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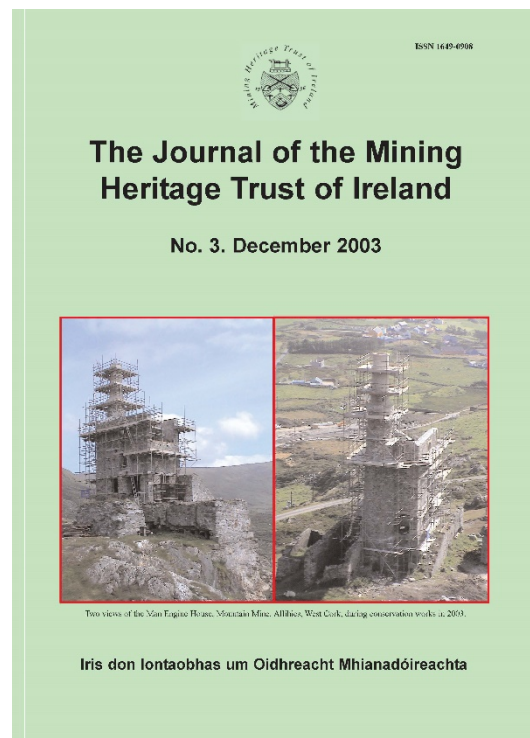
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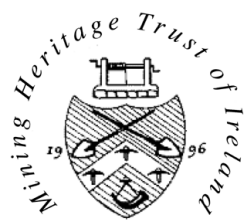
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FURTHER ILLUSTRATIONS OF HISTORIC MINING ACTIVITIES IN IRELAND: KNOCKMAHON, CO. WATERFORD AND AVOCA, CO. WICKLOW.

Petra Coffey, Des Cowman and John Morris

Abstract: The purpose of this article is to bring to public attention two further unpublished mining prints and to put them into context. *Journal of the Mining Heritage Trust of Ireland*, 3, 2003, 3-7.

INTRODUCTION

In the archives of the Royal Society of Antiquaries of Ireland, (founded 1849) there are 12 oblong folio volumes entitled the 'Du Noyer Sketch Books'. Each sketch book contains about 120 drawings or paintings, depicting scenes from all over Ireland. All the drawings are by the Victorian artist and geologist George Victor du Noyer 1817-1869, who compiled, indexed, signed and dated each volume. The twelve sketch books were purchased by the Antiquaries from du Noyer's widow shortly after his death. Du Noyer was employed by the Geological Survey of Ireland from 1847 and most of the scenes depicted were drawn as he moved around Ireland, compiling the geological maps which were published by the GSI.

