

**THE LEAD MINES OF SOUTHEAST WALES**

by Mary and Gordon Tucker

**INTRODUCTION**

The mining of lead ore in south-east Wales (i.e. in the merged counties of Glamorgan and Monmouthshire now the county of Gwent) has been on a much smaller scale than in some western and northern counties of the Principality and has, in consequence, attracted little attention from historians and industrial archaeologists. Nevertheless, there were a good many mines in Glamorgan, and a few in Monmouthshire, and Tables 1 and 2 and in Fig.1 set out those of which we are reasonably certain; nine sites can be positively located, and ten more only approximately. All of these 19 sites had been worked at some time during the two centuries preceding the mid-19th century. Only five of them are thought to have been worked from the mid-19th century onwards, and none were worked after 1878. There is evidence of lead-mining and smelting in this region in Roman times (Evans 1953; Turk 1969) and in the 16th century (verbal communication from T. Grey-Davies).

**Table 1. Lead Mines in South-East Wales with Known Sites.**

| No.                  | District    | Mine                                | Grid Ref.                           | Period in Operation                   |
|----------------------|-------------|-------------------------------------|-------------------------------------|---------------------------------------|
| <b>Glamorgan</b>     |             |                                     |                                     |                                       |
| 1                    | Bishopston  | All-Slade                           | SS 584876                           | 2nd half 18th century, 1810-3, 1852-4 |
| 2                    | Bishopston  | Long Ash                            | SS 574887                           | 1852-4                                |
| 3                    | Bridgend    | Llangan                             | SS 956772                           | 18th century, 1855, 1863, 1876-8      |
| 4                    | Bridgend    | Tewgoed<br>Penllyn(e) (Court)       | SS 965768                           | 18th century, 1852-5                  |
| 5                    | Cowbridge   | St. Hilary                          | ST 012733*                          | No documentary evidence?              |
| 6                    | Llantrisant | (Clun) Park                         | ST 048 822                          | 1727-60                               |
| 7                    | Rudry       | Cefn Pwll Du<br>Maen Llwyd<br>Clive | ST 215877<br>ST 212871<br>ST 208870 | 18th century?<br>c.1825<br>1850-54    |
| <b>Monmouthshire</b> |             |                                     |                                     |                                       |
| 8                    | Machen      | Machen?                             | ST 233895                           | 1665, mid 18th century                |
| 9                    | Chepstow    | Galley Hill                         | ST 530936                           | 1789                                  |

\* Position and transition vouched for by Dr. V.G. Welsby. Shafts now filled in; no building remains; shown on large-scale O.S. maps; said to be lead mine by F.J. North, (1962, p.84).

**Table 2. Lead Mines in South-East Wales with Unknown Sites.  
(All in Glamorgan)**

| No. | Mine                            | Approx. Location<br>(grid ref.) | Period in Operation | Reference                          |
|-----|---------------------------------|---------------------------------|---------------------|------------------------------------|
| 10  | Ogmore Down                     | SS 8976                         | 1729-43             | WJL p.163                          |
| 11  | Newton                          | SS 8480                         | 1729-43             | WJL p.163<br>SL p.357*             |
| 12  | Golden Mile                     | near Bridgend                   | 1729-43             | WJL p.163                          |
| 13  | Merthyr-Mawr                    | SS 8877                         | 18th century        | SL p.357*                          |
| 14  | Llantridddy<br>(or Llantrythid) | ST 0473 †                       | 18th century        | WJL p.164<br>SL p.357*             |
| 15  | Coychurch                       | SS 9480                         | 18th century        | WJL p.164<br>SL p.357*<br>SL p.259 |
| 16  | Coed Lai<br>(or Coed-elai)      | ST 0285                         | early 19th century  | WJL p.254<br>SL p.357*             |
| 17  | Flatholm Isld.                  | ST 2265                         | 18th century        | WJL p.164                          |
| 18  | Barry Isld.                     | ST 1166                         | 18th century        | WJL p.164<br>SL p.357*<br>SL p.71  |
| 19  | Sully Isld.                     | ST 1767                         | pre-1840            | SL p.357*                          |

WJL = W.J. Lewis (1968) SL = Samuel Lewis (1848)

\* Samuel Lewis states that in the 1840's "at none of these places in this metal [lead] now being worked".

† Possibly "Old Trial Shafts" shown at ST 042735 on 2½-inch O.S. map.

N.B. There was in 1853 a lead-mining company called South Wales Consols operating in the neighbourhood of Bridgend, with offices at Pyle (MJ, 1853, pp.398 and 449), but its location is not known.

There has been very little published on the history of lead mining in south-east Wales. W.J. Lewis (1968) gave some valuable information on the lead mines of this area in the 17th and 18th centuries and some useful references to this period; his information is here extended a little. For the 19th century there seems to be no compiled history to serve as a basis, and our account of this period relies almost entirely on original sources. Numerous documents about the Bishopston mines were discovered in a vast uncatalogued collection of papers at the National Library of Wales; these are the Druid Inn Papers (hereafter referred to as DI). There are also a few papers in this collection referring to the Penllyn Court and Llangan mines. The collection comprises largely letters and other documents relating to the Francis family of mining engineers and agents — a family originating in Cornwall and operating mainly there and in Cardiganshire (Tucker 1973; Bick 1974), but with many other, widespread interests. The other main source is the Mining Journal, which published frequent reports from the mines. Since the accessibility of the DI documents is much less than that of the Mining Journal (hereafter referred to as MJ), we give a rather fuller account of those topics based on the DI papers. We have also examined superficially those sites which we can locate precisely, and give a description of the remains, i.e. the industrial archaeology. The combination of documentary and field research is essential for the proper elucidation of the history.

### THE 17th AND 18th CENTURIES AND 19th CENTURY UP TO ABOUT 1840

Tables 1 and 2 show the dates of operation of the 19 mines of whose separate existence we know, and it will be seen that all (with two possible exceptions) were working at some time before the 19th century. For those in Table 2 references are given in the table; for those in Table 1, evidence is discussed in our later section on the sites themselves. Here, therefore, we shall merely give some supplementary information.

Apart from Lewis's book (1968), a valuable source of information for the 18th century is an account (Nat. Lib. Wales MS 15101A) of "Lead Received at Languvelach Works" for the years 1731-1743. This refers to the smelting works at Llangyfelach near Swansea. It shows the quantities of ore received at the smelter from the various mines, and the mode of transport — sometimes overland, sometimes by sea. The quantities are small, typically between 1 and 20 tons, and give impression of a very small output from the mines. But many of these mines had their own smelting houses — certainly Llangan, Penllyn (Tewgoed) and Park had — and a lot of ore also went to Bristol; therefore the ore sent to Llangyfelach may have been only a very small proportion of the output. The typical price was around £7 a ton. The account is useful in helping to locate the mines by association with one another, and it gives the names of the ships and agents involved. It shows that the following mines were working during 1731-43:

Golden Mile, Ogmere (Down), Newton, and Llangan.

The quantities of ore received from these mines over the whole period were respectively:

about 100 tons, about 17 tons, about 60 tons, about 28 tons.

Lewis (1968, pp.313-4) described how most of the ore went to Bristol during most of the mid-18th century period. For instance, between 1754 and 1760, over 400 tons was carried from Park to Penllyn at 6/- per ton, and thence to Cardiff (for shipping) at 3/8 per ton. Ore from Machen was carried to Newport at 5/- per ton, thence by ship to Bristol at 2/- per ton.

