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THE LEAD MINES OF TYNDRUM

by

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Abbreviations used in the references:

BGS	British Geological Survey.
BGSE	British Geological Survey, Edinburgh.
BNA	British Newspaper Archive.
LMA	London Metropolitan Archives.
NAS	The National Archives of Scotland, Edinburgh.
RCAHMS	Royal Commission on the Ancient & Historic Monuments of Scotland.
SG	Stirling family archive, Garden - private collection.
SMC	Scots Mining Company.
TNA	The National Archives, Kew.
U of E	University of Edinburgh.

THE BEGINNING: SIR ROBERT CLIFTON (1730 – 1747)

Although some modern authors mention a lead mine yielding enough silver to be declared a Royal Mine in nearby Glenorchy in 1424, this is based on a misreading of the Statistical Accounts¹ which refer to a small lead mine in that parish worked until *'two years back'*, followed by a remark about the 1424 Royal Mines Act.

The first definite record of mining at Tyndrum was over three centuries later. In 1730, Sir Robert Clifton, Knight of the Most Noble Order of the Bath, took out a 38-year lease with John Campbell, 2nd Earl of Breadalbane and his son, also John, Lord Glenorchy, to search for *'Gold Silver Copper Tin Iron Lead and Coal mines and all Mines Minerals Mettalls and Matter whatsoever being underground ... within and under the Earldom of Breadalbni ...'*² The large size and fragility of this impressive document, bearing the seals of the gentlemen concerned, precludes its copying and reproduction here. Sir Robert was to pay the Earl £80 a year for the first seven years plus one eighth of all ore and coal, thereafter either £80 a year plus one eighth ore and coal, *'or in lieu thereof one seventh part of the said Oar and coal yearly'* the ore *'...to be deliverd as aforesaid washed Cleansed Dressed Buddled and made Merchantable'* - this last line is right along a mid-page tear in the document. At the end of the term, any buildings, *'shall not be pulled down nor the works destroyed but left standing'*.

The deal may not have satisfied Sir Robert for, within three years, he wrote in a short letter to Lord Breadalbane dated 15 January 1733, *'I shall willingly resign my Lease'*.³ the reason for this is not stated. Fortunately for our story, if not for Sir Robert's fortunes, he continued his prospecting and, in 1741, discovered a vein of lead ore on the hillside west of Tyndrum.⁴ The exact date of the discovery is unknown but by the summer over six tons of ore had been sent to Alloa.⁵

On 2 July, John Campbell of Achallader, Chamberlain to the Earl, wrote in cautiously optimistic terms to his namesake, the Cashier of the Royal Bank of Scotland:

'I no ways intend to See the rich mines of Tyindrome till I have a copy of the Contract that I may know what to say and what comes to my Share to observe for my going there and not to know upon what footing they work or if they have observed all the articles in the contract might do more hurt than Service the Mines of Strontian has made the people there poor I wish this grand treasure may turn out to better account here'.⁶

On 6 August he wrote that Lord Glenorchy was soon to set out for *'Tyindrom where there is a Strong Schisme disorder and confusion mean time a prospect of great wealth'*.⁷ The optimistic mood continued on 17 August when he remarked that, according to people skilled in mines it, *'makes every extraordinary appearance'* and was better than Strontian mines.⁸ By April 1742 Sir Robert was reportedly, *'Digging great Quantities of Lead ore thereout'*.⁹ December of that year saw the first reference to smelting the ore at 'Dalree' (Dalrigh) using peat, lime and coal.¹⁰

Early in 1742 the Earl and Lord Glenorchy became aware that the original lease to Sir Robert did not take into account a Scots law of 1592 that said that all mines in Scotland

THE MINE ADVENTURERS OF ENGLAND (1747 – 1760)

In March 1748, Lord Glenorchy wrote:¹

'I have seen for several years the inconvenience of those works being in private hands, and I'm convinced if they are undertaken by particular persons or by a Company of small stock or Credit they can't be carried on in a proper manner'.