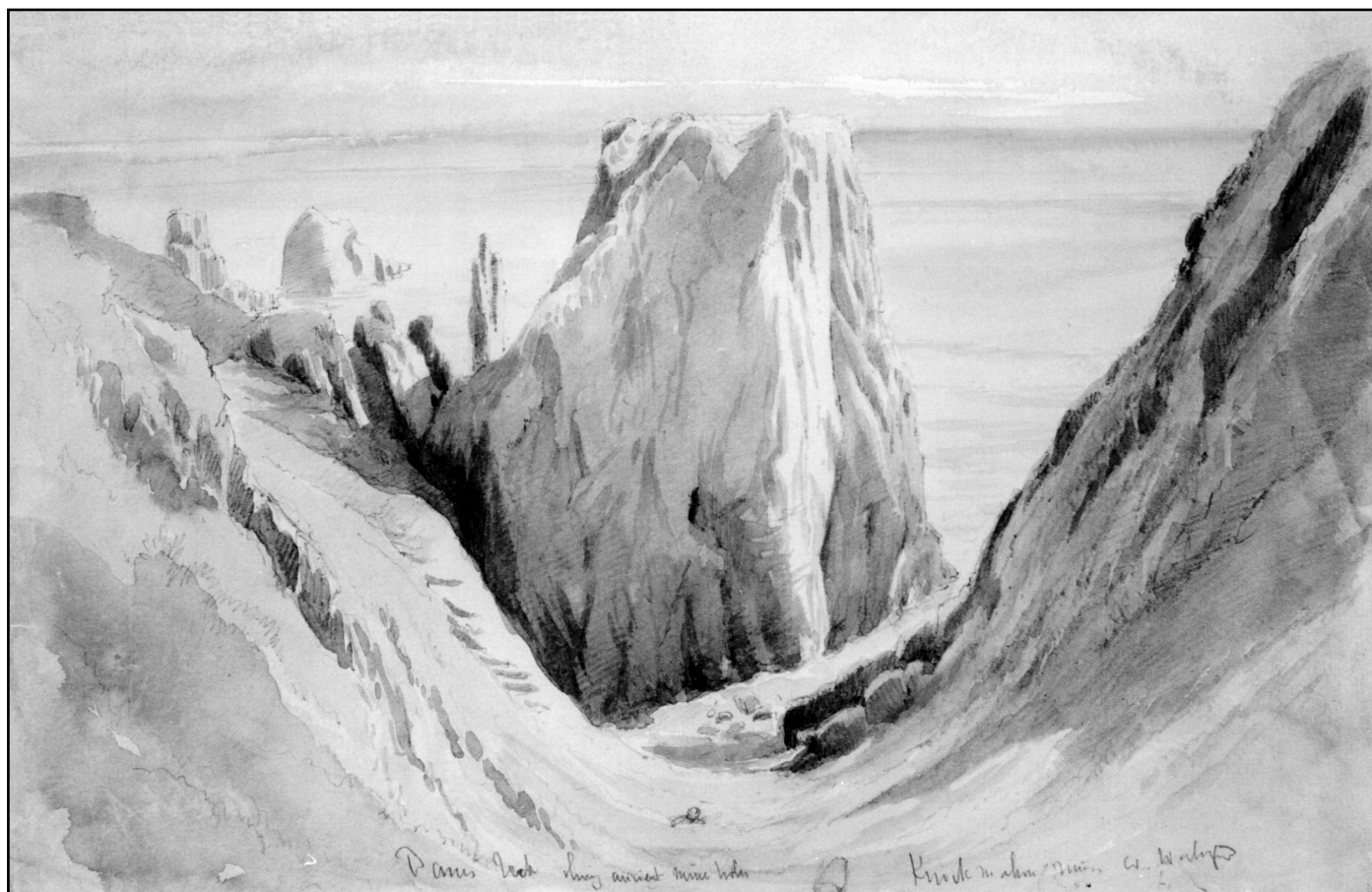
His only artistic training was with the archaeologist and artist

Figure 1. Du Noyer's sketch of Dane's Rock. Reproduced by permission of the Royal Society of Antiquaries of Ireland.

George Petrie, (1789-1863) who impressed upon him the need for accuracy in his drawings, and this attribute has given us a record of many sites which have since disappeared. A short index of the 12 volumes was published in the *Journal of the Royal Society of Antiquaries* in 1889, but the sketches are little known. The author of this paper is compiling a detailed catalogue of the sketch books. The two pencil sketches discussed here are but two of several showing mining activity. A small oil painting 'Setting the charge', formed part of the *Millennia* exhibition at the Geological Survey of Ireland in 2002.

DANES ROCK: BEING ANCIENT MINE HOLES. KNOCKMAHON MINES, CO. WATERFORD.

A pencil and watercolour sketch, measuring 30cm by 19cm. The sketch is neither dated nor signed, though its association



with other du Noyer sketches leaves little doubt of its pedigree. It most probably dates from about 1863.

These "ancient mine holes" have been open to various interpretations as has the word "Danes". The usual name is Danes' Island although along the Waterford coast the word "island" is

confusingly used for peninsulas in local townland names. This is almost an island, though, being now joined to the mainland by an uncrossable ridge of rock. On the landward and insular sides of it are the "mine holes" only some of which have been captured by du Noyer (see map).

