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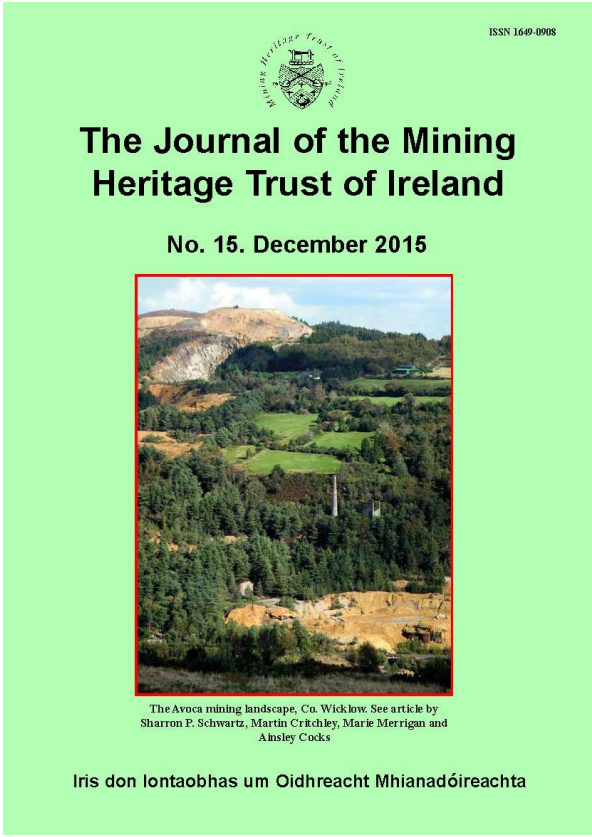


THE CAIM(E) ROCKS SILVER-LEAD MINE, COUNTY WEXFORD: ITS HISTORY AND INDUSTRIAL ARCHAEOLOGY

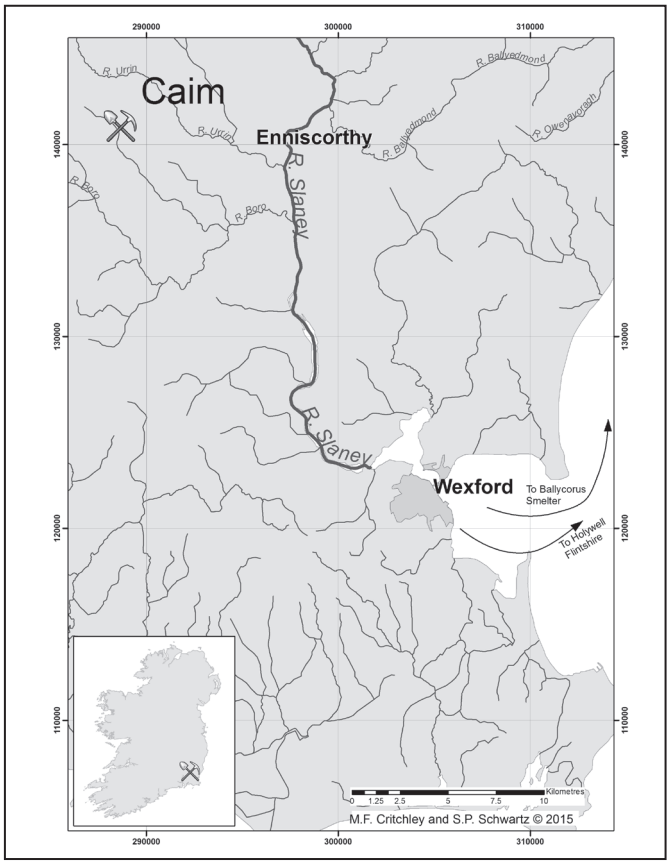
Sharron P. Schwartz and Martin Critchley

Abstract: Caim(e) Mine is situated at 'Caimsperrin' (from a personal name and the Gaelic Speirín, meaning 'little pinnacle' and colloquially known as 'Caim Rocks') about 8 km west of the town of Enniscorthy, townland of Aughathlappa (and not Caim which borders it), civil parish of Monart and Barony of Scarawalsh, County of Wexford. Discovered in the early nineteenth century and financed by a pair of gentlemen adventurers from Dublin, it underwent at least two periods of working before being abandoned sometime after 1813. The mine lease was purchased by the Mining Company of Ireland (MCI) during the mining boom of the mid-1820s and reopened in 1835. Making use of steam technology for unwatering and crushing operations, Caime was noted to have been a very well run enterprise, and, for a brief spell in the very early 1840s, was among the richest lead producers in the east of Ireland (Freeman 1957, 104) employing between 150-200 people. However, a combination of its geology and a very bitter and protracted legal dispute over mining rights with a local landowner combined to wreck the enterprise, of which few extant remains survive. This paper elucidates some of the legal difficulties experienced with landlords by nineteenth century Irish mining companies when executing their works. *Journal of the Mining Heritage Trust of Ireland* ***15****, 2015,* 1-39.

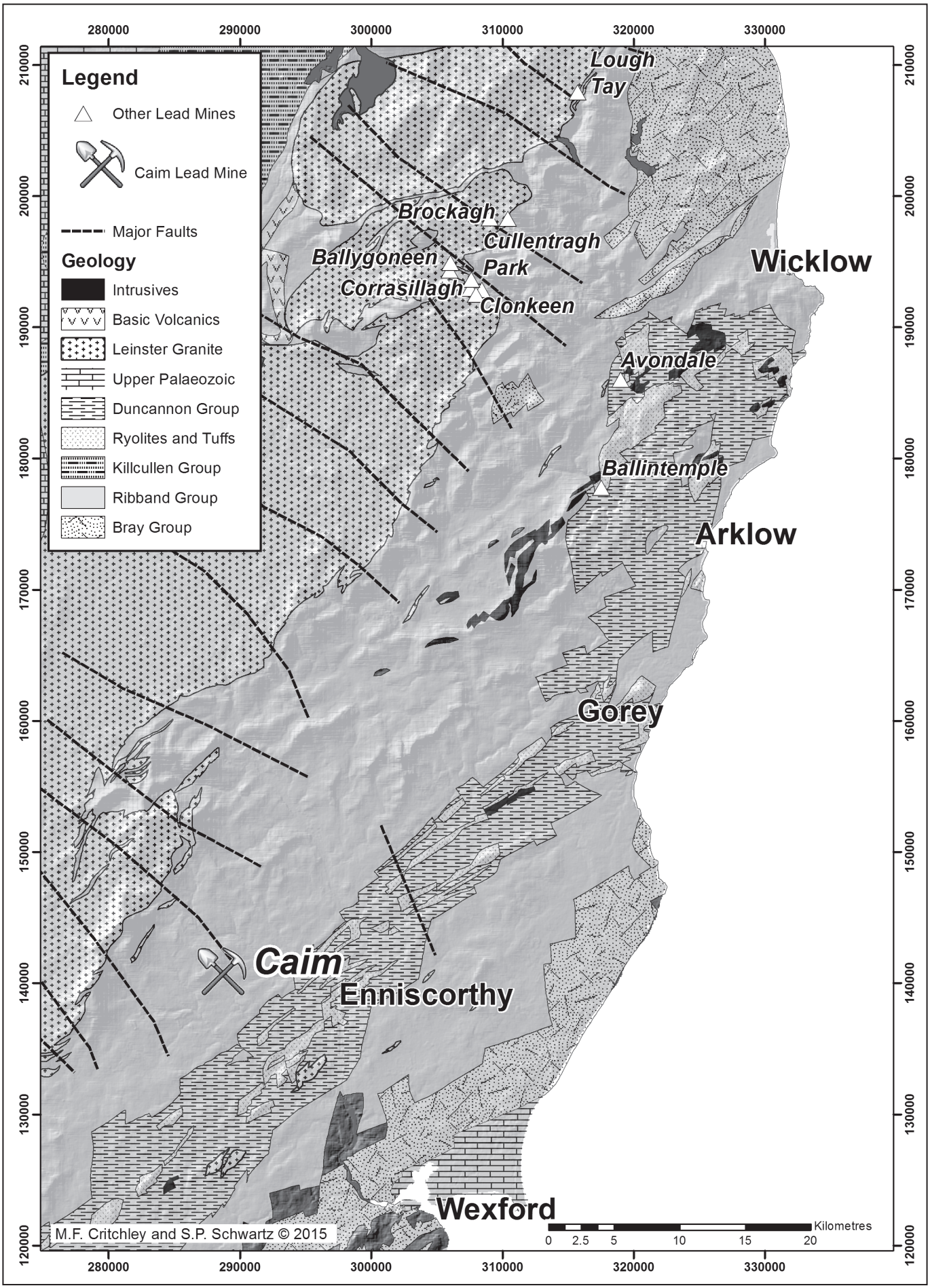
GEOLOGY

The Caim deposit is hosted in laminated Ordovician siltstones and shales of the Ribband Group (Lower Arenig 478Ma to Lower Llanvirn 468Ma). The rock sequence underwent polyphase deformation including a pervasive slatey cleavage during the Caledonian Orogeny (associated with the closure of the Iapetus Ocean) in late Silurian to early Devonian times (McArdle, 1984). The Leinster Granite, which forms much the Wicklow and Blackstairs Mountains, was intruded into the country rocks in the later phase of the Caledonian Orogeny (400Ma).

There are numerous occurrences of lead-zinc mineralisation along the eastern margin of the Leinster Granite, the most noteworthy of these are those which were exploited in the mines of Glenmalure, Glendalough and Glendasan. The majority of the lead-zinc mineralisation in the region is found in epithermal quartz veins at the margin of the Leinster Granite in proximity to metasediments of the Ribband Group. McArdle (1984) has postulated that the lead and zinc metals were leached from metal rich volcanic layers in the Ordovician rocks and deposited in veins at the margins of the granite. The Caim deposit is unusual in this context, in that it is located some 5km east of the granite margin and is hosted in the metasediments rather than the granite. This is not however unique, as lead-zinc veins are found in the Ordovician metasediments of the Longford Downs, the Isle of Man and the Lake District. An additional controlling factor of the lead-



Map 1: Location of Caim Mine, County Wexford



Map 2: Geological setting of the lead-zinc mines of Wicklow and Wexford (Geology from GSI)

zinc mineralisation in Counties Wicklow and Wexford is the spatial association with NW-SE trending deep seated faults (Brück and O'Connor 1980) some of which control the major valleys in the Leinster Granite (Map 2).

According to Geraghty (1991), there are two styles of mineralisation at Caim. Historic production of galena was based on a northwest-southeast trending vein/breccia which cuts the Caledonoid cleavage at a high angle. This is a relatively narrow near vertical zone made up of two main veins (the second vein strikes E-W) that join in a Y shape which can be traced laterally for 78m and vertically from surface down to over 100m. At the eastern end of the mine the main vein was truncated by a fault and searching for the continuation temporarily curtailed the workings. At the junction of the two veins the deposit was 4m thick, thinning out in both directions to centimetres (Smyth, 1853).

The mineralisation consists of argentiferous galena with lesser amounts of chalcopyrite and sphalerite in a gangue of carbonates and quartz. The mineralisation was exploited via a series of levels underground which were accessed from three main shafts, the deepest of which was 'Engine Shaft'. The topography of the land did not allow the draining of the workings by a deep adit and the pumping of water must have presented problems. In the latter years of the mine's history, the richest parts close to the surface and adjacent to the intersection between the two veins was extracted from an opencast. Searches for an extension of the mineral vein to the west in the nineteenth century were stymied by legal action.

The second type of mineralisation consists of a set of cleavage-parallel and stratiform quartz veins which trend northeast. They occur to the west of the carbonate vein zone, and the two have not been observed to intersect each other. There are six quartz veins individually up to 2cm thick which have only been observed in drillholes. These veins contain arsenopyrite, pyrite and have anomalous gold values of 3ppb. There is no known historical mining of these veins.

Caim Mine and its surrounds were exhaustively explored by mining companies in the late twentieth century using advanced geological, geochemical and geophysical methods, but no additional economic reserves have been found. However, three diamond drill holes CM.3 (207.6m), CM.4 (227.1m), CM.5 (131.0m), were undertaken in 1981-82 to explore for extensions of the previously mined ore to the west of the mine. All three holes cut short sections of significant lead, zinc, silver mineralisation, the best being 1.7m containing 13.4% Pb, 34.6% Zn and 49ppm Ag (Graham 1982). The location of these discoveries to the west of the mine vindicates the searches undertaken in this area by the MCI in the nineteenth century.

The focus of exploration in the area has now switched from base metals (lead and zinc) to precious metals and Rare Earths. Recently, Connemara Mining has discovered mineralisation about 15km north of Caim which contains several grams per ton of gold and which might be economic to mine.

Fig. 1: William Feckman, who inherited lands in the Baronies of Scarawalsh and Bantry and leased the silver-lead mine at Caim Rocks to Lapp and Carleton in 1805

CAIM ROCKS: THE LAPP AND CARLETON VENTURE

The ore deposit at Caim Rocks was discovered in the very early years of the nineteenth century. One of the tenants of the land apparently found some lead ore, and upon a search being conducted, more was found and hopes were entertained that the ores might contain silver (Vance 1885, 5). Indeed, the lead ore was argentiferous, with a silver content of 12 oz to a ton (Kane 1844, 207; WC 1854). This was richer than the Luganure ores (averaging 6-7 oz per ton), but nowhere near as rich as the ore from Kilbrecken (120 oz per ton), and Shallee (25 oz per ton) (Schwartz and Critchley, 2012, 8).

The land was owned by William Feckman (sometimes spelt Fackman), son of John Feckman, who was allegedly born in about 1777 in the City of Cork in very humble circumstances (Fig. 1). When he was around 16 or 17 years old, his widowed mother was unexpectedly bequeathed the Wexford lands of an uncle, John Gamble, which included the townlands of Caim, Ballyhighland and Aughathlappa, worth about £700 per year. Upon becoming the heir to an estate, Feckman was placed at a boarding school at Rosscarberry, where he was said to have 'indulged himself in the gaieties of the place', and by all accounts led what might be considered 'a wild youth'.

Just after the 1798 Rebellion and presumably after his mother's death, Feckman took up residence at Fairfield near Enniscorthy in County Wexford. The estate his mother had inherited was not only heavily encumbered, but litigation had to be resorted to for its recovery. The solicitor named Harris, who was employed by Feckman, died shortly after he succeeded in this undertaking, leaving a widow named Anne who had five sons, of whom a couple were approaching adulthood. Feckman, whether out of sympathy for the widow (many years his senior), or influenced by a large bill of costs,

married her in 1799. The family lived what might be considered a very indulgent lifestyle at Fairfield, and Feckman, of a reckless and impulsive disposition, 'gave way to the spirit of the times', throwing lavish parties, hunting, playing cards and carousing, admitting to never going to bed sober for almost eighteen years (Vance 1885, 4).

With Feckman's extravagant lifestyle and mounting debts, the attraction of a potentially very rich silver-lead mine on part of his estate is evident. Upon discovery of the ore, steps were immediately taken to form a company. Feckman granted a 99 year lease on 23 May 1805 to William Lapp and George Frederick Carleton of Dublin, at a yearly rate of one-eighth of the produce, 'the ores to be pounded and washed fit for smelting' with an additional advance payment of £2,275 (NLI 1835)[1]. This was an enormous sum. It is unlikely that the ore was smelted on site, as to extract the silver from lead bearing minerals such as galena or cerussite by cupellation was an involved process, but whether it was transported elsewhere in Ireland or exported to Britain for smelting, has not yet been determined.[2]

Both Lapp and Carleton were possessed of considerable means and shared familial and regional links. George Frederick Carleton (c1770-1831) came from a well established Anglo Protestant merchant family who had migrated from Cambridgeshire, England, after 1693, settling at Darling Hill, Tipperary. He was the son of George Carleton, a linen merchant and damask manufacturer who had moved to Dublin where he settled in Eustace Street; his mother was Margaret Cossart of Cork, from a well heeled French Huguenot family from Rouen, who had settled in the city in the late seventeenth century (Lawless 1936, 61-2). George Frederick married a relative, Elizabeth Cossart, on 17th October 1784, and served as a director of the Commercial Insurance Company. He was also one of the Common Councilmen of the Guild of Merchants in Dublin from 1824 until 1830.

William Lapp hailed from a prominent Protestant family from Cork (coincidentally the birthplace of William Feckman), and many of his relatives were closely involved in the legal profession. It is possible that he was the son of John Lapp (himself the son of John, a merchant) and Susanna Cornelia Cossart, who was descended from the same Cork Huguenot family as his partner, Carleton. William was described as a Counsellor (a trial lawyer) in Cork before moving to Dublin where he became a barrister. When he died at the Cove of Cork in March 1833 (FJ 1833), he left £30,000 to the Bishop and Rectors of seven parishes in Cork City 'upon trust to establish a charity for the relief of such aged and infirm persons being Protestants of any description and natives of Cork' (DEM 1833; Anglican News). Known as Lapp's Charity, it is still in operation today.

Although Lapp was a lawyer, he had a keen interest in the mining industry, and besides the Caim Rocks Mine, held interests in several metalliferous mining ventures in Ireland and had travelled to, and was known in, mining areas of neighbouring Britain. In 1807, the *Freeman's Journal* reported that Lapp had just '… passed through Swansea on his way to Ireland from Cornwall', where he had 'engaged a number of miners for the purpose of working a new copper mine on the Estate of the Earl of Derby near the town of Tipperary'.[3] This mine was possibly situated at Gortdrum, from whence very superior quality ore was said to have been procured.[4] Another venture with which he was associated was the Ross Mining Company (1804-10), a concern divided into 64 shares (Wakefield 1812, 131) that had been set up by Cornishman, Colonel Robert Hall.

Lapp was among the most prominent of fourteen gentlemen partners (Jones, 1806), described as local businessmen, who secured a 31 year lease to mine for copper from Valentine, 1st Early of Kenmare. In 1809, Lapp is mentioned as having breakfasted at an inn in Killarney with Anglo-Welsh naturalist Lewis Weston Dillwyn (1778–1855), whom he was visiting as he knew him by name from Swansea. Lapp later introduced Dillwyn to Captain White of the Ross Island Mines, whom the Welshman had already met in Swansea. Lapp and White dined with Dillwyn and a visit to the copper mines where '… four to five hundred are employed' was arranged (TCD Dillwyn MSS). Indeed, the *Freeman's Journal* lauded the potential benefits of employment to the lower classes of the mines with which Lapp was involved: 'We are assured that the Ross Island and Enniscorthy mines have given almost constant employment to upwards of 1,000 persons for three years past' (FJ 1807).

Although the first Ross Island enterprise collapsed, Lapp remained, along with Captain William White and geologist, Alexander Nimmo, closely involved in its successor set up in 1812. He made regular royalty payments to the Kenmare Estate (Kenmare Estate Papers, PRONI) on behalf of the venture, and was also entrusted with the attempted sale of the mines in 1813 (RCG 1813). The enterprise lasted for two years until flooding brought work to a halt (O'Brien 2004, 78).

Details about the Lapp and Carleton venture at Caim are sketchy to say the least. The mine was worked with the use of waterpower by local labour,[5] probably with the aid of a few skilled Cornish miners, and was inspected by Captain John Stephens junior of St Agnes, Cornwall, in 1806. Born in 1787, he was the son of mining captain, John Stephens, and had been a miner since the age of 14. He was the Mine Captain at the Loughshinney copper mine (DEP 1806) on the coast north of

1 The National Library of Ireland has incorrectly transcribed this lease: the date is 1805 not 1835, and the name of the lessor is William Feckman, not William Jackman.

2 Vance (1885, 5) notes the construction of a chimney at Caim, which might have been in connection with a smelting works, but it is more likely he has confused this with the erection of a steam engine during the MCI period of working. William Lapp's connections with Swansea might hint at the Caim ores (argentiferous lead and copper) having been exported there for smelting. Indeed, Weaver (1819, 219-220) notes that the ores were shipped.

3 Edward Smith-Stanley, 12th Earl of Derby, 1752-1834.

4 It appears that Lapp's venture was unsuccessful, as the mine was inspected by the Mining Company of Ireland during the Stock Market 'boom' in 1825/6 (DMA 1826) but they chose not to work it.

