

EXPLORATION FOCUS - CLONTIBRET

INTRODUCTION

Prospecting licence (PL) 2194 covers an area of approximately 31.08 sq kms in northeast Co. Monaghan (Fig. 1). The licence is located midway between the towns of Monaghan and Castleblaney and approximately 1km north of the town of Clontibret. The licence contains the sub-economic Lisglassan/Tullybuck antimony- arsenic-gold deposit. Intermittent mining activity in the area has extended over a period of 200 years, since the reputed discovery of the deposit in 1774 (Stewart, 1779), after which it was historically worked for antimony. However the recognition by McConnell in 1957 of the association of gold with arsenopyrite resulted in extensive exploration of the deposit and reserves of 39,000 tonnes grading 1/g/t. Au have been calculated for the deposit by Munster Base Metals Ltd.

PL.	County	6" Sheets	Area
2194	Monaghan	10, 14	31.08 km ²

PREVIOUS LICENSEES/OPERATORS

The Mining Corporation of Ireland operated in the area of the licence from 1956-1957. In 1957 Tara Exploration and Development Co. Ltd. operated in the area. Unfortunately no records remain from this period. From 1969-1974 PL 2194 was issued as PL 1288. During the period 1969-70 the licence was issued to Anglo United Development Corporation and to Irish Base Metals Ltd. from 1970-71. During the period 1971-72 Anglo United operated the licence. From 1972 to 1974 no exploration was conducted in the area. In 1974 minor changes in the licence boundaries necessitated a new number, PL 2194, being assigned and the licence was issued to Munster Base Metals Ltd. who were the sole operators of the PL until its surrender in 1992.

TARGET

The Lisglassan/Tullybuck Sb-As-Au deposit occurs within andesitic Ordovician greywackes and turbidites. The mineralisation is intimately associated with faulting and therefore has a structural and semi-stratigraphic control. Thus it is those areas of structural intersections which form the most promising targets within the licence.

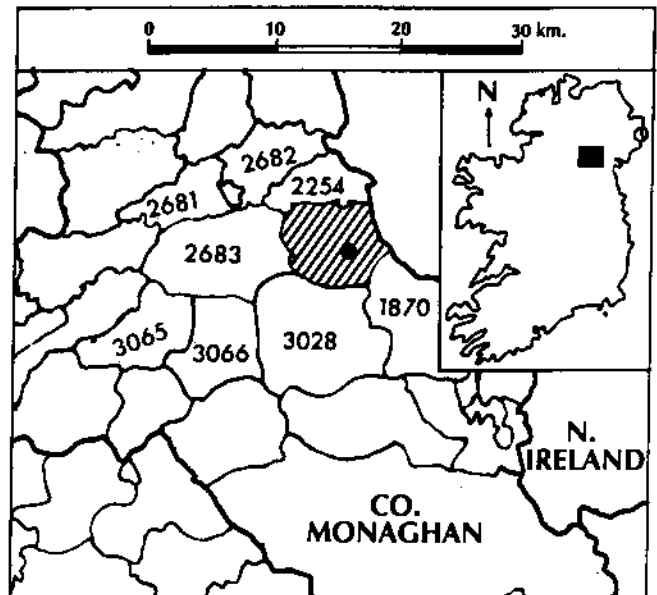


FIGURE 1. Map showing location of Prospecting Licence area number 2194 (shaded) and surrounding areas. Position of deposit marked.

GEOLOGICAL SETTING

The Lisglassan/Tullybuck deposit occurs within the Lower Palaeozoic terrain of the Longford-Down Inlier. The Inlier is composed of northeast trending strike parallel tracts of Ordovician to Silurian age greywackes and argillaceous sediments largely of turbidite origin. The tracts are bounded by steep north east dipping reverse faults. The deposit contains three distinct styles of mineralization which post-date the main Caledonian deformation.

The earliest style of mineralization consists of lenticular, stratiform quartz-carbonate veins. These are present in many areas, but the most significant auriferous examples occur at Ballygreany about 1km SE of the principal deposit. Here, the veins occur within the deformation envelope of a major regional shear zone, the Orlock Bridge Fault. Significant gold grades have been defined at this location and are marked by relatively low arsenic-gold ratios.