Despite a chequered and scandal-ridden early history, the Mine Adventurers of England had been around since 1698 and had experience mining and smelting lead in Wales and Yorkshire. With a well-established company now in charge things must have seemed more hopeful. A further boost came in August 1749, when a promising new vein was found on nearby 'Benewre' (Beinn Odhar).

Mr O'Connor, who was now working for the Adventurers, explained in a letter to Achallader that, on behalf of the company, he had offered a bounty of £5 to anyone finding a new vein of lead or copper in the district.² John MacNichols of Aughty had come forward to claim the reward after his herd had found a vein. Within days they were raising from this new vein *'as rich Potter's Ore as any in Europe; the vein affording all the promising prospects that we can wish for or desired'*. He went on to mention building *'a Smithey and Lodgings for our People to be employed on this new Adventure'*.

The discovery on Beinn Odhar, to the north of the main mines, was followed by trials on further finds beside the Crom Allt (then called the 'Auchinturin Burn') and at the eastern foot of Beinn Bheag. These are shown on the plan of 1791, with brief annotations describing them and all lie along strike of the main mines.³ The Adventurers also began a level at the foot of the Mine Hill, presumably to test the vein at depth, as well as continuing the works higher up.

The anonymous book mentioned earlier,⁴ starting in Sir Robert's time and continuing right through the Adventurers' tenure and beyond, records some of the production statistics for this period. From 1744 to 1747 the records were signed off by Andrew Brown and John Campbell. When the Adventurers took over the names were John Bagshaw and John Campbell up until 1752. From 1752 to 1753 it was John Bagshaw and Robert McAlpin. In 1753, Daniel Roberts and Robert McAlpin did the signing, then Daniel Roberts and Archibald Campbell until 1757 inclusive. Then (in 1758) Daniel Roberts and John McNicol signed up until August 1760 inclusive.

We learn from an account book that Bagshaw and Roberts were overseers for the Adventurers and John and Archibald Campbell overseers for the Earl.⁵ This John Campbell is described as 'John Campbell in Tyindrom', presumably to distinguish him from his namesake John Campbell of Achallader. (There are a lot of John Campbells in this story). In later accounts McNicol was described variously as overseer, storekeeper or clerk and it is not always clear who he is working for (usually the Earl but at one point he considered himself to be serving Messrs. Richardson and Patten, who enter our story later). Like his predecessors, he received a regular annual payment of £5 from the Earl for looking after his Lordship's share of the ore, in addition to his annual salary of £20. The roles of the others are not recorded but may be assumed to be similar.

THE SCOTS MINING COMPANY (1768 – 1791)

The Scots Mining Company was an established and respected company with a long history of successful mining at Leadhills. A brainchild of Sir John Erskine, the owner of the famous silver mine of Alva, the ‘Governor and Company for working mines, minerals and metals in that part of Great Britain called Scotland’ was founded in January 1729. Its grandiose name was soon shortened in everyday correspondences to, variously, Scots or Scotch, Mines or Mining, Company; here it is abbreviated further to SMC. In return for a tenth share of any profits, Sir John assigned the rights to a portfolio of seven leases on properties in Scotland he had built up in the preceding years to a group of Scots merchants based in the Sun Fire Office in London. Their large and barely legible founding document still survives in the London Metropolitan Archives.¹

Six of those seven leases proved worthless but the seventh, on the Earl of Hopetoun’s property at Leadhills, would make the company rich, although not in Sir John’s lifetime. After a difficult start, the Leadhills mines began to prosper after the appointment of James Stirling, who visited the mines in 1734-5 and took up residence at Leadhills in 1736, in a house built especially for him.

James Stirling (1692-1770) was the third son of Archibald Stirling of Garden, near the town of Stirling, and related to the Stirlings of Keir. His Jacobite sympathies led to his expulsion from Oxford University in 1715, whereupon he travelled to Venice and became a professor of mathematics, a circumstance that led to him later being nicknamed ‘the Venetian’. He returned to London in about 1725 and continued his mathematical work, achieving recognition that continues to this day. After about a decade he took up his post with the Scots Mining Company, much to the surprise of his academic friends, on a salary of £220.²

A lack of mining experience proved no impediment to this brilliant man and he soon brought discipline to the workforce and profits to his employers. He curbed the availability of alcohol and, aided by the landowner, encouraged the miners to build their own cottages and utilise waste ground for smallholdings. He established charity and pension funds for sickness and old age and helped found a library that exists to this day.² As we shall see, some of these improvements were implemented also at Tyndrum.