5 Two miners that worked under Carleton and Lapp were named in 1844: John Graham and Garrett Byrne (WI 1845).

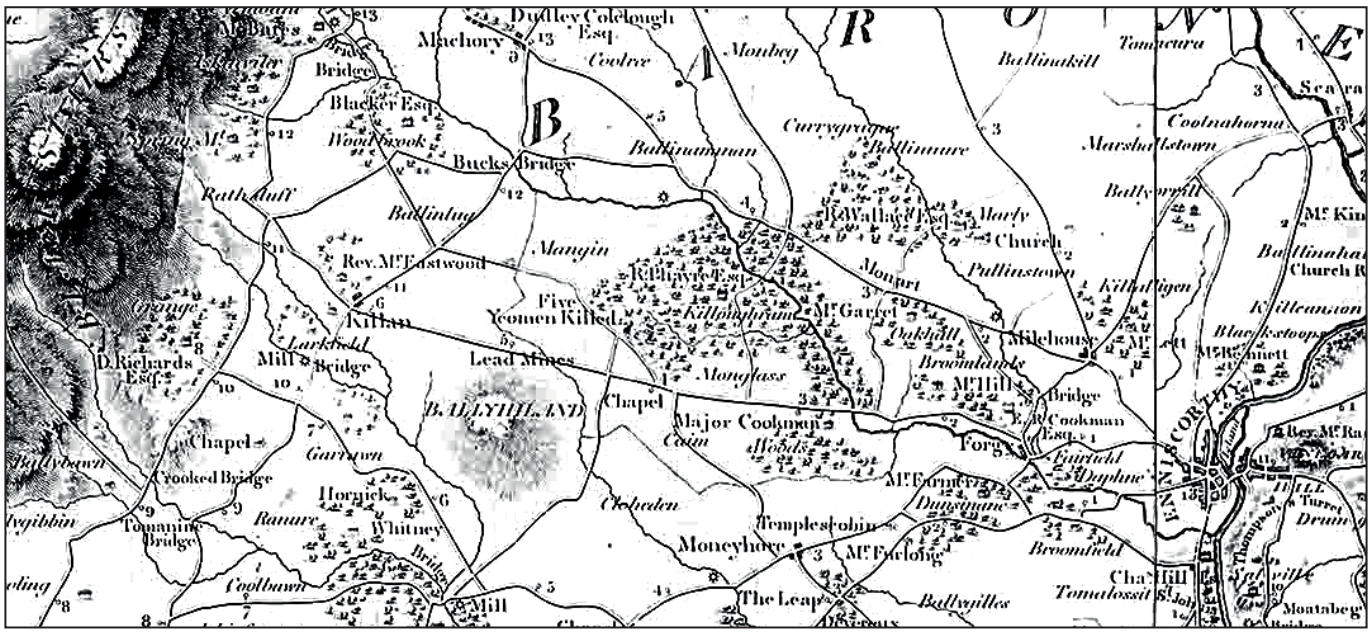


Fig. 2: Extract of Valentine Gill's Map of County Wexford, 1811, showing the lead mines near Ballyhyland. By kind permission of Wexford County Archive

Dublin, when George Frederick Carleton came to him and requested he examine, and report on, a lead mine near Enniscorthy, of which he was the principal proprietor. Back in Cornwall by 1824, where for the last four years he had been working at Wheal Friendly and Wheal Concorde in his native parish, Captain Stephens related to an agent of the Hibernian Mining Company (which had just been set up by Act of Parliament), how large quantities of ore had been obtained at Caim (NLI Hibernian Mining Papers). However, his comments hint at the company's problems in comprehending the geology of the ore body:

> I was sorry to say in my report that from inattention or want of judgement the mine was in a bad state, the lode being intercepted by a cross lode which was not understood and before they could resolve the mistake the mine stopped without loss.

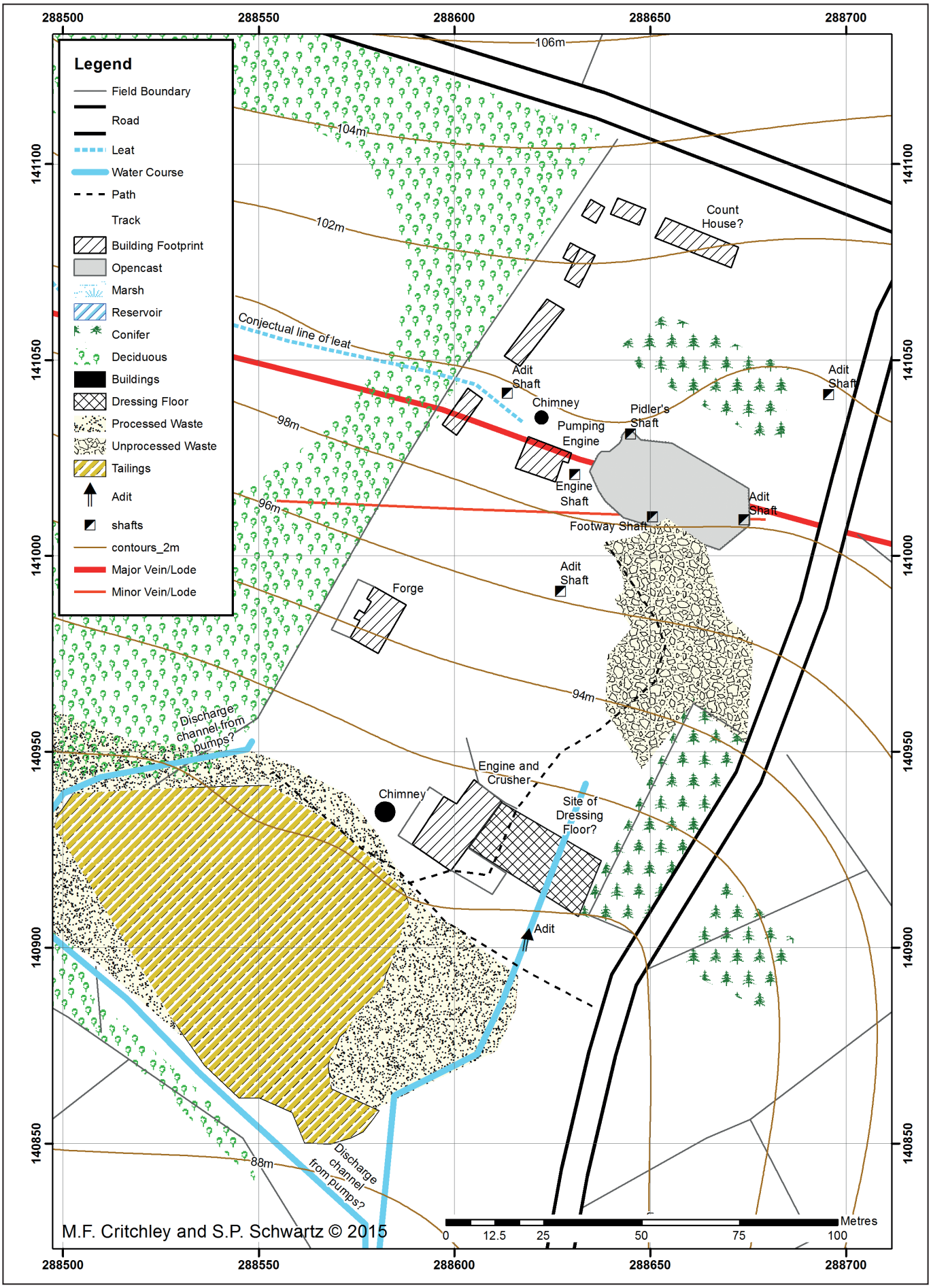
Stephens added that he had no doubt that what he had seen in the strata led him to believe that the ground would produce a quantity of ores.

Perhaps on Captain Stephens's recommendation, mining recommenced after this stoppage. Caim was certainly operational in about 1811, marked on Valentine Gill's map of County Wexford, near the hill of Ballyhyland (see Fig. 2), while Wakefield (1812, 138) in his *Account of Ireland* notes that he did not visit the mine, but the samples of ore that he obtained and examined appeared to be 'of excellent quality and rich in metallic particles'. However, the mine ceased production sometime after this. According to Vance (1885, 5), 'The scarcity of the ore, the great expense incurred, together with bad management, led to failure'. Weaver (1819, 219-220) states that the mine was '… wrought a few years since', that 24 tons of copper ore were shipped and 'it is said' a few hundred tons of galena, '… the workings extended about 30 fathoms in length, and went down in the deepest part about twenty-four fathoms (nearly 44 metres); but having no command of level, nor sufficient water to impel machinery, they were discontinued'. Binns (1837, 245) notes that silver and lead mines were formerly worked to the west of Enniscorthy, but that 'the quantity of water that prevailed, caused them to be abandoned'.

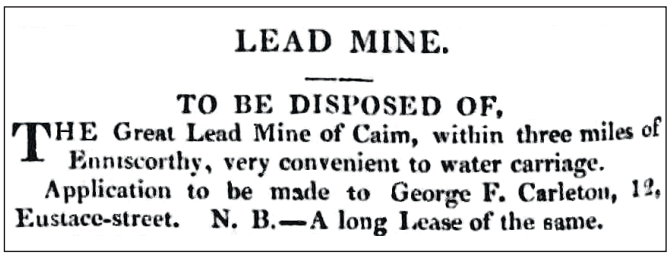
From these reports, its seems that development of the mine was hampered primarily by its geology and because it was a very wet mine; the lack of sufficient head of water to power a waterwheel meant that the pumps were overwhelmed. Feckman' s property, heavily encumbered when he obtained it, and the large amount spent on its recovery, became 'hopelessly embarrassed, and the owner, who was the chief sufferer', was committed for some months to the Marshalsea, Dublin (Vance 1885, 5), a prison where debtors could take refuge from their creditors. After this humiliating debacle, William Feckman had a road to Damascus experience, converting to Methodism in the summer of 1813 (Crookshank 1886, 372-4) and later became one of Ireland's most successful Evangelist lay preachers. Towards the close of 1817 he returned to Cork on account of his 'pecuniary embarassment, having surrendered his property into the hands of his creditors' (Vance 1885, 17).[6]

After lying idle since its closure, which was probably in the years immediately after Feckman's financial collapse and conversion, George Frederick Carleton, the principal proprietor, decided to advertise 'The Great Lead Mine of Caim' for sale in the press during March of 1825 (SNL 1825). He was hoping no doubt that the lease would be quickly snapped up by one of the new Irish mining companies that had

6 Feckman's lands in the Baronies of Scarawalsh and Bantry were advertised for sale by public auction in July 1829 (DEP 1829). The lands of Ballyhighland and Aughathlappa were purchased by Justin Brennan. A further sale of Feckman's lands in the townlands of Ballynapierce, Caimsperrin, Knockmarshal and Moneyheer was made at the Enniscorthy Court House in 1834 (WCE 1834).



Map 3: The principal features of the Caime Mine



LEAD MINE.

TO BE DISPOSED OF,

THE Great Lead Mine of Caim, within three miles of Enniscorthy, very convenient to water carriage. Application to be made to George F. Carleton, 12, Eustace-street. N. B.—A long Lease of the same.

Fig. 3: George Frederick Carleton advertises the Great Lead Mine of Caim for sale in March 1825

been set up during the febrile atmosphere created during the London Stock Market 'boom' of 1824-5.

THE MINING COMPANY OF IRELAND ERA

The unexpired term of 76 years of the 99 year lease granted by Feckman to Lapp and Carleton was indeed purchased in April 1825 for £300 by the Mining Company of Ireland (MCI), the largest and most successful of about four new Irish mining companies instituted at this time (BCC 1825).[7] The MCI seems to have sat on the lease until 1835, when, 'due to the prosperous state of the company's affairs and the advanced price obtainable for lead', it began the work of rehabilitating the old Caim Mine (hereafter referred to in the text as Caime, the MCI's spelling of it). The mine 'had been under lease to the company for some years' (MCI 1855 *et seq*.). A favourable report of the concern was received and the sum of £8 6s 7d was recorded as an expenditure in the company's accounts for the six months ending 30 November 1835.

Local newspaper, the *Wexford Independent*, carried a report of the mine's recommencement, welcome news indeed to a rural area with a dearth of well paid agricultural employment (WI 1836):

> We are rejoiced to hear that the splendid and extensive Lead Mines of Caim, the Estate of JUSTIN BRENNAN Esq. are about to be worked by a spirited and affluent company under the most favourable auspices. These mines were formerly worked with beneficial effect; but, for some cause or other… were, after a few trials, placed in abeyance… for our sturdy, able-bodied labouring population – their willingness to eat the bread of industry, rather than drag out, as at present, a precarious existence on what is little better than a mere eleemosynary support – that scarcely sufficient to sustain nature – the salutatory effects on the morals of the people, which invariably follow the habits of useful and remunerative industry - and the warm heart-felt but we admit, indispensible co-operation of Mr BRENNAN to the Mining Company, we congratulate the county on the cheering prospect before it.

The report for the last half of 1836 notes that the smith's forge and a pumping engine house had been erected at Engine Shaft (See Map 3), a part of the engine received and the old workings cleared out, the cost amounting to £56 11s 7d. This new single acting high pressure steam engine was a 24-inch cylinder with a stroke of 8 feet in cylinder and 6 feet in the shaft, providing 25 horsepower, steamed by a 9 ton Cornish boiler with warming tube (WI 1847). Although there is no irrefutable documentary evidence,[8] there is every reason to suspect that this engine came from Cornwall, manufactured at the world renowned engineering works, Harvey's of Hayle. During the same period, it is documented that Harvey's manufactured other engines for the MCI including a 50-inch cylinder pumping engine for the Knockmahon copper mine in Waterford, and a 30-inch cylinder pumping engine for the Derrynoose lead mine in County Armagh (Schwartz and Critchley 2012, 62-3; CRO Harvey In-letters).

Further supporting this belief is that these engines were not only designed by William West (1801-1879), Harvey's brilliant young engineer, but it is documented that he, 'superintended the erection of several engines for the Mining Company of Ireland in 1836 and 1837' (ICS 1973, 25). Indeed, the MCI enjoyed close links with Harvey's through intra-personal relationships with the likes of Cornish brothers, John and William Petherick, MCI General Mine Agent and Captain respectively, the latter an intimate confederate of West. This makes it highly probable that the MCI engaged Harvey's of Hayle to supply the majority of their mining apparatus in the mid-nineteenth century.

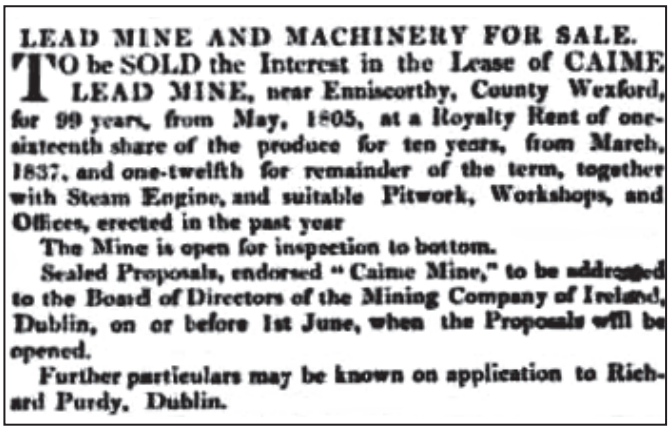
During the first half of 1837, the Caime steam engine was in the process of being erected and was finally set to work in mid-July. The company planned to convey the ore in boats down the River Slaney from Enniscorthy to Wexford for shipment to the company's Ballycorus smelting works, or for sale in ore, whatever was deemed the most advisable. Timber and other mining supplies were to be shipped upriver from Wexford to Enniscorthy, where the former place name *Mine Quay* probably reflected the site of a storage yard and wharf. Here coal, timber and other supplies arrived, and the lead was stored until there was enough for a cargo prior to shipment, either to Shankill (for conveyance to the Ballycorus smelter), or across the Irish Sea to Holywell, Flintshire.[9] The lead, timber, coal and other supplies were transported to and from the mine via cars (BPP 1838, 66).

The company accounts for the first half of 1837 show an expenditure of £1,523 10s 4d, the majority of which would have been the price of importing the new engine and its appurtenances. Upon pumping out the old mine workings, the company found it necessary to enlarge the shafts and open ground in various directions with a view to facilitating future operations. Consequently, not much ore had been raised, but it

7 In April 1825, Richard Purdy, the Secretary of the MCI, was reported to have left Dublin with celebrated Cornish mining engineer, Mr Vivian (probably Andrew Vivian (1759-1842) of Camborne, one of Cornwall's leading Mine Engineers and Agents), on a tour of inspection of the different lead and copper mines leased to the company. These concerns were in counties Waterford, Tipperary, Cork, Dublin, Wicklow and Wexford. This undoubtedly included Caim (DEP 1825).

8 The Harvey correspondence at the Cornwall Record Office include a number of In-letter Books dating from 1829-1904. There are, however, gaps in the correspondence and it is highly possible that some of the letters sent to the foundry have not survived.

9 In April 1840, 49 tons of Caime ore was sold at Holyhead at £9 16s 6d, realising £480 4s (DMR 1840).



LEAD MINE AND MACHINERY FOR SALE.

TO be SOLD the Interest in the Lease of CAIME LEAD MINE, near Enniscorthy, County Wexford, for 99 years, from May, 1805, at a Royalty Rent of one-sixteenth share of the produce for ten years, from March, 1837, and one-twelfth for remainder of the term, together with Steam Engine, and suitable Pitwork, Workshops, and Offices, erected in the past year

The Mine is open for inspection to bottom.

Sealed Proposals, endorsed "Caime Mine," to be addressed to the Board of Directors of the Mining Company of Ireland, Dublin, on or before 1st June, when the Proposals will be opened.

Further particulars may be known on application to Richard Purdy, Dublin.

Fig. 4: Sale notice that appeared in the Dublin Mercantile Advertiser and Weekly Price Current in April of 1838

was anticipated that it would be cheaper to do so once the improvements in progress had been completed. The company expended over £1,055 in the last half of 1837 and a further £699 in the first half of 1838 on machinery and improvements at the mine.

Then, for some seemingly inexplicable reason, the machinery and interest in the lease of Caime Mine were advertised for sale in April of 1838 in the *Dublin Mercantile Advertiser and Weekly Price Current*. The sale notice included the 99 year lease, granted in May 1805 with a Royalty Rent of 1/16th share of the produce for 12 years from March 1837 and 1/12th for the remainder. This suggests that the MCI had renegotiated the original lease with the new mineral lord, Justin Brennan. Other items mentioned for sale included a steam engine, pitwork, offices and workshops that had been erected during the course of the last year (DMA 1838). Even more odd, is that there is no mention whatsoever in the MCI half yearly reports that might throw any light on why the company wished to offload a mine that it was still in the process of rehabilitating at considerable cost. Clearly, something had spooked the Board of Directors, and the explanation for this lies in the beginning of a bitter and protracted legal wrangle with a local landowner, about which we will return below.

However, the company changed its mind about selling the mine, and the half yearly report for December 1838 records that excellent progress had been made, and the workings had been unwatered and fully opened. Two shafts had been sunk 10 fathoms under the old workings, a level had been driven from them about 20 fathoms through a course of ore that yielded 2½ to 5 tons per fathom, and 145 tons of ore had been raised. The results were so satisfactory that the board authorised the immediate erection of apparatus for crushing and dressing the ore (DMA 1839). The expenditure during the last half of 1838 amounted to £1,137 12s 4d (£815 of which was accounted for by working it), the sum of which was covered by the sale of ore, that also amounted to £815.

The crushing machinery that had been ordered at the end of 1838 had not been completed by the summer of 1839, so attention was therefore focussed on deepening Engine Shaft, the opening of tribute ground, and the building of a crusher house. A further £160 9s 8d had been expended on machinery and improvements, and £1,590 2s 11d on working costs. Despite selling ore to the value of £1,002, the mine made a loss of over £800. The crusher was finally brought into service in the final half of 1839. Although the MCI's half yearly reports do not give any details about this crushing apparatus or its provenance, we believe it to have been a rolls crusher and descriptions of the ore sorting and dressing by hand (see below) prior to feeding it, suggests a single rolls Cornish-type. It was driven by a relatively small steam engine: a 22-inch cylinder, 4 feet stroke 22 horsepower rotative steam engine with slide valve, Ball Governor and sweep-rod, powered by an 8 ton boiler with warming tube (WI 1847). This was also possibly procured from Harvey's of Hayle. Expenditure on the crushing apparatus and other improvements had cost £600, and working costs amounted to £1,806 14s 3d. The sale of ore had realised £1,990, leaving a deficit of just over £125.

Fortunately the majority of the costly surface developments at Caime were undertaken before the price of lead began to decline in 1840. In common with the company's Luganure Mines, County Wicklow, Caime made a loss of over £1,085, despite selling ores worth £1,854. Working costs amounted to over £3,700 and the management was informed that further outlay would be prevented if it exceeded the value of the produce obtainable. With zero expenditure on machinery or improvements, and after deductions for working costs, the last half of 1840 saw the mine make a profit of £659 from the sale of 262 tons of ore valued at over £3,211.

Compounding the falling market price of lead was the fact that the geology of the ore body that had bedevilled Lapp and Carleton, now intervened to further depress the mine's profit margin throughout 1841. This was due to the cost involved in searching for the Great Lode that was 'heaved' (horizontally displaced) at the 47 fathom level. Finally found towards the end of the year, it was described as '… upwards of twelve feet wide, and is yielding three tons of ore per fathom'. In the first half of 1841, the mine raised 208 tons of ore (realising £2,070), yet ran a deficit of over £262, and in the last half of the year, made 'a trifling profit' of £16 10s after working costs were deducted from the sale of 222 tons of ore worth over £2,241. Nevertheless, the company still described the mine's prospects as 'decidedly favourable'.