The other two forms of mineralization, a stringer vein zone and a series of discrete lode zones, occur in the vicinity of

the historically worked deposit in the stream which defines the boundary between Lisglassan and Tullybuck townlands (Fig. 2). The stringer vein zone outcrops just south of the old deposit, although it has primarily been defined in a number of DDHs drilled by MBM. The zone consists of *pale grey intensely altered (phyllic) greywacke* transected by a dense, polyphase anastomosing network of quartz and quartz-carbonate veins. Drill intersections through this zone frequently exceed 40m and its upper and lower boundaries are effectively defined by fault zones. Gold grades to 1 g/t have been defined.

Substantially higher gold grades, up to 34.98 g/t over about 1m, have been defined in a series of NW to NNW trending lode zones, which are seen in drill core to cross-cut the stringer vein zone. Each polyphase lode consists of up to about 50cm of mottled grey-white quartz-carbonate veins containing minor amounts of pyrite, arsenopyrite and, locally, rich pods of stibnite (one of which was mined historically). Very distinct pale grey-white to greyish green, phyllic alteration envelopes extend for up to 5m or so into both wallrock margins and pass laterally into normal greenish coloured greywacke containing an essentially propylitic mineral assemblage. Densely disseminated pyrite and arsenopyrite occur in the most intensely altered greywacke adjacent to the veins and these sulphides are the primary locus of gold in the deposit. The gold primarily occurs as a lattice constituent, mainly in arsenopyrite where *individual grains may contain up to about 2,500ppm gold*. Gold also occurs as inclusions in the pyrite and rarely in minute native grains in association with stibnite-sulphosalt complexes. The stibnite mineralization, although part of the same system, postdates the principal gold-arsenic mineralization and is primarily associated with more ferroan carbonate. Full technical details of this deposit are provided by Morris et al. (1986) and by Steed and Morris (1986) and historical aspects by Morris (1984).

To the north of the Lisglassan/Tullybuck deposit a single lode zone has been identified at Bryanlitter. The lode zone consists of a principle vein composed mainly of pale grey quartz adjoined by heavily veined and altered wall rock. Disseminated arsenopyrite and pyrite is present in both the vein matrix and the wall rock. Stibnite is locally abundant (Steed and Morris, 1986).

Note: The above text has been kindly provided by Dr. J.H. Morris.

EXPLORATION HISTORY

The first reference to mining in the Lisglassan area occurs in Stewart (1779) who stated "in the lands of Lisglassan, near Castleshane is a lead mine, which is said to contain a great deal of antimony". In the early 19th Century the Earl of Middleton worked the Tullybuck area for lead (Morris, 1984). From 1825-26 the Mining Company of Ireland