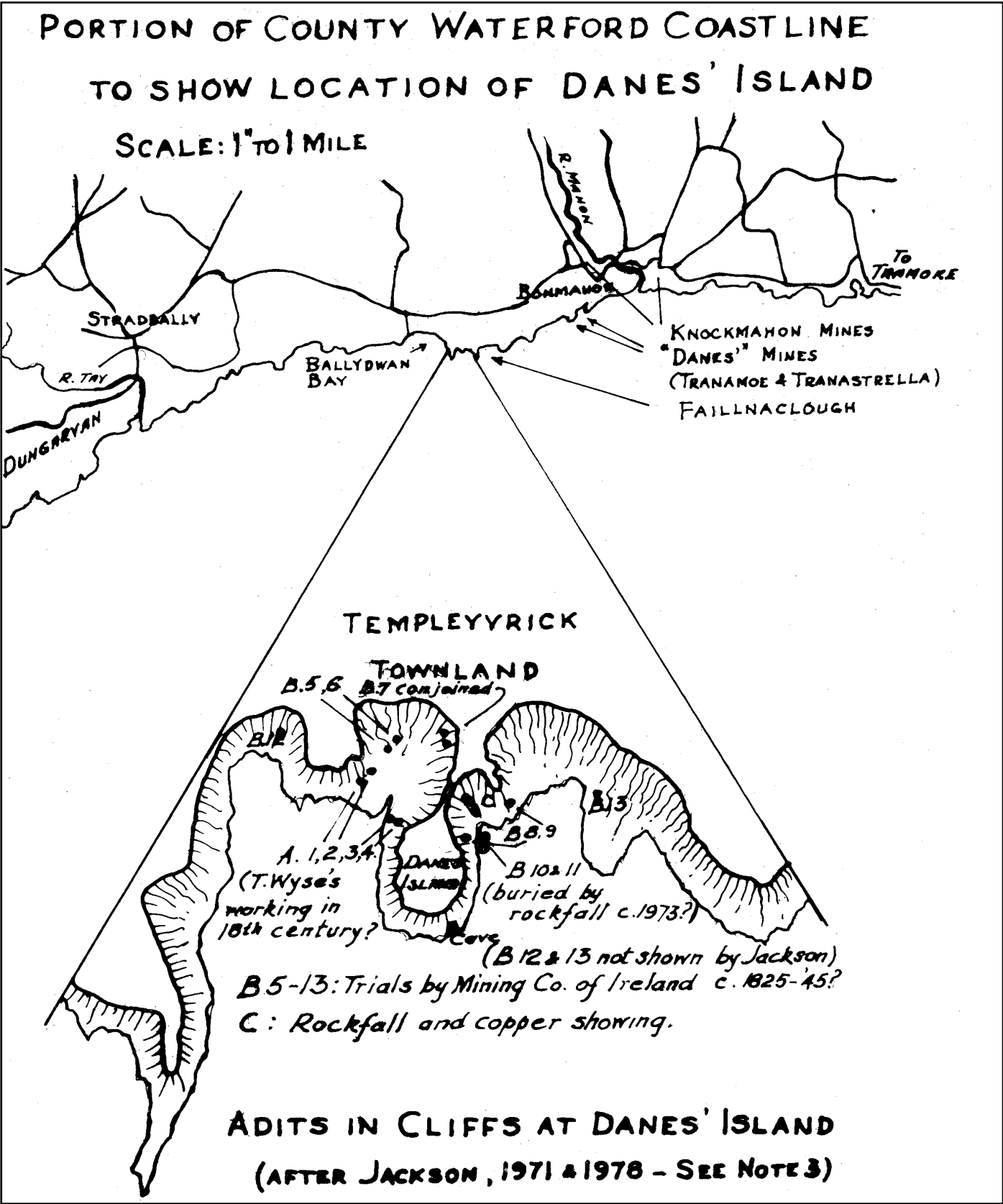


Figure 2. Sketch map of adits in the cliff at Dane's Island.

The earliest commentary on them comes from geologist, Henry Price (1824), who refers to "a promontory, improperly called Danes Island" and gives an 18th century silver/lead context for the openings. Some fifteen years later it was visited by John O'Donovan (1841) for the Ordnance Survey and he decided that the word "Danes" applied to "the foundations of buildings indistinctly visible" on the inaccessible "island" (nothing is visible there now, even from the air). A few years later this remote area was visited by Sir Robert Kane (1844) who described it as "perforated like a rabbit burrow". He was told of "antique tools --- stone hammers and chisels and wooden shovels" found within them but makes no speculation about date.

About the time of du Noyer's visit, a local mine employee promulgated the notion that these were worked by both Danes and Elizabethans but without offering any evidence (Hore 1865). His opinion might have prompted du Noyer to look and the spectacle may have prompted his pencil. And there matters rested for over one hundred years when Dr. John Jackson (1978), the original identifier of Mount Gabriel Bronze Age Mines, was drawn to Danes Island and interpreted these "mine holes" as of the same vintage. He measured some accessible openings and calculated the amount of copper Bronze Age man would have extracted from them. He being such a respected figure, his thesis must not be dismissed lightly. The following is a summary of the points already made in refutation (Cowman 1982).

- All around there is massive evidence of ongoing erosion so that it is highly unlikely that the current coast-line corresponds with that of the Bronze Age.
- There is documentary evidence that his area was worked for silver and lead by a local entrepreneur, Thomas "Bullocks" Wyse, for about forty years from 1748 (Cowman 1983).

