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The Metal Mines of Tipperary

By Des Cowman

Various Mines (pre-1800)

Tipperary's major mining operation at Silvermines has been discussed in a previous issue of this journal.¹ This article examines the surviving evidence of other mining in the county or its immediate hinterland. For none of them would it appear that any record has survived to indicate when it was first discovered and worked.

The earliest surviving references to possible local mining are to four miners and a smelting expert operating at a place called "Oulys" in 1264.² This is possibly Oola which, although not strictly in co. Tipperary, is on its Limerick border. Another 250 years pass, however, before there is definite reference to a mine of approximately the same name, and this time the location is certainly Oola.

A further sporadic reference to it occurs in 1607 under the name "Owles", when apparently its silver potential was considered—though there is no further evidence of whether it was worked.³ Almost another 250 years pass before there is further mention of Oola. In the mid-19th century it was exploited not so much for minerals but for manipulation of shares, as explained below.

While some attempts can be made to date early mining at Oola, none at all can be ventured for three other sites in Co. Tipperary investigated by the eminent 19th-century geologist, G.H. Kinahan. About an otherwise unreported copper mine at Rathavenogue all he could say in 1860 was that it is "old". He gave a little bit more detail about Garrykennedy near Lough Derg, where he reported on tools of stone and wood having been found, as well as a skeleton buried under a heap of stones.

He also investigated a mine working at Kilnafinch near Toomevara; on the basis of chemical changes on the walls of the opening he concluded that it was "very old".⁴ Neither of these latter two mines would appear to have been later reworked, and there is no means now of guessing whether they are medieval or perhaps 18th-century.

The same source mentions a lead showing at Cooleen near Borrisoleigh where at some unspecified time (probably in the 19th-century) an old man sank a shaft. It was said, however, that he was really looking for coal!⁵

At Gortdrum there were at least two phases of active interest during the 18th century. In 1758 a Patrick Hanly of Nenagh brought his "mine agent" to examine an apparently newly-discovered showing of lead and copper there. They failed to find a vein, it seems, and the enterprise was presumably abandoned shortly afterwards.

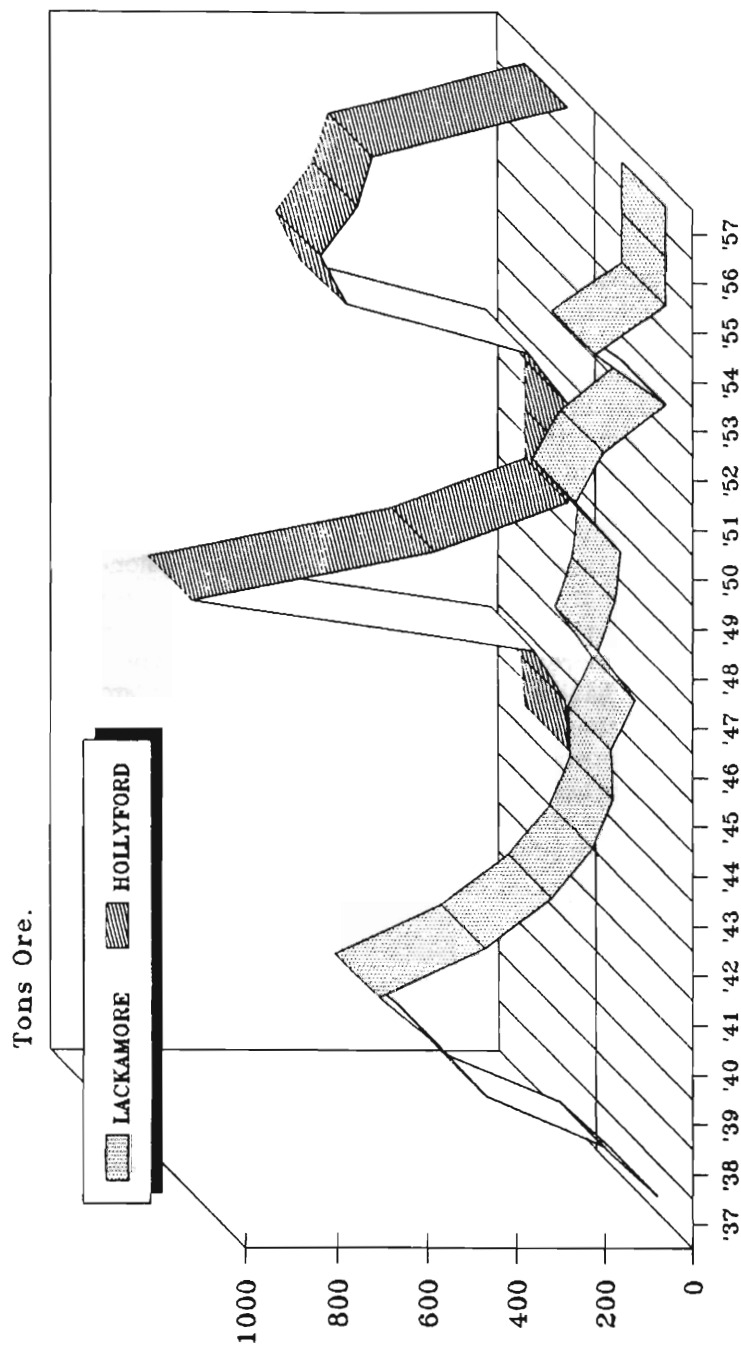
Hanly does mention, however, two other mines he was operating sufficiently close by for his clerk and steward to serve all three. Unfortunately he provides no location. While Oola is sufficiently near to permit this, there is no other mention of mining there at the time. Further consideration was given to Gortdrum 15 years later when various offers were made to mine there; but apparently they came to nothing.