Other information, in chronological order, is as follows:—

- 1660s: "fair quantities of lead were shipped from Cardiff and Aberthaw". (Lewis 1968, p.70).
- 1665 : Machen silver-lead mines were leased by their owner, Wm. Morgan of Tredegar, to two miners, Robert Standfield of Pen-tyrch and Wm. Sawyer of Llantrisant," but nothing is known of their working. (Lewis 1968, p.70).
- 1727 : Park mine started on a small scale, became very successful by 1754, raising 402 tons from Aug 1757 to June 1760. It was worked by Edmund Traherne from 1727 to c 1770. It was worked by Lord Bute in the 1770's, employing around 500 men, many probably migrated from mid-Wales owing to the slump there. (Lewis 1968, pp.163 & 263).
- 1763 : At Llangan or Penllyn, an assay of lead ore dated 23 July 1763 gave 50% lead and 9 oz. of fine silver per ton of ore (MJ 1852, p.78).
- 1789 : A deed refers to a lead mine at Gallow Hill, Chepstow (Monmouth Record Office E & E0736). There was a limestone quarry here from at least 1707 according to Mr. Ivor Waters. Gallow Hill is now called Vauxhall Crescent. No other reference to lead mining here has been found.
- 1811 : Mines being worked were probably Park, Coed-elai, Tewgoed, All-Slade; but they probably all closed down quite soon due to the Napoleonic Wars. (Lewis 1968, p.254).

### 19th CENTURY LEAD MINES : HISTORY

#### (a) Bishopston

In the latter half of the 18th century a "notable discovery" was made at Bishopston in the Gower Peninsula when £12,000 clear profit was made for the promoter. (Lewis 1968, p.164). However Evan Hopkins, in a long report on the mine in November 1850 refers to traces of ancient workings in this locality stating some parts were worked by the Romans (MJ 1850, p.568). Certainly in Henry Francis's map of Bishopstone Mines, Brandy Cove, dated 6th August 1849, extensive workings are shown, probably the result of its profitable period in the latter half of the 18th century. How long there was activity at this time is not known but it reopened in 1810 only to last three years (Lewis 1968, p.254). Samuel Lewis (1848, p.90) wrote under the heading BISHOPSTON "... lead ore is found in the parish and was formerly procured in great quantities: within the last few years the mine was reopened, when the implements of the



former miners were discovered: several tons of good ore were raised but the works have again been discontinued...".

At this time, the middle of the 19th century, there was an increased demand for lead and on 20th March 1849 Robert Dunkin wrote to Matthew Francis (DI) "please lose no time in attending to our wants for the Bishopstone Mines. Men we want immediately — I should think 6 but the number you know best about. I suppose the shaft and wheel pit will be the first operations...". Henry, Matthew's brother, was sent immediately to take charge. He and his men must have worked hard, for that same year he sketched the plans shown in Fig.2 and added the following observations:—

"The Lode underlays west about 18 inches in a fm. We have seen it 60 feet in width and seldom without strings of ore. In my opinion we shall have a splendid Mine."

Referring to E in Fig.2,

"In the bottom level in this place was found an old Tackle used for draing water from the bottom but at that time the Tides could not have risen so high or that level would have admitted water, instead of allowing it to escape."

"Good ore was found in spilling through the old works."

There was never any mention of a wheel being erected in any of Henry's letters and a visit to the site shows no sign of water — other than the sea! He wrote to his father on 8th May 1850 "... Our Mines are turning out to be as good as we anticipated and by the middle of June it is thought our Engine will be sent to work ...". (DI). By 20th June 1850 (DI) he must have had ore ready for sale as he was enquiring of Matthew Francis "the names and addresses of all Lead Smelters who are in the habit of buying Ore and also the quantity of Ore you send for samples ... On 10th April 1850 he had received a letter from the secretary of the company, Thos. Routledge, Jn., thanking him for "the zeal, ability and indefatigable enthusiasm displayed in carrying on the Mining operations for the Association under your charge during the past year" (DI). Thos. Routledge was the son of Mr. Low's partner (DI) in Low's Patent Copper Co. at Penclawdd, Swansea. Mr. Low had an interest in Bishopstone mine and is mentioned frequently by Henry Francis in letters to his brothers.

By 18th December 1850 (DI) Henry was quarrelling with Thomas Routledge as to the prosecution of the mine. Henry wanted to "prosecute the crosscut East at mouth of Adit Level to intersect the Ore seen at the Sea". Thomas Routledge persuaded the shareholders that this was useless, so Mr. Evan Hopkins was called in to report on the Mine. He supported Henry and went on to congratulate the company "in being so fortunate with respect to the management, Capt. Henry Francis being most efficient and zealous in his duties concentrating all his energies to forwarding your interests" (MJ 1850, p.568).

About the same time (October 1851) an advertisement appeared in the Mining Journal thus:—

#### "BISHOPSTONE SILVER LEAD MINES

....These MINES are in full OPERATION having been started by a limited proprietary who hold 1200 shares on each of which £4 has been paid the issue of the remainder having been reserved until the present time. Upwards of £4000 has been expended in judicious workings, driving adit and other levels, and in the erection of an efficient steam engine, with the necessary machinery, dressing floors etc.

The sett is very extensive and the workings are now being carried on with great vigour. The engine-shaft has been sunk to the 20 fm. level under adit and cross-cuts made to the main lode, now being driven upon and expected to produce large quantities of ore; this lode is exposed to view from the mouth of the adit level to sea at low water mark, extending upwards of 100 fms and ore can be traced the whole distance. More than 40 tons of ore of good quality have been sent to market from this portion of the mine.

The committee acting on the advice of Evan Hopkins Esq., C.E. and Capt. Matthew Francis who have inspected the mines are now prosecuting the works with the utmost vigour: and as additional capital will probably be required have determined to issue the 500 reserved shares to respectable parties, on the payment of 1£ per share — subject to a like payment every two months until £4 be paid, so as to place all the shares in one position..." (MJ 1851, p.554).

The value of the shares had been £10 (DI Robt. Dunkin to Matthew Francis, 24 June 1851).

Henry Francis must have lost his enthusiasm for the mine for on 20th May 1851 he wrote to his brother "... Of Course I could not leave here until this Mine is fairly set to work say 2 Months from this time...". In the same letter he enquired "What salary would the Esgarmwyn party give" and states "... I could make a good trade by selling Coal & Iron to the different Mines about Aberustwith as I am connected here with whole-sale parties in these lines". In actual fact he went as Resident Agent for a short time to another of Mr. Low's mines, Penllyne Court near Cowbridge (MJ 1852, p.76).

In October 1852 Capt. Griffiths was appointed agent, Thomas Routledge Jnr. resigned and Mr. Balcombe became secretary of the company at a salary of £4.4s per month. Mr. Arthur Dean of the Crown Court Mines was invited to become engineer-in-chief to the Company (MJ 1852, p.503) at a salary not exceeding £70 per annum (MJ 1852, p.624). He had written a very long and detailed report in September 1852 describing the mine and advising as to its future working (MJ 1852, p.429). The main points of this report are as follows:—

"This sett is large, two miles long from north to south, bounded on the south by the Bristol Channel and situate entirely upon the great south Welsh carboniferous limestone formation ... There are two mines upon the property: the south mine is situate near the coast and the north or Long Ash mine, in the northern part of the sett. The south mine upon the coast and within a base of 120 fms, eight large lodes and branches have been discovered... The great feature in this mine is the concentration of the main

and eastern lodes as they progress northward: and ... the deposits of ore must be looked for at and about the points of intersection and junction ... I recommend the suspension of pumping operations for a time ... The steam engine is upon the high pressure principle but consumes too much coal; and it will be more economical to sell it and erect another at the new shaft of greater power, upon the high-pressure expansive condensing system which ought to do the same amount of work with one third of the coal now employed. The Long Ash Mine has now been opened upon a fine and large lode ... and some small quantity of lead ore has been discovered ... but the abundance of water flowing into the lode from a subterranean river, precludes its being worked in the bottom of the valley without the aid of a very powerful steam engine ... In conclusion I may say that the Bishopstone Mines are exceedingly promising; and if worked at the proper points I have no doubt of their making an ample return to the shareholders."

It is doubtful if any of the recommendations were adopted.