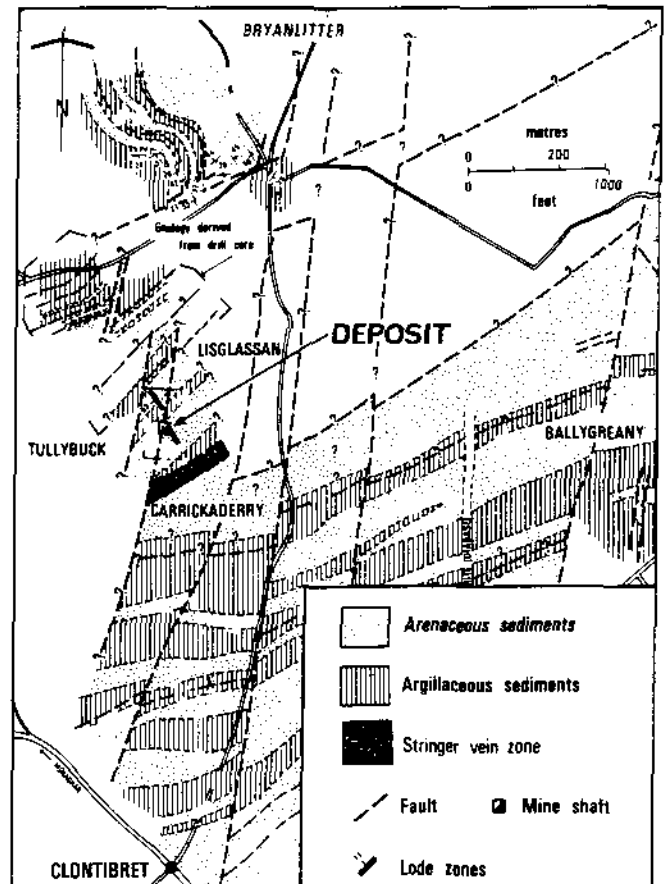


FIGURE 2. Simplified geological map of the area around the Clontibret deposit (after Steed and Morris, 1986).

developed the Tullybuck shaft and underground workings and extracted antimony. No further mining is recorded for the area until 1917 when R. Espinasse and C. Charter are known to have completed development and exploration in the vicinity of Tullybuck (Morris et al., 1986). The Mining Corporation of Ireland operated in the area of the licence from 1956-57. During this period they carried out extensive exploration including diamond drilling of 16 drill holes, *dewatering of shafts at Tullybuck/Lisglassan, surveying and mapping*. It was during their period of operation that the first occurrences of in situ gold were recorded. In 1957 Tara Exploration carried out detailed soil sampling in the vicinity of the Lisglassan/Tullybuck workings. Unfortunately there are no records remaining within the open file records of the Geological Survey of Ireland of either the Mining Corporation of Ireland diamond drilling programme or the Tara Exploration soil sampling.

More recently, from 1969-70 the area was licensed as PL 1288 to the Anglo United Development Corporation who completed shallow soil geochemistry in the Lisglassan/Tullybuck area where a weak copper anomaly was identified. During the 1970-1971 period of issue of the licence Irish Base Metals Ltd. conducted a regional stream sediment sampling programme. In 1971-72 the operators

Anglo United undertook a radon survey which had limited success. In 1974 Munster Base Metals completed an EM geophysical survey and detailed geochemical surveys which identified several new anomalous areas which were subsequently drill tested. Four major veins were identified; the Main, Lisglassan, East and West veins. The Main Vein was traced 136.36m north and 7.57m south of the Tullybuck shaft with mineralisation commonly increasing southwards. From 1976-90 the exploration emphasis was upon geochemical surveying, trenching and diamond drilling in an effort to prove up the deposit. As a result of these programmes additional gold mineralisation was identified at Ballygreany, Bryanlitter and Carrickaderry (see Table 1). However the deposit remained uneconomic and the prospecting licence was eventually surrendered in 1992.

Hole No.	Depth (m)	Interval(m)	Au (oz/t)
CL/83/1	36.12 - 37.63	1.51	0.01
	61.72 - 64.61	2.98	0.05
	87.20 - 89.29	2.09	0.06
	136.0 - 137.38	1.26	0.05
	140.06 - 143.23	3.16	0.01
CL/83/2	194.12 - 222.46	28.38	0.02
	2.46 - 3.48	1.02	0.01
	10.64 - 12.00	1.36	0.01
	38.15 - 39.38	1.23	0.01
CL/83/3	97.00 - 109.89	12.88	0.005
	71.32 - 73.54	2.21	0.17
	171.16 - 177.29	6.12	0.01
	273.38 - 315.10	41.72	0.03
	300.34 - 301.26	0.92	0.1
CL/84/2	311.69 - 313.54	1.84	0.12
	82.15 - 84.09	1.94	0.03
	117.81 - 182.61	64.80	0.01
	125.60 - 145.94	20.38	0.02
	162.46 - 182.61	20.15	0.02
CL/84/4	26.15 - 86.46	60.30	0.01
	29.23 - 32.4	3.16	0.03
	52.46 - 104.0	51.53	0.008
	84.0 - 91.69	7.69	0.03
CL/84/5	54.98 - 58.33	3.35	0.009
	101.26 - 148.0	46.74	0.006
	47.87 - 81.17	33.29	0.009
CL/84/6	10.16 - 11.23	0.61	0.045
	14.21 - 15.2	1.07	0.1
CL/84/8	115.07 - 124.92	9.84	0.016
	39.2 - 40.98	1.78	0.049
	71.07 - 72.30	1.23	0.031
CL/84/9	88.43 - 90.46	2.03	0.01
	27.69 - 32.06	4.36	0.047
	64.92 - 65.84	0.92	0.113
CL/89/2	79.20 - 81.87	2.89	0.092
	182.73 - 184.40	1.66	0.058
CL/89/2	20.46 - 21.13	0.67	0.15
	27.07 - 27.84	0.76	0.15

