Blackpill and Clyne Brickworks.

The Blackpill Brickworks.

One of the first recorded brickworks in the area was situated at the foot of the Clyne Valley and is clearly marked on the first edition *O.S. map,* 1877 as 'Blackpill Brickworks'. This Works was situated on the beach side of the Mumbles Road and is recorded in the *Slater's Trade Directory* 1858/1859 as 'Charles Haywood, Brick and Tile Maker'.

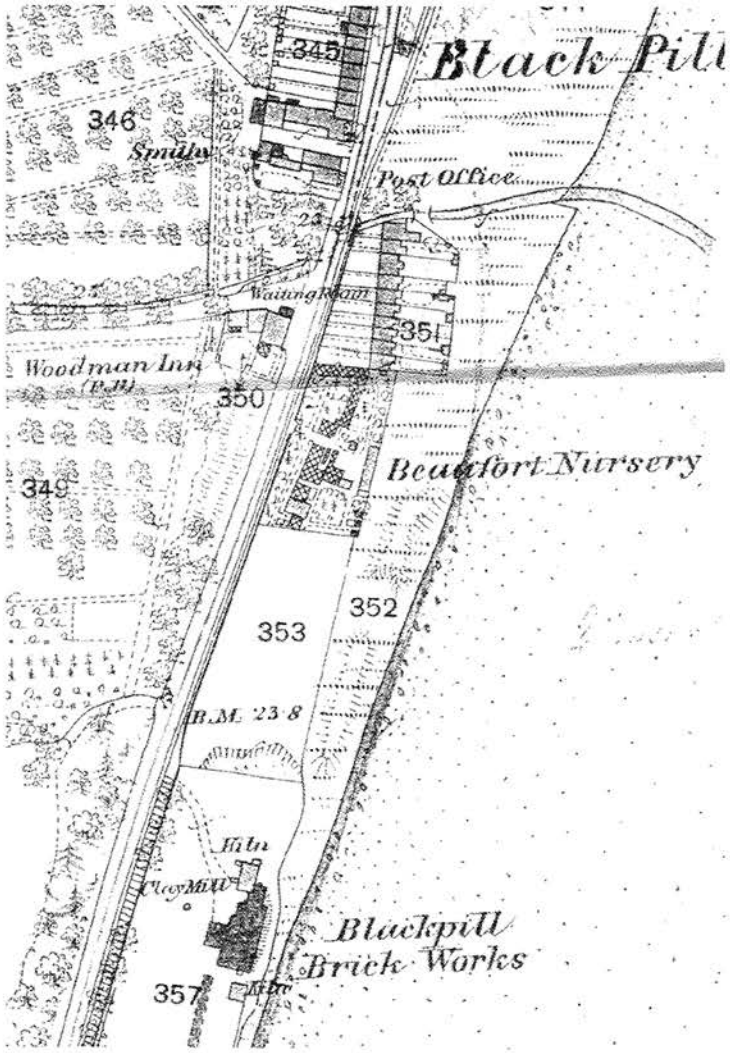
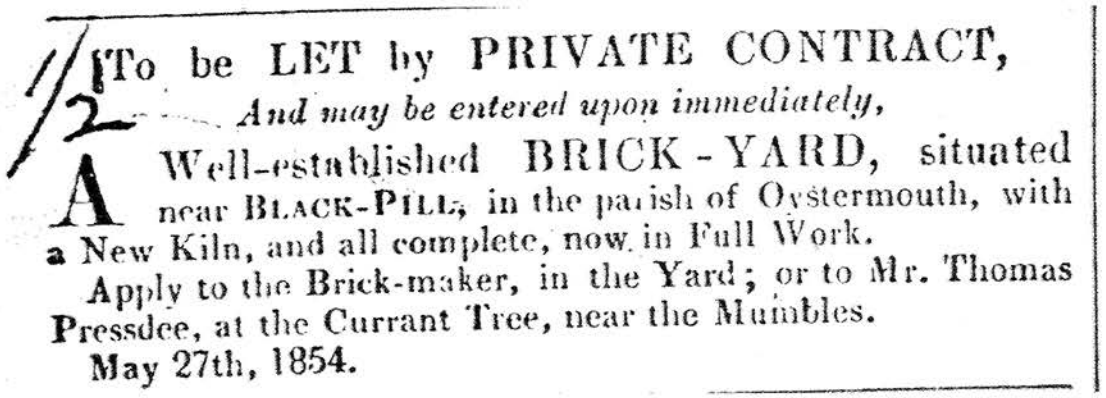


Fig. 2. *O.S. map* 1877.

An advertisement in the *Cambrian Daily Newspaper,* 2 June, 1854, states that the Brickworks is to let. Further reference in the *1875 Directory of Swansea* shows that this company was still operating then under the name of Joseph Haywood.



To be LET by PRIVATE CONTRACT,

And may be entered upon immediately,

A Well-established BRICK-YARD, situated near BLACK-PILL, in the parish of Oystermouth, with a New Kiln, and all complete, now in Full Work.