Reports in the Mining Journal during 1853 do not suggest great success — a heavy storm early in the year caused considerable damage to the dressing floors and took away nearly a ton of ore from them which was nearly ready to store (MJ 1853, p.6) and in February the old timber gave way close to Francis's shaft (MJ 1853, p.90). At the quarterly general meeting on the 22nd March the accounts showed £69.0.2. against the adventurers and the estimated account of liabilities and assets including the cost for the next 3 months showed a balance against the mine of £379.11.1 (MJ 1853, p.196). Reports continue to appear until June 1853. Thereafter there are no more reports though a brief statement "Bishopstone. This mine has sold lead ore during last week" appeared in the Mining Journal for Aug. 27th and it continued to be listed under "Mines having sold ores" until Oct. 28th 1854.

The output from the mine was never great during this period. In the prospectus of 1851 it was claimed that 40 tons of ore of good quality had been sent to market from one particular portion of the mine. Henry Francis had written to his brother Matthew in May 1850 "We had one Man breaking ore over the Adit the last month who broke 4 Tons and this M<sup>o</sup> we have 2 Men stoping who I expect will break 8 Tons of Ore ... Had we larger dressing floors we might be breaking more Ore ... (DI 8 May 1850). In Dec. 1852 10 Tons were sold to Messrs. Sims & Co. (Nat. Lib. Wales Nevill Records XXXV). This could be the 10 tons mentioned by Griffiths in his November report (MJ 1852, p.572). At the quarterly general meeting on 22 March 1853 the account showed ores sold to be worth £101.6.8. (MJ 1853, p.196). No returns for Bishopstone Mine are listed in Robert Hunt's Mineral Statistics 1848-57.

Henry Francis's reports and letters are optimistic as indeed were those of Griffiths during the early weeks of his agency when he fixed air pipes from the Adit to the rise from the adit crosscut on the Eastern lode (MJ 1852, p.548), and proposed "to take the tramway from the old dressing floors and lay same from present floors to the rise" (MJ 1852, p.572) and reported "... If the ore continues in the forebreast we shall soon have a good back where we may rely upon getting several Tons of ore" (MJ 1852, p.503). However he was daunted by bad weather. In Nov. 1852 the rain "which has fallen the past week" caused a slip in the adit close by Francis's shaft which "took us off our dressing 4 days" (MJ 1852, p.560). In Feb. 1853 as already stated the timber gave way and 40 fms of the adit had to be repaired (MJ 1853, p.90). This together with the damage done by the heavy storm in January and the failure to discover ore in sufficient quantity must account for the closing of the mine. When this happened has not been discovered but in January 1854 a Captain John Griffiths was "the newly appointed agent" at Penllynne Court Mine (MJ 1854, p.25).

#### (b) Penllynne Court (Penllyn)

Interest in these mines was revived in 1851 when Charles Low of Swansea obtained the sett on lease from Mr. Salmon of Penllynne Court. A prospectus for the Penllynne Court Mining Company (DI Dec. 1851) was produced giving details of the sett, including evidence of an extensive system of mining carried on in the previous century. It was proposed to divide the capital of the Company into 5000 shares with a deposit of 10/- per share, with two further calls of 5/- each towards the middle and end of the following year (MJ 1852, p.501). The promoters, which presumably included Charles Low the purser and Matthew Francis the consulting engineer had looked after themselves very well; they issued to themselves 600 shares free of calls. By the end of May only 500 other shares had been applied for, but then, fortunately, a proposal was received to take up the whole of the 5000 shares by three persons, one of whom was Mr. Thomas Field who became Chairman of the Company. The promoters accepted this proposition provided the 500 shares already applied for were allowed to stand. Their own issue of free shares was cancelled and a payment of £250 was made to them instead, £150 of which was used to purchase 150 shares of £1 paid up.

Operations began in May 1852. The old workings of three shafts were "cleared up, timbered and sunk upon". The sinking of the middle and lower shafts was hindered by the presence of water. Capt. Curry recommended the use of two horse whims to get the water out. These costs £34 and were working by the end of October but were hampered by extreme wet weather, so one whim was removed to the upper shaft on higher ground where they were troubled to a lesser extent and work was concentrated there (MJ 1852, p.525). In January 1853 a new shaft was opened about 80 fms East of the upper shaft. By then an improvement had taken place in the West branch of the upper shaft — two men took out half a ton of fine lead ore in seven hours (MJ 1853, p.46) and at the June 1853 meeting of the shareholders a stone of ore weighing 228 lbs (MJ 1853, p.348) sent by the resident agent was exhibited on the table. The company, anxious to secure the adjoining land had approached the owner, the Countess of Dunraven, and had been granted a lease on the same terms as the other part of the sett, that is for thirty-one years, at a royalty of one-fifteenth for the first eleven years and one-twelfth for the remainder (DI Penllynne Prospectus). In May 1853 Captain Stephen Thomas of the Valley of Towey, the superintending engineer, recommended the use



of a steam engine to drain the mine at deeper levels (MJ 1853, pp.348 & 542) and among the many resolutions carried unanimously at the June meeting was "that the committee be requested to take measures to place an eligible engine on the mine forthwith". Mr. Thomas Miers, a shareholder present, suggested that an advertisement be inserted in the Mining Journal. In December 1853 the agent Lewis Williams reported the arrival of the engine at the mine as well as still larger stones of ore from the 16 fm level of No 2 shaft, one weighing 483 lbs! (MJ 1853, p.814). The yield was 2½ tons to the fathom.

The engine, a Medwin and Hall portable, was started on 26 February 1854, pumping up 50 gallons of water per minute (MJ 1854, p.170). John Griffiths, the new agent (MJ 1854, p.25) appointed in January 1854, reported on 1 April: "from everything I see we shall soon have a paying mine" (MJ 1855, p.496), but there is no mention of very large stones as found by Lewis Williams and in November John Griffiths disagreed with a consultant's recommendation as to the future working of the mine (MJ 1854, p.766). Griffiths opposed the deepening of the engine shaft on grounds of time and cost, and wished to know more about the lodes before further capital investment was made. No agreement seems to have been reached and at the beginning of August 1855 a special meeting was held where resolutions were passed confirming the dissolution of the company (MJ 1854, p.496).

Information on the output of the mine is limited, but in 1854 Sims made an offer for 10 tons 16 cwts of Lead Ore from Penlline (N.L.W. Nevill XXXV). The Mining Journal listed Penllyne Court amongst Mines which have sold ores until August 1855 (MJ 1855, p.488).

After 1855, it seems there was no more mining here, but interest moved to the Llangan site.

### (c) Llangan

In mid-1855 the Llangan Silver Lead Mining Co. was floated, with 8000 shares of £1 each. It appears to have been an entirely new company and its prospectus (D1) stated that "The Llangan Mine is a recent and important discovery ... contains an unusually rich Lode of Silver Lead, four feet wide, upon which a Shaft has been sunk to the depth of seven fathoms, through a rich course of Ore, worth ... upwards of £30 per fathom." The prospectus stated that 10 tons of ore were already for sale, and this may be the source of 7½ tons bought from "Bridgend" Mine in 1855 by Messrs. Sims (N.L.W. Nevill XXXV). No other information on the activity of this company has so far been found, and it probably never really got started.

In 1863 another company was formed, the Llangan Lead Mining Co. It was probably the same company as had been announced in 1861 as being "in the course of formation with a capital of £7500 in £5 shares for working a valuable mineral property in the parish of Llangan". (MJ 1861, p.264). At its first ordinary general meeting in Feb. 1864 the directors (Charles Rule, John Haffenden jnr., and W.R. Mountcastle) reported that no ore had yet been obtained, but that if £2000 were provided success could be assured (MJ 1864, p.147). The company apparently failed shortly afterwards.