TABLE 1. Summary of best mineralized intersections

Hole No.	Depth (m)	Interval (m)	Au (oz/t)
CL/79/1	29.0 - 29.92	0.38	0.08
	34.77 - 35.38	0.61	0.09
	39.07 - 39.84	0.76	0.34
	43.69 - 44.46	0.76	0.52
CL/79/3	27.07 - 27.38	0.31	0.16
	38.15 - 39.54	1.38	0.065
	48.30 - 48.92	0.61	0.096
	54.15 - 56.61	2.46	0.161
CL/79/5	79.07 - 82.46	3.38	0.01
	98.0 - 100.92	3.23	0.148
	37.84 - 40.0	2.15	0.003
	47.07 - 66.15	19.07	0.006
	87.69 - 88.61	0.92	0.029
CL/79/6	102.15 - 102.53	0.38	0.006
	119.07 - 119.23	0.15	0.015
	119.54 - 120.0	0.15	0.012
	34.15 - 36.92	2.77	0.159
	10.46 - 11.07	0.61	0.045
CL/79/7	18.0 - 18.38	0.38	0.015
	23.07 - 23.69	0.61	0.016
	28.0 - 28.76	0.76	0.033
	70.76 - 72.92	2.15	0.083
	23.41 - 27.81	4.4	0.033
CL/81/1	36.92 - 38.46	1.54	0.01
	71.17 - 72.77	1.60	0.01
	157.32 - 163.32	6.0	0.03
CL/81/3	13.69 - 17.94	4.25	0.012
	22.95 - 25.04	1.91	0.008
CL/81/6	34.46 - 37.54	3.07	0.005
CL/81/7	41.63 - 42.92	1.29	0.004
	51.04 - 52.64	1.6	0.009
	64.37 - 66.89	2.5	0.004
CL/81/8	30.76 - 33.53	2.76	0.005
	50.37 - 57.17	6.80	0.006
	76.92 - 85.07	8.15	0.028

FURTHER INFORMATION

Open file data on PL 1288 and 2194 at the Geological Survey of Ireland.

Morris J.H. 1984. The metallic mineral deposits of the Lower Palaeozoic Longford - Down Inlier in the Republic of Ireland. Geological Survey of Ireland, Report Series, RS84/1, 72pp.

Morris, J.H., Steed, G.M. and Wilbur, D.G. 1986. The Lisglassan-Tullybuck deposit, County Monaghan: Sb-As-Au vein mineralization in Lower Palaeozoic greywackes. In: Andrew, C.J. et al. (eds). **Geology and Genesis of Mineral Deposits in Ireland**. Irish Association for Economic Geology, 103 - 120.

Steed, G.M. and Morris, J.H., 1986. Gold mineralization in Ordovician greywackes at Clontibret, Ireland. In: Keppie, J., Duncan, T., Boyle, R.W. and Haynes, S.J. (eds). **Turbidite - hosted gold deposits**. Geological Association of Canada Special Paper 32, 67 - 86.

Stewart, D. 1799. The Report of Donal Stewart, Itinernant Mineralogist to the Dublin Society. Trans. Dublin. Soc., 1, 142pp.

This is one of a series of pamphlets which summarise exploration work on selected prospecting licence areas. It may be referred to as follows:

CRUISE, M., and FARRELL, L.P.C., 1993. Exploration focus - Clontibret. MINFO 10/93, Exploration and Mining Division, Department of Transport, Energy and Communication, 4pp.