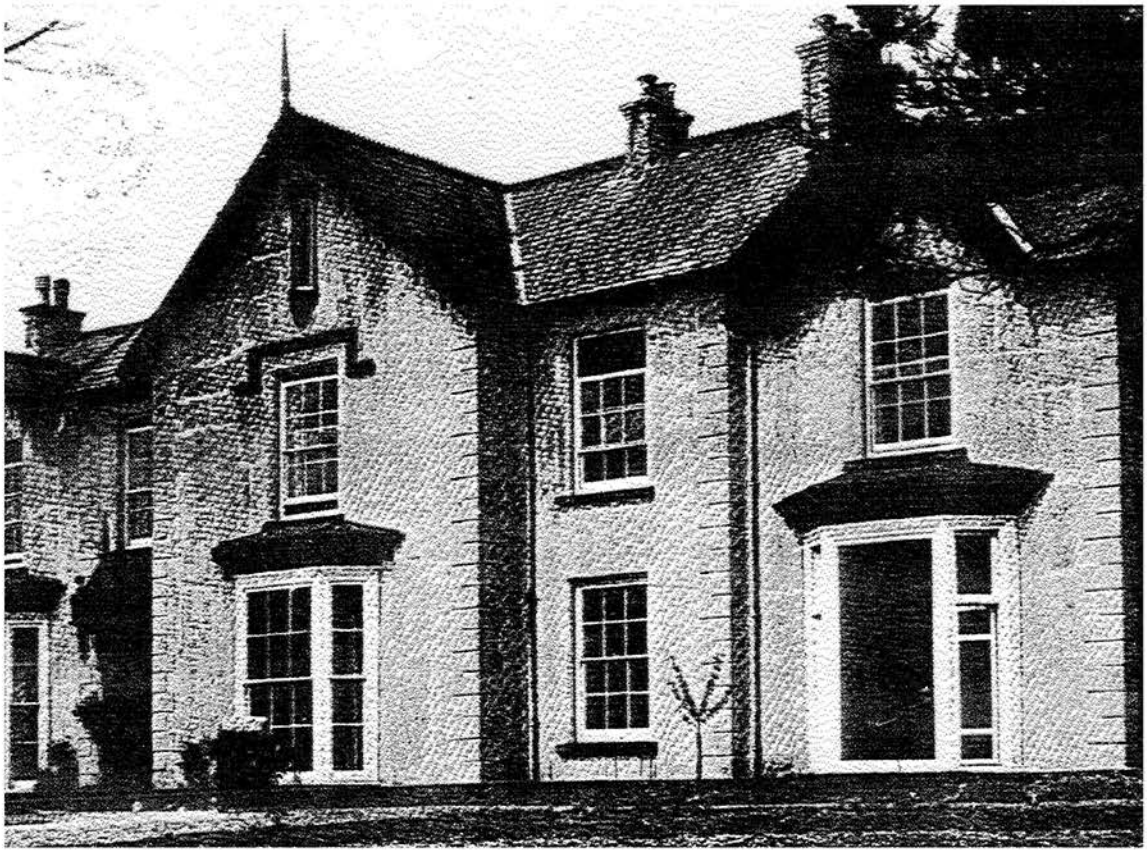
Apply to the Brick-maker, in the Yard; or to Mr. Thomas Pressdee, at the Currant Tree, near the Mumbles.

May 27th, 1854.

Fig. 3.*The Cambrian Newspaper*, May 1854.

The 1877 *O. S. map* shows three large properties built in close proximity to the Brickworks. Enquiries at the last remaining house, 'Fernhill' now owned by the singing celebrity Bonny Tyler, revealed that the building was completed in 1858. Fernhill is described as a 'substantially built brick & stone building, with slated roof.' (1) It is possible these Brickworks were set up to manufacture bricks for these prestigious dwellings.

The only map available prior to 1877 is the *Tithe Map of Oystermouth,* 1845 which indicates that the only industry in and around the Valley at that time was a metallurgy works which is listed in the *Apportionment Book* in Swansea Archives. From this it seems that Blackpill Works started up sometime between



Two of the prestigeous dwellings built in the 1850s in close proximity to the Blackpill Brickworks site.
Above,' Fernhill' owned by Bonny Tyler and below,' Llwynderw' now demolished.

1845 and 1854. It has been suggested that this Company was forced to close by the well known, wealthy Vivian family who did not wish their land to be polluted by the Brickworks (2), and that this Works closed when railway lines were moved from one side of the road to the other.(3) In 1898 an application was made to Parliament to extend a new line from Blackpill to Oystermouth. This was given royal assent and the line was completed on 26 August, 1900.(4) If the latter suggestion is true these brickworks would have ceased production by the turn of the century. In 1910 bricks were brought in by barges from Bideford, North Devon to construct the houses on Mumbles Road, less than a mile from this site (5) so it seems likely that production in Blackpill had ceased by then. There is no trace left of this industry and Swansea City Council are now landscaping the site.

Fig. 4. The River Clyne where it meets the sea at Blackpill.

On the foreshore nearby, I found a number of bricks, almost like pebbles, having been worn down over many years by the ebb and flow of the tide. On the beach where the River Clyne meets the sea, are banks of almost black clay. I took samples from the River bank, the mud flats and a little further to the East of the beach towards Brynmill, where the clay was a dark bluish, grey colour.