It seems that consideration was given to mining there a third time (before 1806), but there is no report of any actual developments.⁶ The only other 19th-century record of Gortdrum was in 1825-26, when it was tested by the Mining Company of Ireland and its prospects dismissed. After that there is no further mention of it until it was "discovered" in 1963. The only period of active mining at Gortdrum, therefore, would seem to be its recent short phase from 1967 to 1975.⁷

The two other major Tipperary mines of the 19th century have no similar background of references, satisfactory or otherwise. An anonymous source in the 1820s suggests that Hollyford



TWO MID-19th-CENTURY TIPPERARY COPPER MINES



1837 — 57

From Mineral Statistics. (see note 19)



was first mined about 100 years previously.⁸ While no other direct reference to this has been found, a later 19th-century inspector did note evidence of forgotten mine workings there.⁹

There is some suggestion that Lackamore was first worked in the 18th century. Robert Kane in the 1840s states that Lackamore “has long been known and worked”, but is specific only about the early 19th-century operation.¹⁰ Oola is not mentioned again until the 1850s.

Of these three, the operation at Hollyfield in the mid-1850s seems to have been the most significant, followed by Lackamore in the early 1840s; (see graph). The other phases of working these two were of lesser economic importance. As for Oola, there is no record of any ore being removed from there. Taking these mines in order of importance, I shall first deal with Hollyford.

Hollyford

No details have emerged about the suggested 18th-century working here and the only direct evidence that there was active interest in the copper potential is a lease dated 1769 from landowner “William Purefoy to Charles Michin and others” of the “mines and minerals of Alnemacluff [now Foilmacluff] for thirty one years.”¹¹ However, by the end of the 18th century it seems to have been either forgotten or deemed not worth considering, to judge from its omission from two quite comprehensive reports of the period.¹²

A later report on Hollyford states that it first opened in 1816, although the first positive 19th-century mention of it was in 1825, citing unlikely ore values of up to 33%.¹³ However, the company that carried out these tests, the Mining Company of Ireland, according to their own report found nothing to excite them and abandoned Hollyford.¹⁴

Nevertheless, this company did return there in the mid-1830s. They spent £152 on exploratory work in 1837 and £195 the following year.¹⁵ They were reported as having 40 men working in three different locations at Hollyford and to have shipped some ore *via* Clonmel through Waterford though there is no actual report of copper sales from Hollyford at this time.¹⁶

They decided to abandon the operation there, but a new discovery close to the older trials caused them to reconsider this decision. They hoped it could be unwatered by horse power, but by the end of 1839 they decided that this was impossible and once again abandoned Hollyford.¹⁷

Within six years, however, Hollyford was back in operation and producing copper. Details of how this came about have not survived, nor why a London-based company should have interested itself in this location. This company was called the *Hollyford Copper Mining Association*. Their production began in 1845 with a modest 8 tons followed by 77 tons in 1846.¹⁸ That year it seems they hit a rich lode which accounts for the highly profitable 841 tons produced the following year.¹⁹

At this stage it was promising to be a major mining operation. The only detail that has survived from the mid-1840s, however, is of the waterwheel which drove the plunger pumps 24 hours a day unwatering the mine. It was 34 foot in diameter, 4.5 feet wide, was fed by three sluiches and revolved once every ten seconds.²⁰

But by 1847 it was apparent that the mine had reached a depth where investment in further pumping and ore-raising equipment was needed. This outlay was made early in 1848 when a steam engine was installed. The company must have been disappointed with not only the quality but also the quantity of ore that resulted — 308 tons, much less than half that of the preceding year. Furthermore, there was a significant drop in the price of copper in 1848, mainly due to the political upheavals that convulsed all of Europe that year.²¹

The response of the Hollyford Copper Mining Association may have been to change its capital structure and amalgamate with a newly formed smelter on the river Barry outside Swansea. This was *Law's Patent Copper Company*, established in 1848 and admitting within 12 months to difficulties



in obtaining ore. Among its directors were Messrs. C. & E. Hunt, whose names appear as directors of the Hollyford Company early in 1849.