In 1876 another company was formed and set to work very seriously and with partial success (MJ numerous refs in 1877 & 1878). A new engine shaft was built some 240 yds from the old 18th-century engine shaft, and a powerful Cornish engine installed. Modern ore-dressing equipment was provided, and in 1877, 99 tons of ore was sold, yielding 74¾ tons of lead; in 1878 about 42 tons of ore, yielding 30 tons of lead (Hunt 1877-1878). The company worked down to a depth of 10 fathoms. Unfortunately it ran out of funds.

The Glamorgan Consolidated Lead Mining Co. was formed early in 1879 with a capital of £30,000 in £1 shares, to purchase the Llangan mines (MJ 1879, p.408), which had showed such promise and were so well-equipped. However, it appears that this Company never got under way, for no lead was produced (Lewis 1968, p.254).

It was rather a shame that Capt. Wm. Michell, reporting to the company in 1879 (Evans 1953), had stated "the time will come when this part of Glamorganshire will become a first-rate mining district", for in fact there has never been any lead mining there since then.

### (d) The Clive Mine at Rudry

A report (MJ 1852, p.234) claimed that the history of the Clive Mine was as follows:—

"About 25 years ago, two working miners of the principality ... made a discovery of lead ore in a mountain, seven miles from Newport ... and went to work surreptitiously in driving an adit, by means of which they raised about 10 tons of lead ore, which, by agreement, was entrusted to one of the party to take to Bristol for a market ... he decamped with the proceeds, leaving to his partner all the liabilities ... the latter ... kept the secret of the mine until about two years ago, when he made application to a gentleman to 'go and see a mine' ... The party who inspected it was satisfied ... and ... workings began immediately with eminent ... success."

This must have been the mine operation referred to by Lewis (1968, p.255):—

"In the east ... lead ore was being raised in 1850 at Cefn-pwll-du and was washed in the Draethen brook nearby. It is supposed to have been smelted in a furnace at a farm called Farm Furnace Blwm."

Clive Mine was near the Draethen Brook and on the slopes of Rhydygwern and Coed Cefn-pwll-du. It became called the Clive Mine because the property was owned by the Hon. Mr. Clive who received dues of one-fifteenth. It seemed to be a very rich mine, the sett of about a mile in length having about 1000 tons of ore "in sight". There had been some opencast and some shaft and adit mining.

A party of 15 "mining gentlemen" visited the site early in 1852 and were suitably impressed. There was a pile of ore already at the surface of nearly 250 tons, worth £11 per ton (MJ 1852, p.247). Presumably more money was invested in the mine, for it continued actively throughout 1852-4 and was the subject of frequent reports (MJ 1852-3-4), many of which gave details of the underground operations.

The deep adit level was 4 ft wide and a tramroad was laid in it "which will save 10s. per ftn in driving". Lack of air in the workings was a problem and an "air-pit" had to be sunk to the "old men's workings", in July 1852. At the same time a horse-whim was built, a water-wheel was being provided for and a wheel-pit being built, and a tramroad incline was under construction. A grinder-house was being built too. By September 1852 the surface operations were almost finished. The dressing floors were being made in October, but very wet weather impeded progress. In spite of optimistic reports, the amount of lead ore produced was not large, and Hunt's official statistics showed only 20 tons in 1853 and 16 tons in 1854. Reports in 1854 became more gloomy, with continued complaints of bad weather, bad ventilation, and flooded workings. By 16 June 1854, E. Rogers, the agent, reported "I am sorry to say this part of the mine is turning out very badly indeed," and on 29th June he stated that "At Summers Shaft ... I have suspended operations until I hear the result of the next meeting."

That was the last report. Clive was not included in the list of "Mines which have sold ores" after 2 September 1854, and there was no further entry in *Mineral Statistics* after 1854.

As to the people involved in Clive Mine, little is known except that in 1853 the account books were held by P. Stainsby of Salvador House, Bishopsgate St., London, and that in 1854 the Chairman was Charles Burls, jnr. Stainsby was an active mine speculator with interests in Cornwall (Tucker 1973) and elsewhere and himself went bankrupt a year or two later.

The total investment in Clive Mine could not have been large, for at the meeting on 8 April 1854 (MJ 1854, p.244), a call of 5s. per share was stated to be equivalent to only £1250; moreover, the chairman complained of shareholders neglecting to pay their calls.

There seems also to have been some other lead-mining activity in this area, for in 1854 we hear of a Clive United Mine (MJ 1854, pp.69, 105, 122) and a West Clive Mine (MJ 1854, p.122). However, little is known about these ventures.

Other lead-mining activity which appeared to relate to this area, although with no great certainty, was

South Wales Mining Co., first mention 24 May 1851, last mention 24 April 1852 (MJ 1852, pp.5, 29,

113, 125, 172, 185, 197) — also opening a mine east of the Rhymney River (No.8 of Table 1?)

Withers and Co. (initial 10 tons of ore) and John Edmunds (60 tons in six weeks, 6 oz silver and 15 cwt. of lead to ton) operating near Caerphilly) (MJ 1852, p.57).

Caerphilly and Carfunon Co. (initial 20 tons of ore, 1024 shares selling at £3-£4 each) (MJ 1852, p.124, 132, 168).

A fresh effort to work Clive Mine was made in 1871. It was not then referred to as the Clive Mine, but reports make it seem that the same mine is being discussed. This time it was the Glamorganshire Mining Company, with a capital of £12,000 (MJ 1871, p.901).

"The property ... is reported upon as possessing excellent prospects of success. Throughout the whole of the grant many lodes have been discovered all containing lead in a greater or less degree but hitherto operations have been almost totally confined to the exploration of two parallel lodes running east and west and a north-and-south lode which is of great width and has been worked as a quarry. In immediate proximity ... there runs a constant stream of water ... for crushing and dressing the ore ... A steam engine and pumping machinery have been erected ... there can be little room to doubt the ultimate if not immediate success of the undertaking."

This report caused a strong protest to be made by Lord Tredegar's agent, who objected to the use of the water of the Draethen Brook for washing lead, since his lordship's tenant at the village of Draethen, below the mine, used the water for household purposes. He threatened an injunction (MJ 1871, p.1052). Mr. Peter Tenby, for the company, promised to look into the matter.

It is understood the mine was not re-opened, and it may be that Lord Tredegar's prohibition on the use of the brook was the reason.

## THE SITES

### **Bishopston: All-Slade (Fig.3) or Brandy Cove**

The site of the 1852 mine was undoubtedly as shown in the map, for it was referred to as the Brandy Cove mine, and Francis's plans seem to agree with this site. It was shown on the 1st edition 25 — in O.S. map of 1879 as "Old Lead Works (Disused)". There is now, however, no identifiable trace of the works, nor can the adit to the sea be found. Some of the workings were accessible at least up to 1961, for in that year there was a sensational discovery of a murdered woman in the mine, and it was decided that she was a woman who had disappeared in 1919 (S.Wales Evening Post 6th Nov. and 15th Dec. 1961).

### **Bishopston: Long Ash Mine (Fig.4)**

It seems unlikely that Long Ash Mine had been used very extensively, if at all, as there is no sign of spoil. There is an adit entrance in the east side of the valley (the Bishopston Valley), and the remains of a stone building below and to one side of the adit. The valley had a subterranean stream, which is visible at one or two "guzzle holes". We noticed earlier, in Arthur Dean's report of 1852, that this stream fed water into the lode, which therefore must have extended well below the adit, but presumably some ore was found along the adit itself. There is no road access to the mine, but presumably, if it had been developed, a road would have been built to Longash Farm, 600 yards away to the east.

### **Llangan: (Fig. 5)**

The site here is in two portions. The older part is on the west of the lane which runs southward from Llangan village, and the later part on the east.