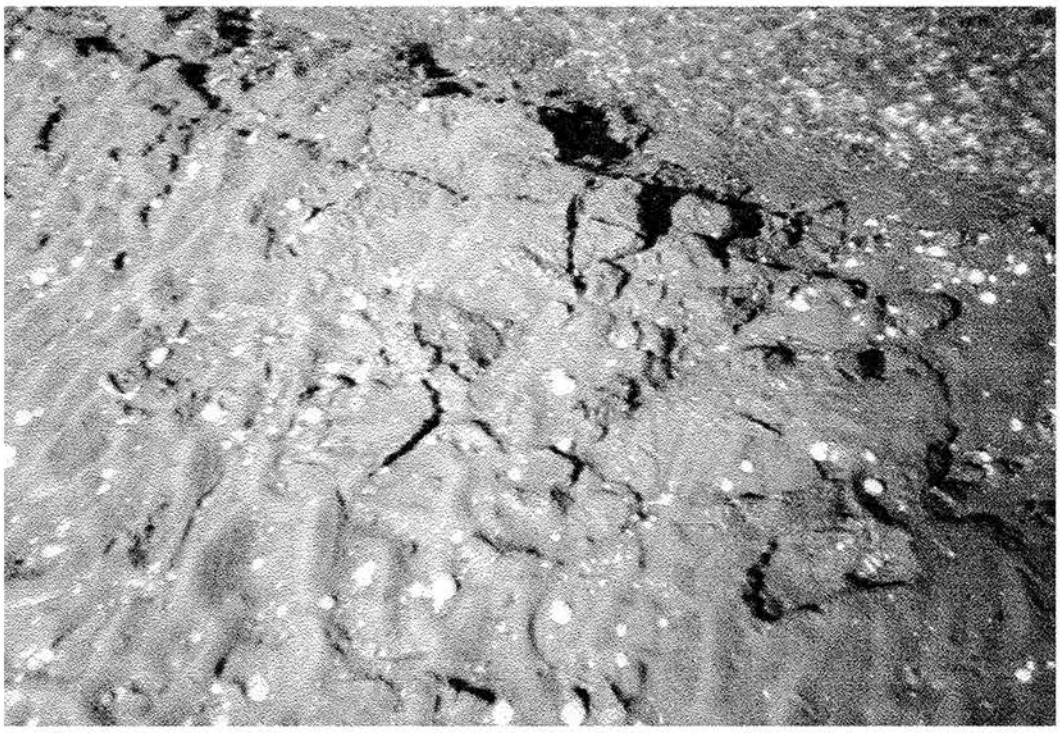


Fig. 5. Clay on Swansea Beach.

These samples were dried out, soaked in water and sieved through an 80 holes to an inch sieve. The wet clay was placed on a plaster bat to remove the excess water. It was then kneaded into a plastic state, made into pots and fired to 950 degrees centigrade. There was a similarity in colour to the brick pieces I found. As there is no indication of claypits having existed locally, it seems likely that the beach was the source of clay used.

The Clyne Valley Brick and Tile Company.

The only other brick manufacturer working in the area at this time was about a mile and a half up the Valley. The *1884 O.S. map* shows a brickfield, two square kilns and two buildings. Fifteen years later the *O.S.map* shows that although they still occupied the same site, they now had two round kilns and that the main buildings were running in different directions. More changes are shown in the *1919 O.S. map,* the works had been moved south in the Valley and had a completely different layout. There are no claypits indicated on these maps, indicating that the clay was dug from in and around the same area where little ponds now remain.

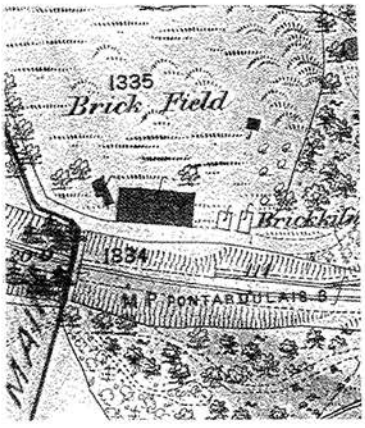
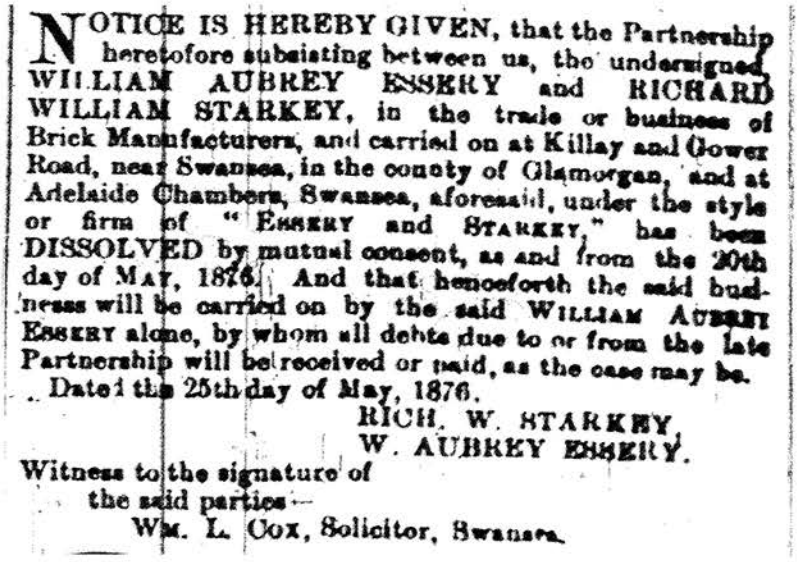


Fig. 6. *O.S. map* 1884.

Fig. 7. *O.S. map* 1899

Fig. 8. *O.S. map* 1919

The Swansea Cambrian Newspaper 2 June 1876, reports that the partnership between William Essery and Richard Starkey of Killay Brickworks had been dissolved.



NOTICE IS HEREBY GIVEN, that the Partnership heretofore subsisting between us, the undersigned WILLIAM AUBREY ESSERY and RICHARD WILLIAM STARKEY, in the trade or business of Brick Manufacturers, and carried on at Killay and Gower Road, near Swansea, in the county of Glamorgan, and at Adelaide Chambers, Swansea, aforesaid, under the style or firm of "ESSERY and STARKEY," has been DISSOLVED by mutual consent, as and from the 20th day of MAY, 1876. And that henceforth the said business will be carried on by the said WILLIAM AUBREY ESSERY alone, by whom all debts due to or from the late Partnership will be received or paid, as the case may be.

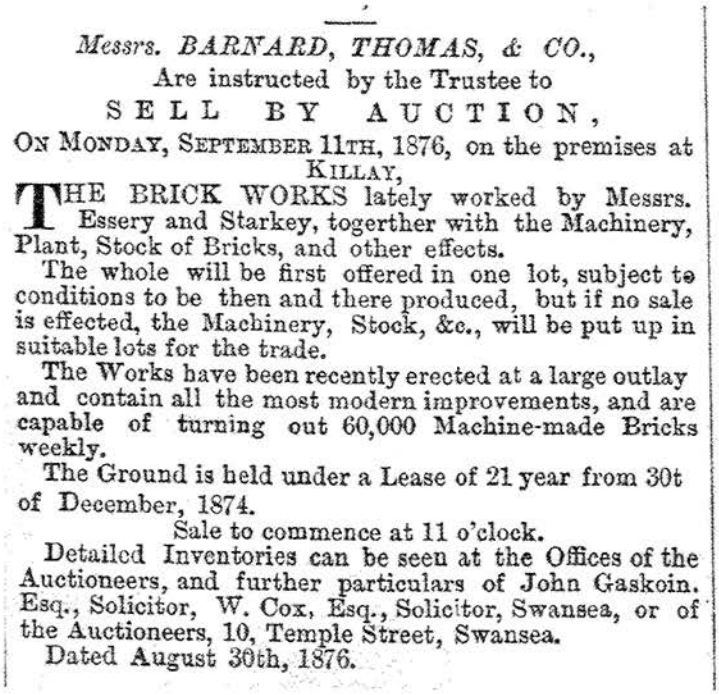
Dated the 25th day of May, 1876.