There is no public record of ore sales after that, although it is possible that because this was a private arrangement, sales were not recorded. However, ore cannot have been very significant, because by the early 1850s the company's £11 shares were selling for £7, whereas over the good years of 1847-48 a dividend of £3-5 shillings per share had been paid.²²

Work nevertheless continued at Hollyford, and by 1852 the main shaft had reached a depth of 375 feet. Shareholders were asked to contribute 10 shillings per share held to the future development of the mine.²³ By early 1853 the company were making excuses for their failure to sell ore. They blamed it on the difficulty of getting ships to transport the ore from either Limerick or Waterford.²⁴

However, they were on the verge of four years of profitable ore production (see graph), and it is possible that confidence in the mine was further boosted in 1854 by the editor of the *Mining Journal* who, perhaps, overpraised the enterprise, declaring it to be richer than any mine in Cornwall.²⁵ Yet the years 1855-56 were good ones for the company. In the former year 2s-6d was paid on each of the 2,000 shares, with a 10s dividend in 1856.²⁶

However, this success was short-lived, and by 1857-58 the mine was in trouble. A later report on it says that the copper was richest near the surface and continued to produce good ore (5472 tons in all, reportedly, worth £105,000) down to a depth of 540 feet. It then deteriorated and was not viable below 660 feet.²⁷

No ore production is reported for 1857, and the end would seem to have come in the Autumn of 1858. That October Hollyford mine was offered for auction. The listing of the mine equipment gives some idea of the scale that the operation had reached over the 13 years of its existence. There were two engines by 1858 — a large one (40-inch cylinder) for pumping the mine and a smaller one (20-inch) for raising the ore.

There was also a crushing mill driven by a 28 foot waterwheel (4-foot breast), while a smaller waterwheel probably drove the jiggging equipment. Two horse whims for raising ore may have been left over from an earlier phase of the operation. There were also 750 feet of iron rails and seven wagons.²⁸ What happened to all this material goes unrecorded. However, once the pumps stopped the mine would have flooded, and it would then have required major expense to restart the operation.

No doubt the closure of the mine was a major social disaster for Hollyford: but few details survive. The mine manager Pascoe is said to have gone off to Australia along with at least one of the local miners, according to local tradition. Pascoe's house and several others built for senior mines personnel lay empty, although in sufficiently good condition for it to be considered feasible to refurbish them some 60 years later. As most of the work force had found lodgings in local farmers' houses, these too were deprived of a source of revenue when the mine closed.²⁹

Nevertheless, there was continued interest in Hollyford's potential. "One of the best mines in Europe" runs one report on it in 1858.³⁰ Another report of the 1863 claims that a new lode of solid copper ore had been found three feet wide, and "great things" were expected to happen there soon.³¹ They did not, it seems.

However, a report of 1865 implies that there was plenty of ore left at depth, but that the Hollyford Mining Company had not had the capital to exploit it. This is then backed up by an item on Hollyford signed J. Penrose.³² This, as it would seem, was part of the marketing for the setting up of the *East Hollyford Copper Mines* company later that year, with further anonymous laudatory reports on it in 1867.³³

Some details of the personnel in that company have survived because of a bitter row between them which they (obligingly) fought out in the columns of the *Mining Journal* early in 1867. This first

became public when the Rev. J. Thomas McNally from Dublin placed a notice in that journal disassociating himself from the East Hollyford Company.

A prompt counter notice to that came from the chairman, E. Harvey Wadge, writing from Hamburg. He found McNally's notice "extraordinary", as the reverend gentleman had been a director of the company. Not so, countered McNally in an advertised reply. He had been training Wadge for the Trinity entrance exam; Wadge gave him 25 free shares, which he had returned. His name was not on any prospectus.³⁴

The reason why Rev. McNally was jumping clear of the firm then became evident. Wadge was the main promoter of the company along with a Mr. Hoare. Their main selling point, it seems, was the supposedly rich lode newly found half-a-mile east of the previous working. They attempted to sell 2800 £3 shares and succeeded in raising £2,000-£4,000 which they divided among themselves.

They did put up the pretence of running a small operation at Hollyford, but paid neither the workmen nor merchants. Hoare wound up in the insolvency courts, where he was remanded for three months; this may explain Wadge's presence in Hamburg! Eventually a magistrate's decree ordered that all material on the main site should be sold in order to pay workmen and merchants.³⁵

Meanwhile, two other groups had been in competition for mining leases at Hollyford in 1866. A Dublin partnership of Graham and Grant got a lease of the old mine from landowner Edward Purfroy that year.³⁶ Early in 1867 20 tons of ore were said to be in the course of preparation. No ore sales are reported from it, however; nor is it likely that this partnership persevered.³⁷

The second group expressing an interest in Hollyford in 1866 were from Manchester, and it may have been they who set up the *Reafadda Mining Company* in 1871. Little would be known about this operation were it not for an accident. A local man John Neill fell 40 feet down a shaft they were sinking and was killed. His son and son-in-law were at the bottom and could not get out until the next shift came on; apparently all three had been driving a new adit further north to test for an extension of the original lode.