The western part is that which was used in the 18th century. The 2nd edition 25-in O.S. map of 1899 shows "Old Engine House" and "Old Shaft" here. The "Old Engine House" has been partially incorporated into a cottage called MAESYDD and the rest of the western site forms its garden. The owner, Mr. T.H. Preece, kindly showed us over this site and explained that the shaft was an inclined one, going down in the direction of the newer site; unfortunately it had been filled in completely. The "Old Engine House" is, in fact, a large stone shed, about 30 ft x 15 ft x 15 ft high, and was formerly 9 ft higher. It had had in it an old furnace, which was thought to have been an ore hearth, but this had been thrown down the shaft before the latter was filled in. The old rafters which had been removed in lowering the roof had, Mr. Preece said, the marking "Roberts, Joiner, 1729" on them. Mr. Preece also said that the deeds of his property mentioned 18th-century mining. There was no positive evidence that there had been an engine here in spite of the marking on the O.S. map. This certainly appears to have been an 18th century mining/smelting site.

The eastern part of the site is clearly that developed during 1876-8. On it now there is, apart from rubble and spoil tips, only the chimney of the engine house, which has for some reason been left standing when all other buildings have been demolished. On the site in 1879 (MJ p.408) were a Cornish engine and pumps, winding engine, crusher house, changing room and lead store house, captain's residence (this might, of course, have been the cottage MAESYDD referred to above), office, smithy, and carpenter's shop, together with the dressing floors. Some of these items may, of course, have been on the western part of the site.

Nowhere on the site is there any sign of a watercourse or pond, so presumably it was the water pumped from the mine that was used for the dressing floors.

The Tithe Awards for the parish of Llangan (N.L.W.) of 1841 show the western site as a field called MAESYDD ISAF and the eastern site as a field called CHWECH ERW BACH, but make no mention of old buildings or mine-shafts.

The only real cause for doubt in our argument that this was the one-and-only Llangan mine of both the 18th and 19th centuries is the statement made in the prospectus for the Llangan Silver Lead Mining Co. (DI) 1855 that the Llangan Mine was "a recent and important discovery". However, it will be recalled that the 1855 Company did not actually start mining, so that even if it had intended to work on a different site there would be no physical signs of mining there.

**Penllyn:** (Fig.6)

There is much more difficulty in interpreting this site than that at Llangan, for there is very little in the way of material remains. In the area indicated in the map are several old shafts and heaps of spoil. There are some very minor stonework remains, and in the small patch to the north of the main site one good piece of stone wall still stands.

It is certain that this was the site of the Penllyn Court Mine in 1852-5. We saw earlier that the Penllyn Court company were operating on a sett leased from Wm. Salmon, and later obtained a lease of adjoining land from the Countess of Dunraven. The Tithe Awards (N.L.W.) of 1841 show the main site, where the shafts are, as TEWGOED BACH COED in the ownership of Wm. Salmon, and the piece of land to the north, where the stone wall stands, as TY COCH OLD BUILDING in the ownership of the Earl of Dunraven. This therefore leaves no doubt as to the identity of this site, which must also have been that of the 18th century Tewgoed Mine.

It is known that there were two covered horse whims on this site, and that a small portable steam engine was used and was presumably provided with a house. There must have been several other buildings too. It is known that there was a smith's shop, for it used the old smelting house (MJ 1854, p.38). It is more than likely that it is to this building that the one remaining stone wall, mentioned above, pertains. Ore-dressing was presumably done using water pumped from the mine; a pond was built in 1853 (MJ, p.679) presumably to store this water, but we did not find any convincing remains of it.

The mid-19th century reports from Penllyn make frequent reference to the old men and their workings, and we have just mentioned a 19th century reference to the "old smelting house". Coupled with the Tithe Award evidence quoted above, we can be reasonably certain that this was the Tewgoed mine of the 18th century. Although there is much confusion in references to Penllyn and Llangan, it seems almost certain that both sites were in use in the 18th century.

**Rudry (Fig. 7) and Machen**

There are very great difficulties in interpreting these sites. Local informants say that the hills between Rudry, Machen and Risca contain numerous old lead mines, many of which are now impossible to find; to make matters worse there seems to be no local knowledge of any 19th-century lead mining in the area. The mine site shown as "Machen", at grid ref. ST 233 895, in Table 1 is that shown as "Old Lead Mine" on the 1st-edition 1-inch O.S. map (early mid-19th-century) and on the 1st-edition 25-inch O.S. map of c 1880, but our local informants do not know of it. Davies (South Wales Caving Club Newsletter No.49, 1965) quoted a statement that an old lead mine in the face of the Machen Dolomite Quarry had been destroyed by blasting, and judging by his grid reference this might well have been the Machen mine.

Two miles to the south-west, in Rhydygwern, and between the villages of Rudry and Draethen, is a wooded area which has a very large number of old lead workings scattered over an area of about half a square mile. Most of these are marked on the 1st-edition 25-inch O.S. map, surveyed in 1875 (sheet Glam. 37.4). The Roman mine referred to at the beginning of this paper (Tuck 1969) is among this group, at grid ref. ST 217 877. Most of the workings are obviously ancient, but one, at ST 208 870, to which we were first introduced by Mr. T. Grey-Davies, can best be approached by a level track which passes through a cutting in rock and seemed to be an old tramway route. This is without doubt the "Old Tramway" shown

on the portion of the 25-inch map reproduced in Fig. 7. Following the tramway route away from the mine, just after it crosses the modern forestry road, it starts to descend a very steep incline past an old spoil heap. Unfortunately the rest of the route has been destroyed by the modern quarry which has expanded to occupy almost the whole area between the old tram route and the road to the south. Since we know that the 19th-century Clive mine had a tramway and incline, we have some confidence in stating that this mine must have been the Clive mine, or part of it. Moreover, the 6-inch Geological Survey maps show that the washing floors were at ST 213 868, where the small stream which flows down Cwm Glesyn (or Leyshon) joins the Draethen Brook.

There is another mine-shaft up Cwm Glesyn, at ST 211 871, which appears to be less ancient than most, and there is an adit from this emerging some 100 yards lower down the valley. Since the Clive mine reports refer to an adit, and there is a possible route of a tramway branch shown on the 25-inch O.S. map with some traces still discernible on the ground, so it is concluded that this was also part of the Clive mine.

Some account of these and other mine workings in this area is given in the caving report by the Tuck (1969). However, apart from the features mentioned, all the surface works seems to have disappeared without trace.

#### **Llantrisant**

The 1st-edition 1-inch O.S. map shows the location of the "Llantrissant Lead Works" at about the position indicated by the grid reference given in Table 1, but unfortunately with a good deal of uncertainty. Subsequent maps are of very limited assistance since the area was very largely overwhelmed by ironstone mine workings and a few coal pits which are shown, to the exclusion of the lead workings, on the 1st-edition 25-inch O.S. map. The recent 6-inch geological maps, however, show "old shallow pits for lead" and "old opencast workings for lead" over an area about 400 yards by 200 yards centred on the grid reference ST 048 822 (as in Table 1).

Exploration of the area concerned shows it to be densely pock-marked by small hollows, but just on the northern edge of the ridge, where the land begins to fall sharply down to the Afon Clun, is a much more deeply excavated area, now wooded, about 200 yards by 40 yards, long axis roughly west-east, with one detectable stone-lined shaft, some remnants of an old building, and a chimney about 40ft high and 9ft external diameter at the base, with an opening at the base at the western side. Nothing could be found to prove this was the old lead mine and smelting site, but the evidence of the geological map and the proximity to the stream make it seem very probable that it was. Other mines and levels to the west were probably ironstone workings. About a mile to the east there are pits and shafts which the geological map shows as lead workings, and these may have been part of the Park mine or something quite separate of which no other record has been found.

#### **Chepstow**

The small quarry, which was almost certainly the site of the mine if it was ever worked, is readily found at the junction of Vauxhall Crescent and Vauxhall Road, on the western outskirts of Chepstow. It is now very shallow with a very level floor, having probably been filled in with spoil or rubbish over the years. Apart from some thick vegetation round the edges and some derelict garages, it remains open and bare in an otherwise developed residential area.

