ireland is focused on the Lower Palaeozoic Longford-Down Massif where drilling has identified three separate gold plays. Also, at Slieve Glah in Co. Cavan, a recent detailed soil geochemistry programme has defined a number of extensive gold anomalies. Trenching to bedrock is planned in these areas.

The exploration focus of **Minco** for all of 2002 was on their 13 licence area block in the Pallas Green area, Co Limerick. Together with their 75% partner, **Noranda**, Minco drilled 13 holes for a total of 3500m. Considerable encouragement was derived from this exploration, with the discovery of a new and extensive mineralized zone 12km west of Castlegarde, where two high-grade massive sulphide lenses had been previously discovered by Minco and Noranda. Ten drill holes have outlined a zone of mineralization, with variable, low-grade zinc and lead values, over a strike length of 5km. Minco regards the Pallas Green area as one of the best zinc targets in Ireland. However, most of the 25km strike remains unexplored by drilling and the rest has only been drill-tested by widely spaced, isolated holes. Minco are actively seeking partners to continue drilling.

**Mineral Estates (Ireland) Limited's** Loughshinny project consists of four contiguous licences in north County Dublin and east County Meath. The licence group covers the southern and eastern part of the Lower Palaeozoic Balbriggan Block and the northern margin of the Carboniferous Dublin Basin. The Licences straddle a major growth fault that forms the northern boundary of the Dublin Basin proper. Diamond drilling of the main prospect has shown the presence of replacement-style base metal mineralization, in a geological sequence considered to be similar to that at Navan. The best intersections are 4.3m at 2.09% Zn+Pb at 170m depth (including 0.35m at 10.55% Zn +Pb) and, in a separate hole, 2.5m at 1.86% Zn+Pb at 28m depth. The company believe that this prospect has the potential to host a significant base metal deposit, and that a very considerable area remains to be drill-tested. Extensive stratigraphic drilling in conjunction with detailed magnetic surveys has also demonstrated the presence of at least two other target zones, which appear to be of substantial size potential. Preliminary diamond drilling of these has shown that the Navan-equivalent sequence, if preserved, is likely to be at a depth in excess of 600 metres in each prospect. The company is presently seeking a partner to fund further exploration.

## **Joint Venture Opportunities**

In March 2003, Exploration and Mining Division produced a leaflet entitled *Mineral Exploration in Ireland: Joint Venture Opportunities*. The leaflet contains information on 14 different properties where the licensees are looking for joint venture partners. Eight different companies are offering properties, and the minerals under offer include Base Metals, Gold and Diamonds. Copies of the leaflet are available free of charge from Department of Communications, Marine and Natural Resources, Exploration and Mining Division, Beggars Bush, Haddington Road, Dublin 4. Or, e-mail us at [EMDTechnical.info@dcmnr.gov.ie](mailto:EMDTechnical.info@dcmnr.gov.ie).

## **Prospecting Licence Information**

During the past six months, four new Prospecting Licences (PLs) were issued, while over the same period 42 PLs were surrendered; the number of licences currently held is 330.

**Asarco Exploration** were granted two licences in Co. Offaly, both for base metals, barytes and silver. **Tara Mines** received one PL in Co. Tipperary for base metals, barytes and silver. **Aurum Exploration** were awarded a Licence in Co. Mayo for gold and silver.

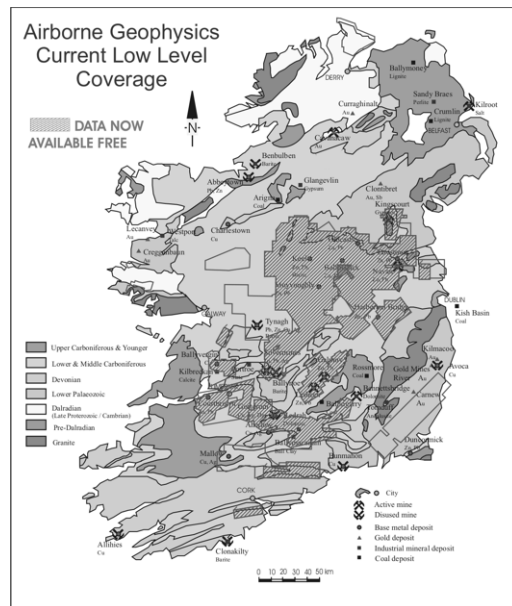
## **New Initiatives**

The Exploration and Mining Division (EMD) is engaged in four significant complementary initiatives designed to encourage exploration. The common approach is to provide, **free of charge and in digital format**, all non-confidential data that is available through the Division, and to provide added value when the opportunity arises. The latest of these, the Airborne Magnetic Interpretation Initiative, was started in late 2002.

