

# IRELAND

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Ireland remained a major European Union (EU) producer of zinc and an important producer of alumina, lead, and peat in 2000. Although the range of minerals exploited in the country has been limited, exploration activity for new mineral resources continued to increase, mainly emphasizing gold, lead, and zinc. The country's mineral processing industry was small, as was the demand for and consumption of mineral products (table 1).

Interest in gold, lead, and zinc exploration has provided the impetus for the revitalization of the exploration sector within the past few years. The upswing in activity in the lead and zinc sector has resulted in the development of new mines and the investigation of several other potential projects (table 2).

After 5 consecutive years of rapid economic growth without serious inflationary pressure, the Irish economy, referred to as "Celtic tiger," was the fastest growing economy in the EU and the Organization for Economic Cooperation and Development. As of January 1, 2000, Ireland became a full member of the Euro-zone and was expected to initiate use of the euro (€) as the country's currency in 2002 (U.S. Embassy, Dublin, Ireland, 2000, p. 4-5).

Conroy Diamonds and Gold plc was proceeding with exploration on its Clontibret project. Conroy believed it had identified a new gold belt straddling the borders of Counties Cavan, Monaghan, and Armagh (Northern Ireland). The most advanced target on the belt was Tullybuck and Lisglassan near Clontibret, where Conroy has drilled six holes and intersected gold values over minable widths. The work followed an evaluation of an earlier exploration that included results from 32 holes. Historically, the deposit had been exploited for its antimony ore, where two small underground mining operations had been established at Tullybuck and Lisglassan (Mining Journal, 2000a).

Ireland was a major zinc producer, with concentrate exports accounting for 214,000 metric tons (t) of zinc or 42% of European zinc exports in 1999, which is the latest year for which data are available. Exports are expected to increase when the Lisheen Mine reaches full production. Production was centered on Anglo American plc's and Ivernia West plc's joint venture Lisheen zinc-lead mine, Arcon International Resources plc's Galmoy zinc-lead mine, and Outokumpu Oyj's Tara zinc-lead mine. These were three of Europe's most modern mines (Potts, 2000).

The Galmoy Mine was in full production and mined about 2,600 metric tons per day (t/d) of ore grading more than 11% zinc. Most of the current reserves were contained in three major ore bodies, of which the 4-million-metric-ton (Mt) CW ore body was being worked. Development work was started to access the G ore body, with the K zone to follow. The ore body was mined underground using the room-and-pillar method. All the ore was crushed underground and transported to the surface by means of a conveyor belt. Total estimated reserves and resources were more than 10 Mt grading 11.4% zinc and 1.1%

lead. At present mining rates, Galmoy had a life expectancy of 15 years (Potts, 2000).

The Lisheen Mine's two ore bodies—Main Zone and Derryville—initially were planned to produce 160,000 tons per year (t/yr) of zinc metal increasing to 300,000 t/yr of zinc and 40,000 t/yr of lead at full production. The deposit is about 30 meters (m) thick with depths up to 300 m. The two bodies contained an estimated 19 Mt of recoverable reserves at an average grade of 13% zinc and 2.2% lead. When Lisheen reaches full production, Ireland will become the world's seventh largest zinc producer after China, Canada, Australia, Peru, the United States, and Mexico and will account for almost 8% of world output (Brown, 2000).

Outokumpu was to exploit the southwestern extension (SWEX) of the ore body at the Tara Mine. The investment of \$42.5 million (€47 million) was expected to extend the life of the mine for 8 years at a production level of more than 200,000 t/yr. The investment, including a new 10,000 t/d ore-handling system, was required in order to mine an estimated 10 Mt of reserves averaging 9% zinc and 2% lead. Production from the SWEX was planned to begin in 2001, and full capacity was expected to be attained by 2004. Exploration was ongoing to further extend reserves (Mining Journal, 2000b).