James was assisted in his job by his nephew Archibald Stirling. Archibald did not, at first, take to mining and left the SMC’s employ for a while, evidently because he did not like going underground. However, he was persuaded to return by his uncle, on a salary of £100 in 1767.³ After James’ death on 5 December 1770, Archibald succeeded him and went on to marry James’ only daughter Christian, in 1772.

How they came to acquire the Tyndrum lease for their masters is only touched upon in the account above, derived mostly from John McNicol’s letter book. James Stirling’s correspondences, preserved in the Stirling of Garden papers tell a story of industrial espionage, back-stabbing and bribery. Unless otherwise stated, the following account is derived from three bundles in the Stirling family papers.³

THE 5TH EARL TAKES OVER (1837 – 1862)

The 4th Earl, the 1st Marquis, did not act on his factor's advice and died in 1834. His only son, another John Campbell like the four Earls before him, inherited and became 5th Earl and 2nd Marquis of Breadalbane. This Earl was keenly interested in minerals and geology and was elected a Fellow of the Geological Society of London in 1840.¹ William Gillies² was later to write of him: *'The second Marquis had the belief that there was great wealth hidden in the rocks of Breadalbane'*. He reopened the Tyndrum mines and began mining at Tomnadashan, Ardtalnaig and Corrycharmaig.

'These unprofitable concerns did not, however, dishearten him, and he might be seen anywhere among the hills between Taymouth and Tyndrum with a leathern bag over his shoulder, and a geologist's hammer in his hand, chipping away at fragments of rock, as if his very life depended on his work. On these expeditions he was usually accompanied by one or two favourite terriers.'

It was on one of these prospecting expeditions that he personally discovered the copper and pyrite deposit at Tomnadashan.³

The 5th Earl quickly set about renewing the lease from the Crown. In the year of his father's death he obtained a legal opinion that the warrant of 1823 still stood.⁴ Bureaucracy must have been slow, however, as it was not until 1837 that, presumably armed with a new lease, he finally set about reopening the mines. He began with an advertisement:⁵

**VALUABLE LEAD MINES.
IN THE HIGHLANDS OF SCOTLAND**

TO be LET, for such term of years as may be agreed upon, with immediate entry, the LEAD MINES of TYNDRUM, in the counties of Perth and Argyll. These Mines were wrought successfully for many years by the Scotch Mining Company and others, and the Lead is of the finest description. Tyndrum is situated within ten miles of Lochlomond, from whence there is cheap water carriage to the Clyde, and excellent roads in every direction. There is convenient accommodation for the workmen in the immediate vicinity, and every encouragement will be given by the Proprietor to a tenant of capital and enterprise. Apply to Messrs. Davidsons and Syme, W.S. Edinburgh; or James F. Wyllie, Bolfracks, Aberfeldy, N.B. who will furnish every information.

From the Earl's point of view leasing the mines to a third party would be ideal. That way he laid out no cash himself but merely collected his share of the ore, regardless of whether the leaseholders were making a profit or not - he could not lose. As his predecessor, the second Earl, said to his son Lord Glenorchy, back in 1744:⁶

'It is absolutely proper yow keep well with Sir Robert Clifton, and give him all the assistance you can, for carrying on his works at the mines in our estate, he has laid out a great dale of money, an profit and advantage will at length come in to our family thereby, and we lay out no money.'

Again there were no takers, so the Earl took a gamble and pressed on with the mines under his own control. Enquiries were made of Mr John Kirsopp in Hexham, who

TYNDRUM LEAD AND ZINC MINES LIMITED (1918 – 1926)

Apart from an occasional visit, the mines lay deserted long after the 2nd Marquis' death. In 1902 a Mr A. Knox Brown corresponded with the Breadalbane Estate Office about sampling the mines with a view to reopening them, an idea to which his Lordship was agreeable.¹ At almost the same time, James Frame, a mining engineer, wrote asking if he could prospect the area for gold.² As the Breadalbane Muniments (at least GD112/18) end at this point we are left in suspense about the outcome of these enquiries.