With lead prices still very depressed, the first half of 1842 saw the mine make a loss of £629, the sum of which included a proportion of interest on capital and general management, amounting to over £398. During 1842, the lode had been discovered at the surface. Favourable expectations were entertained of the works, as long as the price of lead improved allowing the company to dress, with profit, the rough material obtainable (halvans) at the mine, which produced 283 tons in the last half of 1842. However, that difficulties (and added expense) were experienced in dressing the sulphide ores that contained sphalerite and some chalcopyrite, is evidenced by approximately 6,000 tons of tailings from jigging operations, which forms a high proportion of the total dump material located in the southern part of the site (O'Brien Mineral Records GSI). Despite the air of optimism, the mine was still running at a loss. In the last half of 1842 this amounted to a

sum over £637. Moreover, the surface exploratory activity severely antagonised the tenant in occupation who sought to frustrate the company's operations, and the surface works were impeded as a result, about which more below.

In 1843, a further depression in the market price of lead which had a bearing on the profitability of the company's lead mines, resulted in a loss of £439, despite the mine producing ore to the value of £2,020. However, the Board was encouraged to learn that prospects were greatly improved during the last half of 1843: 'The lode which had disappeared at the 37 fathoms' level, as if cut off by a flookan or slide of the strata, has been found at the 47 fathoms' level, and so far is very productive where opened between the two levels'. The mine had raised 270 tons of ore, and in contrast to the Luganure Mines in County Wicklow, that had made over £500 loss, Caime returned a profit of £103. The Board were informed that '… the present prospect warrants expectation that increased returns to a considerable extent will be obtained in the ensuing half-year'.

However, as so often occurs in metalliferous mining, this was something of a false dawn, as the geology continued to confound the mine management which, together with the low price of lead ore, caused a deficit of almost £643 in the first half of 1844, despite the mine producing 229 tons of lead. This precipitated a crisis of confidence among the Board of Directors:

> The lode which had been discovered at the 47 fathoms' level, after a very long and expensive search, has been again cut off and from the loss sustained by previous searches, the unproductiveness of the lode, the difficulty and consequently great expense in dressing the ore, and the extreme low price obtained for it when dressed, your Board has decided on the suspension of the workings, and removal of the machinery to other concerns, if not sold at the mine.

The abovementioned problems were merely compounded by the continuing difficulties with the local landowner which had by now descended into a legal quagmire with severe ramifications for the future of the mine and all those who relied on it for their livelihood.

WORK AND SOCIAL CONDITIONS

However, before discussing the abovementioned legal problems, we should attempt to place the mine in its social and economic context and to judge its importance to the local community. Fortunately, Caime was one of the mines visited by Frederick Roper in the spring of 1841. He was collecting evidence for the *Children's Employment Commission* (BPP 1842, Report of Commissioners and Appendix to Report 858-862 *et seq*.). This report, ostensibly undertaken to gather evidence about the employment of children, arose from growing middle class concerns about the moral degeneration of society, and therefore the focus of scrutiny fell on domestic issues, most notably female labour on mines and in factories. Indeed, the migration of women from the 'domestic sphere' of the home, into the 'public sphere' of the formal wage economy, was viewed as one of the most alarming facets of society's slide into moral corruption (Schwartz 1999 and 2000; Wallach Scott 1988; Randall 1990).

Roper's report, compiled at the *Commercial Hotel* in Enniscorthy, and dated 20 April 1841, includes interviews with ten people and contains a wealth of information about the work and social conditions of the surface labour force. Roper found this 'very small mine' to be 'exceedingly well conducted and managed'. As with the majority of the metalliferous mines he had encountered in Ireland, the Resident Agent was a Cornishman. 'I am told that the Irish are not clever at sinking shafts, but are pretty good miners, so long as they have some experienced Cornishmen working with them, or to direct them – being comparatively a new field for them, they do not generally understand the operations of mining, except the simple one of getting the ore…' (BPP 1842, 872).

Captain James Barrett (also spelt Barratt), the Mine Agent, was one of a small number of Cornishmen 'whose skill and experience rendered their services indispensably necessary' (WI 1844).[10] Barrett had arrived at the mine in late 1837, having been recommended for the post of Mine Captain to the MCI by John Taylor of London (WCE 1845). Described at the end of his life as, 'The patriarch of British mining', Taylor's preference for Cornish mine captains and highly skilled workers at the mines he managed is well documented (Gill 1993, 30). The *Wexford Independent* noted how Caime was '… a poor and backward district, and an immense majority of its inhabitants, barely above want, eagerly seek after any employment, which would promise them the slightest remuneration' (WI 1844). Roper confers with this analysis: 'Of great inducement to good conduct is, that the well-conducted only are employed, and there is such an abundance of labour in the neighbourhood, they are careful to behave well in order that they may not be discharged… '.

The number of workers on the books fluctuated according to the requirements and productivity of the mine, and although this might at times have exceeded 200, it probably averaged around 130. Roper reported that when he inspected the mine, Captain Barrett presided over a workforce of 127 people. Of this sum, 60 were adult males and 14 were female adults. There were 20 males and 26 females between the ages of 13 and 18, and 7 children, all of whom were boys under 13 years of age. In Ireland, where adult labour was so cheap and abundant, children, young persons and adult females were employed on the mines in far less proportion than in Great Britain.

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10 Typically, this would have included highly skilled jobs such as Mine Captain, engineer, engine driver, pitman and timberman. It has not been possible to determine Barrett's parish of birth, but it is feasible that he was a member of an important mining family that hailed from Gwennap, Cornwall, which moved up to the Mary Tavy mining area of neighbouring Devon in the early nineteenth century. One of this family, John Barrett (born c.1793), was the Mine Captain at Wheal Friendship, a Taylor managed mine, where his father, James, was the Agent. John was given the post of Agent at Taylor's Grassington Mine (Yorkshire) in the 1820s before he was entrusted by Taylor with the revival of the Coniston copper mines (Lancashire) in the 1830s. Barrett and other members of his family later became proprietors of the iron mines of Hodbarrow, near Millom, Cumberland.

Only the adult males worked underground, as it was highly unusual for a boy to enter an Irish metal mine until he was approaching adult age (BPP 1842, 207-208). All of the females, (just over 31 per cent of the total workforce), as well as male adolescents and boys, worked on the 'flooring', the colloquial term for the mine's mineral processing area(s), where the lead ore was dressed and washed ready to be sent to the smelter (see Schwartz and Critchley 2012 for an in depth description of the various lead dressing operations). Boys sometimes commenced work as young as 7 or 8 years old on the surface of Ireland's metalliferous mines, but generally not until 10 or 11 years of age, or even older than that. Girls did not usually begin work until they reached the ages of 11 or 12 and upwards (BPP 1842, 229).

In common with many other metalliferous mining areas in Ireland and Britain, the vast majority of the surface workers at Caime were drawn from the immediate vicinity of the works. These people, with the exception of those who had worked in the mine under Lapp and Carleton, or individuals like James Matthews (almost 14), who, with his two brothers and father, had formerly worked at the MCI's Knockmahon Mines in Waterford, would have had no previous experience of mining, as they lived in a predominantly agrarian area. Indeed, 15 year old Margaret Green notes that she had previously been employed at farm work. The surface workforce were invariably members of large families, and it was not uncommon to find several members of the same family working at the mine. Bridget Comerton (aged 17) had a brother and sister working there; James Matthews's two brothers and his father were miners; Bridget 'Biddy' Kennedy aged 40, worked with two sons on the dressing floors; Sally McDonald, aged 14 (one of nine children), noted that, 'there are sometimes four of us working here'; ten year old Lawrence Byrne's brother and father were miners, while Margaret Green also had a brother at the mine.

Many of these families were reported to be wretchedly poor, subsisting mainly on a diet of lumper potatoes, a coarse species which Roper states were of the worst kind, and which were consumed in very many instances without milk. 'I live almost entirely on potatoes; sometimes on Sundays we get a bit of fish or bacon, and sometimes we get milk, but not often', recounted Sally McDonald, while Mary Hansom, almost 14 and one of nine children, related how her family 'live but very poorly, principally on potatoes'. Roper noted how, despite their extreme poverty, the workforce was comprised of 'well-behaved, moral people'. Each Sunday the majority attended the Roman Catholic chapel, a cruciform structure built in 1800 to replace an earlier mass house that had been destroyed during the 1798 Rebellion. He also observed that the cabins of the miners and those working at the mines appeared to be much cleaner and neater than those he had seen at Avoca, County Wicklow, where, 'more wretched, dirty, and filthy habitations I never beheld'.

The MCI do not appear to have built rows of cottages for the workforce in the Caim area, in contrast to some of the other rural-industrial areas where their mines were sited, for instance at Knockmahon (Waterford), Luganure (Wicklow) and the Slieveardagh Collieries (Tipperary). A house was erected somewhere within the mine sett for the Mine Agent, while in the north western section of the mine site, a series of buildings were constructed in an 'L' shape which included the Count House (mine office) and stables, stores and a carpenter's shop which formed a sort of mine yard. A smithy was constructed to the south west of Engine Shaft (see Map 3).

Roper also reports that in addition to the chapel, there was a national school in the immediate neighbourhood:

> … but in most instances the parents were unable to avail themselves of this school from extreme poverty. But very few could read, still less, write; indeed there appeared but a very small amount of education amongst them.

There had been some basic educational provision in the townland of Caim since 1826, when a Parliamentary Commission reported a fee paying school run by Catholic, John Cooney, sited in a rented building constructed of lime and stone with a slated roof, costing £1 5s per annum. On the roll were 70 pupils, of whom 56 were Catholics and 14 Protestants, the total income of the school master being £16, which was far more than that of surrounding schools (BPP 1826, 822-823). Following the introduction of the national system of education in Ireland in 1831, a temporary national school connected to the Catholic chapel had been set up (Lewis 1837, 385). Many families living on, or just above, subsistence level, resulted in the need to send children out to work as soon as they were old enough to supplement the collective family income. McDonald related how she had been, 'a little to school; I can neither read or write. I do not go now, my mother cannot afford it'. Ten year old Lawrence Byrne related how he had attended school for just three weeks, 'I know my alphabet, but cannot read'.

Biddy Kennedy, a widow whose husband was killed by falling off a ladder in the Caime Mine in about 1838, was forced from the domestic sphere into the formal wage economy. She found it very difficult to maintain her family of five: 'I cannot afford to send my children to school, it is as much as I can do to feed and clothe them'. It was not commonplace for older women to work on the mines, even in the largest and busiest mining centres of Britain such as Cornwall, for as soon as they were married and had their first child, women retired to the home, becoming reliant on the male breadwinner's wage. Those older women that worked on the mines were invariably spinsters, or widows like Kennedy, who had to support themselves and/or their families (Schwartz 2000, 70).

Kennedy relates how there was a school for the boys connected to the chapel, and a school close by for the girls which taught them reading, writing and needlework. Being national schools, both were attended by Catholics and Protestants. The fees, according to Kennedy, were from 1s 6d to 4s a month, according to the age of the child. In common with most mid-nineteenth industrial areas in Britain and Ireland, education was not free and was a luxury the very poor could not afford. The MCI was renowned for its benevolent paternalism, and built, or financed, schools to provide

education for the children of its labour force at many of its important works, including the Luganure lead mines, County Wicklow, the Ballycorus smelting works near Dublin and the Slieve Ardagh collieries, County Tipperary. However, there is no documentary evidence that they gifted monies to the pre-existing national school at Caim.

The working day was long and the work repetitive, dirty and arduous, in common with all contemporary mining districts. Bridget Comerton stated that in the summertime, work began at six o'clock in the morning and lasted until six at night and, during this season, the extra work brought some extra pay. Overtime was sometimes a necessity, and more common in summertime. James Matthews related how he occasionally worked irregular hours, toiling through the night to shovel ore into the hopper at the crushing mill to ensure that it was well supplied when a large batch of ore was being processed. In the wintertime the hours were shorter, from first light until it was no longer possible to see, Mary Cooney, a 17 year old, adding that they received a penny less in winter. Working hours were also dictated by the weather, Comerton noting how it was impossible to work in bad or very wet weather, adding that 'we have not earned much lately in consequence of the wet'.

The usual high holidays and all the Catholic days of devotional obligation were observed, the workforce being overwhelmingly of that denomination, apart from one or two Protestants including Margaret Green and her brother, who both worked on the dressing floors. The surface workers were permitted half an hour for breakfast and an hour for dinner, the beginning and ending of meal times being announced by the ringing of the mine bell (see Schwartz and Critchley 2011 for more about mine bells). As Comerton explained, very few workers went home for their meals, as there was insufficient time; food was usually brought to them by a sibling, and was eaten at one of the miner's cabins. Mary Cooney notes that she and many of the other girls had their meals delivered to Biddy Kennedy's cabin. Living close to the mine, and having been prematurely widowed, she appears to have been something of a mother figure.

The Caime Mine dressing floors were by all accounts a fairly primitive affair, with no mechanisation bar the rolls crusher. Ore raised from the mine was first 'ragged' and spalled', processes that involved it being broken into ever smaller pieces with sledge hammers, most likely by adult men. It was then 'cobbed' (a process of chipping away the pieces of ore from its waste rock with a hammer), before it was fed into the crusher. The remainder of the dressing processeswere performed manually (see below). All work took place in the open air, as there were no sheds providing shelter from the elements. With the exception of the Knockmahon Mines, where sheds were erected for the buddlers, at the smaller mines run by the MCI, or indeed, on mines operated by other companies in Ireland in the 1840s (see the contemporary report on the lead mines of Newtownards County Down, Schwartz and Critchley 2013, 55), sheds were not provided. This was a cause of great complaint on Irish mines in general (BPP Report of the Commissioners 1842, 232).

The people Roper interviewed at Caime Mine described their

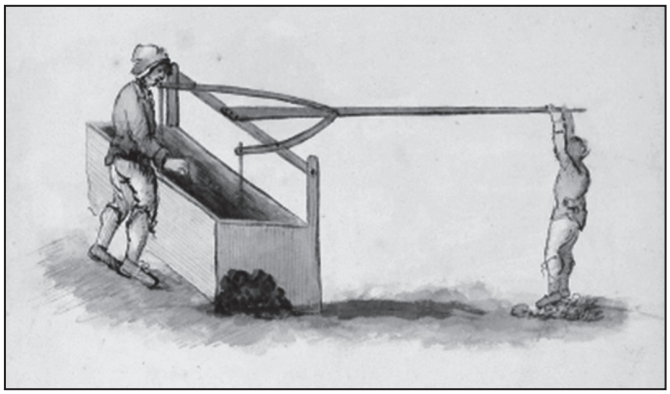


Fig. 5: A hand operated brake jig, such as would have been in use at Caime Mine. Reproduced with kind permission of the Science Museum

jobs as either consisting of 'cobbing', or employed 'at the divers operations of washing, of which there are about half a dozen'. This would have included the various stages of 'jigging' and 'buddling' the ore to separate it from the 'gangue' or waste rock and conveying the partially dressed ore from one place to another in hand carts (see Schwartz and Critchley 2012). Roper commented, 'it is a very interesting sight to see these people at this work, at the various little running streams of water' (BPP 1842, 859). Michael Neale, aged 15, noted that the surface workers were frequently changed from one kind of work to another, and were under the watchful eye of a steward who looked after them and saw to it that they all worked properly.

Mary Cooney noted that jigging was considered to be the hardest work undertaken by females at the mine, which consisted of 'shaking the fine metal in a sieve in water, by means of a lever worked by the hands', a description of a hand operated brake jig (see Fig. 5). At Caime, this process was totally manual, unlike at some larger mines where the jiggers were mechanised by running a drive shaft from a steam engine or waterwheel. Bridget Comerton related how she was currently engaged in 'skimming'. This involved the removal of the lighter quartz gangue (waste fragments) that had floated to the top of the jigging sieves and which overlaid the heavier pieces of ore. This task was undertaken with a semi circular iron implement known as a 'limp'. Wheeling the heavy, partially dressed lead ore about in hand barrows from one processing area to the next, for distances varying from 10 to 50 yards, was also noted by Sally McDonald, Mary Hansom and Michael Neale, to have been hard work (see Fig. 6).

Sally McDonald, Michael Neale and Lawrence Byrne (aged 10), described working at various types of washing operations using trunking buddles and rectangular buddles to separate the ore from the gangue, using water and gravity. This involved raking, brushing and agitating the crushed ore in streams of running water on an inclined plane, and digging out the various fractions of ore and gangue once it had been separated by water and gravity (see Fig. 7). Byrne noted how he found the work to be quite hard for him: 'I am tired when I leave off very often'.

Mary Hansom reports how she found the work on the dressing

Fig. 6: Wheeling stuff about in hand barrows on a lead mine in the NE Pennines. By kind permission of the Science Museum

Fig. 7: Buddling using a rake to agitate the crushed particles of ore on a lead mine in the NE Pennines. By kind permission of the Science Museum

floors so hard that she sometimes took a day off, and Comerton added: 'It is not an unhealthy employment, but it does not at first agree with all of us. I have known some of the young girls who have been occasionally sick from the effects of the employment, but only for a day or so'. Roper reported that a surgeon attended Caime Mine once a-week, for which a deduction was made from the wages of the people employed there, and the mine also operated a sick fund into which the miners (underground workers) only and the company contributed. By and large, however, the surface workers stated that the work in the open air agreed with them, with some even reporting that they liked it. Roper observed that, generally speaking, he found the young women to be fine, athletic, robust, good looking even, with extremely healthy appearances and ruddy complexions.

Certainly John Dunn, aged 17, had worked his way up from cobbing and washing the ore, to what might be considered one of the best surface jobs on the mine: polishing the bright work on the pumping engine and keeping the machinery clean. Under the watchful eye of the engine driver, his work took place inside the warmth of the engine house, but his tasks were not without dangers: 'it is not so hard work as it is dirty, and requires so much attention; I have to clean it [the engine] whilst at work, and have to keep a sharp look out to keep myself from being hurt by the machinery'. Fatal accidents on the washing floors of metalliferous mines in Ireland were fairly rare occurrences - Roper cites the death of a little girl at a stamps battery at the Knockmahon Mines, County Waterford (BPP 1842, 865) - but cuts, bruises, minor skin infections and the occasional broken limb, undoubtedly occurred from time to time.[11]

Being in close proximity to lumps of muddy, wet ore, and washing the crushed stuff in streams of running water in the open air, meant that surface workers invariably toiled in damp, dirty clothing. The undoubted misery of this work was magnified by the fact that many worked without shoes or stockings and commonly had no change of apparel, wearing their wet, dirty clothing impregnated with toxic lead particles home to their cabins. Sally McDonald related to Roper that her widowed mother had nine children to keep, 'I have no shoes or stockings or any other clothes than these I have on'. The surface workers were paid a daily rate; the female's wages were not higher than 8d or less than 4d, and the boys received anywhere from 4d to 6d. Bridget Comerton noted that she was paid by a contractor, Mr Purcell, who had entered into a 'bargain'[12] with the mine to dress the ores. James Matthews notes that Purcell was fair and paid the workforce regularly, but Bridget Comerton noted that there were infrequently squabbles over payment which were swiftly dealt with at the mine office by Captain Barrett. Purcell paid the surface workers monthly, either at his own house, or at a nearby public house.[13]

Miners also split their monthly earnings among themselves at the local pub, as it was the ideal place for the head of a 'pare' (a group of men who worked together underground on a monthly bargain) to obtain small change to pay each man in the group the correct amount. This practice, common in all metalliferous mining districts, was held up for disapprobation as it encouraged habits of insobriety (see Schwartz and Critchley 2012, 64, for an example of a drunken riot at a pub frequented by miners in County Armagh). Sometimes, when the volume of the ore was high, the MCI paid the surface workers directly, while Margaret Green noted that she and her brother had recently taken a bargain with Captain Barrett to cob a certain amount of ore for a specific price. Given the extreme poverty in which many of these people lived, the wages of the women and children formed a vital part of the collective family income. Indeed, Roper notes that more than one of the young women supported their aged parents out of their small earnings, and the youngest boys gave their wages

11 Accidents at Irish metal mines did not have to be officially recorded until the 1872 Metalliferous Mines Act. The loss of the MCI's records means that unless an accident at Caime was published in the local press, there will be no record of it.

12 A contract of employment agreed on 'setting day' (a periodic auction held at the mine) between the mine management and mineworker to do a specified amount of work for a percentage of the market value of the ore. This applied to both underground workers and ore dressers.

13 By the time of the Griffith's Valuation (1853), a Richard Frayne, noted as a miner, is occupying the premises of what is now Rackard's Public House at Caim Crossroads.

straight to their mothers.