RICH. W. STARKEY,
W. AUBREY ESSERY.

Witness to the signature of
the said parties—
Wm. L. Cox, Solicitor, Swansea.

Fig. 9.*The Cambrian Newspaper* May 1886.

Three months later in the same newspaper, the works was up for auction.



Messrs. BARNARD, THOMAS, & CO.,
Are instructed by the Trustee to
SELL BY AUCTION,
ON MONDAY, SEPTEMBER 11TH, 1876, on the premises at KILLAY,

THE BRICK WORKS lately worked by Messrs. Essery and Starkey, togerther with the Machinery, Plant, Stock of Bricks, and other effects.

The whole will be first offered in one lot, subject to conditions to be then and there produced, but if no sale is effected, the Machinery, Stock, &c., will be put up in suitable lots for the trade.

The Works have been recently erected at a large outlay and contain all the most modern improvements, and are capable of turning out 60,000 Machine-made Bricks weekly.

The Ground is held under a Lease of 21 year from 30t of December, 1874.

Sale to commence at 11 o'clock.

Detailed Inventories can be seen at the Offices of the Auctioneers, and further particulars of John Gaskoin. Esq., Solicitor, W. Cox, Esq., Solicitor, Swansea, or of the Auctioneers, 10, Temple Street, Swansea.

Dated August 30th, 1876.

Fig. 10. *The Cambrian Newspaper* August 1876.

This states that it had been recently erected and was capable of producing, 60,000 bricks weekly. Could these have been the original owners? .

The only previous record I found was recorded in an unnamed type written document in Swansea Archives, marked *C.V. Coal Mines.* It lists 'Clyne Valley Brick and Tile Company, Caermawr, Cockett' and gives the date as 1858. This was shortly after the construction of the Railway which provided an ideal means of transportation.

The next reference in the *Cambrian Newspaper* was dated 22 January, 1897. This was also printed in *The South Wales Daily Post* four days later. The Works was then owned by James Howells and Company, who were listed in the *Kelly's Directory* 1881/1885 as brick and tile makers, Killay. The brickworks was to be auctioned, with a ground rent of £20 a year, payable to Morris the landowner. The advertisement gives an itemised list of all buildings and machinery. This is valuable information regarding the industry in the second half of the 19th Century This gives us a better understanding of the technology of the time.

Towards the middle of the 1800s, the population of Swansea was rapidly expanding. The 1841 population census recorded 28,641 inhabitants and by the 1851 census this figure had increased to 40,000. (6) The City was one of the major industrial centres of the world and attracted many wealthy industrialists. Several mansions were being built in addition to houses in order to accommodate the workers, creating a further demand for bricks.

SALES BY AUCTION.

KILLAY, NEAR SWANSEA.

SALE OF A VALUABLE LEASEHOLD BRICK WORKS, WITH MACHINERY, &c., AT KILLAY, NEAR SWANSEA.

MESSRS. J. F. HARVEY and CO. are instructed to Offer for SALE by PUBLIC AUCTION, at the Cameron Arms Hotel, High-street, Swansea, on THURSDAY, the 28th January, 1897, at 3.30 o'clock in the Afternoon precisely, subject to such conditions as will then be produced, all that valuable

BRICKWORKS, FIELD, AND PREMISES,

together with the MACHINERY and PLANT, &c., situate at Carbricks, Killay, near Swansea, known as the Killay Brickworks, and lately in the occupation of Messrs. James Howell and Co.

The Works are held under an agreement for a lease, dated the 14th day of July, 1884, and made between Sir Robert Armitage Morris and another of the one part, and James Howell of the other part, for a term of 17 years and 9 months (less one day), from the 24th day of June, 1884, at the yearly dead rent of £20, subject to certain royalties merging in such rent.

The Brickworks is situate near the London and North Western Railway, and the facilities for the manufacture and conveyance of the bricks are excellent.

The Buildings and Machinery consist as follows:—

BUILDINGS.

Front facing railway, 64ft. wide, 16ft. in height to the square, running back to a depth of 136ft., covered over partly with a double roof, panelled and corrugated iron.

MACHINERY.

1 Horizontal Boiler, size 27ft. long, 6ft. 3in. diameter, with brass injector connected, fittings all complete, works at 50lbs. pressure, bought recently.

1 Horizontal Engine and Fly Wheel, 12in. cylinder, stroke 2ft. 6in., all complete in good working order.

1 Pipe Press, Schofield's, Leeds, No. 110. 1 Pipe Machine Wire Cutter, dies and table complete, 4 at a time in die.

1 brick machine firing mill [illegible] rolls in good working condition, output 6,000 to 7,000 bricks per day, with cutter table connected, and dies also dies for hollow bricks.

Extra Pug Mill Pulley, all complete and in working order; 1 brick and tile hand press, nearly new, 1 donkey engine, fly wheel, drums, &c., 1 pair of patent blocks, to lift 10 tons; 3 40-gallon casks brick oil; 1 ½ to engine oil; ½ ditto cylinder oil; 1 cart and harness, complete, 1 anvil, forge, and vice (blacksmith's shop complete); 7 barrows, viz., 2 navvy, 3 kiln, and 2 brick; 5 nozzle and stopper moulds (brass and iron), also several odd lots of plaster moulds Dillwyn's &c.); 469 cast iron flooring plates for drying floor, 3ft. by 2ft. 6in., and 1in. thick.

