

CLONTIBRET

Background information

Mine Name: Clontibret

Mine District: Monaghan

Alternative Names:
Lisglassan; Tullybuck

Elements of interest:
Sb, As, Au, Pb, Zn

Project Prefix: CTB-

County:
Monaghan

Townland:
Lisglassan; Tullybuck

Grid Reference:
E275550, N330110



The Clontibret deposit was developed along the banks of a stream 800m north of Clontibret village. The stream, un-named on OS maps but here called the Clontibret stream, separates the townlands of Tullybuck to the west and Lisglassan to the east. The mine has been referred to in recent literature (Morris 1984; Morris *et al.* 1986) as "Tullybuck-Lisglassan".

Production and Mining History

A "large course of antimony" was apparently discovered in the bed of the Clontibret stream in 1774 (Morris 1984) and was subsequently exploited by the Earl of Middleton. The Mining Company of Ireland began developing the mine in 1825, working on a shaft and drift to intersect the lode at a depth of 18m. Some £270.00 was spent by the time the company abandoned the deposit in the second half of 1826, listing income of only £10.00 from its produce, presumably antimony (Morris 1984). The underground workings were reopened in 1917-18 but there is no record of any extraction. The Mining Corporation of Ireland undertook an extensive exploration programme in 1956 and identified the presence of gold in the mineralization. However, no ore was mined.

Site Description and Environmental Setting

The Clontibret stream is today heavily wooded in the mine area and most of the former mine workings are either filled in or obscured. Historical references (Hallissy 1914) indicate that there were three shafts, two in Lisglassan on the east bank and one in Tullybuck to the west (Fig. 1). There was no trace of the northern Lisglassan shaft in 1984 and in that year the southern Lisglassan shaft was capped in the process of land reclamation (Morris 1984). The Tullybuck shaft was then open but is now hidden in undergrowth. The capped Lisglassan shaft was still visible and surrounded by a 1m-high barbed-wire fence.