While this was said to be "promising", no more is reported of it.³⁸ Indeed, it is hardly likely that with continuously falling copper prices any later 19th century operation at Hollyford would have been viable in view of vast new ore-bodies being discovered in other parts of the world.

By the early 20th-century there was little evidence left of the great days of Hollyford mining. The records had been all lost and the shafts "either fallen in or covered over", according to a report of 1918. The only serious attempt to reopen Hollyford mine in this century was in 1957, when the Mineral Development Corporation cleared out the old workings, but on the basis of their investigations decided against further investment.³⁹ It seems unlikely now that mining will ever again be carried out at Hollyford.

Lackamore

Following the collapse of a company operating at Silvermines some of the directors in 1803 set up an operation at Lackamore. What directed them there went unreported and little information survives about their working there.⁴⁰ Presumably this was a short-lived enterprise, finishing within three years, as their only record of ore sales is 40 tons of copper in 1806 and 76 tons the following year. By then, according to a report published in 1819, the mine had gone 240 yards into the hillside from Lackamore valley and had sunk to a depth of 216 feet on the lode when they ran into major water problems and had to abandon the working. A significant aspect of this report, in relation to the future history of the mine there, states of the deposit that it bore "rich copper ore in bunches".⁴¹

One such bunch was apparently hit by an anonymous group in 1828, when 17 tons of ore were recorded as having been sold. No more information is available about this working, and another nine years pass before there is further evidence of the mine being worked. This, however, was a



sustained operation lasting for 18 years, as the figures on the accompanying graph show.

Little is known of the background of the company that enjoyed such spectacular success during their first four years working Lackmore, and such spectacular decline over the next four. Initially, it seems, there were only three shareholders in *Lackmore Mining Company* (as it was called), one of whom was an Abraham Coates of Dublin. What attracted them to Lackmore is not known, but they seem to have been lucky in hitting a particularly large bunch of ore which yielded them nearly 1900 tons of ore between 1837 and 1841.

Once that was exhausted, however, the trio offered to sell the mine or to get somebody also to invest in it. They themselves were "unwilling to expend more money than the ore raised would warrant". The only selling-point they made was that they had pumping capacity to a depth of 1,200 feet.⁴² It seems there were no immediate takers.

The operation at Lackmore was visited by mines inspector Frederick Roper in the summer of 1841 when the mine was at its peak. He provides some insight into the mine and its locality. He says that there were 200 people employed there at the time, and that there was "a great abundance of labour to be had in this neighbourhood". Commenting on the two meals a day of potatoes with occasional milk, which comprised the diet of the people there, he adds: "It puzzles me to account for the health and comparatively robust appearance of most of the young people working at the mines, knowing as I do how scanty generally is their food".

Roper reports that many of the females there spent their leisure hours knitting, but comments on their lack of education. The five children, aged 11 to 18, whom he interviewed there are suspiciously unanimous about how well treated they are at the mine. Roper also states that the working was "extremely well managed and conducted", picking particularly on the processing of the crushed ore, which "are the best of any mine I have seen". He indicated that there were five miles of water channels turning wheels for crushing and pumping, with a third wheel being erected to raise the ore from the mines which he says "is the richest in Ireland".⁴³

That richness was short-lived and, (as already mentioned) the three partners tried to sell the mine in 1842. As indicated in the graph, the mine continued in operation, under a Captain Curry. Apparently output was not sufficient to pay mine costs, and Curry was obliged to sell one of the pumps in 1844.⁴⁴

The next year the mine itself was sold to a local consortium which had been set up to take over Silvermines. This was the *General Mining Company of Ireland*, who continued the operation at Lackmore, though on a greatly reduced scale (e.g. only 50 employing by late 1846) with the same Cornish "Captain" in charge (Captain Curry).⁴⁵ Little further is reported about Lackmore mine up to the early 1850s, though its fortunes were now bound up with the Silvermines operation and particularly with the dubious dealings of the company secretary, one Mr. Maguire.⁴⁶

By early 1853 Lackmore was reported to be producing 20 tons of rich copper per month, but in a "sadly neglected" state. All that was needed was investment and potential shareholders were told they would be given an opportunity to buy shares in a new Lackmore Copper Mining Company. Some 20,000 £1 shares would soon be available from the company's office in London, and there would be a 12% dividend payable within six months.⁴⁷

What the public were not told was that Maguire had persuaded the General Mining Company of Ireland to sell Lackmore, and they let it go for a mere £400. He himself and a fellow-director from Silvermines were the purchasers. They and a number of individuals who had been involved in dubious dealings in West Cork and Kerry now set up a most cynical operation to exploit, not the ore-body, but potential investors.⁴⁸

The marketing strategies adopted by these directors were highly successful at first, and there is

the appearance of a rush for shares in the company, with 27s-6d being quoted at one stage in 1853 for £1 shares on the Dublin Stock Exchange.⁴⁹ However, these directors were well practised at share-rigging, and it is possible that only a few thousand shares were sold. Within five months admittedly £1 shares could be had for 10s.⁵⁰ It was presumably to boost their falling share value that summer that the directors decided to pay a dividend of 5% because of all the rich ore "in sight".