Drying racks on ground floor, about 69ft. long 2ft. 4in. wide, 5ft. 3in. high, comprising 11 drying shelves.

The Upstairs Floor consists of 102 16ft. deals, 9in. by 3in.; also several sundry deals quite new.

On Floor Upstairs.—40 Flooring Boards, 20ft. long; Drying Rack, 38ft. long, 6ft. wide, 7ft. high; 9 Drying Shelves.

Stage around the rolls consist of 17 deals, 16ft. long, 9in. by 3in.

2 Kilns, holding about 14,000 bricks each; 1 small Kiln, holds about 1,500 nozzles, 1 Stack, 4ft. square at base, between 50ft. and 60ft. high.

Office.—Matchwood and varnished complete.

1 weighing machine, Parnell's, new, to weigh about 3 tons; 1 water cistern outside, 15ft. 6in. by 4ft. 6in. wide, 5ft. 3in. high, made out of 3in. deals, for feeding boiler; also 1 hand pump for the same.

Tram-road from Rolls to Clay Pit 300ft. long, with Turn Table; also several sundry rails.

Further particulars and conditions of sale can be obtained of the Auctioneers, at their offices, Commercial Chambers, Goat-street, Swansea; and of Messrs. Davies and Ingram, Commercial Chambers, Goat-street, Swansea. 7146

Fig. 10a. *The Cambrian Newspaper* January 1897.

Enlarged typewitten copy of Cambrian advertisment dated 26th January 1897

Advertisement in 'Daily Cambrian' Newspaper January 26 1897

Killay, near Swansea.
Sale of a Valuable Leasehold Brickworks, with machinery, etc. at Killay, near Swansea.

Messrs. J. F. Harvey & Co. are instructed to Offer for Sale by Public Auction, at the Cameron Arms Hotel, High Street, Swansea, on Thursday, the 28th January, 1897, at 3.30 o'clock in the Afternoon precisely, subject to such conditions as will then be produced, all that valuable

BRICKWORKS, FIELD, AND PREMISES

together with the MACHINERY and PLANT, etc. situated at Caebricks, Killay, near Swansea, known as the Killay Brickworks, and lately in the occupation of Messrs. James Howell and Co.
The Works are held under an agreement for a lease, dated the 24th day of July 1884, and made between Sir Robert Armine Morris and another of the one part, for a term of 17 years and 9 months(less one day) , from the 24th day of June,1884, at the yearly dead rent of £20, subject to certain royalties merging in such rent.
The Brickworks is situated near the London and North Western Railway, and the facilities for the manufacture and conveyance of the bricks are excellent.
The Buildings and Machinery consist as follows:-

Buildings

Front facing Railway 54ft wide 16ft in height to the square, running back to a depth of 135ft, covered over mostly with a double roof, pantiled and corrugated iron.

Machinery

1 Horizontal Boiler size 27ft long, 5ft 3ins in diameter with brass injector connected, fittings complete, works to 50lbs pressure, bought recently.
1 Horizontal engine and flywheel, 12ins cylinder, stroke 2ft 6ins, all complete in good working order.
1 Pipe press, Scholefield's Leeds, No.110, one pipe machine wire cutter, dies and table complete, 4 at a time in die.
1 Brick machine, Firing Mill and Rolls in good working condition, output 6,000 to 7,000 bricks per day, with cutter table connected and dies; also dies for hollow bricks.
Extra Pugmill Pulley all complete and in working order; 1 Brick and tile hand press nearly new; 1 Donkey Engine, Flywheel, Drams etc.;1 pair of Patent Blocks to lift 10 tons; 3 40 gallon casks of brick oil; 1 ditto engine oil; 1 Cart and Harness, complete; Anvil, Forge and Vice (Blacksmith's shop complete) 7 Barrows viz. 2 navvy, 3 kiln and 2 brick. 5 nozzle and stopper Moulds (brass and iron), also several lots; several lots of plaster moulds (Dillwyns etc.), 160 Cast iron Flooring Plates including floor 3ft by 2ft 6ins and about 1 inch thick.
Drying racks on ground floor about 69ft long, 2ft 4ins wide and 5ft 3ins high, comprising 11 drying shelves. The upstairs floor consists of 102 16ft deals,16ft long, 9ins by 3ins, also several sundry deals, quite new. On floor upstairs:- 40 flooring boards 20ft long. Drying racks 38ft long, 6ft wide and 7ft high. 6 Drying Shelves.
Stage around the rolls consists of 17 deals, 16ft long 9ins by 3ins. 2 Kilns holding about 14,000 bricks each; 1 small Kiln, holds about 1,500 nozzles. 1 stack, 4ft square at base and between 50 and 60ft high.
Office:- Matchwood and varnished complete.
1 weighing machine, Parnell's, new, to weigh about 3 tons; 1 water cistern outside, 15ft 6ins by 4ft 6ins wide, 5ft 3ins high, made out of 3ins deals, for feeding boiler; also 1 hand pump for the same.
Tram road from Rolls to Claypit 350ft long, with turntable; also several sundry rails.

During the course of 150 years, the Brickworks occupied three different sites within a small area. The *O.S. map* 1919, shows the last site where the Works remained until it was demolished in 1957.

The last of the Clyne Valley coal mines closed in the 1920s, and from then on coal had to be brought in by rail. Sources of water within the Valley were the River Clyne, and also rainwater which formed large ponds where the clay had been dug.

The Valley railway had been constructed in 1867 and ran close to the Brickworks and this was an asset to any industry. A bridge was built over the railway line which later linked the main works site to the claypit.

Fig. 11. The bridge linking the claypits to the main site.