### **CONCLUSIONS AND ACKNOWLEDGEMENTS**

It is evident that there are still many uncertainties in the history of lead mining in South-East Wales. No doubt there are other sites that we have not come across; more active field work would probably provide additional information. There may be other relevant documents that we have not found, but the Archivists at the Glamorgan County Record Office and at University College, Swansea, have kindly searched their holdings for us and have found nothing concerned with lead mining.

It seems certain that the output of lead in Glamorgan in the 18th century was much larger than that in the 19th century, in spite of the more powerful and efficient machinery that was used in the later period. It is interesting to speculate on the reasons for the failures in the mid-19th century. Had the deposits really been worked out and were the favourable reports of inspections actually falsified? Would more capital have turned failure into success?

We must acknowledge our indebtedness to numerous people who have helped us in this research: the staff of the National Library of Wales; of the Map Library of the British Library; of the Library of the Institute of Geological Sciences; of the Monmouthshire County Record Office; of the Library of University College, Swansea; of the Library of the Institution of Mining and Metallurgy; and of the Library of the University of Birmingham; Dr. W.G. Townsend of Swansea, Mr. T. Grey-Davies of Risca, Mr. I. Waters of Chepstow, Dr. V.G. Welsby of Birmingham, and Mr. T.H. Preece of Llangan, who have furnished us with much local information; and Mr. D.E. Bick of Newent who has given us some general information, and who introduced us to the Druid Inn Papers in the first place. We also wish to thank Dr. T.D. Ford, Dr. D.P. Ede, Mr. M. Davies, and officials of various caving organisations for advice and information.









Francis's Key :-

- A. 1st Wins from top to bottom level 3 fms deep
- B. 2nd Wins do do commencement of old workings
- C. Crosscut East driven 3 fms.
- D. Crosscut West toward Engine Shaft driven 8 fms.
- E. 3rd sink from Top to bottom level in old Workings.
- F. Old perpendicular shaft from surface, supposed to be at the bottoms. 15 fms deep (used for draining Ores).
- G. Engine shaft. 10 fms West of Workings 9 fms deep.
- H. Old shaft. Similar to F.

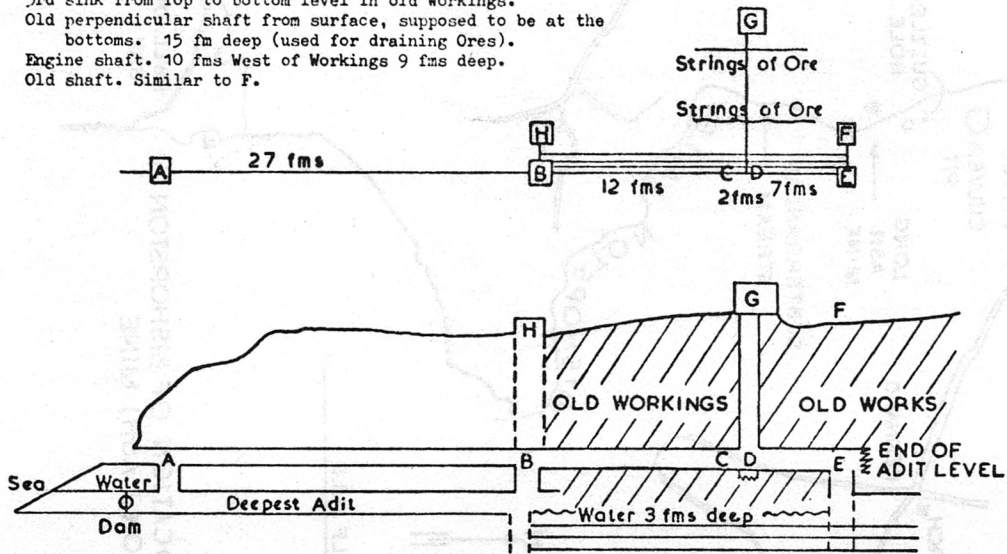


FIG.2. HENRY FRANCIS'S PLAN & SECTION OF BISHOPSTONE MINE 1849 (redrawn)

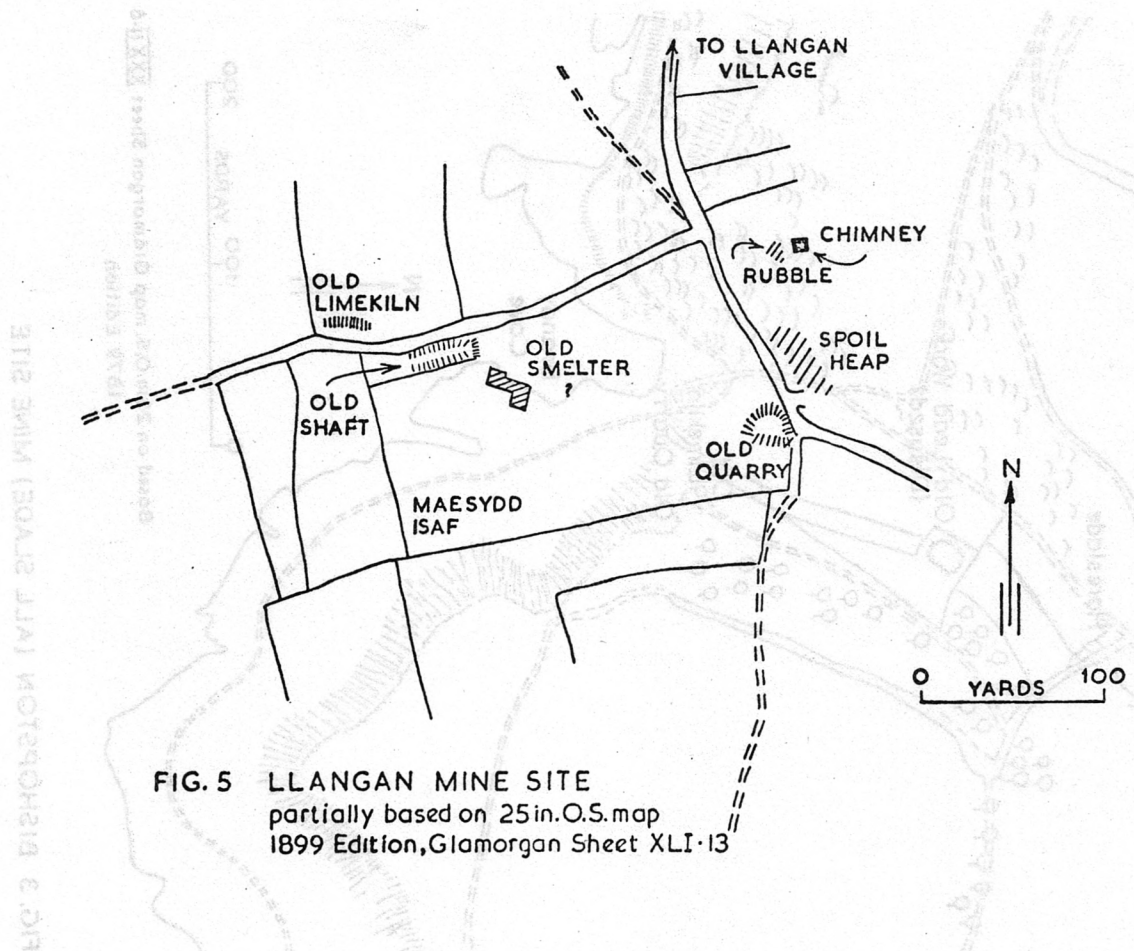


FIG.5 LLANGAN MINE SITE  
partially based on 25 in. O.S. map  
1899 Edition, Glamorgan Sheet XLI.13