For accounts of the final phase of the mines' history we turn to published sources and to the Board of Trade records at Kew. Geologist G.V. Wilson writing at the time the mines were active for the last time, provides a starting point.³ The London based Tyndrum Lead and Zinc Mines, Limited (hereafter abbreviated to TLZM) took out a lease in 1916 but, from Wilson's words, it is clear that they had only just begun work when he wrote his account. They had erected plant to process the waste and were developing the mines. Four tons of lead ore were sold in 1919 and another 70 tons, plus 120 tons of blende had been recovered at the time of writing, the quartz tailings being sold for building purposes.

Only four of the old levels were still open and the company had not yet been able to correlate them with the old names. This is also apparent from the company's plan, at the British Geological Survey in Edinburgh; this document (SP1040) shows names assigned to some of the level mouths.⁴ Perhaps uncertain of their designations they resorted to numbering them 2, 3, 4 and 5, from the bottom up, in a different hand. No. 1 is not shown and was probably the lowest level near the railway. Thus, by their reckoning, almost certainly erroneous, their No. 3 Level was MacDougal's Level, and No. 4 was Stamp Level. This uncertainty continues to bedevil mine explorers today.

The Board of Trade documents give 25 June 1918 as the date the company was formed, not 1916. From these we learn that it was the initiative of William Antrobus Luning, Charles Henry Lush and Frank Henry Aarons.⁵ Luning was an accountant, Lush a consultant mining engineer who traded along with his son Francis under the name C.G. Lush & Son; Aarons was a solicitor. Luning and Aarons were also two of the three board members of Kinta Tin Mines Limited, the address of which, 65 London Wall, London, was also that of the newly formed TLZM.

Kinta Tin Mines was a profitable alluvial tin mining company in what was then called the Federated Malay States. An account of its Malay operations described it thus:⁶

'This company can be regarded as one of the most successful of the F.M.S. tin mines. Since its formation in 1900, dividends have been regularly paid to shareholders, and the figures recorded are such that any company might be proud to possess.'

Between one and two hundred 'Chinese coolies' were employed in an opencast mine worked hydraulically. It produced ore at the low cost of £40 per ton and it sold at £93 10s per ton. Labour was cheap and there was no need for expensive machinery, hence the low production costs; the profit for 1922 was £25,575 10s 3d. Glowing reports continued in Mining Journal throughout the 1920s, with 1924 being an especially good year, returning a profit of £51,180.⁷ The good times continued up until the crash of 1929.

THE OUTLYING MINES

As mentioned in the text above, there were minor workings elsewhere in the district. The most important were the mines in the Cononish Glen but trials also took place along strike of the main (Hard & Clay) veins, particularly to the north on Beinn Bheag and Beinn Odhar. Their stories are summarised below. See Figure 25 for a sketch map of the district showing their approximate positions.

MINING AT CONONISH

Upon Sir Robert Clifton's 1741 discovery of a lead vein at Tyndrum, the Earl's neighbour, William Campbell of Lochdochart (ca. 1700-1765), wasted no time in prospecting on his side of the hill in Cononish Glen. Whether it was the vein in Eas Anie, above Cononish Farm, that was first discovered or, more likely, the southerly extension of the main vein on Sròn nan Colan, we may never know but, before the year was out, Campbell of Lochdochart had either commenced mining or was openly intending to. This caught the attention of the Earl and Lord Glenorchy for, in November 1741, he sought legal advice about whether Lochdochart was entitled to mine '*in the Lands of Conandash*'.¹

The dispute arose over his title to the land, as explained by Lochdochart's legal advisor Henry Home.² In 1648, Sir Robert Campbell of Glenorchy gave some land to his fourth son Alexander. This included the 'Scheillie of Conench' (Shielings of Cononish, shielings being shepherds' huts, or mountain pastures). This land eventually passed to Alexander's grandson, William Campbell of Lochdochart.