However, almost without exception, those interviewed stated that their wages were not enough, with widow, Bridget Kennedy (who earned 8d a day), remarking that they were 'very, very small'. Bridget Comerton reported that her pay was 8d a day in the summer, and 7d a day in the winter, adding that she would like more wages. John Dunn, aged 17, received 7d a day for his work in the pumping engine house, which he also claimed was not enough. But how did the wages of the Caime ore dressers compare with those at other metal mines in Ireland? Looking at the evidence given to Roper from the MCI operated Knockmahon copper mines in neighbouring County Waterford, there is little difference in the rate of wages earned by people of a similar age, performing similar tasks. There, cobbers earned 7d a day, and buddlers 4-5d. A similar picture emerges at the Allihies copper mines, County Cork, which were privately owned by the Puxley Family, where Roper reported that the jiggers and buddlers were paid anywhere between 4d-6d per day. Rates of wages for boys and male adolescents (there was no female labour) at the Newtownards lead mine in County Down were, on average, anywhere from 2s to 6s a week (4d-6d a day), no different from the wages at Caime.

In stark contrast to Caime, none of those interviewed at Knockmahon, Allihies, or Newtownards, complained to the commissioner about their rate of pay. This suggests that those interviewed at Caime had been prompted to state that their wages were inadequate. The 1842 Report of the Commissioners of Mines states that the 'greater number' of young workers engaged on the dressing floors of Ireland's metalliferous mines were making, on average, 4-5d a day, roughly the going rate at Caime, adding: 'At the latter price, indeed, the services of men may be had in some of the mining localities' (BPP Report of the Commissioners 1842, 245).

Although the wage rates of the surface workers do not appear to have been radically different to those of other metal mining districts in Ireland, there had been festering discontent over both surface and underground wages at Caime for several years. Indeed, discontent over wage levels were not unheard of in pre-famine Ireland, and there had been three short-lived strikes over the price of underground bargains at the Allihies copper mines in the 1830s (Williams 1991, 96-7; O'Connell 2009, 8). The only documented reference we have to the wages of a miner at Caime, is that of Biddy Kennedy's husband, who was earning 9s a week before he met his death in the mine in about 1838. Albeit over fifteen years later, Kennedy's wages were considerably below what Sproule (1854, 52) noted the wages of tributers to be in Irish metal mines.

Tributers were groups of miners headed by a 'taker' who had entered into a 'bargain', a monthly contract with the Mine Captain, to work and raise ore from a 'pitch' or specified area of the mine, for a share of the ore's value per ton when brought to the surface, and Sproule states they were making on average around 15s per week. Obviously the bargain price accepted by tributers in Ireland and elsewhere fluctuated considerably, as it was not only dependant on the nature of the ground being mined (hard ground with poor prospects of ore meant a higher rate of tribute, and a lower one when the ground was easy to mine and favourable for ore), but was inevitably tied to the market price of lead, and also goods and commodities. Despite its reputation for benevolent paternity, the MCI, like other contemporary industrial enterprises, was keen to maximise profit, and thus kept wages as low as possible. And this was not hard to achieve in many parts of deeply impoverished rural Ireland, like Caime, where labour was aplenty.

By way of comparison, from 1836-1847 in the Pennines, Northern England, the London Lead Company paid their tributers around 12s 6d a week, and in 1846, the Beaumont Mines, around 15s a week (Rastrick and Jennings 1965, 295). These wages were significantly higher than the 9s earned by Kennedy. However, we have no way of knowing whether Kennedy's wages were typical or atypical for Caime Mine, nor do we know whether he was a tributer or a tutworker[14] which would have had some bearing on his average weekly wage rate. However, we do know that in early 1844, the Caime Mine tributers were canvassing Captain Barrett for better pay, prompting him to write to the Board of Directors on the matter, possibly to avoid a strike. The poor conditions which the miners endured is hinted at by Roper in 1841, who states that he did not venture underground after seeing the state of the men coming up from it: 'I should think it was more like going into a river than a mine', adding that it was considered to be the wettest mine in Ireland (BPP, 859). The Company Secretary, Richard Purdy's, sharp letter in response, dated 23rd May, in which he tacitly acknowledges the men's low wage rates, found its way into the *Wexford Independent* (WI 1844):

> Dear Sir,
> I have laid before the Board of Directors your statement that the Tributers at Caime Mine are not satisfied with the rates of wages earned by them, under their several contracts for ore, and I regret to inform you that, notwithstanding, the low wages paid to the men, the Company has lost, and continues to lose, large sums of money by working the mine, by which losses, and the unfavourable prospects in the mine, the Board is precluded from authorising you to advance the rate of wages. You will, therefore, discontinue the workings, and dress up the men's ore with the least possible delay; and, in the meantime, in order to allow the men to proceed to other concerns, you will advance to each partnership the probable value of the ore when at surface.

However, with the mine's closure hanging over their heads like the sword of Damocles, the men appear to have dropped their demands for higher wages, receiving a temporary reprieve, as they were not instantly laid off as Purdy had instructed. Indeed, the company accounts for the last half of 1844 show that the mine yielded 265 tons of ore, on which the

14 A tutworker was employed on non-productive but necessary tasks underground (driving tunnels, fixing timber), at a fixed price per fathom and, unlike a tributer, whose wage rates were subject to considerable fluctuation, knew what his weekly or monthly wage rate would be.

Company made over £111 profit (exclusive of interest on capital), but the situation was reversed six months later when the mine showed a deficit of £653. By the end of 1845, all underground work had been suspended, and work scaled right back, with the majority of the workforce laid off. The mine only raised six tons of lead ore which sold for £70, and made a loss of £396.

NOT IN MY BACK YARD!

The half yearly minutes of the Board of Directors for the first half of 1844 presented a gloomy prognosis. In addition to the problems experienced in following the Great Lode on the 47 fathom level, the expense of dressing the ore in a time of deflated lead prices, and issues with the underground miners over wage rates, the long running war of attrition with the local landowner over the company's right to access the lands covered by their lease (and to open ground and to erect machinery for prosecuting the works), proved a major factor in the impending suspension of the workings.

The tenant of the land was John Howlin Esq. J.P., D.L. (1797-1857), the second son of James Howlin Esq. of Ballycronigan (c1760-1825) and Anna James of Ballycrystal, descended from an Anglo-Irish family long settled in Wexford (Burke 1879).[15] A magistrate and Poor Law Guardian (Enniscorthy Union) drawn from the ranks of the lesser gentry, that he was truculent and litigious by nature is portrayed by a libel case he brought against the Reverend William Hughes in 1826 for damages amounting to £3,000 (DMR 1826).[16] A qualified lawyer who was every inch the country squire, he proved to be a formidable antagonist to the MCI. In addition to land and estates in the townlands of Ballask, Carna and Clougheast, Civil Parish of Carn, County Wexford, Howlin was the tenant of Ballyhighland Demesne. Covering 1025 statue acres, the lands of this estate lay partly in the townland of Ballyhighland (civil parish of Rossdroit, Barony of Bantry), and partly in the neighbouring townland of Aughathlappa (Parish of Monart, Barony of Scarawalsh), which included the Caim Rocks Mine. The Ballyhighland Demesne had been in the family's possession since John Howlin's grandfather, Abraham John Howlin (d.1816), obtained the lease on 14th February 1772 from John Gamble, for lives renewable forever (Find My Past *et seq*.).[17]

At the beginning of 1828, Howlin began planting thousands of trees throughout his demesne, and in 1834, completed an elegant new five-bay, two-storey house with a commodious two-storey farm yard and stable yard, for which landscape painter, James Fraser, designed pleasure-grounds (see Map 4).[18] The woods of Ballyhighland contained more than 100,000 forest trees comprised in the main of larch and oak, 'prettily diversified with silver firs, spruce and Scotch firs, beech, sycamore, elm and ash' that were securely fenced. Howlin planted these trees 'with reference to picturesque effect combined with utility'. 'This seat is very conspicuous from the plantations which cover the hill of Ballyhighland, at the base of which it is situated,' wrote Fraser (1854, 207).

But Howlin did not own the mineral rights of his estate. The owner in fee simple[19] was Justin Brennan Esq., of *Kiltrea House* near Enniscorthy, a magistrate and one time Captain in the 7th Regiment, who had bought Feckman's lands in Aughathlappa and Ballyhighland in July 1829. As the grantor, he 'reserved all manner of royalties, mines, minerals, and quarries, with liberty of ingress, egress, and regress to search for, dig up, raise, and carry away and dispose of all such mines, minerals, and quarries, making adequate compensation for any necessary damage occasioned thereby'. The MCI held the remainder of the 99-year lease granted in 1805 (which was sold to them by Carleton in 1825); this granted the company the rights to search and mine for minerals in the abovementioned townlands.

Howlin knew that there was an active lease on the Caim Rocks Mine, and in order to forestall any activity by the MCI that would have been detrimental to him, an instrument of renewal was made on 23 March 1831 between the new landowner, Brennan, and himself. This clearly stated that Brennan held the mineral rights, and that the MCI (as leaseholder of the mines) was to be given free and unfettered access to search for lead and to prosecute their works. However, in order to prevent differences arising between the MCI and Howlin over any future compensation claim against the mining company for damages or loss sustained by Howlin due to the reworking of the mines (or the deliterious effects of waste water emanating from the workings), a memorandum of agreement was made between Howlin and Richard Purdy, the MCI secretary. Purdy agreed to cover over (with dry masonry) the section of the watercourse that flowed from the mine into Howlin's demesne, 'in a proper and workmanlike manner', to prevent his cattle from gaining access to it. Only then did Howlin indicate that he would be agreeable to drawing up a lease for the part of his premises formerly occupied by Lapp and Carleton, '... and such further ground as the mining

15 A branch of the Howlin family migrated from Wales and settled in County Kilkenny after the Anglo-Norman Conquest and eventually made their way into neighbouring County Wexford, lending their name to Knockhowlin to the south of Wexford. John Howlin married Alicia Jane Lloyd of Castle Lloyd, Co. Limerick in 1826 and had two sons and two daughters.

16 Described as a young man just entering on life and recently bereaved of his father, Howlin had acquired possession of the lands of Dungeer which the Rev. William Hughes had enjoyed the privilege of sporting upon. Howlin, however, thought it right to award these sporting rights to friends of his older brother, James, which resulted in the clergyman writing a series of letters to him asserting his claim and demanding that several sporting dogs be returned to him. Howlin claimed that a further letter gravely insulting his character was sent to him by the Rev. Hughes which so upset him, that in a fit of pique he threw it into the fire. Unfortunately, by doing so, he destroyed the evidence of the clergyman's alleged libellous comments and the jury had little option but to find in favour of the defendant.

17 This lease was converted to one in fee farm in pursuance of the Renewable Leasehold Conversion Act of 1849, on 25 January 1856. A fee farm grant gives the grantee the right to hold a freehold estate on payment of an annual rent (farm being an archaic word for rent) and covenants, thus putting grantor and grantee in a landlord-tenant relationship. The annual rent on the Ballyhighland Demesne was over £430 per annum. This sum was virtually covered by the rents Howlin collected from tenants to whom he had sub-let parcels of land.

18 *Ballyhighland House* contained four sitting rooms and six or seven bedrooms, bathrooms and an excellent basement storey.

19 This meant that Brennan owned the property above the surface of the land and the mineral properties below the surface of the land.

company should require'. It was also agreed that any future disputes over compensation were to be settled, if necessary, by arbitrators.

Howlin, described in pejorative terms by the MCI as, 'fond of ostentation and making a great display in the county with his fine house and carriage' (WI 1845), was what might be described today as an archetypal 'nimby'. Whilst engaged in building his palatial new mansion at Ballyhighland, he was doubtless alarmed when he learnt that the MCI planned to resuscitate mining operations at the Caim Rocks Mine, and on a scale potentially much larger than that of the previous operators. Despite the 1831 instrument of renewal, and the memorandum of agreement reached with Purdy, trouble began the moment the MCI began work in 1835, for in clearing the ground they cut down a large number of trees that had been planted by Howlin some 7 or 8 years before. He complained bitterly to the MCI about this, and demanded compensation for the loss of the trees and other surface damages.

Another huge bone of contention was the MCI's access to water. In order to frustrate the company, and to prevent them from developing the works, Howlin plotted to deprive them of the water they required to turn a waterwheel for pumping. This was obtained from a stream that ran though his land from the north west to the south east, and which had been diverted by Lapp and Carleton, who had constructed a reservoir and dug a leat leading to the mine site, years before *Ballyhighland House* was built (see Map 4). The reservoir and leat had not been operational for approaching thirty years, and were apparently choked and in-filled with debris when the MCI reopened the mine. The stream had assumed its original course, but when the MCI wished to avail of the water, Howlin prevented this by claiming he required it to turn a waterwheel in a bone-mill on his estate. By this course of action, he hoped the MCI would have to give up working the mine. This totally infuriated the company, as, deprived a regular and sufficient head of water to power a wheel at the Engine Shaft, they were then forced, at great expense, to erect a steam pumping engine to unwater the workings (WI 1845).

Both sides dug their heels in, as recriminations were traded between the two parties for upwards of two years, during which time the MCI seriously considered selling the mine, going as far as to advertise it for sale in the *Dublin Mercantile Advertiser and Weekly Price Current* (DMA 1838, Fig. 4). All attempts to settle the matter amicably failed, and on 31 May 1838, arbitrators, Henry Howlin Lloyd (c1813-1855), of *Thornville House*, Wexford (a relative of John Howlin), and John Leared of Wexford (the MCI's representative), were summoned to negotiate a resolution.

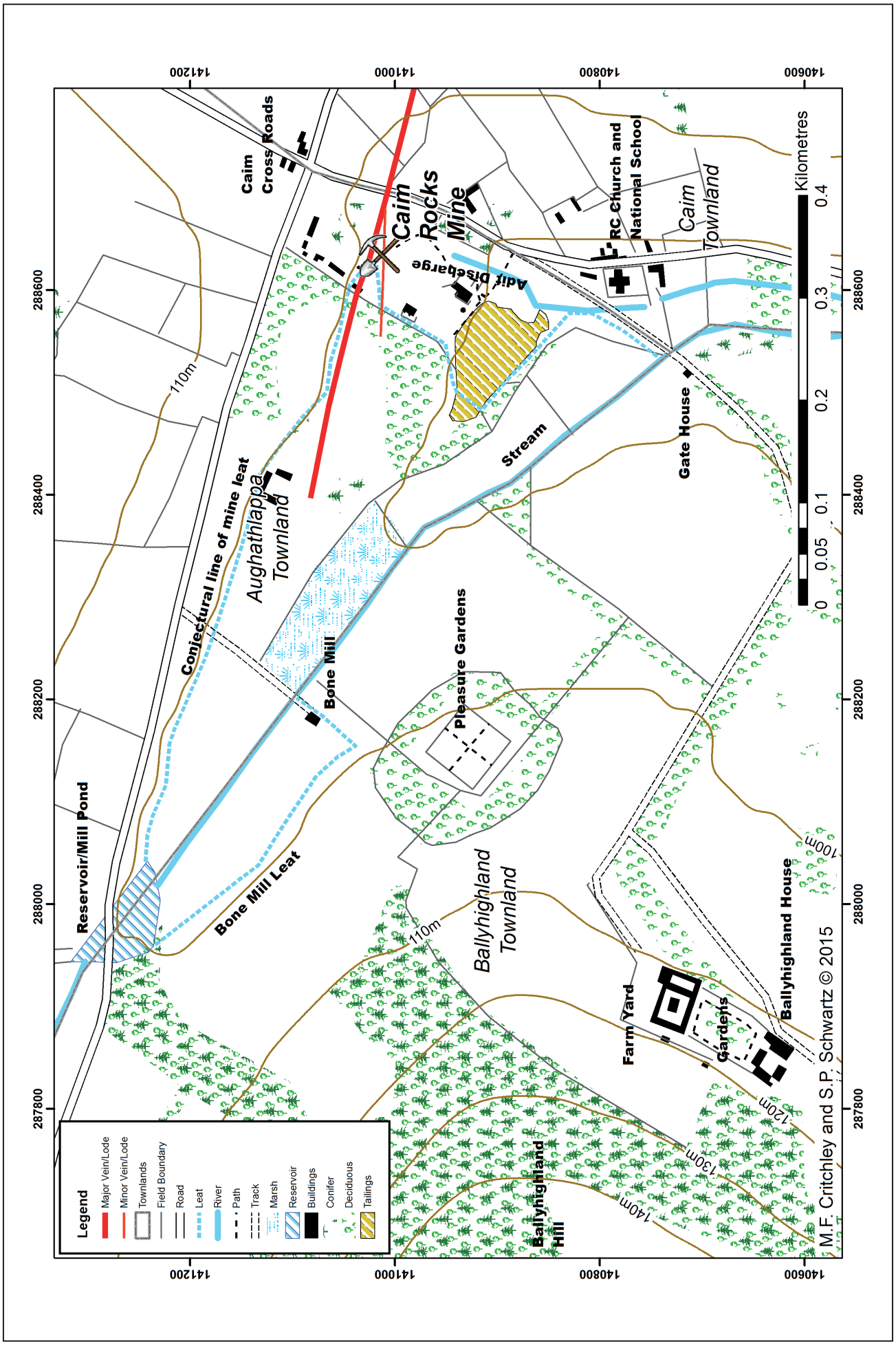
In January 1839, the arbitrators eventually agreed that Howlin was to be awarded compensation for various losses and damages, a sum that amounted to £73 10s (NLI, An award of arbitrators 1839). The MCI were left with little choice but to accept a lease of 2a 0r 30p of land in the townland of Ballyhighland, and 95 perches of land in neighbouring Caim and Caimsperin (which formed the watercourse from the mine and over which the water then ran), for a term of 64 years from 11 June 1836 at the yearly rent of £11 2s 2½d. Although he was powerless to prevent the reopening of the mine, Howlin insisted the lease contain a covenant whereby the lessee was not entitled to build or erect, or permit to be built or erected on the premises, 'any house or building for melting ore'.[20] He had to concede that the lessee 'was entitled to build on any of the demised lands of Aughathlappa or Ballyhyland, one or more steam or other engines, and one or more dwelling houses for the Company's engineers or agents'. A clause of surrender could only be made on any gale day [the day that rent was due] with six months notice, and the property had to be surrendered in the condition in which it was found on 11 June 1836. Shafts and pits were stipulated to be infilled if the lessor so requested, or compensation had to be paid, the amount agreed by mutually chosen arbitrators.

The arbitrators also decreed that the MCI were to pay Holwin the sum of £23 10s rent for the 2 and a half acres of ground (Caim Rocks Mine)[21] from the 30th April 1825 (when they acquired the mine), 'to for and ending the thirtieth day of April next at a rate of 2 guineas per acre per year'. The arbitrators itemised the various costs of the damages Holwin had sustained. This included a sum of £20 19s 1d, to be paid to him by Richard Purdy (the MCI Secretary), for 2,584 trees that had been planted in 1828, and which included the legal interest from the time of planting to the 1st May 1836. The trees that were growing or standing, presumably within the Caim Rocks Mine site, were to become MCI property. A further £3 14s 9d was to be paid by the MCI for the rent of 95 perches of land belonging to Holwin in the Ballyhighland townland. This land had been damaged by the watercourse leading from the mine on lands in possession of the MCI (and formerly occupied by Simon Murphy). The compensation was calculated at a rate of 2 guineas per acre for the 95 perches of land for a period of 3 years beginning on 1st May 1836 and ending on 1st May 1839. Another £4 13s 1d in compensation was to be paid by Purdy for 1,544 trees which were growing on the 95 perches of land destroyed by the MCI, at a rate of £2 10s per 1,000 for the trees and the interest thereon since these were planted, to the 1st May 1836.

In addition, £2 1s was to be paid as rent for 52 perches of ground dug up and damaged at a rate of 2 guineas per acre per annum from 1st May 1836 to 1st May 1839. After that, the MCI was to pay an anual rent of two guineas per acre, per year, until the ground was returned to the condition it was in prior to being broken up. The watercourse running parallel to the road through which the water from the Caim Rocks Mine passed, was to be covered in a permanent and workmanlike manner, as agreed upon in the prior memorandum, and the bounds between the MCI occupied lands and Howlin's demesne was to be made sufficient and in a proper workmanlike manner, to prevent trespass from either party, before the following May. Howlin was at liberty to undertake this work and recover the costs from the MCI. In total, he managed to secure rent from the MCI on 5 acres 1 rood and 5 perches of

20 Presumably to prevent noxious fumes from blighting his estate.

21 The 2.5 acres Howlin refers to was probably the historic part of the mine centred around Engine Shaft which was worked under Lapp and Carleton, as Griffith's Valuation (1853) notes the area leased by the MCI as 7 acres, 3 roods and 3 perches in extent.



Map. 4: Overview showing the proximity of the Caim Mine to the Ballyhighland farmyard, bone mill and mansion

land.

The construction at Caim Rocks during 1837 of the Cornish pumping engine house (with its very visible brick chimney), would undoubtedly have been perceived by Howlin as an horrendous blot on the landscape, which was uncomfortably close to his pleasure gardens and less than a kilometre from his new mansion, which he had sought, at great expense, to turn into the centrepiece of a bucolic haven. The chimney belching smoke, and the prospect of noise, dust, excavations, piles of mine waste, and contaminated water emanating from the working of a mine a mere stone's throw from his country seat was bad enough, but the prospect of the MCI actively searching for minerals within the wider Ballyhighland Demesne would have been beyond the pale. He therefore hoped that the erection of a secure boundary clearly demarcating his demesne from the mine site, would serve to contain the MCI's works.