The entrance to the Brick and Tile Company was situated at the end of Clyne Valley Cottages, off Gower Road not far from the Railway Inn. Two hundred yards or so down the track is the bridge over the railway line and it is at this point, on the left hand side that the first brickworks in the 1800s was sited.

Over a period of several months, I visited the site regularly looking for evidence to substantiate my research. I became familiar with the area and was satisfied that I had gained a good knowledge as to the exact location of the Works and the clay sources. I found the first evidence of anything structural within a few yards of the bridge. There were foundations of two walls about 100 feet long running parallel to each other about six feet apart.

During the course of my exploration, I found at the earlier sites indicated on the 1884 and 1899 maps, numerous unmarked bricks in the undergrowth and one pressed brick marked 'Clyne Valley'. This is probably one of the first stamped bricks made in the Valley, and could date from the latter half of the 19th century. There were two other types of bricks which appear to have been machine extruded. These were wedge shaped and much lighter as they were perforated. From the 1850s there was a wide range of brickmaking machines available, mainly extruders. These wedge shaped bricks were in two different sizes, one, 10 inches long, 4.5 inches wide and 3 inches deep with round channels running the length; the other 10.5 inches long, 6 inches wide and 6 inches deep with two square channels. The exterior of the smaller bricks were textured with wide raised lines running the length of the bricks on all sides. The larger ones were textured on the two wider sides.

Fig. 12. Wedge shaped bricks.

These bricks could have been used to construct arches. I found thick fired slabs, similar to the concrete paving slabs of today and a number of terracotta pipes in five different diameters. At the same site I also discovered a large pantile measuring approximately 15 by 10inches.

Fig. 13. Bricks and slab.

There was a huge demand for drainage pipes in the 19th Century. Farmers were constantly seeking to improve their land. Interest in drainage reached a peak in the 1840s and the Government made available low interest loans for drainage

schemes. (7) Initially the pipes were 'D' shaped, a flat tile being used as the base of the pipe, later ones were circular and much easier to lay. (8)

Fig. 14. Tiles and pipes found under uprooted trees.

At the same site I found a large heavy triangular shaped brick. This was probably used in conjunction with the roofing tiles found at the base of uprooted trees. I also found amongst the roots, a ceramic pot 10 inches in diameter and glazed inside. This was part of a sampling jar that was made for the iron works. (9) Moreover, I uncovered two heavy wrought iron rods about 40 inches long by an inch wide. These were set 'off centre' into metal plates approximately 5 inches square and found within a foot of each other. These were used to bolt down heavy machinery. (10)

Fig.15. Rods found at earlier site.

Further down the track towards the last of the sites I found a number of rusty, steel rectangular D shaped cups with two circular bolts on one side.

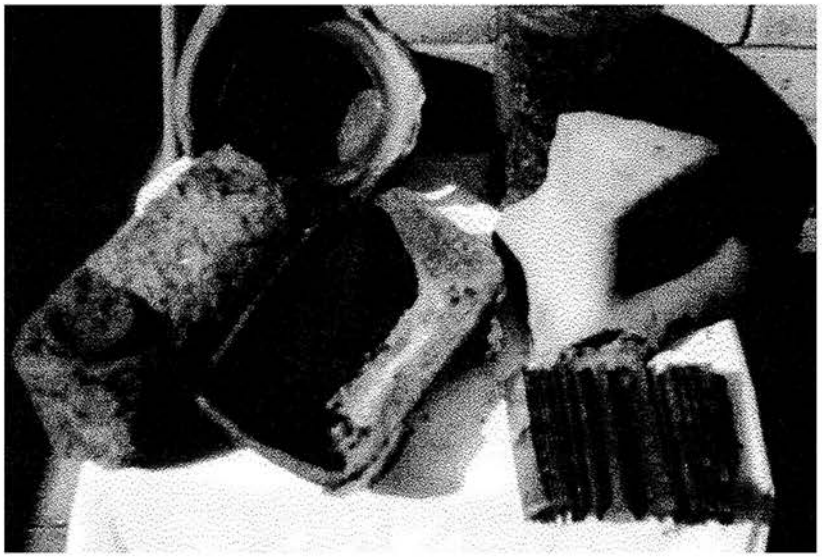


Fig. 16. 'D' shaped cups and filters, triangular brick and sampling jar.

These were about 9 inches long and 5 inches wide. Dozens of these had been attached to a heavy belt and used to scoop up the dried clay to tip into the mixer. (11) Nearby was a hollow cylindrical shaped air filter, 9 by 5 inches in diameter

and a number of fan shaped filters. There were bricks with three holes equally spaced, one with two rows of five and one with twenty perforations and a number of solid bricks marked 'Killay' and 'Clyne Killay.'

At the last site where the kilns had once stood, were ruins of a beehive kiln, approximately 50 feet in diameter and also evidence of a continuous kiln.

Fig. 17. The ruins of the Beehive kiln.

Dozens of bricks marked 'E and B Killay' and 'Evans Bevan Clyne Works Killay' were strewn everywhere. A large number had bubbled and bloated during the firing. The only other bricks I found that could be linked with Clyne Valley at the turn of the century, were marked 'PR'. These were in the ruins of an old house, south east of the Brickworks. It is known that Phillip Richards was the

owner of a brickyard and a colliery in Dunvant which went into liquidation in 1900.(12)

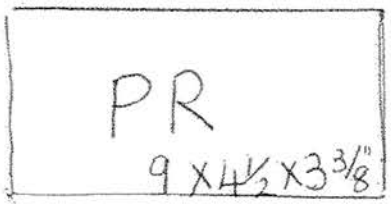
Fig. 18. Some of the bricks found.

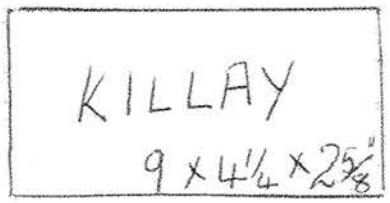
Further south was the tunnel underneath the old railway line which led directly to the claypits.