Three weeks after that the public were told that a further dividend was on the way because 40 men and horses were working there day and night.⁵¹ It seems that £1,000 in dividends were in fact paid out in November 1853, although there is no record of any ore being sold to justify this.⁵² "Something Rotten" was one observer's comment on this. "Poor Lackamore, oh-lak-a-day" he quipped: "there is a game going on in the purchase of shares (in order) to give the appearance of business going on".⁵³

This "game" was revealed to be the purchase of 900 £1 shares on the stockmarket by the directors following the failure of their dividend ploy. This was intended to create a demand for their shares in the Spring of 1854. What they had done was to release their own free shares on to the market and then used £1,200 of the company money to buy them back. Presumably this was intended to inflate the share price — as well as their own wallets.⁵⁴ Early in 1854 the directors again announced a 5% dividend, on the basis that a bid of £8 per ton had been made for their copper. However, the copper had not yet been mined and the "bidder" turned out to be one of the directors.⁵⁵

This was probably the last straw for the shareholders, for it seems that they took legal action against the directors which was heard in the Court of Queen's Bench that Summer. Details of this have not emerged, but it seems that ironically the mine now began to produce ore and 159 tons were sold that year for £1,424. The cost of producing this, however, was £2,634.⁵⁶

Somehow this performance impressed the respected London firm of John Taylor and company, who were persuaded that with more investment Lackamore could be made profitable. A deal was arranged whereby Taylor bought up, apparently, 7155 shares of unsold stock, put his own nominees on the board of directors, held financial control through the appointment of a purser and also had his man as mine captain at Lackamore.⁵⁷ Amazingly, Taylor, as a partner in the company, does not seem to have sought an independent assessment of the mine; not until April 1855 did one of his men get to see it. He was shocked at its "dilapidated" state and, on receiving his report, Taylor immediately called a meeting of shareholders.⁵⁸

It is quite possible that the old directors managed to obstruct this meeting, because eight months passed before it took place. Meanwhile the share price dropped to five shillings and, since there is no report of ore being sold, mining presumably had ceased.⁵⁹ When the general meeting eventually did take place in December 1855, Taylor commented on the mine report: "It has seldom fallen to our lot to submit a document so unsatisfactory".

First, he had not been able to get hold of the mine accounts; a Mr. Long, a trustee and director, refused to hand them over until he had been paid £100 for "services". Long had also appropriated another 1,500 shares for himself and was trying to sell them off for whatever he could get for them, as were the other old directors. Presumably they were exploiting the association with the respectable name of John Taylor. There were also over £1,000 in unpaid bills. Long tried to stifle discussion of all this at the meeting, but the shareholders voted to take legal action against the old directors and to wind up the company.⁶⁰

Lackamore was now put into the hands of a liquidator, who apparently permitted some sort of short-term arrangement for the mine to be kept open.⁶¹ John Taylor, not yet disillusioned with his experience there, then got together some new shareholders who set up a company which they called (firmly) Lackamore New Mining Company. Their capital, however, was a mere £1,800 of which they spent £980 in purchasing the mine and its equipment. Within six months (i.e. by July 1858) an overspending of £587 was reported and shareholders were asked to come up with a further 10



shillings per share. The only hope they were given of some return on this was the captain's sanguine hope that copper would be found on some putative extension of the lode.⁶²

Some ore was found and raised by the end of 1858—£435 worth. Mine costs that year were £2,674, and the word "disappointing" was used about future prospects.⁶³ There are no further reports of Lackamore in the succeeding years, so we must only assume that the pumps stopped, the mine flooded, whatever surface assets there were were sold off and Lackamore never worked again.

By the end of the century all that remained of the mining endeavour were waste tips and the remains of some open-casts.⁶⁴ In the early years of this century an anonymous group made a trial about a mile away on Killeen townland; but there is no record of any ore being sold from there.⁶⁵ Neither this operation nor its predecessors would seem to have left any impression on local memories, as all that is now known of Lackamore is that there was once mining there "sometime in the past".⁶⁶

Oola

After having been worked in the Middle Ages, this mineralized area seems to have been forgotten about and only re-emerges for consideration in the early 1850s. Why this happened has not emerged, but a somewhat suspect group of speculators offered 12,000 £1 shares in Oola Silver, Lead and Copper Mining Company to the public early in 1854, to which minerals barytes was added that August.⁶⁷ It would seem that there was little demand for these shares; therefore the company was under-capitalized from the beginning. There is also mention of attempts to rig the stock-market to create a demand for shares; but the outcome is not reported.⁶⁸