Captain Barrett had been warned about Howlin when he took up his post as Mine Captain. He had been informed how '… he [Howlin] had given so much opposition as to have caused serious extra costs to the Mining Company, and being informed of the necessity I was under to observe due caution in forming terms of intimacy with that gentleman, I kept myself aloof'. Not wishing to have his strings pulled by Howlin, Barrett had declined his numerous invitations to dine at *Ballyhighland House* (WCE 1845). An uneasy peace between the MCI and Howlin prevailed until the very end of August 1842, when attention switched from rehabilitating and expanding the old underground workings, to active exploration development. The MCI's General Mine Agent, Cornishman, John Petherick, visited Caime in consequence of the slide on the Great Lode in the 47 fathom level, which had 'heaved' it, threatening to severely retard the mine's development. In order to re-locate it, Petherick, noted for his pragmatism and virtue, combined with a fiercely independent character (Cowman 2006, 32-37), agreed with Barrett's suggestion of surface exploration in the direction of Ballyhighland.

Barrett had thoroughly investigated the MCI's royalty, and was convinced there were other bunches of ore deposited to the west of their present workings, 'indications to warrant any practical miner in searching in that direction'. Indeed, he had detected the strongest mineralisation in the granite appearing at the back of Ballyhighland Hill (616 feet/188 metres high) above Howlin's mansion (see Fig. 8). Howlin would have none of it, vehemently disagreeing with him, at one point exclaiming, 'Oh no! – seek in the opposite direction [in the neighbouring townland of Caim] and by God you will find plenty of ore'. Following his convictions, and Petherick's instructions, Barrett commenced 'costeaning' the ground to detect the lode at surface. This consisted of sinking a series of small pits through superficial deposits to solid rock to detect any mineralisation. Howlin, who saw this as a breach of the boundary between the mine and his demesne (which had been clearly demarcated to avoid trespass) was outraged, and threw up every possible obstacle to thwart further mineral exploration in the townland of Ballyhighland.

According to Barrett, Howlin's attitude stands in contrast to the reaction of the tenant of lands belonging to Mrs. Alcock, which he had also inspected on the back of private information concerning the presence of ore. Barrett had entered this property and made openings without securing any authorisation to do so from this tenant. Moreover, this tenant gave as much information and assistance as he was able, in addition to offering a reward of £40 out of his own pocket, exclusive of the reward of £40 Barrett had himself put up for the discovery of lead ore. Familiar with mining regions in Britain, where mineral exploration activities were not retarded due to the action of recalcitrant landowners, Barrett was thus perplexed at the level of Howlin's opposition to the surface exploratory works (WCE 1845 *et seq.*):

> I was under the impression I was going into an Irish county, where my operations would be likely to be encouraged and countenanced by all parties interested in the development of the hidden treasures of the country; that the employment consequent on the extension of mining, would be favourably received and fostered by those who had at heart the bettering of the condition of the labouring classes; little did I expect in quietly carrying out the orders of my employers, who had previous to my arrival at the mine expended several thousands in search of ore – that I should have to contend with the most unheard of opposition – an opposition such as is wholly unknown in England.

Indeed, as the MCI board report for the first half of 1843 makes clear, in the principal mining areas of Cornwall [and Devonshire], as well as the lead mining districts of Derbyshire (the former possessing the Stannary Courts and the latter, its Great Barmote Court) (PM 1843, 847-848) things were conducted very differently. Miners were not only awarded roads and water for washing their ores and driving machinery without pecuniary consideration (however valuable the enclosure through which the road or watercourse passed), but, 'on discovering ore in any part of the district, are authorised to go into possession thereof, without entering into any agreement with the proprietor - the Barmaster [or Lord Warden of the Stannaries] being considered the proper authority, as an indifferent person between landlord and tenant'.[22] Irish miners did not enjoy such privileges, hence the troublesome legal issues the company had been experiencing with Howlin since the early 1830s.

22 The Stannary Courts were comprised of a serires of grand juries that controlled the activities of mining companies and protected the Cornish tinners and their families. These ancient rights were recognised by charters in the twelfth and thirteenth centuries. The Barmote Court covered the hundreds of High Peak and Wirksworth (an area known as the 'King's Field'), which were divided into eight 'liberties' for the purposes of lead mining. Other mining regions in England also enjoyed special privileges: in Gloucestershire, the Free Miners of coal and iron of the Forest of Dean had their customs confirmed by a charter attributed to Edward I, with a miner's court to try cases between the miners, and a miner's parliament. In Somerset, the customs of the lead-mining district of the Mendip Hills were encoded under Edward IV; two courts, consisting of twelve miners, were held annually to enforce the code. In Cumberland, the lead miners of Alston Moor enjoyed legal privileges from the thirteenth century. By the reign of Henry V, a court of mines existed and the miners elected a coroner and bailiff, with the king's officers having no authority to serve writs in the area.

Barrett was refused entrance to the Ballyhighland part of the royalty on the 3rd September 1842, and again on the 5th. On the 7th September, he relates how he put four men to work at costeaning in a clover field about half a mile from *Ballyhighland House*. After they had been at work for half an hour, a large body of Howlin's labourers armed with pitch forks and spades, with one brandishing a fixed bayonet on a gun, arrived in the field. Clement Sinnott, Howlin's steward of eleven years, who resided in a cottage at the farmyard of *Ballyhighland House* (see Fig. 9), demanded the work cease immediately and produced a letter from Howlin, then in residence at his principal Wexford seat, *Carna House*, informing him that he [Sinnott] was 'to prevent Barrett by all possible means "*even to a breach of the peace*" from opening or prosecuting any search, on any part of the lands whatever'.

Barrett stood his ground and called for reinforcements from the mine. The men arrived and continued digging the costeaning pits which were being filled in by Howlin's men as rapidly as they were being excavated. This resulted in the number of pits increasing to 90 rather than the intended two, and the number of miners, 'who voluntarily left their working at the mine', rose to 80, facing off a large and growing opposing force. Barrett blinked first and ordered the work to stop, drawing off his men before a serious escalation of the standoff occurred.

The following day, Howlin appeared in person, heading a police force as a magistrate. Also present was his solicitor, Laurence W. Corcoran, and a large number of his workmen, who waited to see if Barrett would dare continue the surface exploration. The Mine Captain decided against any provocation. Howlin was angered that no notice had been given by the MCI before going onto his land to execute the costeaning pits. This failure to inform him, probably stemmed from the bad blood and suspicion that had been festering since the arbitration over damages and the debacle over access to water which had occurred three years previously. Howlin demanded Barrett's authority for going onto his land, and the Mine Captain stated that he had written orders from Richard Purdy, the MCI secretary, which he produced at the Count House. Howlin was not about to give in easily by allowing the MCI to prospect for a new mine in the Ballyhighland part of the royalty, and stated that he would not permit the searches without written authorisation from Captain Brennan, the owner of the mineral rights. Barrett agreed to obtain this and he promised to alert Howlin of any future searches beforehand.

On the 19th September, the new written order from Brennan duly arrived at the mine. Four days later, Brennan actually came up from Wexford to visit Caime, and walked over the royalty with Barrett, to whom he personally gave permission to execute further searches. On the 24th, the day after Brennan's visit, Howlin arrived at the mine with his steward, Clement Sinnott, and his solicitor, Laurence W. Corcoran, where, in the Count House, Barrett showed him the new order from Brennan. On reading it, Howlin declared that it would not do, and that he would not allow the MCI access to his land on the order, he must have the lease. The MCI saw Howlin's actions as merely a delaying tactic, for they argued that all along, he had in his possession a previous order from Captain Brennan, dated 1836, permitting the company to enter and search his lands. However, Howlin attested that this only referred to the 2.5 acres called Caim Rocks Mine, and did not extend to the demesne of Ballyhighland.

Howlin demanded that a copy of Brennan's new order be sent to him by post. Barrett promised to do so, but then reneged on his commitment, instead sending the order by that night's post to the management at the MCI Offices at Lower Ormond-Quay in Dublin. Meanwhile Howlin, who had gone down to Wexford town, presumably with the sole intention of seeing Brennan, had met with him and stated that he had not been to Caime Mine, or had sight of the order which Brennan had sent to Barrett, which was clearly untrue. A few days latter, Barrett claims he was accosted by Howlin in Enniscorthy who met him with the words, 'So you did not send me a copy of the order'. Barrett replied that he had forwarded it to his employers, and intended to send it as soon as it was returned to him from Dublin. Barrett stated that he saw no wrong in the fact that he had failed to forward a copy of the order as promised: '… the why or the wherefore, or in plainer words, my motives, I had no right to give him, nor did he deserve to have explained, after having on his part uttered a falsehood to Captain Brennan in Wexford… I did intend to let him have the copy – the proof of which lay in the fact – that I did so on receipt of the order from the Dublin Office'.

On the 30th September 1842, Barrett wrote to Howlin stating his intention to recommence the search. Howlin replied with a request that Barrett postpone this until the 3rd October. On that day, Barrett claims to have handed him the new order from Brennan, that had just been returned to him by post from the MCI offices in Dublin. Howlin finally acknowledged the MCI's right to enter, yet according to Barrett, protested against the company's right to erect machinery of any description, apparently declaring '… if the company paid him as much as they were paying Captain Brennan - he would show ore enough – or, by God, if Brennan would divide with him, he would do so – at the same time extending his arms out, as descriptive of the vastness of the quantity he could show'. Obviously, as the Mineral Lord, Brennan was keen to see mining prosper, as he was entitled to a royalty on every ton of ore raised. Howlin, however, stood to gain nothing from mining activity, bar the rent he had managed to secure from the MCI for just over 5 acres of land, but was instead forced to put up with any nuisance arising from it. The only recourse he had was to claim for surface damages through legal means, and, being a qualified lawyer, he was well acquainted with the law.

Meanwhile, the searches recommenced, and a shaft was opened in the Ballyhighland part of the royalty. On 14th November, Howlin arrived at Caime Mine early in the morning, having heard that Barrett was planning to erect a windlass over this new shaft, which the Mine Captain confirmed. Howlin stated that he was astonished that Barrett, 'as a gentleman', should attempt to do so without first giving him notice. This time the Cornishman finally snapped, telling Howlin he had almost tired himself out in giving him notices, and that he was now determined to do his duty, notwithstanding every obstacle he [Howlin] had thrown in the way. The stage

was set for things to turn decidedly ugly.

That noon, Barrett sent a carpenter and assistants over to the new shaft to begin the work of erecting the windlass, with orders to wait until he arrived. When Howlin, who was prowling the vicinity, saw Barrett approaching the shaft, he took his caretaker's gun and sensationally discharged it into the air, while a number of his workmen were seen running down the field towards the shaft. An enraged Howlin watched as Barrett, seemingly not the least intimidated by being surrounded by hostile estate workers, calmly and stubbornly began the task of erecting the windlass. Howlin eventually prevented him from doing so by grabbing the timber from his hands, whereupon Barrett told him that the course he had embarked upon was calculated to 'oblige him to do more damage to the surface than if he allowed him to quietly pursue the search'. But this was precisely what Howlin wanted, as he allegedly exclaimed, 'the more damage the more pay'.

Barrett then commenced to enlarge the mouth of the shaft, which cost the company far more than merely erecting a windlass would have done, and continued the exploration. The results were apparently very favourable, which Howlin knew by questioning the miners working there. He therefore devised a plan to stop the works, threatening the men by telling them that they had better have the shaft finished by a certain day, or he would drown them out by flooding the working. He was as good as his word, having a channel cut that led water (presumably from the bone mill leat) into the top of the field above the shaft, which was completed by the 22nd November. He then turned the water across the field towards the shaft . It quickly found its way down the sides of the shaft, causing them to become saturated; they soon gave way, rendering the working utterly useless. Howlin claimed turning the water across the field was conducted purely for irrigation purposes, which seems somewhat unlikely, since it was late November and apparently during a very wet spell, leading the MCI to believe this was executed solely with malicious intent. Over the next two years, the water course was never again used, despite the summer drought of 1844, which only served to confirm the company's suspicions.

Barrett then commenced another shaft in an adjoining field, much to Howlin's chagrin. Arriving at the scene of the works with his steward, he exclaimed how surprised he was that a man of Barrett's years would spend the money of the company in thus annoying him. Barrett, who was in the field with Isaac English, the MCI's purser, replied that from the course he was pursuing, if he called that spending the company's money in annoying him, then he '... should feel a pleasure in doing so'. 'Sinnott, take down that,' Howlin was alleged to have exclaimed, 'for by God I'll make you swallow that expression!'

Extra fuel was added to the fire when Howlin overheard English and Barrett discussing the object for which the water had been brought into the neighbouring field, and the fatal consequences arising as a result. He accused English of uttering a falsehood, causing Barrett to wade in, stating that he 'would swear the water was brought for that purpose alone with a malicious intention to drown us out'. Howlin retorted by casting a slur on Barrett's character, commenting he believed him 'to be man who would swear anything'. Later that afternoon, when Barrett returned to see how the work on the new shaft was progressing, Howlin duly turned up and commenced interfering with the miners' work. Infuriated, Barrett told him to mind his farm and permit him to mind his business: 'I knew my position there as well as he; he was but a farmer whilst I was a miner on that estate'.

The air of intimidation and hostility that prevailed that afternoon, can be glimpsed from an entry taken from a memorandum kept by Barrett (WC 1845):

> I then went over to visit another part, and he dogged me all the way and back without speaking a word. At length when I was departing, his ire broke out in the words "you damned scoundrel, you said you would spend the company's money to annoy me; I'll do your business for you, I'll make you swallow the words" (as I understood to compel the company to discharge me) – but I replied, "do your best and be damned, I'll swallow it as often as you give it me".

A HOLE IN ONE…

The gloves were now well and truly off, and the whole debacle descended into something resembling a farce (WCE 1845 *et seq*.; WI 1845 *et seq*.). According to Barrett, who had offered a reward for the discovery of ore in Ballyhighland, a rumour began circulating among the miners and neighbourhood that Mr Howlin's workmen, masons, John Sinnott and Thomas Murphy, had discovered ore during excavations for a new coal-house in his back-yard. Three miners, one of whom was named James Clinch (formerly a brogue maker by trade), were dispatched with picks and shovels to inspect the excavation. Predictably they ran into Howlin, who challenged them as to where they were going. On learning that they intended to inspect the ground about his yard, he sarcastically told them (while flinging his arms wide open) that, 'there is a lode of ore in my cellar as wide as that'. 'Perhaps Mr. Howlin, 'tis a load of whiskey', joked one of the men, to which Howlin replied, 'that was there, and wine too', but Barrett claimed that the men came away really believing there to be lead ore under this cellar.

According to him, two of these men later came to him and offered to take a contract to raise the lead ore about Howlin's house at £5 per ton, but only if they could secure a term of three months, agreeing to take all the risks on themselves in the failure of discovery. Barrett claimed that as he was now unable to conduct any searches unless he went above the level of the water course that Howlin had cut (lest his men should be drowned out again), he was compelled to approach nearer to Howlin's residence than he had ever contemplated. He then sent four men to make an opening in the back yard, near the coal-house, and which he claimed he proposed to close again immediately if permitted to excavate there. These men apparently worked for some days, and discovered fair indications of ore, so much so, that they offered to enter into a contract again at £5 per ton.

The story according to Howlin was, however, somewhat

Fig. 8: Aerial photograph looking south west towards the old Ballyhighland Demesne from the Caime Mine site, showing the proximity of the mine workings to Howlin's former mansion, farm yard, pleasure gardens and bone mill. 1: Crusher engine chimney; 2: Tailings dump; 3: Former bone mill; 4: Site of former pleasure gardens; 5: Probable site of the Ballyhighland Shaft; 6: Farm yard; 7: Site of the former Ballyhighland House; 8: Ballyhighland Hill

different, for rather than the single hole mentioned by Barrett, he alleged that on almost every day from the 29th August 1842 down to the 3rd January 1843, the servants and workmen of the MCI entered upon his lands at Ballyhighland and:

> …dug several pits or open casts, broke down his fences, destroyed his plantations, and carried on their operations in such a manner as to cause very serious annoyance and injury to him; having gone so far as to sink holes and open cuts or pits in the shrubbery, within a few feet of his hall door – under his parlour windows – in his farm yard, his haggard,[23] containing several hundred barrels of corn, and throughout every part of his demesne.

These pits or open cuts numbered 42, some of which attained a depth of over 10 feet (3 metres), in addition to the 90 holes sunk at the beginning of the altercation in the 10 acre clover field. MCI miner, Garrett Byrne - who had dug a ten feet hole in the shrubbery near the hall door - had worked at Caime under Lapp and Carleton and was later employed by Howlin to excavate a sewer and to sink a pump when *Ballyhighland House* was being built. But according to Howlin, Byrne had never seen any signs of mineralisation in the vicinity of the house. In addition, Howlin alleged that the holes had been sunk maliciously, in an irregular manner, and should have been more concentrated and placed more systemically than they were. The pits, although sunk in a rough line, had nonetheless deviated from their course considerably, 'the utmost breadth of the lawn was about 20 feet, and the pits were sunk in breadth from each other above sixty yards'.

These facts were admitted by Captain John Petherick, who nevertheless qualified his statements by noting that the apparent irregularity was largely consequent on the resident Agent having been prevented by Howlin from searching for ore in a proper manner. It was also sensationally claimed that Barrett had told Clinch, who was excavating a pit in one of Howlin's turnip fields, that he could finish working there now as 'he knew where the ore was himself full well'. Clinch apparently stated, 'why not show it then?' Barrett allegedly replied, 'No, I'll torment him [Howlin] a few days longer'.

Sensing that things were spiralling out of control, and that Barrett was merely playing into Howlin's hands by sinking

23 In Ireland and the Isle of Man, a haggard refers to an enclosure beside a farmhouse in which crops are stored.

exploratory holes so close to his house in order to allow him to appear to be the wronged party and hence present a case for considerable compensation, the Board of Directors instructed their Mine Captain to discontinue his searches. The MCI Board Minutes for the year ending 1842 note that the direction of the lode at the surface had been determined, but that the surface works had been impeded by a 'misunderstanding with the Tenant in occupation, as to the rights of his Landlord, the Proprietor of the Fee, under whom the Company holds the Mines'. It was also recorded that an 'amicable agreement' was in progress. Clearly there was mineralised ground in the Ballyhighland townland, for the minutes of the Board of Directors in November 1843 note that 270 tons of lead ore had been raised from 'Ballyhiland Mine in the last six months'.

To order to diffuse the situation and to reach an amicable agreement, the MCI made an offer of damages to Howlin, and accordingly, Richard Purdy, the company secretary, and Robert Guinness, a MCI Director, met with him to open discussions. Howlin complained about Captain Barrett's provocative actions and ungentlemanly behaviour, and Purdy agreed that the MCI would compensate him for damages to his property caused by the surface exploratory works, and offered to fill up the holes that had been made. Howlin, as awkward as ever, objected to the company filling in the holes, as he claimed that no person would be able thereafter to accurately value the damages; besides, he was anxious to have them filled in a proper manner. The trio agreed to refer the matter once again for arbitration, and a draft deed of submission of the damage, and matters in dispute, was consequently presented to him.

However, Howlin then objected to an insertion by the MCI's solicitor, Mr Tilly, who claimed compensation was due to the MCI for Howlin's obstruction of the company's mining operations. The paragraph in question concerning his earlier alleged diversion of the water course for the 'mere pretence of turning a bone-mill', was deemed to be so insulting and derogatory to him, that he had no alternative but to disagree with it. Negotiations over the award of damages thus broke down, allowing Howlin to launch legal action against the MCI by availing of the company's statute of 10 Geo. 1., c. 5.,[24] (see IPP 1765, Appendix One) to present a requisition to two neighbouring magistrates, who granted a precept to the Sheriff of Wexford, who then summoned a jury (FJ 1845).

This statute, known as the Mining Leases Act of 1723, stipulated that if the interested parties could not agree through arbitration on the allowance for damages sustained whilst carrying on mining activities, then the matter was to be determined and ascertained by a jury of 12 legal freeholders of the county upon their oaths, in the presence of two or more justices of the peace of the county where the mine was located. Moreover, it also stipulated that at least six jurors should personally inspect the several places where the alleged damages had taken place. Interestingly, the provision of the Act also specified that it was not lawful to 'open, search, dig for, or work any mines or minerals in any spot of ground, whereon any house, backside, garden, orchard, or avenue now are or shall be, made or planted, without the license or consent of the tenant or possessor thereof…', throwing a very large question mark over the activities of Captain Barrett in the vicinity of *Ballyhighland House*. It now becomes clear that Howlin, knowing the law inside out, had engineered the whole situation, completely outsmarting and out-manoeuvring the MCI. His sole intention was to bring a court case against the company which had dared to cross the line, both literally and figuratively, by entering his demesne.