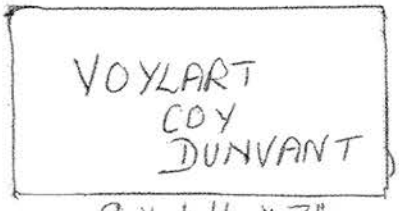
Fig. 19. Tunnel leading to the claypits, underneath the railway line.

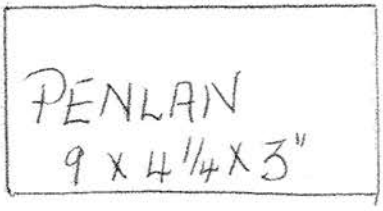
On my right hand side just passed the tunnel entrance, I found the rusty remains of an old dram hidden in the undergrowth.

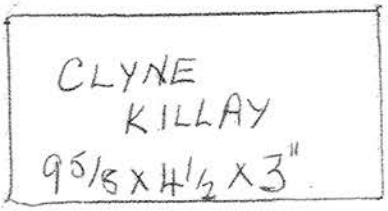
BRICKS FOUND DURING THIS RESEARCH
SIZES ARE APROXIMATE AND IN INCHES

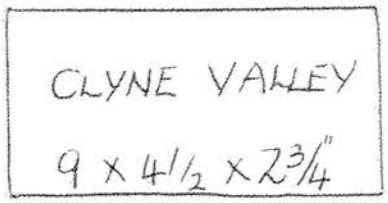


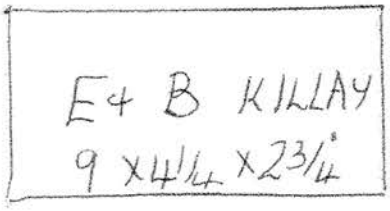


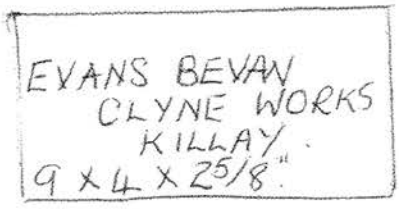












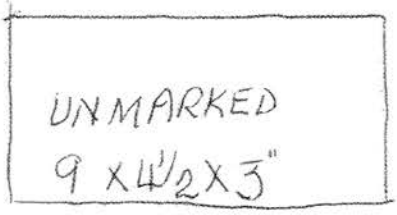


Fig. 20. Remains of old dram found in the claypit before it was uncovered.

Fig. 21. The uncovered Jubilee dram that would tip from either side.

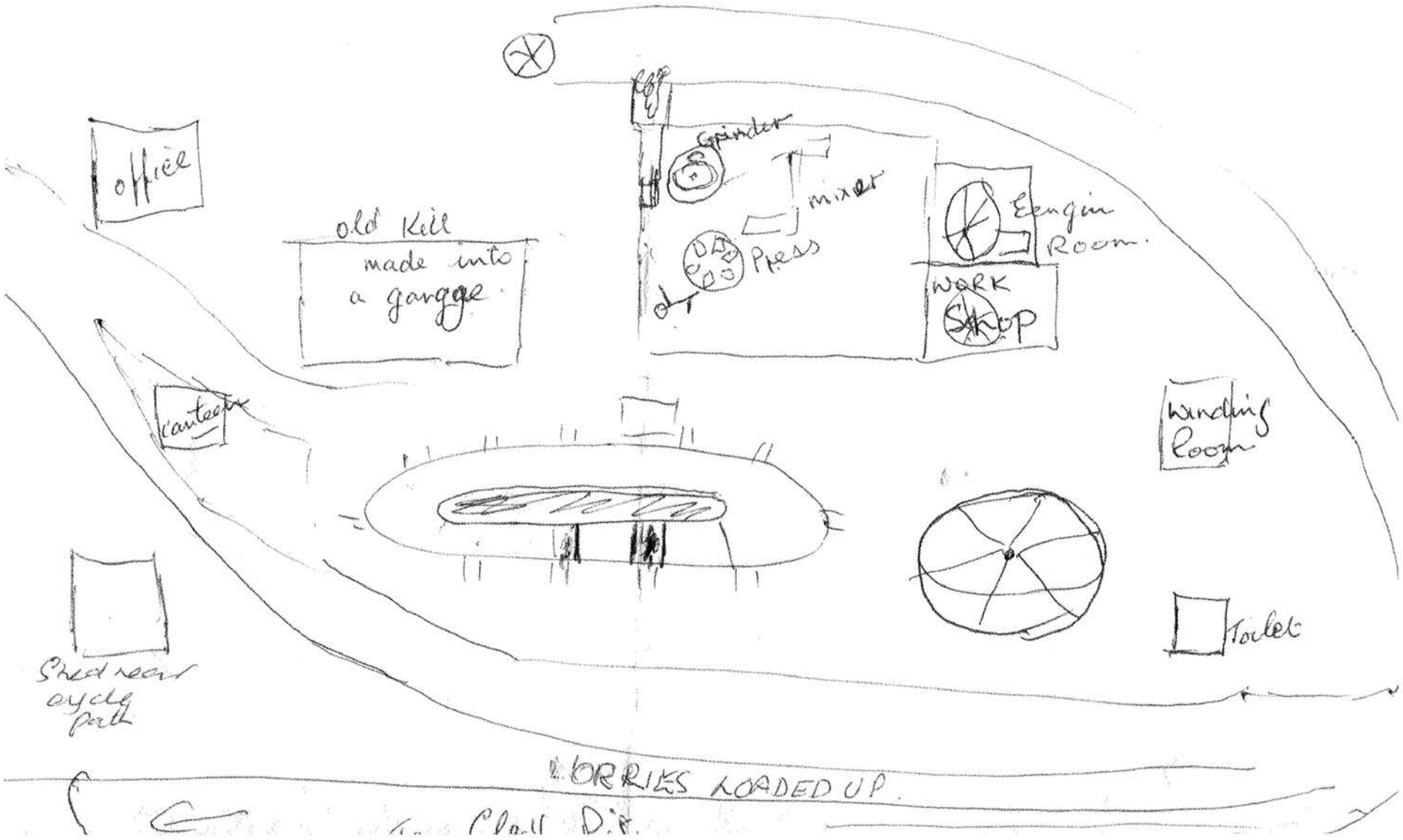
On the opposite side of the path I found part of an old rail track still in situ. This is assumed to be a piece of rail used to bring the coal to the works from Rhyd-y-Defaid Colliery prior to the closure in the early 1900s.(13)

Fig. 22. Part of rail used to transport coal.