However, there was at least enough money available to begin clearing out the medieval workings. By the end of 1854 they reportedly had raised ten tons of argentiferous copper and an unspecified amount of lead, which was sold in January 1855.⁶⁹ All this came from adit level: to get to what was assumed to be the richer ore below needed pumping equipment, so an engine house was started in January 1855. A year later they still did not have an engine to put in it.⁷⁰

The basic problem would appear to have been money. Those who did buy the £1 shares seem to have been under the impression that there would be no more to pay. Three calls were made during 1855—'56 amounting to another 7s 6d per share, and those who did not pay up forfeited their shares which were then sold, reputedly for £458. Certainly there was enough finance available in 1856 to pay for the erection of a water-wheel costing £100.⁷¹

However, that did not lead to any more ore being raised, but the shareholders were told in 1857 that such could be expected once the engine was operative. The engine had already been bought, they were told, for £365.⁷² This could hardly be of consolation to shareholders who, amidst rumours of splits among the directors, were faced with further calls of 4/- and 6/- in 1857.⁷³

By August 1857 the engine house had been standing empty for 32 months with the engine not installed nine months after it had been paid for. The fault, according to a director named Glanville, was "the frequent recurrence of holy days, which the people did not religiously keep, (but) they abstained from working"! This Glanville turned out to be the man who was supposed to erect the engine, which he had bought through the agency of another director, Yorke. Presumably this suspect dealing lay behind the stormy meeting of shareholders in autumn 1857 when both the chairman and a number of directors refused to pay any further calls to finance the operation.⁷⁴

The engine was eventually installed and started early in 1858. Reports imply that there was something wrong with the engine, although the problem may well have been that there was simply no ore. After six months' work a mere five tons of lead had been raised and one ton of copper. Shareholders were told that to get any further ore would require an investment of £1,300.⁷⁵

A special meeting of shareholders was now called at which Granville had the temerity to submit



a bill for unspecified expenses in connection with the erection of the engine. However, he was unable to produce any receipts. Then it emerged that he had not paid his contribution for the last call. He therefore was partly responsible for the debts of £196 which the company had by March 1858, and by May it was said that the miners had gone unpaid. The shareholders now accepted that the company would have to be wound up.⁷⁶

However, even the closure of Oola was attended by suspicion. Mine and machinery (including, presumably, the engine) were sold for a mere £300. The buyer, however, was the chairman, Eland, and a fellow director who was also the landlord there, G. R. Palmer. They may in turn have sold it to a Richard Hudson Smith, who was reported to have restarted the mine in 1859.⁷⁷ This must have been a shortlived enterprise, however.

There may have been a further attempt to work Oola in the late 1870s, but all that remains of that endeavour is a rather fanciful plan titled "Oola Hills Copper, Lead" by a Thomas Tonkin, showing a total of 17 lodes with nine shafts, but little evidence of actual working.⁷⁸ Such may have been the swan song of Oola, as this was submitted as a final abandonment plan of the mine in 1878. There is no record of any further working.

FOOTNOTES

1. Cowman, D.: "The Silvermines: Sporadic Working 1289-1874", *Tipperary Historical Journal* 1988, pp. 96-115.
2. Pipe Roll, Edward I, in *Reports of the Deputy keeper of the Public Records of Ireland*.
3. Brit. Mus., Add. Ms. 4793, p.77, undated list of mines, in same handwriting as accompanying letter from Walter, Archbishop of Dublin, dated 1487. The 1607 reference is in Titus B x, (Vol. 1), p.187 (192), letter from Henry Wright.
4. *Memoirs of the Geological Survey of Ireland* (Dublin, 1860), sheets 135, pp.32, 134, 42 (Kinahan). Gives details of Kilnafinch in *Manual of the Geology of Ireland* (London, 1878), and the other two, pp.347-8 and 354-5.
5. *Ibid*, p.32, note by A. B. Wynn.
6. Derby Papers in Lancashire Public Record Office, Preston, DDK/1704-5. The first is dated 20 Nov. 1757 with report on trial borings May 1758; the second is an application from Samuel Howard dated 27 Aug. 1772; the third is undated but is in a bundle ending in 1806. I would like to thank Dr. Tom Power for finding and transcribing these.
7. Mining Company of Ireland (hereafter M.C.I.) reports, July 1825 (Appendix 1 & II); two reports 1826. The 20th-century refs. to Gortdrum are in Tipperary files of the Geological Survey Office (hereafter G.S.O.).
8. *Waterford Mirror*, 21-1-1824, letter of "Verox".
9. *Memoirs of the Geological Survey of Ireland*, Sheet 145, p.33, comment by Wynn.
10. Kane, R.: *The Industrial Resources of Ireland* (Dublin, 1845), p.199.
11. National Archives (hereafter N.A.), Deed 1759. I would like to thank Martin McHugh of Hollyford for sending me a copy of this.
12. Stewart, in *Transactions of the Dublin Society*, Vol. 1, pt. ii, 1799-1800. As "Itinerant Mineralogist" of the Dublin Society, Stewart would have been expected to mention Hollyford in this report if he knew of it. Likewise Weaver, Thomas: *Memoir on the Geological Relations in the South of Ireland* might have been expected to mention it in the context of Silvermines and Lackamore.
13. *Mining Journal* (hereafter M.J.) 1871, p. 992, anon. item attributing opening to a London company; *Cork Constitution*, 2-2-1825, report.
14. M.C.I. Report, July 1825. These reports are in the National Library of Ireland.
15. *Ibid*, half-yearly reports, 1837-'38.
16. Parliamentary Papers (hereafter P.P.) 1837-'39, Vol. 35, Second Report from the Railway Commissions, Ireland, Appendix B, No. 8, p.66, Returns relating to Mines.
17. M.C.I., half-yearly reports (1-12-1837 to 1-12-1839).
18. *M.J.* 1847, p.17, anon. item.