- None of the 19th century sources above intimated such antiquity. Kane's comment on the "antique tools" may be explained by commentary a generation later about Wyse's working as being "conducted on the rude principles adopted by our forefathers" (Price, 1824). While there are plenty of rounded sea stones about one wonders about the efficacy of stone chisels. Wooden shovels were hardly likely to last from the Bronze Age though they were in use up to the early 19th century.

- While there is some slight visible evidence that there is also copper mineralization in the area, bits of galena could be found at the bottom of the cliffs up to recently. Therefore, even if copper were mined in the Bronze age, evidence of it would have been wiped out by 18th century lead/silver mining as well as by erosion.

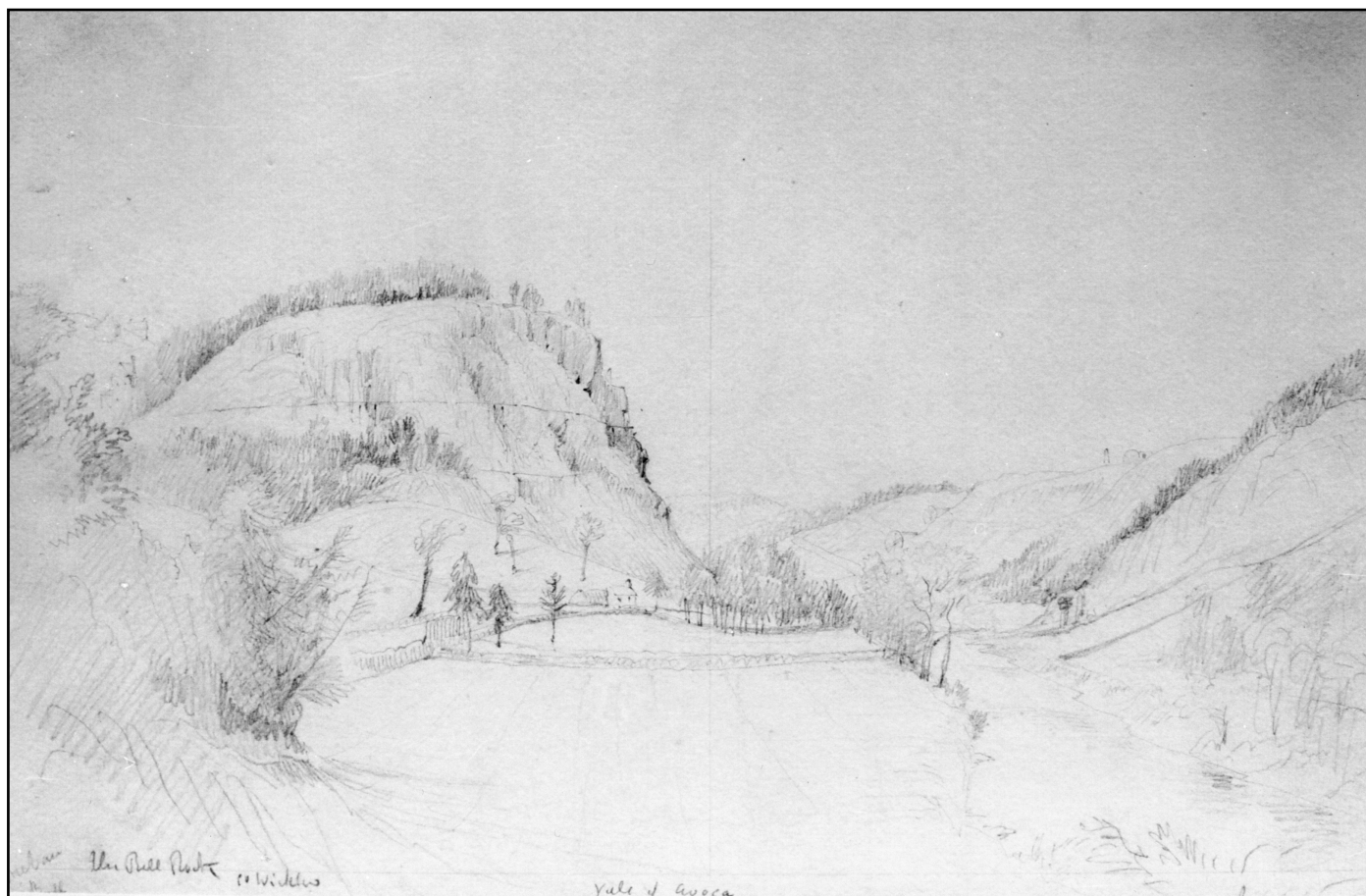
- Confusing the picture even more are bore-holes and chisel-marks within some short levels, indicating that an area of previous activity would not be ignored by the Mining Company of Ireland in the 19th century.