**Airborne Data Release Initiative 2001.** Since 1995 low level high resolution geophysical surveys have been flown over 58 areas by various companies under the EMD 'open skies' policy. Some 35% of the country, largely prospective Lower Carboniferous terrain, has been covered. All data are lodged with EMD, and once

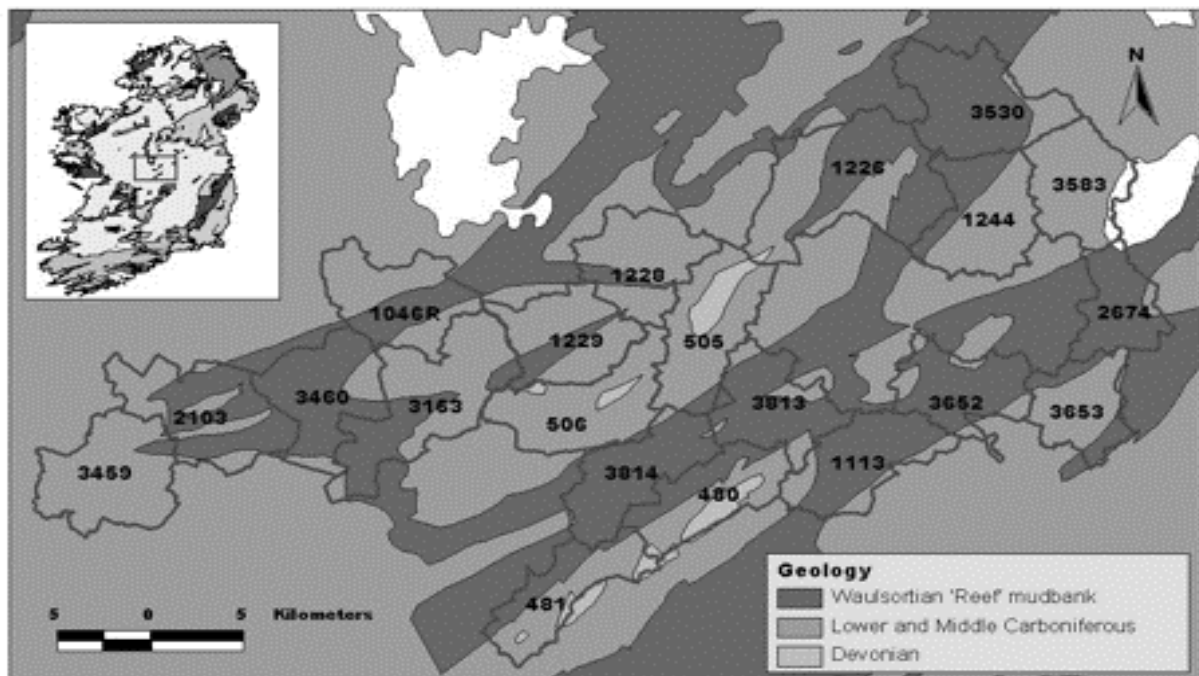
the four-year confidentiality period has expired, are being made progressively available to the public. The first survey was released in June 2001 and, to date, over 70% of the coverage has been made available **free** on CD (see Figure). Each release includes digital databases, grids

and maps. Additional maps generated by EMD are also included.



**Current coverage and availability of low level airborne geophysical surveys**

**Exploration Data Release 2002.** Until recently, the only company exploration reports available to the public were from exploration ground that had been surrendered. Under this initiative, all reports over six years old from currently held Prospecting Licence areas will now be made available, providing a wealth of previously unavailable information **free of charge**. The initial phase is focused on long-held areas that comprise a third of the current holdings, with a further block just released on CD (see Figure). All reports, drill logs and