19. Mineral production for Irish mines is tabulated in *Memoirs of the Geological Survey of Great Britain*, Vol. 11, pt. ii, HMSO 1848, p.713. From 1848 they were published by HMSO in annual volumes titled *Mineral Statistics of Great Britain and Ireland*.
20. Details of the wheel from Valuation Office Field Books in Nat. Arch., courtesy of Martin McHugh.
21. *M.J.*, 1848, pp.49, 334. Reports of half-AGMs 29 January and 29 July and anon. reports on the company's difficulties 22 July, p.315.
22. *Ibid.*, 1849, Reports (half) A.G.M.s, Law's (their first), p.152; and Hollyford, pp.53 and 369. Also, report from Capt. Lyle of Hollyford printed 3 Feb, stating ore "now being sent directly to Laws and getting better price than previously; *ibid.*, 1854, p.214, letter of "truth", London, summing up the position of shareholders.
23. *Ibid.*, 1852, p.104, editorial and p.622 J.Y. Watson on dividend-paying mines; *ibid.*, 29-1-1853, report on Hollyford. Some details of the capital structure appear in *ibid.*, 1853, p.59, "Summary of dividend-paying mines".
24. *Ibid.*, 1853, p.194, "British Mines", which comprised unedited comments submitted by various mining companies.
25. *Ibid.*, 1854, editorials pp.670 and 688. For the role of editor Henry English, see Cowman, D., and Reilly: *Abandoned Mines of West Carbery* (GSO, 1988). A more realistic appraisal comes from the Dublin Correspondent to the same journal, p.436, who points out that Hollyford has not paid a dividend for nearly two years.
26. *Ibid.*, 1855, p.772, "Mining Market" re first payment; *ibid.*, 1857, p.1 of supplement to issue of 3 Jan. summarizing the position of companies in 1856.
27. *Ibid.*, 187, p.992, anon. report.
28. *Ibid.*, 1858, p.708, "Notices" re mine sale, listing materials.
29. Interview with Matt Hayes, Hollyford, 1978, recalling family tradition that his grandfather John Hayes went with Pascoe to Australia. Reference to houses recorded by K. Illingsworth in G.S.O., file M. 2768, undated, but c. World War I, letter to Sir James Power, Tramore.
30. *M.J.* 1858, "Mining Notabilia" quoting an unnamed mines inspector.
31. *M.J.* 1863, p.284, "Irish Mining Shares Market", anon.
32. *Ibid.*, 1865, p.606, anon., "Mining in Ireland", and p.618, "British Mines", signed Penrose.
33. *Ibid.*, 1866, p.478, "Notices", a cryptic report stating that it had been started by "a stranger" the previous year, signed "An Invited shareholder"; p.510; reply to this by "Fides", praising the mine; p.692, "Mining Notabilia", anon. praise of this new "powerful company".
34. *Ibid.*, 1867 pp.25, 45, 61.
35. *Ibid.*, 1867, various letters and reports, pp.131, 151, 121, 115, 51 and 151 respectively, with further items from George Henwood, pp.74 & 82.
36. N.A., lease Purfroy to Graham and Grant, 17 Oct. 1866, accompanying correspondence. Courtesy Martin McHugh of Hollyford.
37. *M.J.*, 1867, p.170 and 394, "British Mining", reports signed J. H. Rodda. No ore from Hollyford is reported in the *Mineral Statistics* for this period.
38. *Ibid.*, 1871, p.356, report on visit by Mr. Chadwick, M.P.; p.868, report of accident, not blaming Capt. Phillips for it; p.992, anon., giving background material.
39. Twentieth century material on Hollyford in GSO, files M2643 and M2769, op.cit.
40. For Dunally company, see Cowman, op.cit., 1988. A "Miner's Ledger" of this operation has survived — NLI MS 7900.
41. Weaver 1819, op.cit., p.127. For ore sales see N.19.
42. *M.J.*, 17 6 1842, for ore sales, see n.19.
43. P.P., Reports from the Commissioners, 1842, Vol. XVI, Childrens Employment in Mines (I), pp.870-1, reports of Frederick Roper.
44. N.A., Uniacke-Beresford papers, letters 19-11-1844 and 25-4-1845, Curry to Uniacke re pump form Lackamore installed in Uniacke's mine at Stradbally, Co. Waterford.
45. *M.J.*, 1846, Report (half-AGM) of GMCI, p.539 and re company, p.484.
46. See Cowman, op.cit. 1988, pp.104-5.