The *Enniscorthy Correspondent* to the *Wexford Independent* (a pro-Catholic newspaper founded in 1830 that rapidly became the most important newspaper circulating in the County of Wexford), which had displayed considerable antipathy towards the Protestant Howlin family,[25] expressed alarm at this turn of events, which threatened to drive a wrecking ball through the area's largest employer: 'from one hundred and fifty to two hundred individuals are employed at these works, with an expenditure of at least two hundreds pounds per week; all natives employed with the exception of a few Cornish miners… but all the money earned, is spent in the neighbourhood of the works, to the great advantage of all and the satisfaction of the inhabitants in general, with few, if any exceptions' (WI 1844 *et. seq*.). The *Enniscorthy Correspondent* further stated:

> But the work, and consequent increase of outlay and employment, are unfortunately limited for want of SURFACE, in proportion to the exploring which would otherwise be carried on to a vast extent. This heavy and absolute check to an enterprise, which has worked so much and promised still more for the public weal, is attributed to a difference between the owners of the property, which difference is to be deplored, and if possible reconciled, as a good understanding would confer such solid benefits on a large community of our poor and industrious fellow countrymen.

Although the works were still active, he feared that they might not long continue so, adding that, 'every lover of his country and friend to humanity, should feel an interest in the success of this concern, in so much as the expenditure relieves human misery to such an extent; and self-interest should operate on the rate-payers of this district, as the employment, as consequent comforts of the humble classes, will necessarily lighten the taxation on themselves'. In a parting swipe at Howlin, he added:

24 10 Geo. 1., c. 5. is referred to as the Mining Leases Act of 1723. This Act was one of a number that lay on the statute books of the Republic of Ireland until Taoiseach, Bertie Ahern, introduced the Statute Law Revision (pre 1922) Bill in 2004, which was enacted in 2005. All schedules within this Act were finally repealed in 2009.

25 Early editions of the newspaper contained a column entitled *The Taghmon Rational Gazette*, one of which carried a sarcastic attack on 'Jemmy Howlin', John's older brother James, who was described as 'a particularly pugnacious and litigious Protestant gentleman of the Co. Wexford'. John Greene, the editor of the *Wexford Independent*, continued to antagonise James Howlin at length in his columns and a few years later (1836), found himself as plaintiff in a libel action taken by him in relation to his newspaper's commentary on the proceedings of a court of justice. Howlin won and was awarded £120 damages (DEP 1836; WC 1836).

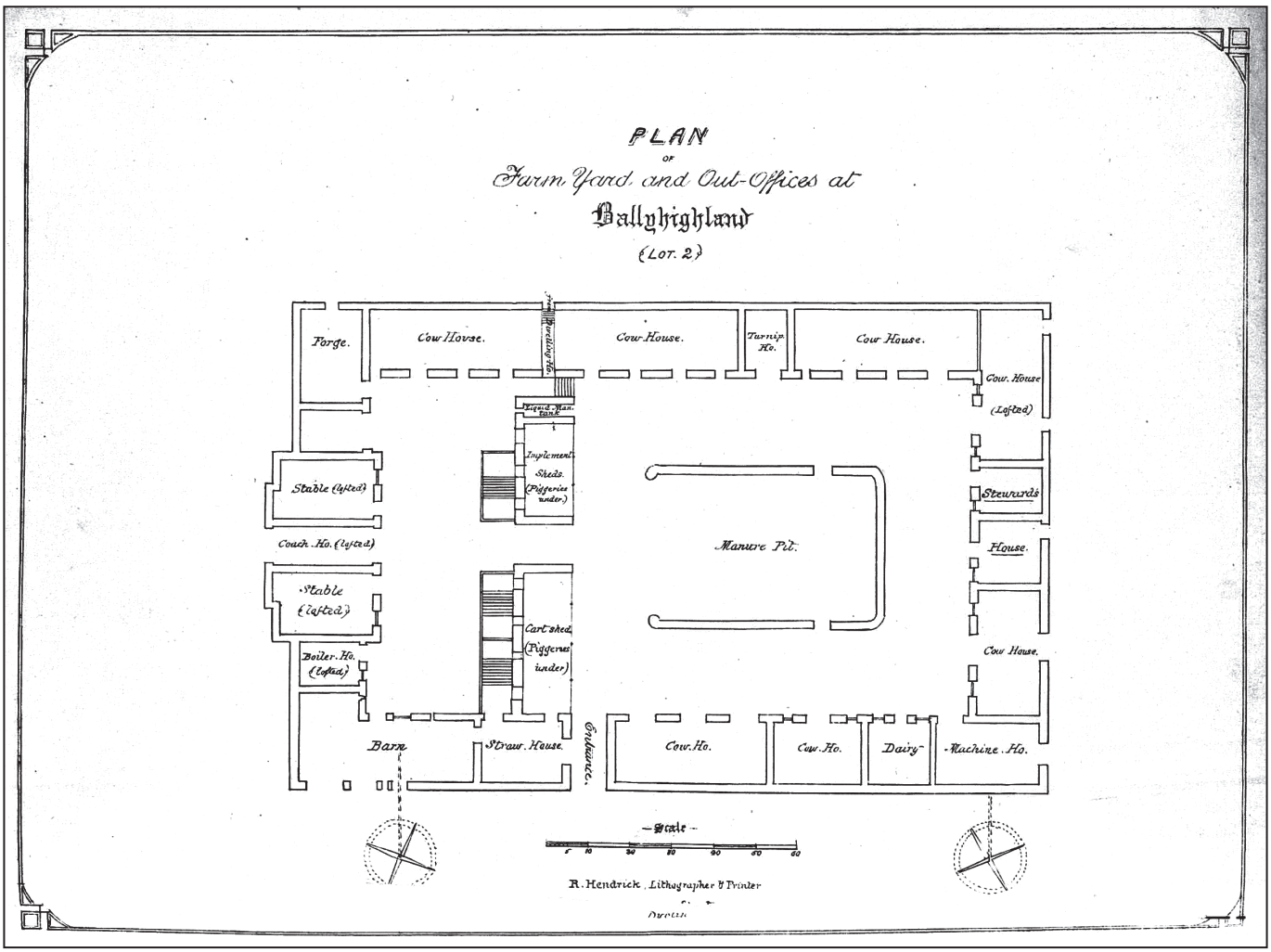


Fig. 9: The farm yard at Ballyhighland which was subjected to costeaning by Captain Barrett. Note the house of Howlin's steward, Clement Sinnott (centre right), and the two circular horse whims generating power to the barn (bottom left) and machinery shed (bottom right). Sale notice of the Ballyhighland Demesne, Find My Past

> And, though an employer in that neighbourhood was heard to say, "that he would be rejoiced the works should cease altogether", still upon a closer communion with his own nobler feeling, I think he would fling all sordid and selfish motives over board, and that humanity and Irishness would predominate.

Meanwhile, Howlin continued to goad Barrett, whom he invited into his drawing room in early June 1844. Here, he placed into his hands a printed copy of the letter (dated 23 May 1844) that the Mine Captain had received from Richard Purdy, the MCI secretary. This letter had been leaked to, and published by, the *Wexford Independent* (a newspaper strongly supported by the Catholic clergy that Howlin and his brother James had clashed with in 1836).[26] As we have seen above, this letter, concerning the low rate of tribute wages, stated that in consequence of the unfavourable prospects of the mine, the ore on hand was to be dressed off in order that the further working of the mine might be abandoned (WI 1844). Contrary to the rumours circulating in the district, Howlin claimed that the mine's imminent closure therefore had nothing whatsoever to do with any on-going disagreement the MCI might have with him.

Barrett was then further caught off guard by Howlin's production of another letter, executed in his [Barrett's] handwriting. This had been written by him in the Count House at the request of a miner named Doyle, and addressed to one Mr Whitney,[27] to the effect that Doyle had heard Howlin abuse his character. Howlin believed the objective was to entice Whitney to bring an action of defamation of character against him, and therefore to tarnish his reputation[28] (WI

26 It appears that John closed ranks with his brother against the paper and given this acrimonious history, it is not unreasonable to suspect that he deliberately leaked Purdy's letter to the *Wexford Independent* as it had shown itself to be, through its *Enniscorthy Correspondent's* letters, a staunch supporter of the MCI's Caime venture, and never missed an opportunity to cast him in a bad light. The publication of the letter would therefore have put one over on John Greene, the newspaper's editor, riled the MCI Directors and severely embarrassed Captain Barrett.

27 Possibly one of the Whitney's of *Merton House*, home of Thomas Annesley Whitney (1794-1848) J.P., who served as a juror at the 1844 Court Case, Howlin v MCI.

28 As a consequence of this, Barrett dismissed Doyle from the mine, but later took him back again.

1845). There was little the Mine Captain could do to deny the evidence of ill intention set before him. How Howlin managed to obtain either of these letters is unknown, but it hints at a possible mole in the Caime Mine Count House, and he undoubtedly wished Barrett to know this.

Five days before the impending court vase, in the interests of purchasing peace, the MCI offered Howlin the sum of £100 as compensation for the surface-breaking, which he refused to accept, dismissing it as a paltry amount. No doubt he knew that the weight of the law was on his side. The case was heard at the Court House, Enniscorthy, beginning on Tuesday 17th December 1844, before Patrick S. Colclough and Charles C. Cookman Esqrs. Justices. Also present was Accessor, John Dean Esq., who was to ascertain the damages sustained by Howlin, by reason of the MCI entering upon his land to conduct mineral searches. Mr. George Q.C., assisted by Lorenzo N. Nunn, stated the case of Howlin, and William Monk Gibbon Esq. of Sandymount, Dublin, appeared as Counsel for the MCI. The sworn jury were all prominent members of Wexford's gentry, who were undoubtedly very well acquainted with Howlin, a fellow magistrate.[29] Heard over several days, with witnesses from both sides called to give evidence, the jurors were also taken to Ballyhighland to inspect the alleged damages as stipulated under the terms of the 1723 Mining Leases Act. After deliberating for half an hour, the jury unsurprisingly returned a verdict in favour of Howlin, who was awarded £325 damages for the MCI's mineral searches in the Ballyhighland Demesne.

The MCI were furious. They felt that Howlin's deliberate obstruction over the years, which had so severely frustrated their working of the mine and hit them hard in the pocket, had been completely overlooked. Reporting to their shareholders (Mining Company of Ireland, Reports *et seq.*) at the end of 1844, the company noted how Howlin had refused arbitration and had resorted to another tribunal, the outcome of which they planned to challenge:

> … with the view of establishing his alleged rights, where those of the Company could not be entertained; and he had obtained a verdict which will no doubt be corrected by the proper tribunal, and it remains for your Board to take immediate proceedings for enforcing your rights under your lease, as advised by eminent counsel, or to abandon the Mine.

Meanwhile, work at the mine was brought to a standstill while the legal wrangle with Howlin ran its course: 'The important questions at issue between the tenant of the surface at Caime Mine, and the Company, as tenants of the minerals, regarding the Company's right to open ground and erect machinery for prosecuting their works, being yet undecided by the legal tribunal to which it became necessary to appeal, the intended searches have not been resumed' note the Board Minutes.

By mid-spring 1845, the MCI had not given Howlin the compensation they had been ordered to pay by the judge at Enniscorthy and, seeking enforcement of the court order under the statute (the Mining Leases Act of 1723), he had referred the matter to the Court of Queen's Bench, Dublin, one of the senior courts of common law. The case was heard on 21 of April (John Howlin with Richard Purdy, Secretary of the Mining Company of Ireland). The MCI's case was weak. The company argued that the inquisition (the Enniscorthy court case) should be deemed invalid, as they claimed that Howlin had personally paid the jury the sum of £50 expenses incurred in visiting his premises (Ballyhighland) to inspect the alleged damages, suggesting that he had the jurors in his pocket. This was a moot point, as Howlin had to bear the costs of bringing the case to court, because there was no mechanism under the statue for awarding costs.

The MCI also claimed that the statue did not at all apply in the case before the court, because the lands in question (comprising the mine sett) were held under a lease of 99 years, made by the owner in fee (Justin Brennan), and containing a reservation of all the mines and minerals, with power to the lessor, his executors, etc., to enter for the purpose of taking those mines and minerals, paying reasonable compensation for the same. That they had the legal right to enter the Ballyhighland part of the royalty granted by the owner in fee simple was not in doubt, nor was it being contested by Howlin. Despite their protests, the MCI was legally bound to award compensation for damages to the *surface* landowner, in this case Howlin, and not Brennan. The rub undoubtedly lay in what was considered *reasonable* compensation for same, especially in light of Howlin's obstructions to the company's mining activities over the years, but surprisingly, the MCI did not challenge this. The majority of the judges ruled in favour of Howlin, and determined that the inquisition was therefore valid (FJ 1845). The MCI Report of the Board of Directors for the first half of 1845, records the expenditure of £36 15s 'in resisting hostile proceedings at Caime Mine'.

'Our Caime Mining Works are suspended or stopped for some time, and two or three hundred people are thrown out of employment,' reported the *Enniscorthy Correspondent* in the autumn of 1845, 'by the obstruction given by the tenant in possession, to the Mining Company of Ireland'. He noted how the MCI planned to test their rights at the next assizes, aiming to bring an action for large damages against Howlin. 'The poor people of Caime are very badly off owing to the stoppage,' he reported (WC 1845), and all this on the very eve of the devastating Great Famine of 1845-52.

The MCI responded with a case of their own (Purdy v Howlin), heard at the Court of Queen's Bench in June 1846 (SNL 1846). Purdy, in his capacity as Secretary of the MCI, was suing against certain pleas filed by Howlin, and for common trespass. Howlin, who had still not been paid the compensation sum agreed by the Enniscorthy Court, the award of which had been upheld by the Court of Queens' Bench in Dublin the year before, had entered upon MCI property and seized goods, which he planned to detain until a

29 The 12 members of the jury were: Henry Robert Harvey; Walter Dawson; Matthew T. Derinzy (of *Cobemon Hall*, High Sheriff of Wexford in 1836); John Nickson Nunn (Magistrate of *Rosehill*); Thomas A. Whitney (1794-1848, a J.P. and Magistrate of *Merton*); Thomas Pounder; Edward D. Clifford; John Walsh; Thomas Rudd; Joshua Lett; John Whitney jun. and William Goodisson.

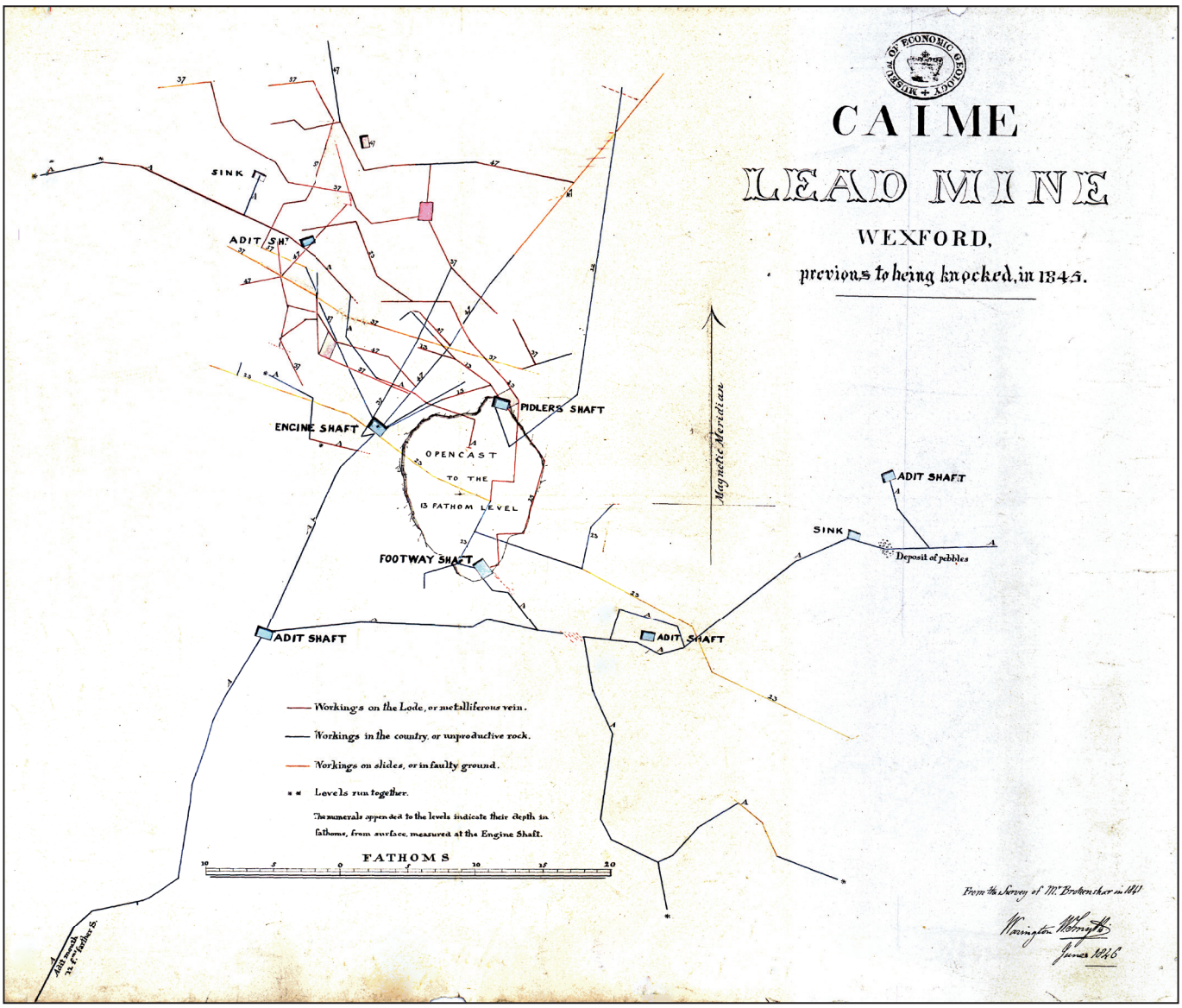


Fig. 10: Plan of Caime Mine dated June 1846, by mining geologist Warington W. Smyth (1817-1890) of the Geological Survey of Great Britain and Ireland, based on a previous survey conducted by Cornishman, Benjamin Brokenshar, in 1841. Courtesy of the Geological Survey of Ireland

sum of £350 was paid to him by the MCI. The Chief Justice stated that the Act of Parliament (the 1723 Mining Leases Act) had been controverted, for although the MCI clearly had rights to enter and search for mines and minerals in the lands of the defendant (Howlin), they were also bound to make compensation for digging and searching for these, which they had failed to do. The decision of the Enniscorthy court case was again upheld, Purdy was overruled, and the trespass declaration was thrown out.

ENDGAME

Having exhausted virtually every legal avenue, it must have become apparent to the MCI that they were simply not going to win any court case against Howlin, and would have to pay him the compensation sum awarded by the Enniscorthy Court. With the workings suspended, the prospects of the mine looking decidedly gloomy, and future issues with Howlin being almost certain, they finally threw in the towel. Howlin had ultimately won the war of attrition he had been waging with the MCI for over a decade. The Minutes of the Board of Directors for the last half of 1846, perfunctorily note the payment of £340 12s 6d, 'for *alleged* surface injury at Caime Mine'. The crushing mill was sold in 1846, and, apart from the dressing of the halvan stockpiles which gave work to a few surface hands at a cost of just over £53, there was no deep lode mining going on, and no prospect of it recommencing.[30]

A plan (Fig. 10) dated June 1846 by mining geologist Warington W. Smyth (1817-1890) of the Geological Survey of Great Britain and Ireland entitled 'Caime Lead Mine Wexford previous to being knocked in 1845' (GSI Historic Mine Records), is based on a survey undertaken by one Mr.

30 This sold for a little over £92 realising a small profit of £28 11s.8d.

Brokenshar in 1841.[31] A mining and civil engineer, Benjamin Brokenshar (1810-1891), a native of Fowey, Cornwall, had produced maps of Fowey Consols and North Fowey Consols Mines in the parishes of Lanivery and Tywardreath in 1837 (CRO Mine Plans, Fowey Consols). He would undoubtedly have known both engineer William West and mining engineer Captain William Petherick, the younger brother of the MCI's General Agent, John, who had left Fowey Consols to work for the MCI in 1832.

West and Petherick, who were something akin to celebrities in their day, had erected, and then experimented with the duty of, Austens 80-inch engine at Fowey Consols during 1835, pushing contemporary steam engine technology into new territory (Lean 1839, 96-101). They then formed a short-lived partnership, travelling to Ireland to superintend the erection of several Cornish-manufactured engines for the MCI in 1837, including, we believe, the 24-inch pumping engine at Caime (Schwartz and Critchley 2012, 62-63).[32] It is also no surprise to discover that Brokenshar, perhaps on the recommendation of one of the Petherick brothers, surveyed not just Caime Mine in 1841, but also the underground workings of the MCI's Knockmahon Mines in Waterford (NLI Map of the subterranean workings of the Knockmahon mines).