Angus and Ross plc, a junior United Kingdom company, was granted eight contiguous licenses covering an area of 300 square kilometers (km<sup>2</sup>) in Counties Carlow and Wexford in southern Ireland for the exploration of tantalum. The Geological Survey of Ireland (GSI) had recorded high geochemical values for tantalum in several locations that were associated with lithium-bearing (spodumene) pegmatites on the eastern flank of the Leinster granite (Mining Magazine, 2000).

Industrial mineral production, which included barite and gypsum, remained relatively constant. Several metals and industrial minerals projects were awaiting to be granted planning permissions and mining leases before moving into development and production.

Cambridge Mineral Resources plc was continuing with diamond and sapphire exploration work. Drilling on the Donegal diamond prospect reportedly discovered rocks that Cambridge said could be lamprolites, a host for major diamond deposits such as those at the New England Fold Belt, in New South Wales, Australia, where a significant amount of diamonds and sapphires have been mined. Cambridge's six prospecting licenses cover an area of about 250 km<sup>2</sup>, which was considered sufficiently large enough to enclose a kimberlite/lamproite occurrence (Cambridge Mineral Resources plc, January 19, 2000, Press release, accessed February 1, 2001, via URL <http://www.cambmin.co.uk/media.html>).

Natural gas production continued off the southern coast of Ireland near Cork. Reserves were not disclosed, and the production from the fields was being carefully managed to extend the life of the fields.

Enterprise Oil plc of the United Kingdom acquired ARCO Ireland Offshore Inc., which owns the Irish exploration interests of Atlantic Richfield Corp. This purchase expanded Enterprise's exploration activities into the Atlantic margin (Oil & Gas Journal, 2000).

Tosco Corp. of the United States entered into an agreement to purchase Irish National Petroleum Corp. Ltd. The assets included a 75,000-barrel-per-day (bbl/d) refinery located in Cork and an 8.5-million-barrel crude oil and oil products storage complex at Gantry Bay. The refinery also produced 30,000 bbl/d of low-sulfur straight run fuel oil. Tosco was the largest independent oil refiner and marketer of petroleum products in the United States, with revenues exceeding \$23 billion per year. This was Tosco's first investment outside the United States. Within the United States, Tosco completed the purchase of 1,740 retail gasoline and convenience outlets from Exxon/Mobile Corp. in March (Tosco, July 31, 2000, At a glance, accessed March 21, 2001, at URL [http://www.tosco.com/internet\\_repository/tosco/71.html](http://www.tosco.com/internet_repository/tosco/71.html)).

The GSI was responsible for the development of minerals information and for the technical management of the state mineral licensing and leasing system. Ireland's geology includes several lithologic units and tectonic features that are favorable for the occurrence of several types of mineral resources from base metals to industrial minerals. The GSI

provided technical assistance to the exploration and mining industry in defining these occurrences.

### References Cited

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- 2000b, Outokumpu approves Tara extension: Mining Journal, v. 334, no. 8580, April 28, p. 330.
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- Oil & Gas Journal, 2000, Enterprise Oil plc: Oil & Gas Journal, v. 98, no. 8, February 21, p. 33.
- Potts, Adriana, 2000, Under the Emerald Isle: World Mining Equipment, v. 24, no. 2, March, p. 44-45.
- U.S. Embassy, Dublin, Ireland, 2000, FY 2001 country commercial guide—Ireland: U.S. Department of State, July, 134 p.