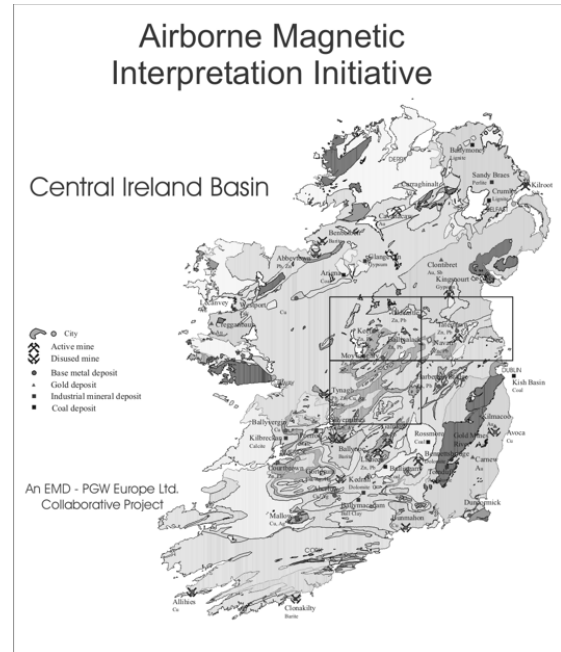
**Map showing the latest prospecting licence areas for which exploration data has been released under the Exploration Data Release Initiative**

maps are in digital format. Reports from areas surrendered since January 2000 are

also being made available digitally in a similar manner

**Airborne Magnetic Interpretation Initiative.** In late 2002, EMD agreed a Public-Private Partnership (PPP) Programme with PGW Europe Ltd., to process and interpret the newly released airborne magnetic data covering the highly prospective Central Basin region of Ireland. Three blocks are involved (see Figure), the first of which will be available free on CD in May 2003. The objectives of the Initiative are twofold, (a) to interpret the basement structure, tectonic framework and lithology from the airborne geophysical results, and (b) to correlate and combine these results with the known geology of central Ireland to aid identification of potential exploration targets for base metal mineralization. The Interpretation Initiative involves the application of improved processing techniques and cultural source removal from the total magnetic field. In order to enhance the signatures of the basement structures and lithological units, as well as volcanics lying above the older basement, a number of processed images derived from the total magnetic field will be produced. Geophysical interpretation maps of the geology of the Central Basin, processed magnetic maps (Pole Reduced

datasets and processing techniques, as well as a discussion of basement structures and lithology will also be produced, together with an assessment of the known mineralization.



**Map showing areas covered by the Airborne Magnetics Interpretation Initiative.**

First Vertical Derivative) and a report including the details of the magnetic

**The MAPS Initiative.** The MAPS (Minerals Administration Programme Support) Initiative is an ambitious major project designed to provide industry globally with all the necessary information and available background data to assess ground and handle the business requirements of exploration permitting through the Internet. The project was initiated in December 2001, and it is scheduled to be completed in late 2003. The key elements of the Initiative are streamlining internal processes and automated regulatory procedures, leading to quicker permitting, e-Enabled business, with free web access to all the data being released under the other Initiatives. All geographically-based data (licence areas, base maps, environmentally restricted areas, forestry coverage, basic geology, airborne and ground exploration maps etc.) will all be available in GIS format. The first phase can now be seen online at [www.emd.ie](http://www.emd.ie). This provides an e-Business facility for applying for Prospecting Licences, regulatory information, a range of GIS datasets that include ground status, and limited exploration company data. The site will be progressively upgraded, and the content range expanded under the project. In doing so we would welcome customer feedback and any proposals for improvement. The Initiative is committed to establishing Ireland at the

forefront internationally in terms of offering maximum ease of access to full information availability and business transactions.

### **PDAC Convention 2003, Toronto**

The 71<sup>st</sup> Annual Convention and Trade Show of the Prospectors and Developers Association of Canada (PDAC) was held in Toronto from 9<sup>th</sup> to 12<sup>th</sup> March 2003. The Exploration and Mining Division was again represented at the Trade Show, where we were joined by our colleagues from the Northern Ireland Department of Enterprise, Trade and Investment and the Geological Survey of Northern Ireland, in a combined *Ireland* exhibit.

### **Website**

The Department of Communications, Marine and Natural Resources website, [www.dcmnr.gov.ie](http://www.dcmnr.gov.ie) has recently been updated, and includes useful information on the Exploration and Mining Division. The Exploration and Mining Division also has its own IP address at [www.emd.ie](http://www.emd.ie). We invite you to visit the sites and to let us know how we can be of further help to you. As outlined above, our recent Initiatives will result in substantial improvements over the next months.