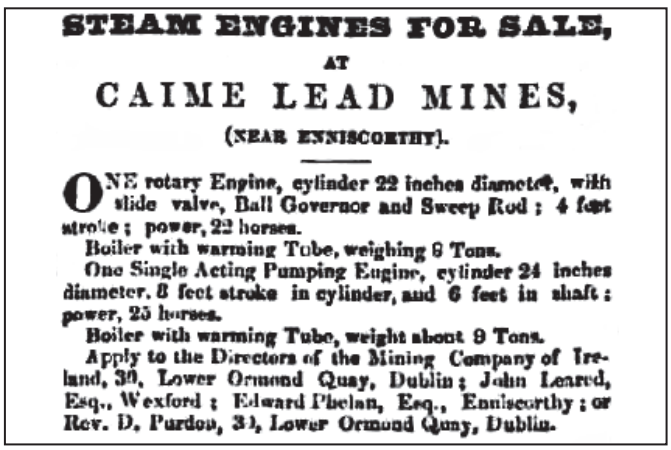
Smyth's plan shows workings to a depth of 57 fathoms (just over 104 metres), and an opencast to the 13 fathom level (almost 24 metres), which corresponds to the area where the main lode split into two branches. He later describes this opencast as flooded, and notes that the lode had been worked in this manner in consequence of the confused occurrence of strings of ore amid the old workings (Smyth 1853, 398). The plan also names three main shafts: Engine (the main pumping shaft), Footway (the shaft miners used to access the workings) and Pidlers. The peculiar name of the last shaft yet again highlights the links Caime Mine shared with Fowey Consols in Cornwall, which also had a Pidler's (man engine) shaft. This was named after Edward Pidler (c.1755-1833) of Tywardreath, who was one of the principal landowners of the old Wheal Fortune sett, which was later incorporated into Fowey Consols (Lewis 1997, 3). Prior to the arrival of Captain Barrett, it is probable that William Petherick, who remained as a Mine Captain with the MCI for several years, had an early hand in the development of Caime, and gave the shaft its unusual name.

In May 1847, the 22-inch cylinder rotative engine and the 24-inch pumping engine, were advertised for sale (WI 1847, see Fig. 11). These two smallish engines were obviously considered superfluous to needs at the company's other mines. With the pumping engine decommissioned or removed, the workings would quickly have flooded, making any future rehabilitation a costly affair. Howlin's presence at a 'Grand County Meeting' at Enniscorthy in 1850, chaired by the High Sheriff, James Power Bart., convened '… for the purpose of considering the proprietary of petitioning parliament to afford protection to native industry and capital; or otherwise, to carry out the principles of free trade in all its integrity' is shot through with irony, as he had played a major role in the closure of one of the area's largest employers just a few years before. Rather unsurprisingly, he did not address the meeting (FJ 1850).

There was some talk about the proprietors who had reopened the old Barriestown Mine on lands belonging to the Reverend King at Bannow in 1841 (WCE 1841), recommencing operations at Caime in the beginning of 1848 (DEPC 1847), but this did not come about. In fact, the MCI did not relinquish the active lease; in 1855 it was reported that £253, 5s 9d had been spent on preliminary searches at Ballycorus Lead Mine, Dublin, Ballydehob Royalty, Cork, Dooras Royalty County Galway, Tullydonnell Royalty County Armagh and Caime, stimulated no doubt by the rise in the price of lead.

However, little appears to have been done on the sett and it languished on the company's books, making an annual deficit. In July 1858, at a meeting of shareholders, it was noted that a large amount of money had been spent on the Caime and Ballycorus lead mines, then lying idle, but '... the indications had been of such a nature as would not warrant them [the MCI] to neglect them' (SNL 1858), particularly during a decade when lead prices had been bouyant (see Burt 1984, 306). However, just a few years later, the Board changed its tune, in 1861 reporting that the company had made a loss of £10 on Caime Mine 'which they could dispose of at as satisfactory terms as they could desire' (DEPC 1861); in the second half of the same year, a further £19 3s 7d was expended 'only for taking care of it' (SNL 1862). Obviously this was an unsatisfactory state of affairs, and the report for the first half of 1862 noted: 'The Directors have deemed it expedient to surrender the premises at Caime, by which they are relieved from all further responsibility in connection with that concern' (DEM 1862). This was a probably a wise move, as Kinahan (1882, 36) states that the profitable portions of the lode were supposedly worked out.

To place the MCI's operation at Caime into perspective, the mine produced a total of 3,093 tons of lead ore from 1835 to



STEAM ENGINES FOR SALE,

AT

CAIME LEAD MINES,

(NEAR ENNISCORTHY).

ONE rotary Engine, cylinder 22 inches diameter, with slide valve, Ball Governor and Sweep Rod; 4 feet stroke; power, 22 horses.

Boiler with warming Tube, weighing 8 Tons.

One Single Acting Pumping Engine, cylinder 24 inches diameter, 8 feet stroke in cylinder, and 6 feet in shaft; power, 25 horses.

Boiler with warming Tube, weight about 9 Tons.

Apply to the Directors of the Mining Company of Ireland, 30, Lower Ormond Quay, Dublin; John Leared, Esq., Wexford; Edward Phelan, Esq., Enniscorthy; or Rev. D. Purdon, 31, Lower Ormond Quay, Dublin.

Fig. 11: 1847 sale notice for the two steam engines at Caime Mine which signalled the end of deep lode mining

31 'Knocked' is the Cornish dialect term for an abandoned mine.

32 William Petherick became a MCI Mine Captain in the Armagh Mines of Derrynoose and Curryhughs where he was interviewed at the latter for the Children's Employment Commission in 1841 (Schwartz and Critchley 2012, 63-64).

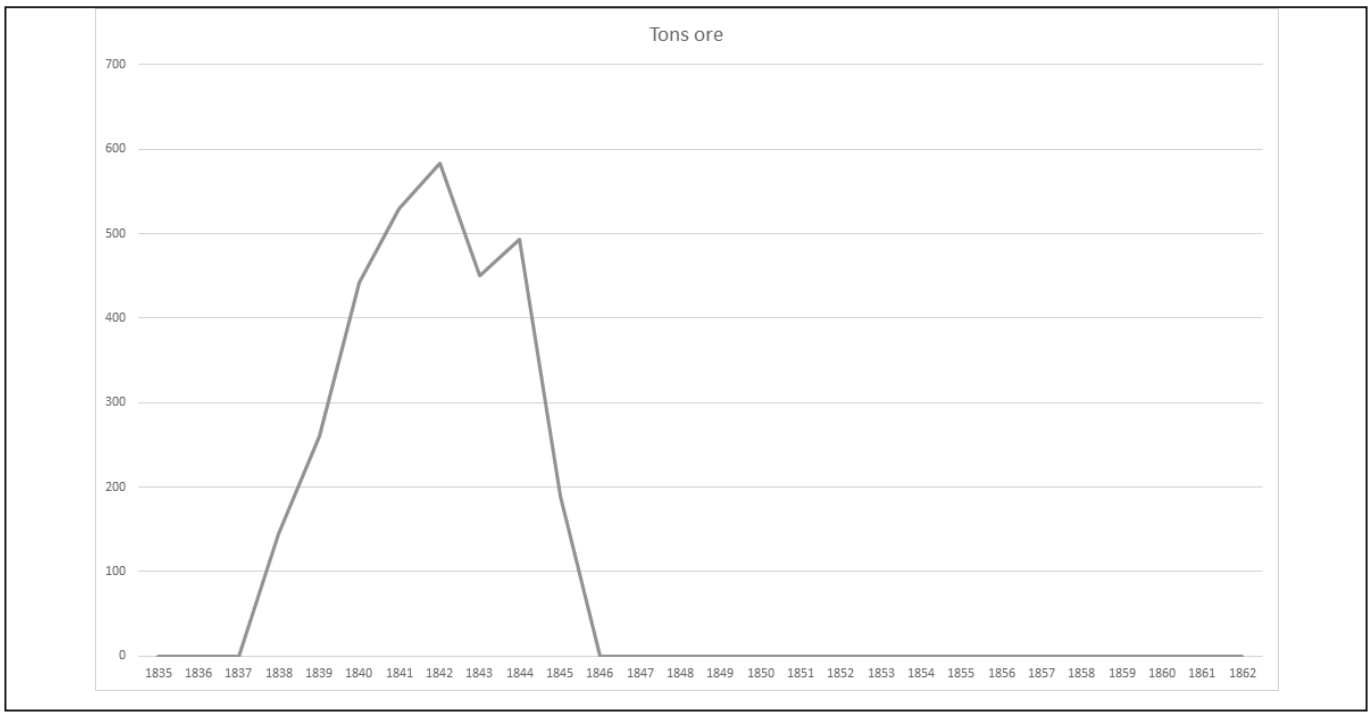


Fig. 12: Annual lead ore production from Caime Mine. With the exception of 49 tons of ore sold at Holywell in April 1840 at £9 16s 6d per ton, netting £480 4s (DMR 1840), all ore was sent to the MCI's Ballycorus smelting works

1862, which yielded an income of £26,133 from ore sales (see Fig. 12). Sales of ore commenced in 1837 and rose quickly to a peak of 583 tons in 1842, with drop in 1843, a slight recovery in 1844, and a dramatic drop thereafter, with the last ore sales in 1845. The sudden fall in ore sales between 1844 and 1845, was a direct result of impediments to mining caused by the actions of the surface tenant, John Howlin. During the brief period of the early 1840's, Caime Mine rivalled, and even exceeded, the annual ore production of the Luganure Mines in County Wicklow. This was testament to the richness of Caime, and one of the reasons that the MCI was reluctant to relinquish the lease, in spite of Howlin's actions. However, Caime Mine never made a profit in a full year (although small half yearly profits were made in 1840, 1841, 1843 and 1844, which were wiped out by losses in the other half year period). Despite good production in the early 1840's, this period coincided with low lead ore prices, which robbed the MCI of any profit, and overall, Caime Mine netted a total loss of £7,443.

Captain Barrett appears to have remained in Ireland with the MCI following the closure of Caime, as in 1853, (1853, 374) notes his involvement with another of the company's enterprises - the Luganure lead mines in neighbouring County Wicklow. The MCI's antagonist *par excellence*, John Howlin, died on 20 April 1857 aged 60, and some of the livestock, farming implements, jaunting cars and carriages of the Ballyhighland Demesne were put up for sale that July (WI 1857). On 11 November 1859, four separate estates in County Wexford belonging to the late John Howlin, including Ballyhighland and Aughathlappa, were advertised as being sold by public auction in the Landed (formerly Encumbered) Estates Court in Dublin. As Howlin's wife, Alicia Jane, had died at Ballyhighland in 1855, the lands (and debts thereon) had passed to his children: Dania Mary Howlin, a spinster, and Abraham John Howlin (1840-1910), a minor. Dania Letitia Lloyd (the children's maternal aunt), had to petition the Court to permit the sale of her deceased brother in law's properties (Find My Past).

Although the sale of Howlin's Wexford estates was adjourned, as the bidding was considered inadequate (FJ 1859), the Ballyhighland Estate and much of the adjoining townland of Aughathlappa, was eventually sold in late 1859 (LE 1860) to James Moffat J.P., a native of the Isle of Man.[33] Moffat set about modernising the farm, adding a threshing mill to the bone mill, and renovating several buildings on the property at the unworked lead mines at Caime, which served as labourers' dwellings. *Ballyhighland House* and farm remained in the Moffat family until 1919. The mansion survived intact until the 1940s, when it was abandoned in favour of more practical accommodation by the then landowners. It was later demolished. The detached five-bay two-storey quadrangular farmyard complex, and the contentious bone/threshing mill, are the only extant buildings on Howlin's much cherished former country estate.

Caime Mine continued to receive sporadic attention throughout the twentieth century. In 1912 geologist, Mr Leyburne, of the Department of Agriculture, reported favourably on the samples of lead he had secured, and in 1925 the *Irish Independent* reported that there was a strong possibility of the mine

33 An auction of farming implements, crops and remaining livestock, principal household furniture, rugs, curtains, glass and china, books and other items was held at *Ballyhighland House* on 7 February 1860 following the sale of the property. James Moffat's son, Charles Bethune Moffat, was a prominent Dublin journalist and naturalist.

reopening (II 1925). It had been visited twice that year by mining engineer and mine owner, Samuel George Knott (born in about 1862), the son of a Cornish miner born in Mary Tavy, Devon, who had 30 year's experience mining in America.[34] Knott had migrated to the Western USA in July 1884, and had been the superintendent of the Nancy Hanks Mine, located south of Grand Junction, Colorado. From 1904-1908, he had been engaged in mining in Nevada and California. He had been particularly active in the Cactus Mountain range near Goldfield, Nevada, where in 1907 he had discovered, and subsequently developed, a gold mine, operated by the Cactus Range Gold Mining Company, which he served as President (LAH 1908). Knott was of the opinion that the Caime ore was very rich, and he believed that the geological record stating it contained 74 per cent lead was very likely correct. In a subsequent reply in 1925 to the Wexford County Executive of Cumann na nGaedheal, the Minister for Industry and Commerce wrote that an expert would be sent down to the mine, but that the Department had no funds for the purpose of making borings.

The Caim Mine site was inspected in April 1948 by Murrough O'Brien (GSI Historic Mine Records, 1948) for Mianraí Teoranta. He noted the presence of a large tailings dump and an old open cast, which was almost in-filled with rubbish. He also inspected two shafts: Engine Shaft open to about 30 feet (9m) and Adit Shaft open to about 15 feet (4.5m) (precisely which one not clear, as there were several Adit, or air shafts, noted on Brokenshar's 1841 plan). However, he remarked that no workings could be seen opening off them, adding that, 'Access to old workings is virtually impossible, relief is low and the drainage adit, of which the mouth was not traceable, could have intersected the ore zone at a depth of only 40' or so.'

In 1955, the question of a survey of Caime Mine with a view to ascertaining whether any further use could be made of it, was raised in the Dáil (the Irish Assembly). The deposit had apparently been surveyed as recently as 1953, but it was felt that any development was a matter for private enterprise. However, the Minister for Industry and Commerce stated that he was prepared to bring the results of the survey to the notice of anyone who made inquiries about the existence of lead deposits at Caim. He also declared that he was prepared to grant any necessary facilities under the Minerals Development Act 1940, to any applicant who could satisfy the customary conditions as to financial and technical resources, in relation to this deposit (oireachtasdebates).

The mine continued to attract the sporadic attention of mineral companies. The earliest data held by the Geological Survey of Ireland (GSI Open files) relates to exploration by Leitch Gold Mines Ltd. They drilled a 697ft (212.4m) diamond drill hole in 1964 (CM 1). Texasgulf Inc. conducted five drill-holes in the area of the mine, totalling 1007m in 1981 (CM 1 to CM 5).

34 A naturalised American citizen, Knott was resident in Calstock, Cornwall in 1871 where his father, George, was a copper miner. His grandfather, William Knott (born c1851), had been a Silver Mining Agent in Calstock. Knott retained links to the mining town of Gunnislake in Calstock Parish, Cornwall, returning there in 1911 to settle an estate.

Other drilling around the area was carried out in 1982 by Aquitaine Mining (Ireland) Ltd. which amounted to 233m in a further three drill-holes (CM 6 to CM 8). In general, the presence of a main 105° trending vein bifurcating to the west, with complex ramifying veinlets is confirmed. Extensive faulting is also indicated. Caim Mine is now included in prospecting license area no. 4053, which is held by the Connemara Mining Company.

INDUSTRIAL ARCHAEOLOGY AND ENVIRONMENTAL LEGACY

The northern part of the mine site today is very overgrown with gorse, brambles and numerous young trees, beech being predominant, which not only obscures the extant archaeological features, but also threatens them. It is obvious that the site has experienced a significant amount of fly tipping in the past, and on a recent site visit (November 2015), the authors saw evidence of a tyre fire which had been set on top of potential archaeology.

Caim has been classifed as a type III site by the Historic Mine Sites Inventory and Risk Classification programme, meaning that general monitoring of most, or all waste piles, discharges or stream sediments, is required on a biennial basis. It ranks below sites such as Tynagh, Silvermines and Avoca, but above Allihies and Bunmahon (EPA reports).

The most visible extant remains are two freestanding tapered chimneys on circular plans, each of which carried away the fumes from, and provided updraft to, a boiler that generated steam for a high pressure engine. The oldest of the two chimneys is that at Engine Shaft, built in 1836 for a 24-inch cylinder vertical high pressure Cornish pumping engine, steamed by a single Cornish boiler, which we strongly believe to have been imported from an engineering works in Cornwall. The chimney was connected to the boiler house by an above ground flue, but this, the engine house, boiler house and coal bunker, are no longer extant. The rectangular cut shaft head may still be seen, but the shaft, although open, is choked with rubbish several feet down.

Engine Shaft chimney, now about 8 metres in height, is completely built of red brick which is highly unusual in an Irish metalliferous mine context. Engine houses and their chimneys, also known as 'stacks', usually followed Cornish designs (for examples of Cornish-type mine buildings that have been consolidated by the MHTI at Allihies, Co. Cork; Knockmahon Co. Waterford and Silvermines, Co. Tipperary, see Morris 2002, 2003 and 2011 and Critchley and Morris 2005; also Schwartz and Critchley 2012 and 2013 for Cornish-type chimneys at Hope Mine Co. Monaghan and Newtownards, Co. Down). A Cornish stack has several defining features (Trounson 1982). It is almost universally a circular, and not a square, structure. The lower two-thirds of the stack is usually built of locally procured stone, and the upper third is constructed in brick. This pattern arose for several reasons.

Firstly, suitable clay for brick-making was not found widely in Cornwall in the early nineteenth century, and therefore brick was imported, often from Bridgewater in Somerset. These

Fig. 13: The ivy covered brick stack at Engine Shaft, the sole remaining feature of the Cornish pumping engine house constructed in 1836 for a 24-inch steam engine. It is built enturely of brick, an unsual feature on an Irish metalliferous mine

bricks were red in colour and of 'stack form' - a tapering design wider at the outer end than the inner one. Secondly, building the majority of the stack in locally procured stone kept the cost down, as imported brick was expensive. Thirdly, by the time a tapered stack reached the height of the average engine house, the walls had become narrower. The trapezoid shape of the bricks made it simpler and stronger to build in a circle, without having to use excessive mortar between the bricks at their outer edge. It was also easier to haul brick to that height than large pieces of stone.

A notable feature of some Cornish stacks is the 'swell' or stringcourse between the lower stonework and upper brick section, which is largely decorative. Although the brick and stone sections are built to the same batter, the stringcourse marks the point at which the brick section commences at a smaller external diameter than the stone portion. This was designed to lessen the sudden change in the cross-sectional area of the internal bore, which might result in eddies which would impair the updraft. A brick drip ring was often added to the top of the chimney.

Although the stack at Engine Shaft is circular in form, and

Fig. 14: Aerial view of the top of the Engine Shaft chimney showing the parlous state of the brickwork

Fig. 15: The extensive spalling to the brickwork of the stack, the lack of a lightning conductor and its omission from the County Wexford RPS is cause for concern

built in a common bond pattern, it lacks some of the features described above, most notably that it does not have a lower masonry section, hence there is no stringcourse. The arched flue entry can be clearly seen on the eastern side of the stack which has an unsually large base and a pronounced taper (Fig. 13). A similar looking apperture on the opposite side probably served as an ash hole. The lower two thirds of the structure has been heavily colonised by ivy, and its upper third subjected to considerable weather erosion, leading to the deterioration of the lime mortar and extensive spalling to the brickwork, which appears to have been formerly limewashed. The upper sections of the stack have fallen away, obliterating any sign of a drip ring, littering the ground below with brick, most of which are trapezoid in shape. These bricks contain no frog and are unmarked. We speculate that they might have been handmade, rather than machine-made. Their provenance is unknown.

Why this stack should have been built entirely in brick is something of a mystery, unless local stone was difficult to procure (maybe because Howlin would not permit stone to be quarried in the immediate vicinity?), or the MCI were able to obtain brick cheaply. Certainly, the use of brick as a building material was far more established in parts of Ireland than in Cornwall in the early nineteenth century. Indeed, that '... brickfields had been established in the most remote locations of every county indicate just how widely brick was used during the nineteenth century in all kinds of buildings' (Environment Heritage and Local Government 2009, 9). It might therefore have simply been cheaper and more practical to build the stacks in brick at Caime.

The second stack was built in 1839 to serve a 22-inch cylinder, rotative high pressure engine, steamed by a single Cornish boiler, which powered a Cornish rolls crusher. Fragments of masonry walling less than a metre high of what appears to have been the boiler house or coal bunker, survive close to the base of the stack, but the engine house and crusher house have been demolished.

This stack, approximately 12 metres in height, is more recognisably of Cornish type, albeit with some modifications. The lowest quarter is constructed of cut granite chamfered cushion courses, and contains an arched entry for an above ground flue which is no longer extant. However, the remainder of the stack is built in red brick in a common bond pattern with two stringcourses; the lower constructed of granite, and the upper one, of corbelled brickwork. Fragments of lime plaster adhere to the granite masonry revealing that it was rendered, and it appears the brick courses were limewashed. The external rendering and limewashing of mine buildings was not uncommon on Cornish mines (Burt 1972, 35).