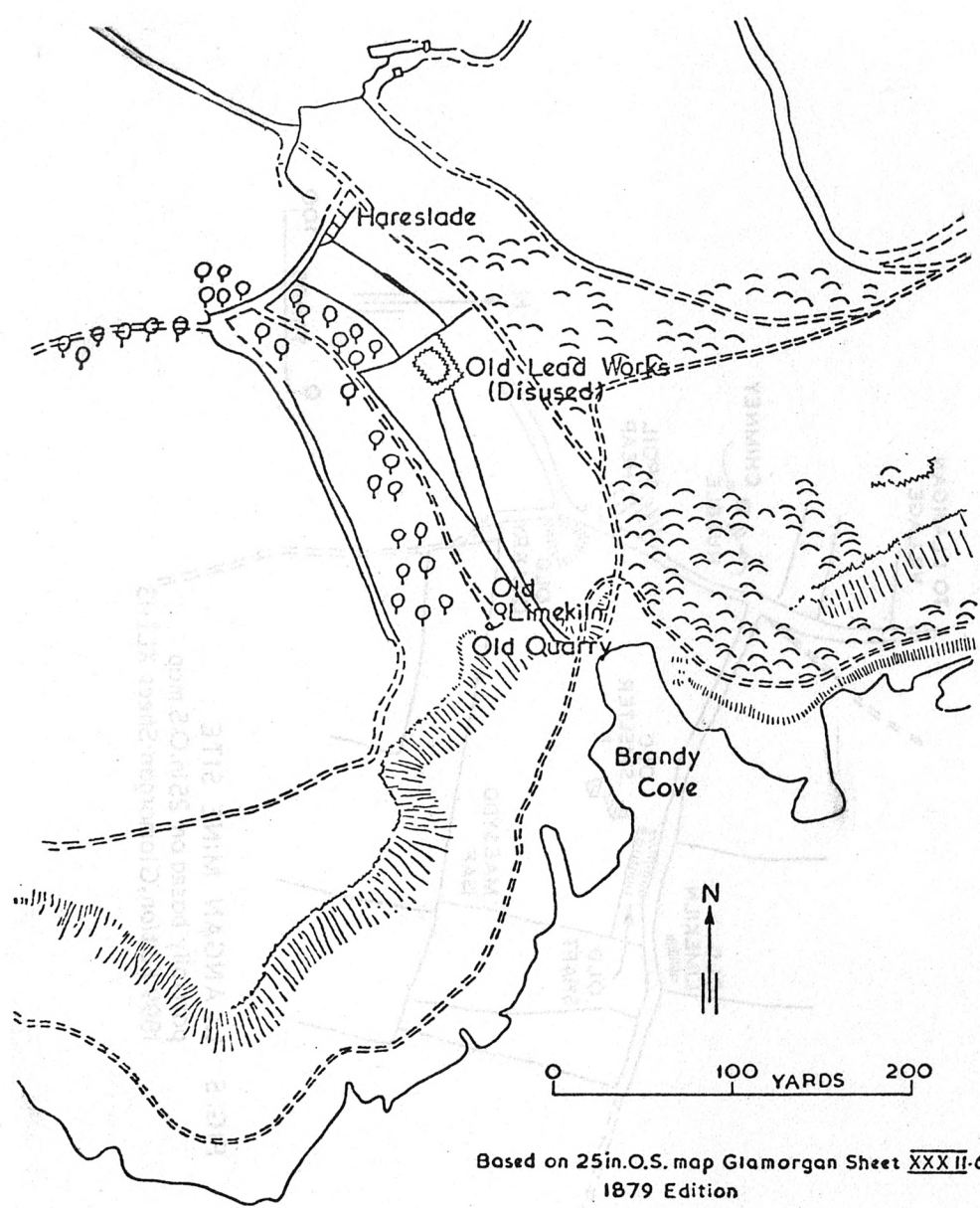


FIG. 3 BISHOPSTON (ALL SLADE) MINE SITE

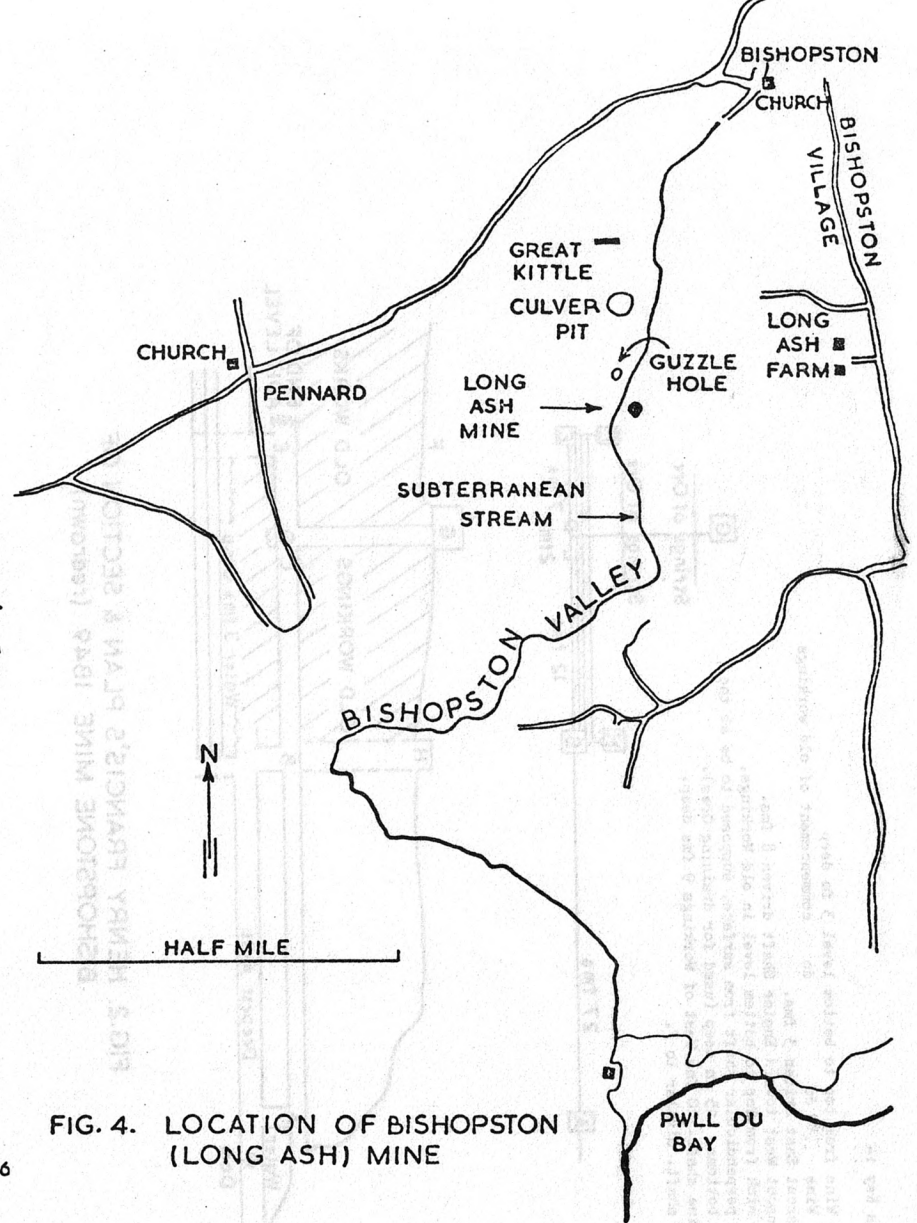


FIG. 4. LOCATION OF BISHOPSTON (LONG ASH) MINE



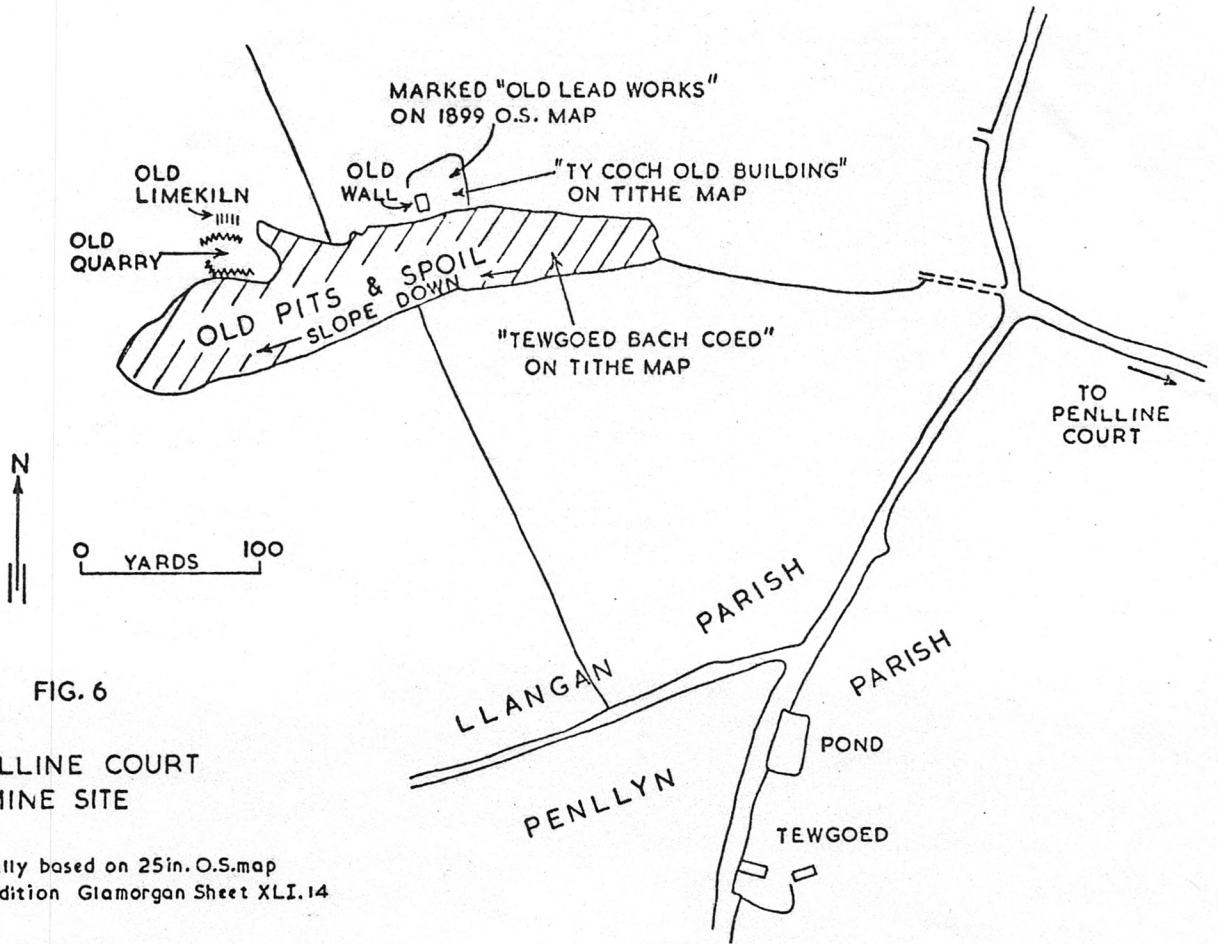


FIG. 6

PENLLINE COURT MINE SITE

Partially based on 25in. O.S. map 1899 Edition Glamorgan Sheet XLI.14

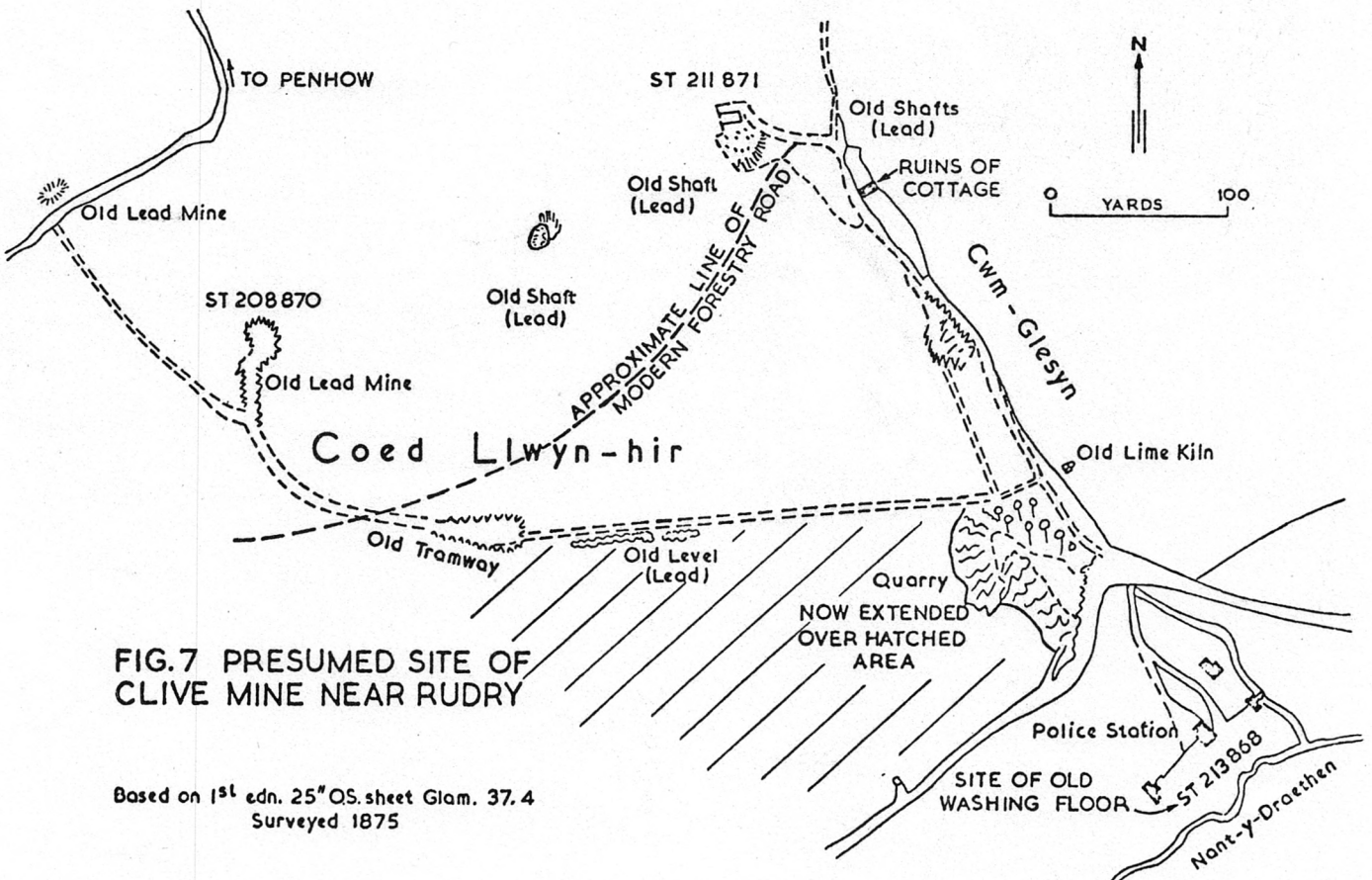


FIG. 7 PRESUMED SITE OF CLIVE MINE NEAR RUDRY

Based on 1<sup>st</sup> edn. 25" OS. sheet Glam. 37.4 Surveyed 1875

Map made from 1932 map  
of the area near the  
mine near Ruda

FIG. 7 PRESUMED SITE OF  
COAL MINE NEAR RUDA



Map made from 1932 map  
of the area near the  
mine near Ruda

FIG. 8 MINE SITE  
BEINGLINE COURT

FIG. 8