47. *M.J.*, 1853, p.238, and op.cit., 249, anon. item.
48. As revealed in *ibid*, 1854, p.463, report half-AGM of GMCI and p.442, letter "Cantab". For directors Long, Brown and Manly, see Cowman and Reilly, op.cit. Larchin was involved in the Kenmare scandal reported on by Cowman in *Kerry Historical Journal*, 1990, 23.
49. *N.A.*, Stock Exchange Records, Vol. 1852-'53, 9-11 May 1853.
50. *Ibid*, 31 Oct. 1853; *M.J.*, 1855, p.819 report of meeting, implying that only 2625 of the 20,000 shares were sold.
51. *M.J.*, 1853, p.421, "Mining Notabilia" and p.462 "British Mines".
52. *Ibid*, 1853, p.708, letter "Hibernicus"; *passim*, reports on the mine in "British Mines" series, e.g. pp.462 and 790.
53. *Ibid*, 1854, pp.331 and 351, Dublin Correspondent.
54. *Ibid*, p.442, letter "Cantab", a director of the company expressing shock about what his fellow directors had done. (Although the company is not named it is obviously Lackamore).
55. *Ibid*, with similar details from the Dublin Correspondent in *M.J.* in 1856, p.108.
56. *Ibid*, 1854, pp.472 and 504, Dublin Correspondent and p.847, report general meeting; also *Mineral Statistics*, loc. cit. 1854.
57. *Ibid*, p.847, report of general meeting. Details of how much stock Taylor bought seems to be deliberately obscured, but from this and the next reported general meeting in *Mining Journal* 1855, p.819 it seems that the old directors continued to hold 10,000 shares issued free to them.
58. *Ibid*, 1855, p.267 (editorial) and p.819 (meeting).
59. *Ibid*, p.316, Dublin Correspondent and *Min. Stats.* 1854-55.
60. *Ibid*, p.819, report of meeting and comments of Dublin Correspondent in *ibid*, 1856, p.108.
61. *Ibid*, 1857, p.778, letter of "A Creditor" wondering when he was going to be paid, and p.848, Dublin Correspondent: 1858, p.482, "Short Notices" re interim arrangement.
62. *Ibid*, 1858, p. 236, "Mining Notabilia" and p.482, "Short Notices".
63. *Ibid*, 1859, report of general meeting.
64. Six-inch O.S. map, 1902 (Rev.), Sheet 38, Tipperary.
65. GSO Files, co. Tipperary, Lackamore. The Killeen working is noted on OS map by Murrough O'Brien as "Killeen Mine, 1905-'06", and dated by him Jan. 1955.
66. Interviews with Ryans and other local residents, Summer 1977.
67. *M.J.*, 1854, p.161, advt. offering shares; p.550, "British Mines" reporting on Barytes.
68. *Ibid*, 1857, report of meeting, implying that only 3270 shares were sold; *ibid*, 1855, p.1, has advt. from "B.C.", Piccadilly, seeking 100 Oola shares (which should, of course, have been available through the usual channels); p.39, *Dub. Corr.* says their shares were being quoted at 25/-, a price which he "cannot warrant".
69. *Ibid*, 1854, sporadic reports in "British Mines", e.g. p.550; *ibid* 1855, p.503, anon items stating that this had been sold privately, and putting a value of £10-12-6d on the copper.
70. *Ibid*, 1855 p.503 and "British Mines" *passim*, e.g. pp. 22, 135, 230; *ibid* 1856, p.8, report of meeting.
71. *Ibid*, 1856, 00.8, 632, 876, reports of meetings.
72. *Ibid*, 1856, pp.876 and 1857; 0.347 (engine) and reports of meetings.
73. *Ibid*, 1856, p.876 and 1857 pp.347 and 596, report meetings; p.846, letter "Y" of Cardiff.
74. *Ibid*, 1857, p.596, report of meeting; and p.618, letter of "Veritas", a shareholder, giving (he claimed) a true account of the meeting.
75. *Ibid*, "Veritas" is circumspect, but at the next meeting (*ibid*, 1858 p.152, report) there is an admission of "failure" and p.482 carries a report of the company's special general meeting.
76. *Ibid*, 1858, pp.184, 320, 482 report meetings, and p.174, letter of "Reference".
77. *Ibid*, 1858, pp.708, 778 "Notices"; p.840, letter of "E.B."; *ibid*, 1849 p.807, Dublin Correspondent re. Hudson.
78. G.S.O., file 125/4/4, Abandonment Plan.