Ivy has colonised some of the granite stonework and is streadily encroaching on the uppermost part of the brickwork section. This has been subjected to considerable erosion, particularly the southwestern side exposed to the prevailing winds. This weathering has resulted in the deterioration of the lime mortar and extensive spalling. There is no evidence for a drip ring, but the uppermost section of the brickwork has fallen away. The bricks contain no frog, are unmarked, and,

Fig. 16: Built in 1839, the chimney which served the crusher engine house, is architecturally more akin to the quintessential Cornish-type stack that graces numerous mine sites in Ireland

Fig. 17: Aerial view of the chimney showing extensive damage to the uppermost brick courses

Fig. 18: Damage to the upper stringcourse and ivy encroachment of the brickwork render the structure highly vulnerable to further decay

Fig. 19: Extensive spalling to the brickwork in the upper two thirds of the chimney is evident. Listed on the County Wexford RPS, the conservation of this important industrial monument is urgently required

possibly like those comprising the engine Shaft stack, handmade. Their provenance is indeterminable. Again, the construction of the majority of this chimney in brick points to a lack of suitable locally procured stone.

A quantity of cinder waste can be seen above, and on, the rough track to the east of the crushing engine chimney. This undoubtedly came from the nearby boiler of the crushing engine house, and has been dumped here.

Both stacks appear on the National Inventory of Architectural Heritage database (Buildings of Ireland), described as, 'A pair of elegant red brick chimneys identified as an interesting component of the nineteenth-century industrial architectural heritage of rural County Wexford on account of the connections with the Caim Lead Mines... '. However, only the crusher house stack is listed in County Wexford's Record of Protected Structures (Reference number WCC1083). This confers a degree of protection upon it (in theory the landowner has a duty of care to protect this monument from decay and/or destruction. However, in practice this has proved difficult to enforce).

However, there is no mention to any curtilage around this stack, which is essential to provide vital contextual historical and geological information about the mine's development, foremost of which is the large tailings dump at the southern part of the site (see below). Neither stack has a lightning conductor installed, making them highly vulnerable to lighting strikes, and trees growing in close proximity, especially at the Engine Shaft, threaten to undermine the stability of their foundations. Unless urgent consolidation work is undertaken on both structures, they are likely to suffer further degradation and probable collapse.

The highly eroded walling of a series of buildings in the northern part of the mine site, including the count house or mine offices, workshops such as a carpenter's shop and various stores mentioned in the 1838 sale advertisement (DMA 1838), are extant to less than a quarter of a metre, built of randomly coursed local stone. The blacksmith's forge is sited within virtually inpenetrable vegetation, and it was not possible to inspect the area for any extant remains.

A channel at the far south western part of the site just above the tailings dump, is most likely a spillway that formerly conveyed water pumped up the Engine Shaft, rather than the mine adit as suggested by Stanley *et al.* (2009, 3-4). This water would eventually have drained into the stream running along the bottom of the valley. The opencast, in-filled by dumping, is now virtually obscured by vegetation. A large spoil heap close by, which probably represents waste from Engine Shaft, Footway Shaft and the overburden from the opencast, is mostly devoid of vegetation.

The mine dressing floors most likely occupied an area to the south and east of the site, close to the Cornish rolls crusher house, making use of the topography - which includes a level area ideal for the primary dressing floors - below which is a gentle gradient perfect for buddling, and a source of water from a spring emanating in a field across the road from the mine. It is highly likely that water emerging from the adit was also used for dressing purposes.

A concrete animal pen has been built over part of this flat area. We speculate that this was probably part of the cobbled primary dressing floors. On the track below the crushing engine house chimney are fragments of the rectangular wooden base of what appears to be a hand operated brake jig. A recent tyre fire set on top of this has destroyed parts of the previously exposed wood. Slightly to the north of this feature on the rough pathway leading past the animal pen, is what appears to be a collapsed wooden box launder and a small fragment of cobbled dressing floor.

The southern end of the mine site is dominated by extensive spoil and tailings heaps approximately 3250m^2 in extent, where the gangue from the dressing processes was dumped. Solid waste geochemical analyses have recorded high concentrations of lead, zinc, copper, sulphur and manganese, with lead readings being particularly high at 5674-85213 mg/kg (median 56028 mg/kg). The high lead concentrations measured in run-off and seepage from the tailings dumps do not appear to persist for any significant length downstream of

Fig. 20: The extensive tailings dump at the southern end of the site contains high levels of heavy metals which has led to the area being fenced off for health and safety reasons

the site, once the surface water has been diluted by stream water.

However, stream sediments are contaminated for at least one kilometre downstream of the site, where measured lead concentration is 2582 mg/kg. Recommendations to prevent access to quad bikers using the tailings dumps for recreational purposes, due to the high probability of airborne contamination and direct contact contamination, has resulted in the fencing of the area. It has been recommended that livestock should not be permitted direct access to watercourses with lead concentrations greater than 1000 mg/kg (Stanley *et al.* 2009, 7).

However, despite the toxic legacy of metalliferous mining, the Caim Mine site is one of those in Ireland identified by Holyoak and Lockhart (2011, 11-13) to contain Calaminarian Grassland. This habitat is listed on Annex I of the EU Habitats Directive, and is notable for the presence of rare bryophytes (mosses and liverworts). Their field research detected the presence of *Cephaloziella nicholsonii* and *Scopelophila cataractae*. Indeed, they note that the relatively bare, highly toxic and extensive tailings dump to the south of the mine site, contain large patches of *Scopelophila cataractae*, 'the largest population extant in the British Isles', and suggest that due to its importance as a site containing significant colonies of rare metallophyte bryophytes, Caim should be considered for Natural Heritage Area (NHA) status.

Although Caim was a relatively small scale nineteenth century mining operation, this paper has shown that it has a fascinating history. Moreover, it has bequeathed far more than a toxic legacy to rural Wexford in the shape of its unusual industrial architectural monuments. These are especially valuable and worthy of preservation in a county that is not renowned for its extant mining heritage.

Fig. 21: Although historic mining at Caim has left a toxic legacy, these dumps contain the largest recorded patches of a rare metallophyte bryophyte in the British Isles

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APPENDIX ONE

10 Geo. 1., c. 5., otherwise referred to as the Mining Leases Act of 1723, was the Statute under which the Mining Company of Ireland was set up in 1824. As it is difficult to obtain a complete copy of this Statute, which lay on the Statute Books of the Republic of Ireland until all schedules within it were finally repealed in 2009, we have reproduced it here in full as a valuable document for researchers (IPP 1765).

CHAP. V.

An act for the further encouragment of finding and working mines and minerals within this kingdom.

WHEREAS by an act of Parliament made and enacted in the reign of the late Queen Anne, intituled, *An act to repeal the ſtatute made in the fifth of Henry the fourth, againſt multiplying gold and ſilver; and to prevent diſputes and controverſies concerning royal mines*; it was amongſt other things enacted, "That all and every perſon or perſons being ſubjects to the "crown of England, bodies politick or corporate, that then "were or thereafter ſhould be the owner or owners, proprietor "or proprietors, of any mine or mines within the kingdom of "Ireland, wherein any ore then was or thereafter ſhould be diſ-"covered, opened, found, or wrought, and in which there was "copper, tin, iron, or lead, ſhould and might hold and enjoy "the ſame mine or mines and ore, and continue in the poſſeſſi-"on thereof, and digg and work the ſaid mine or mines or ore; "notwithſtanding that ſuch mine or mines, or ore, ſhould be pre-"tended or claimed to be a royal mine or royal mines, any law, "uſage, or cuſtom to the contrary notwithſtanding:" and whereas the ſaid act has not had the full and deſired effect, although many mines and minerals have ſince the paſſing the ſame been found out and diſcovered in this kingdom, ſome whereof have been wrought to the great advantage of the publick, and many others, though found, have not been wrought, by reaſon of the legal incapacities the perſon or perſons lie under, in whoſe eſtate or eſtates the ſaid mines or minerals are ſo diſcovered: and whereas the working of all ſuch mines and minerals as are already diſcovered, or which ſhall hereafter be diſcovered, will be greatly for the benefit and advantage of the nation, by not letting the riches thereof lie buried in the earth, and will alſo tend very much not only to the imploying poor and indigent, but alſo idle, looſe, and diſſolute perſons, who for want of imployment become a burthen to the nation; for remedy whereof, be it enacted by

15 G. 2. 10. *extended to coal mines.*

23 G. 2. 9. *explained, &c.*

25 G. 2. 10. *power to make roads from mines to rivers.*

29 G. 2. 12. *againſt unlawful combinations.*

Recital of 4 *Anne* 12. 3.

Mines not wrought from legal incapacities of perſons where diſcovered.

Diſadvantage thereof to the nation.

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by the King's moſt excellent Majeſty, by and with the advice and conſent of the lords ſpiritual and temporal and commons in this preſent Parliament aſſembled, and by the authority of the ſame, That from and after the five and twentieth day of March, which ſhall be in the year of our Lord one thouſand ſeven hundred and twenty four, it ſhall and may be lawful to and for all archbiſhops and biſhops, deans, deans and chapters, arch-deacons, prebendaries, and other dignitaries eccleſiaſtical, parſons, rectors, vicars, and to and for all bodies politick and corporate, colleges, cathedral or collegiate churches and hoſpitals, and to and for all and every perſon or perſons whatſoever, who now are, or at any time hereafter ſhall be, tenant or tenants for life, with an immediate remainder to his or her firſt and every other ſon in tail male; and alſo to and for all and every perſon and perſons, who now are, or at any time hereafter ſhall be, tenant in dower, or by the curteſie, by and with the conſent and concurrence of ſuch perſon and perſons as ſhall be ſeized in reverſion or remainder of an eſtate of an inheritance of and in any mines, herein after mentioned, immediately expectant upon the death of ſuch tenant in dower, or by the curteſie; or in caſe of the nonage, ideocy, or lunacy of ſuch perſon ſo ſeized in reverſion or remainder, then with and by the conſent of the guardian or guardians of ſuch minor, or the committee of ſuch ideot or lunatick, by and with the approbation of the lord chancellor, lord keeper, or commiſſioners of the great ſeal of this kingdom for the time being, in the ſaid caſes of nonage, ideocy, or lunacy, by indentures under their reſpective hands and ſeals, wherof counterparts are to be duly executed by the reſpective leſſees, to make and grant leaſes not exceeding the term of thirty one years, of all mines and minerals whatſoever, which are already found, or ſhall or may hereafter be found, and diſcovered within their reſpective manors, glebes, or lands; ſo as the ſame be made to commence in poſſeſſion, without any fine or income, or any other conſideration than the yearly rent in ſuch leaſe or leaſes reſerved and mentioned; and ſo as the moſt improved rent, that can be reaſonably gotten for the ſame, be reſerved upon every ſuch leaſe; and that ſuch rent be not leſs in value than one tenth part or ſhare of the ore to be dugg and raiſed out of ſuch mines or minerals, without any regard had to the charges and expences in digging, raiſing, and laying the ſame on the bank; and ſo as ſuch rent ſhall be reſerved and made payable in and by ſuch leaſes to ſuch leſſor and leſſors, or ſuch other perſon and perſons as ſhould from time to time, during the continuance of ſuch leaſe, have been actually intitled by the laws of this kingdom to the benefit of ſuch mines and minerals, in caſe this act had not been made.

Biſhops, &c. colleges, hoſpitals, tenants for life remainder to firſt, &c. ſon in tail, in dower, or by courteſy, with conſent of reverſioner, may make leaſes of mines for 31 years,

to commence in poſſeſſion, without fine, &c.

at the moſt improved rent,

not leſs than one tenth of the ore, without regard to digging, &c.

reſerved to leſſor, &c.

II. Provided

A. D. 1723. Chap. 5.

II. Provided always, That where any ſuch leaſe ſhall be made by any tenant for life not diſpuniſhable of waſte, with immediate remainders to his or her firſt and every other ſon in taile, two fifth parts of the yearly rent to be reſerved thereupon ſhall be be made payable to the tenant for life, and the other three fifth parts of ſuch rent to the perſon and perſons in remainder, in whom the inheritance of the mines comprized in ſuch leaſe ſhall from time to time happen to be veſted, during the time ſuch inheritance ſhall continue veſted in him and them reſpectively.

Two fifths of the rent to tenant for life not diſpuniſhable of waſte: the other 3 to thoſe in remainder in whom inheritance.

III. And whereas it may happen, that ſuch tenants for life, tenants in dower, or by the curteſie, may be infants, ideots, or lunaticks: be it therefore enacted by the authority aforeſaid, That in all and every ſuch caſe and caſes it ſhall and may be lawful for all guardians, truſtees, and committees, of and for ſuch infants, ideots, and lunaticks, by and with the conſent of the lord chancellor of this kingdom, or lord keeper, or commiſſioners of the great ſeal for the time being, to grant and make leaſes, not exceeding the term of thirty one years, of all mines and minerals whatſoever, as are or ſhall be found in the mannors, lands, and tenements of ſuch infants, ideots, or lunaticks, for the ſaid term of thirty one years, ſo as ſuch rent be reſerved as aforeſaid, and ſo as ſuch conſent be had, and all the other directions and reſtrictions herein before mentioned be obſerved in the making ſuch leaſes.

Guardians and committees with conſent of lord chancellor may make ſuch leaſes for infants, ideots, or lunaticks.

IV. And whereas many proprietors of lands in this kingdom for the improvement thereof, and for encouraging improving tenants, have ſett their lands in fee-farm, and for leaſes for lives renewable for ever, or for a long term for years, with an exception of mines or minerals in ſuch fee-farms or leaſes: be it enacted by the authority aforeſaid, That all and every perſon and perſons, to whom the rent upon ſuch fee-farms, or the immediate reverſion in fee ſimple or fee tail expectant on ſuch leaſe or leaſes, do or ſhall belong, ſhall have full power and authority to open, digg, and work all mines or minerals, which ſhall or may be had or found in or upon the ſaid lands, and to raiſe and carry away the ore thereof, or to demiſe the ſame for thirty one years as aforeſaid; and that all and every the perſons aforeſaid, and all and every perſon and perſons, to whom the ſaid mines and minerals ſhall be demiſed as aforeſaid, ſhall and may have free liberty to build all ſuch houſes, as ſhall be found convenient and uſeful for working the ſaid mines, and to digg and make turfe for the uſe of the ſaid houſes, where the ſame ſhall happen to be in boggs or mountains, only; making always to ſuch perſon or perſons as ſhall be intitled to the poſſeſſion of the lands, whereon or wherein

Lands let in fee farm, or for lives renewable for ever, or long term years, Mines excepted, they to whom rent or reverſion belong may open & work mines, and make ſuch leaſes. 23 G. 2. 9.

and houſes for ſaid purpoſe may be built, and turf dug for uſe thereof,

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in ſuch mines and minerals ſhall be dugg for, wrought, or found, ſuch yearly or other reaſonable allowance for the damage ſuſtained upon account of digging ſuch mines, and raiſing and carrying away the ore, or for the building ſuch houſes, or the digging ſuch turfe as ſhall be agreed upon by and between the parties intereſted therein; and in caſe the ſaid parties do not agree, then ſuch damages ſhall be determined and aſcertained by a jury of twelve legal freeholders of the county, where ſuch mines or minerals ſhall be opened, dugg for, or found, upon their oaths in the preſence of two or more juſtices of the peace for ſuch county.

Allowance for damage as agreed on,

or by jury before two juſtices.

V. And be it further enacted by the authority aforeſaid, That in caſe the ſaid parties do not agree among themſelves, then and in every ſuch caſe any two neighbouring juſtices of the peace for ſuch county are hereby impowered, authorized, and required, to iſſue a precept in writing under their hands and ſeals, requiring the ſheriff of ſuch county to return four and twenty freeholders at the leaſt at ſuch time and place, as ſhall in ſuch precept be appointed, due notice of which time and place ſhall always be given to both parties; out of which four and twenty freeholders ſo returned, twelve legal and indifferent men ſhall be ſworn to try and aſcertain the damages, and the allowance to be made for ſuch damages; and that the ſaid two juſtices do and ſhall certifie ſuch finding or inquiſition under their hands and ſeals into his Majeſty's court of King's-bench, which ſhall be recorded in the ſaid court, and the like proceſs ſhall iſſue thereon, as in caſe of a judgment upon a writ of inquiry of damages: provided that, before the ſaid twelve men ſo ſworn ſhall make any return for the aſcertaining of the ſaid damages, ſix of them at leaſt ſhall perſonally inſpect and view the ſeveral places, where the ſaid damages are alleged to be done.

Sheriff on precept ſhall return 24 freeholders, due notice of time and place,

juſtices ſhall certify the finding into B. R.

Like proceſs as in judgment on inquiry of damages.

Six of the jury ſhall view the places.

VI. Provided always, That it ſhall not be lawful to or for any perſon or perſons in purſuance of this act to open, dig for, or work any mines or minerals in any land belonging to any archbiſhop, biſhop, dean, archdeacon, prebendary, or other dignitary eccleſiaſtical, parſon, rector, or vicar, whereon any church, houſe, or out-houſe ſhall ſtand or be erected, or wherein any church-yard, garden, orchard, or avenue now are, or hereafter ſhall be, made or planted; any thing herein contained to the contrary notwithſtanding.

Mines ſhall not be opened or worked in lands of biſhops, &c. whereon a church or houſe, church yard, garden, orchard, or avenue:

VII. Provided always, That it ſhall not be lawful to or for any other perſon or perſons in purſuance of this act to open, ſearch, dig for, or work any mines or minerals in any ſpot of ground, whereon any houſe, backſide, garden, orchard, or avenue now are or ſhall be, without the licence or conſent of the tenant or poſſeſſor thereof, and of all and every other perſon or perſons who

nor where any houſe, &c. without licence in writing of tenant or poſſeſſor, and of immediate reverſioner.

who ſhall be ſeized of the immediate reverſion and inheritance of the ſaid lands expectant on the leaſe or leaſes, which have been or ſhall be made in fee ſimple or fee tail, firſt had and obtained in writing. A. D. 1723. Chap. 5.

VIII. Provided alſo, That if any mortgagee or mortgagees of any lands or tenements do or ſhall make ſuch leaſe or leaſes as aforeſaid, the ſame ſhall be void againſt the perſon or perſons, who ſhall be intitled to the equity of redemption of the ſame, unleſs ſuch perſon or perſons ſhall join in ſuch leaſe or leaſes, or otherwiſe conſent or agree thereto.

Leaſe by mortgagee void againſt perſon having equity of redemption, unleſs he joins or conſents.

IX. And be it enacted by the authority aforeſaid, That all leaſes made by vertue of and purſuant to this act ſhall be and remain good, valid, and effectual, not only againſt the perſon, who ſhall make ſuch leaſes, but alſo againſt all and every their reſpective ſucceſſors, and all and every perſon and perſons having or claiming any eſtate, right, title, or intereſt, in reverſion or remainder expectant on the determination of the eſtate of ſuch tenant for life, tenant in dower, or tenant by the curteſie, in, to, or out of, any mines ſo to be demiſed; any law, ſtatute, or uſage, to the contrary notwithſtanding.

Leaſes good againſt ſucceſſors and reverſioners.

X. Provided always, That if any perſon or perſons, who ſhall take, have, or claim, any right, title, eſtate, or intereſt, of or in any mine or mineral by virtue of or under any leaſe to be made in purſuance of this act, ſhall not begin effectually to work in ſuch mine or mineral within one year next after the commencement of ſuch leaſe, or ſhall after the ſaid firſt year neglect to keep ſix able workmen therein employed for one hundred and fifty days in any one year, during the term of the ſaid leaſe, for the effectual carrying on of the ſaid work; then and in either of the ſaid caſes the leaſe ſo made ſhall be from thenceforth null and void both in law and equity; and it ſhall and may be lawful for the leſſor or leſſors, or ſuch other perſon or perſons, who ſhall be intitled to the rent reſerved on ſuch leaſe, to re-enter in and upon ſuch demiſed premiſſes, and the ſame to have again, repoſſeſs, and enjoy, as in his or their former eſtate.

Leſſee not beginning to work in a year, or afterwards not keeping 6 able men employed 150 days in a year, leaſe void;

and leſſor may re-enter.

XI. Provided, That nothing in this act contained ſhall extend to enable any jointreſs to make any leaſe or leaſes of any mines or minerals, which are or ſhall be found in any lands or tenements, which ſuch jointreſs ſhall hold as part of her jointure.

Jointreſs ſhall not make leaſes of mines.

XII. Saving and reſerving to the King's moſt excellent Majeſty, his heirs and ſucceſſors, all ſuch rights of pre-emption of ore, and all other rights, duties, and demands whatſoever, in, unto, or out of, any mines, minerals, and ore, or any of them, as his Majeſty, his heirs and ſucceſſors, might or would have been entitled unto, in caſe this act had not been made; any thing herein contained to the contrary notwithſtanding.

Saving to the King right of pre-emption of ore, and all other rights.

1 G. 2. 24. *deſtroying the engines, &c. felony, and a penalty for imbezzling tools.*

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