None of this precludes the possibility of any previous people picking up on copper indications along this coast, but the openings du Noyer drew are more likely to be Wyse's later 18th century lead workings.

THE BELL ROCK, VALE OF AVOCA, CO. WICKLOW.

A pencil sketch, bearing the above title, with the name

Figure 3. Du Noyer's sketch of the Bell Rock, Avoca. Reproduced by permission of the Royal Society of Antiquaries of Ireland



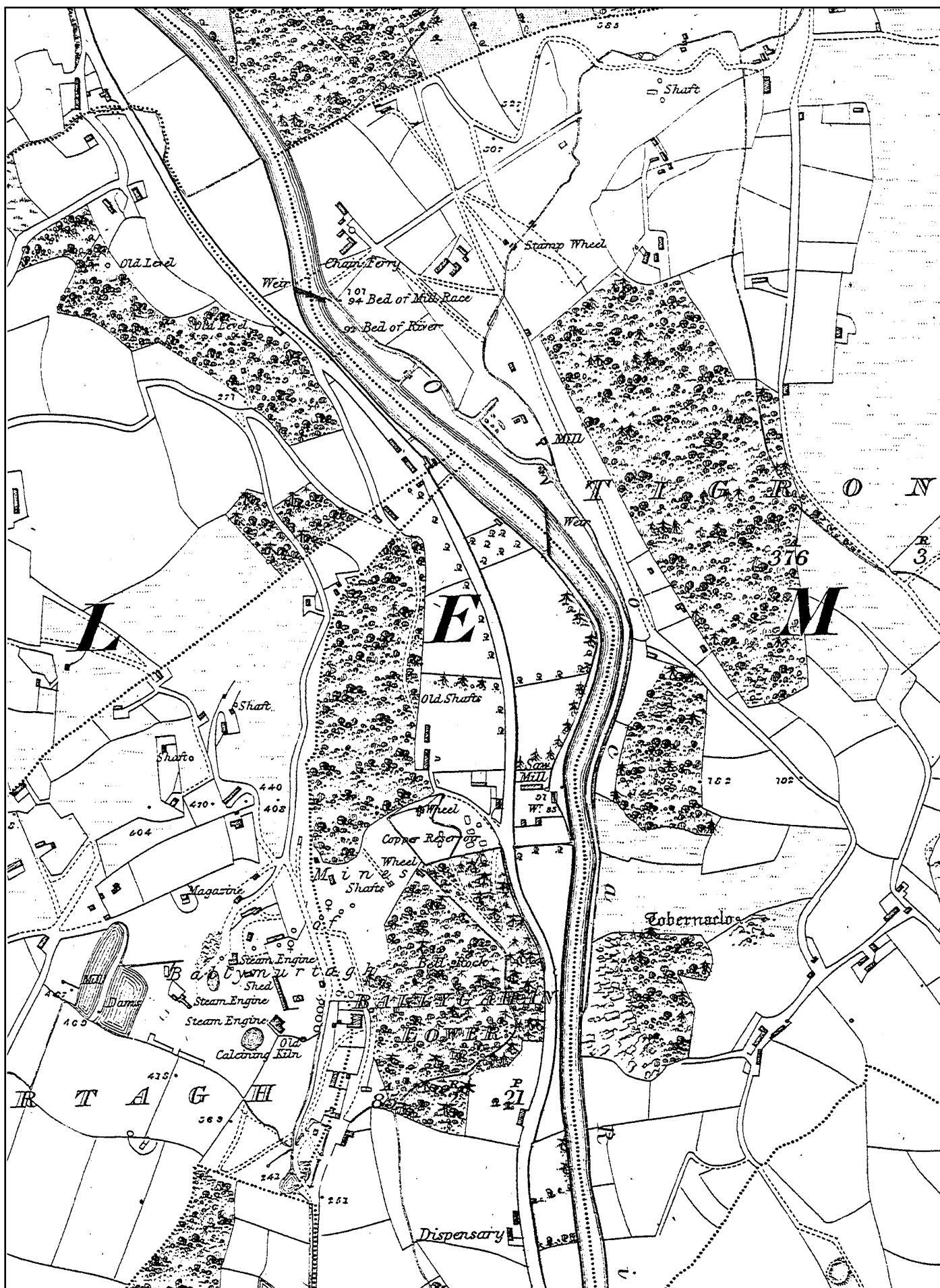


Figure 4. First edition Ordnance Survey six inch map of Ballymurtagh and Tigroney mines at Avoca.