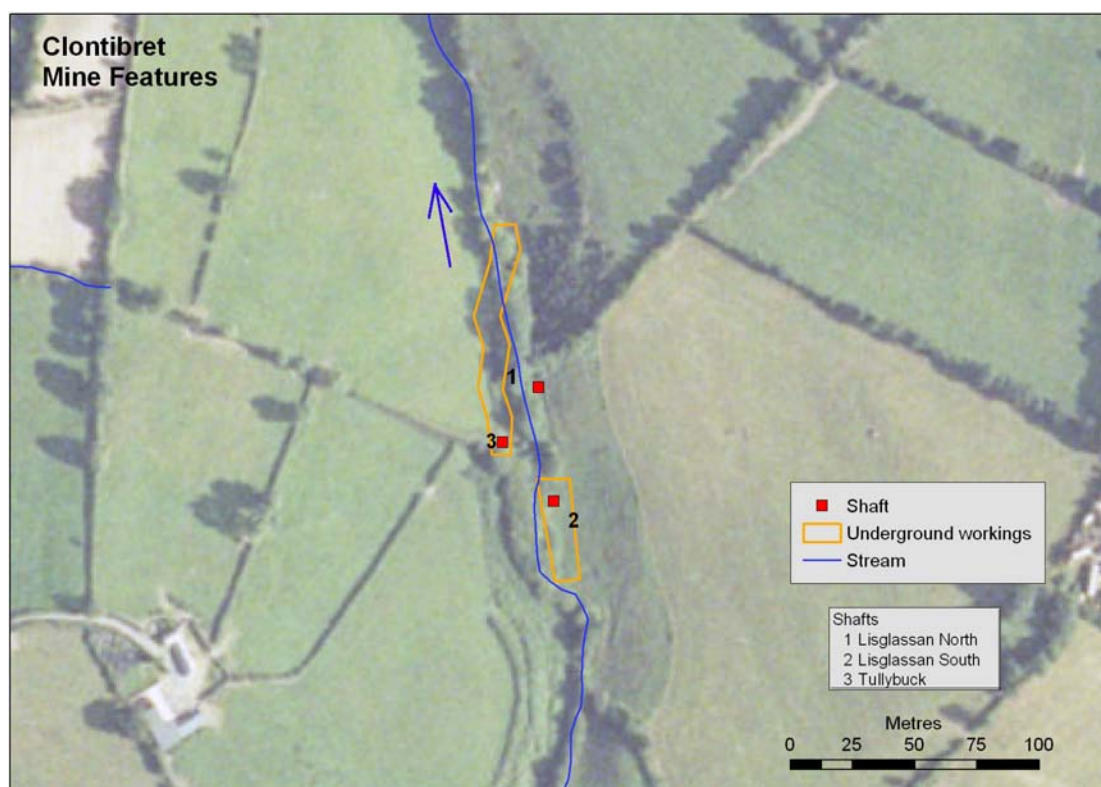


Fig. 1 Clontibret Mine Features

Geochemical Assessment

1. Surface water

Two surface water samples were collected from the Clontibret stream, one 40m upstream of Lisglassan South shaft and the other 70m downstream of Lisglassan North shaft (Fig. 2). Although there is a slight increase in measured Zn concentration in the downstream sample (115 $\mu\text{g/l}$) compared to the upstream one (53 $\mu\text{g/l}$), overall metal concentrations in both samples are low and there is no clear indication of mine-related impact on water downstream of the mine site.

2. Groundwater

Groundwater samples were not collected in the Clontibret area. No spoil heaps were observed and in consequence no leachate testing was carried out.

3. Stream sediments

A regional stream sediment geochemical survey was conducted in the Longford-Down Inlier in 1984. Six samples were collected in the vicinity of the Clontibret deposit (Fig. 2), four from the Clontibret stream and two from tributaries of it. The two tributary samples (Site 2 & 3, Table 1) are not downstream of any known mine workings and so might be expected to reflect an "upstream" or regional background sediment composition. One sample on the Clontibret stream was taken upstream of the mine workings and the remaining three were taken downstream, at varying distances from Lisglassan North shaft.

Table 1 summarizes the results for the six samples. It is clear that the stream sediments show a marked increase downstream in elements that are associated with the Clontibret mineralization. Sb, As and Au all increase sharply immediately downstream of the mine workings. Au, in particular, is very enriched within 250m of the site. In contrast, neither Pb nor Zn show any clear increase downstream of the mine.

Table 1 Stream sediment geochemistry, Clontibret

mg/kg	Sb	As	Pb	Zn	Au
Site 1 (upstream)	5.4	29	85	323	0.008
Site 2 (upstream)	7.5	34	76	361	0.018
Site 3 (upstream)	7.2	30	46	217	0.013
Site 4 (50m d/stream)	186	260	97	298	0.454
Site 5 (250m d/stream)	89	271	105	334	0.479
Site 6 (800m d/stream)	39	117	79	208	0.160



Fig. 2 Geochemistry sample sites, Clontibret

4. Solid waste

There are no obvious waste heaps at Clontibret and solid waste XRF analyses were not carried out.

5. Risk Ranking Score

The total site score for Clontibret is 12 (Table 2), derived entirely from stream sediment data, placing Clontibret in HMS-IRC Site Score Class V.

Table 2 HMS-IRC Site Score, Clontibret

Waste	Stream Sediments	Total
1. Hazard Score	60	60
2. Pathway Score		
<i>Groundwater</i>	-	-
<i>Surface Water</i>	-	-
<i>Air</i>	-	-
<i>Direct Contact</i>	-	-
<i>Direct Contact (livestock)</i>	11.93	11.93
3. Site Score	12	12

6. Geochemical overview and conclusions

Mining at Clontibret was short-lived and there is now little physical trace of any former activity on the site. There are no discharges of mine water on site and surface water samples show no evidence of any mine-related impact. Stream sediments have very elevated concentrations of Sb, As and Au that can be attributed to the mineralization at the site. It can be assumed that mining has contributed directly to the observed stream sediment concentrations although natural erosion of mineralized veins cropping out in the Clontibret stream may have contributed also. The stream sediment contamination accounts for the entire Clontibret site score of 12.

References

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 RS 84/1 (Mineral Resources), pp72.

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., Crowe, R.W.A., Pennell, W.M. and Pyne, J.F. (Eds.) *Geology and Genesis of Mineral Deposits in Ireland*. Irish Association for Economic Geology, Dublin, 103 – 120.