### Major Sources of Information

Department of Transport, Energy and Communications  
Beggars Bush, Paddington Rd.  
Dublin 4, Ireland

Geological Survey of Ireland  
Beggars Bush, Paddington Rd.  
Dublin 4, Ireland

TABLE 1  
IRELAND: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Thousand metric tons unless otherwise specified)

Commodity	1996	1997	1998	1999	2000 e/
<b>METALS</b>					
Alumina	1,234	1,273	1,200	1,200 e/	1,200
Iron and steel, steel, crude	340	337	358	335	360 3/
Lead:					
Mine output, Pb content            tons	45,344	45,149	36,528	43,831	58,600
Metal, refined, secondary e/        do.	10,400	12,000	12,000	12,996 3/	10,800
Silver, mine output, Ag content        kilograms	14,706	13,284	10,800	15,300	16,000
Zinc, mine output, Zn content        tons	164,168	194,796	182,000	226,100	266,000
<b>INDUSTRIAL MINERALS 4/</b>					
Cement, hydraulic e/	1,933 3/	2,100	2,400	2,000 e/	2,000
Gypsum	422	477	450	450 e/	450
Lime e/	100,000	100,000	100,000	100,000	100,000
Nitrogen, N content of ammonia	377	465	458	401	410 3/
Sand and gravel e/ 5/	12,000	12,000	12,000	12,000	12,000
Stone and other quarry products: e/					
Limestone                            million tons	1	1	1	1	1
Other 6/                                tons	40,000	35,000	36,000	35,000	35,000
<b>MINERAL FUELS AND RELATED MATERIALS</b>					
Gas, natural, marketed                million cubic meters	2,737	2,417	2,400	2,500 e/	2,500
Peat:					
For horticultural use e/	400	400	400	350	400
For fuel use:					
Sod peat e/ 7/	1,702 3/	1,000 r/ e/	1,000 r/ e/	1,600	1,600
Milled peat 8/	4,876	2,851	3,000 e/	4,000 e/	3,500
Total	6,578	3,851	4,000 e/	5,600 e/	5,100
Peat briquets e/	285	253	300	300	300
<b>Petroleum refinery products: e/ 9/</b>					
Liquefied petroleum gas    thousand 42-gallon barrels	350	350	498 3/	522 3/	500
Naphtha	350	350	799 3/	1,037 3/	1,000
Gasoline, motor	3,000	3,000	3,868 3/	3,987 3/	4,000
Distillate fuel oil	5,000	5,000	7,443 3/	8,385 3/	8,000
Residual fuel oil	5,000	5,000	6,693 3/	7,206 3/	7,000
Refinery fuel and losses	400	400	147 3/	210 3/	200
Total	14,100	14,100	19,448 3/	21,347 3/	20,700

e/ Estimated. r/ Revised.

1/ Estimated data are rounded to no more than three significant digits; may not add to totals shown.

2/ Table includes data available through March 2001.

3/ Reported figure.

4/ Ireland also produces significant quantities of synthetic diamond and is the major supplier to the United States. Output, however, is not quantitatively reported, and general information is inadequate to make reliable estimates of output levels.

5/ Excludes output by local authorities and road contractors.

6/ Includes clays for cement production, fire clay, granite, marble, rock sand, silica rock, and slate.

7/ Includes production by farmers and by Bord Na Mona (Government Peat Board).

8/ Includes milled peat used for briquet production.

9/ From imported crude oil.

TABLE 2  
IRELAND: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facility	Annual capacity
Alumina	Glencore International AG	Aughinish Island, County Limerick	1,000
Barite	Magobar Ireland Ltd.	Silvermines, County Tipperary	240
Cement	Irish Cement Ltd.	Plants in Limerick and Platin	2,000
Lead-zinc	Anglo American plc, 50%; Ivernia West plc, 50%	Lisheen Mine, County Kilkenny	160
Do.	Arcon International Resources plc	Galmoy Mine, County Kilkenny	135
Do.	Outokumpu Oyj	Tara Mine, Navan, County Meath	215
Natural gas            million cubic feet	Marathon Oil Co.	Kinsale Head Field, Celtic Sea	75,000
Peat	Bord Na Mona (Government Peat Board)	Production mainly in midlands	4,200
Petroleum, refined        barrels per day	Irish National Petroleum Corp. Ltd. (Tosco Corp., 100%)	Whitegate, near Cork	75,000
Steel	Irish Ispat (Ispat International Group)	Haulbowline, near Cork	500