"Cronebane" tightly cropped in one corner. The 35cm by 23 cm sketch is neither dated nor signed but occurs amongst a collection of similar style du Noyer sketches of the district, all of which bear his signature and the date April or May 1842.

The sketch bears many similarities with an engraving entitled "Cronabina Mines - vale of Wicklow", which was reproduced in the 2002 MHTI Journal (Coffey and Morris 2002, p.72). Both illustrations show (very faintly!) a set of three waterwheels on the hillside to the east of the Avoca river, in Tigroney, the upper one adjacent to a chimney stack; the Bell Rock prominent in the right foreground, on the west bank of the Avoca river, with a house just below it; and, above the Bell rock, and to the left, a building in the du Noyer sketch where an engine house is shown in the Cronabina engraving. The latter sketch is undated but surmised by Coffey and Morris (2002) to most likely date from the 1820s or 1830s, whereas the du Noyer sketch is more firmly dated as 1842. There are however notable differences between the two illustrations. The du Noyer sketch omits the buildings shown close to the Avoca River on the Tigroney river bank in the Cronabina engraving, as well as Castlehoward and an unidentified engine house above it and further to the north. Furthermore the du Noyer sketch places a much greater separation between the uppermost waterwheel to the two closely spaced waterwheels lower down the hillside. On the west bank, the du Noyer sketch shows a whim engine house just to the west of the Bell Rock, where none is shown in the Cronabina engraving, as well as what might be the "Red Road" winding up the south side of Bell Rock from a presumed junction with the Avoca - Arklow road adjacent to the building below the Bell Rock.

The significance of these subtle distinctions may be further assessed by reference to the first edition of the Ordnance Survey 6 inch scale map of the area published in 1840 (Fig. 4). On the east bank, this shows only a single water wheel, identified as a "Stamp Wheel", though other unidentified buildings are shown beside the leat above and below this feature, including a "mill" close to the river, as well as various other buildings and shafts - but no engine houses. A set of buildings just below the "Stamp Wheel" coincide with a group of buildings in the du Noyer sketch just above the legend "bed of mill race". Further up the hillside, above the "Stamp Wheel", another building is depicted beside the leat in exactly the same style as the "Stamp Wheel". This is presumed to be the second wheel shown immediately to the right and just above the lowermost wheel in the Cronabina sketch. Further up the hill, and just to the north of workings marked "shaft", there is a further set of buildings beside the leat, which may coincide with the uppermost wheel in both illustrations. Other buildings are shown nearby just to the east but none are marked as an engine house or chimney as shown in the illustrations.

The relative paucity of mining features on the east bank contrasts with the rich variety of features shown in Ballymurtagh, immediately west of the Bell Rock (Fig. 4). These include several conspicuous "mill dams", various shafts and buildings, a "magazine", an "old calcining kiln", two water wheels, several circular features, perhaps buddles, and three "steam engines". These are all located in an area which corresponds well with the

Whim Engine House shown in the du Noyer sketch, although with which particular "steam engine" this relates is unclear. All are, however, coincident with the area known as the "Twin Shafts" (Gallagher and O'Connor 1999), in which at least two Engine Houses were located, one to operate as a pumping engine, the other as a whim engine (Brown 1997, Gallagher and O'Connor 1999). The latter not only bears the most obvious similarity to the engine house shown in the du Noyer sketch, but it is also of the right relative age. Brown (1997) and Cundick (2002) describe this whim engine as an all enclosed beam whim, which possibly housed a 20" inch rotative engine supplied to the Wicklow Copper Mining Company by Harvey and Company, of Hayle, in August 1836 at a cost of £465. Close study of the du Noyer sketch of the engine house shows a prominent chimney at one end, and a winding wheel on the west side of the building - but no external bob protruding out from the front, south facing end of the building, and to which the winding wheel would have been attached. It is therefore presumed that this is a depiction of the enclosed beam engine described by Brown (1997).

In contrast, the pumping engine housed a 50" engine, supplied to the Wicklow Copper Mining Company by Harvey and Company in either 1841 (Brown 1997), or March 1842, at a total cost of £2120-11-0, including the boiler and all fittings (Cundick 2002). This engine would therefore postdate the 1840 publication date of the map, and it almost exactly coincides with the presumed date of the du Noyer sketch.

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