The Earl was descended from Sir Robert Campbell's first son John, so the Earl and Lochdochart shared Sir Robert Campbell as their paternal great-grandfather. The Earl argued that it was only grazing rights, not mining ones, that were passed by Sir Robert Campbell to Alexander and subsequently inherited by Lochdochart but Lochdochart claimed full title.

The dispute dragged on for several years; records of fees paid for legal consultations and documents continue in GD112/15 until 1745. On 13 August 1742, the Earl was advised not to proceed against Lochdochart. The legal advisor, Robert Craigie, argued that Lochdochart probably did have full title and so could apply to the Crown for a grant to mine. It was further pointed out that a similar dispute had arisen between the Duke of Argyll and Sir Alexander Murray (over the Strontian mines) and that Sir Alexander had won. The Duke still had three years left in which to appeal the decision but, so long as he did not do so, the Earl had little chance of success. There was no indication that the Duke was going to appeal.³

The Earl and Lord Glenorchy ignored this advice and, in November 1744, they obtained a '*Bill of Suspension against Lochdochart in relation to his Claim of property of the Lands of Conanynche*'.⁴ This led to Henry Home, drawing up his detailed rebuttal, '*Information for William Campbell of Lochdochart against the Earl of Breadalbane and Lord Glenorchy*' in December.² In several pages of detailed argument he dismantled the Earl's claim and pointed out that just because the land was known as 'Scheillie of Conench' it did not follow that the only purpose Sir Robert Campbell had in mind for it when he

TOPOGRAPHY AND IDENTIFICATION OF THE MINES

HISTORICAL DESCRIPTIONS OF THE MAIN MINES

As explained above, uncertainty about the exact positions of the various levels persists to the present day. Young has examined the visible workings and attempted to relate them to the named levels, with mixed success.¹ He thought the lower ones seemed to match up well but the upper ones are less certain.

John Williamson inspected the mines in 1875 and his detailed report describes how they appeared then.² He used a 'pocket aneroid' to determine the elevations of the level mouths. Starting at the bottom and ascending, the levels he observed were:

Laubach's Level. Blocked at the entrance.

Unknown level. Near 'the tail of the spoil bank'. Blocked, and no one living having seen the inside. Thought to be the oldest working.

MacDougal's Level. The lowest accessible one, elevation 1,250 feet. Laid to the face with hutch rails (none of the others were) and in good condition. 405 yards long with an internal connection to Stamp Level above.

Stamp Level. Elevation 1,300 feet with internal shafts at 70 and 140 yards (the second connects to MacDougal's). The next 160 yards are worked for the first half but not the second. Total length 300 yards; there are crosscuts to the left to the Clay Vein.

Long Level. Elevation 1,470 feet and open for 250 yards before a fall of about 4 or 5 yards blocks further access. Many flooded holes in the floor. There is a branch to the left about 20 yards from the entrance.

He did not describe the higher levels and where are the High and Low Levels of the SMC and the 19th century New level?

Thost's description of 1855 describes more levels.³ This time starting at the top and working down he says:

'The Loade & Vein are opened by eleven levels and several communications between them, There are the following levels:

- 1. Top Level 35 fathoms long and several top surface openings.*
- 2. McCallum's Level 120 fathoms long.*
- 3. Brien's Level 145 fathoms long.*
- 4. Long Level 190 fathoms long.*
- 5. Burn Level 75 fathoms long.*
- 6. Stamp Level 180 fathoms long.*
- 7. McDougal's Level 190 fathoms long.*
- 8. New Level 100 fathoms long.*
- 9. Low Level 65 fathoms long.*
- 10. Laubach's Level 135 do. do.*
- 11. Lowest Level 175 do. do., broken down.'*

The Clay (Loade) Vein and the main (Hard) vein merge between levels 7 and 8. Levels 1, 2, 3 and 4 are driven entirely in the main vein and only in the most southerly point of 4 is the Clay Vein visible. Level 5 is driven entirely in the Clay vein. Levels 6 and 7

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