Further along on the path on the same side I found a piece of tram rail, curled up as if someone had unsuccessfully tried to wrench it free.

Fig. 23. The tram rail found in the claypit.

A 100 feet climb to the top of the quarry, is a path leading to the bridge running over the railway, the point where I had started my research. The industry of 150 years had revolved around a circular track of less than one mile.



Map of Clyne Valley Brick and Tile Company, by John Williams.

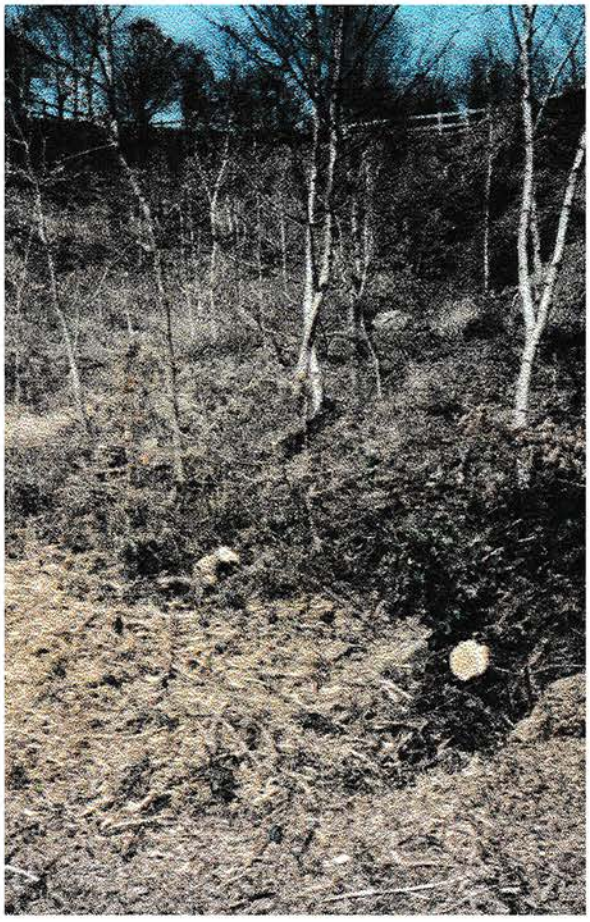


Fig. 24. The climb up from the bottom of the claypit.

Running parallel to the cycle track on the clay pits side is a rough path leading down to the quarry. This path was excavated in the 1940s by the mechanical digger a '10 R.B' which was too high to negotiate the tunnel into the claypit. (14) This machine was likely to have been the same one that was found in the Quarry in 1967. An extract from a diary written at this time by Edward Stone states that a machine lay idle in the clay pits, a Ruston Bucyrus Caterpillar crane, index number DUH 551. Enquiries at the D.V.L.C. revealed that this vehicle was first registered in 1947. Further enquiries with the manufacturer revealed that this machine was probably purchased second hand as they had no record of any

transaction with this Company. The R-B 10 changed little between the years from the 1930s to the 1960s.(15)

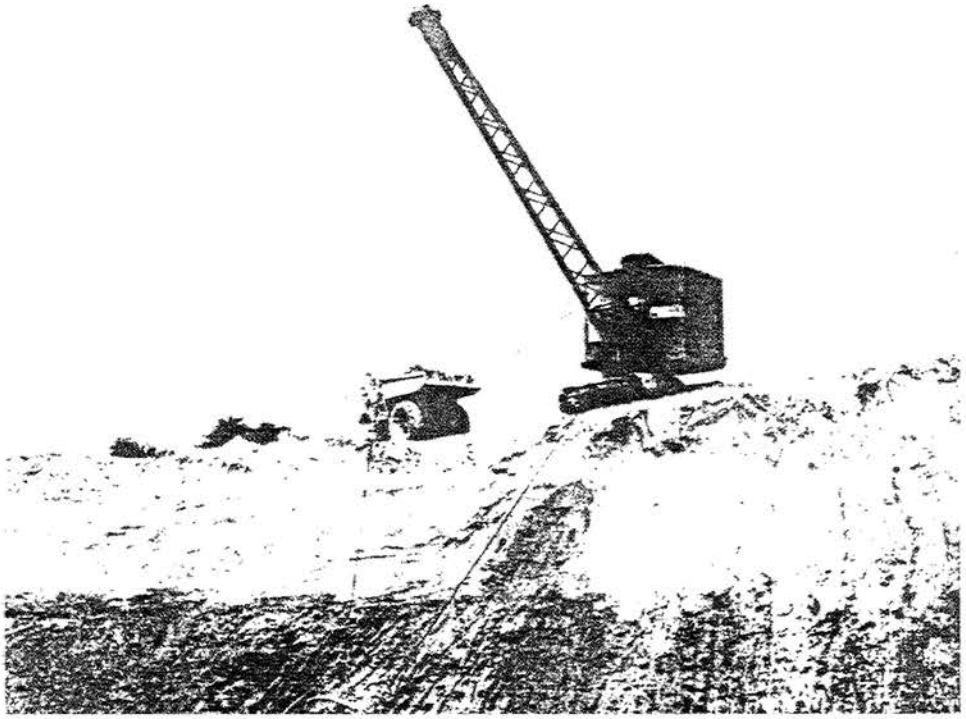
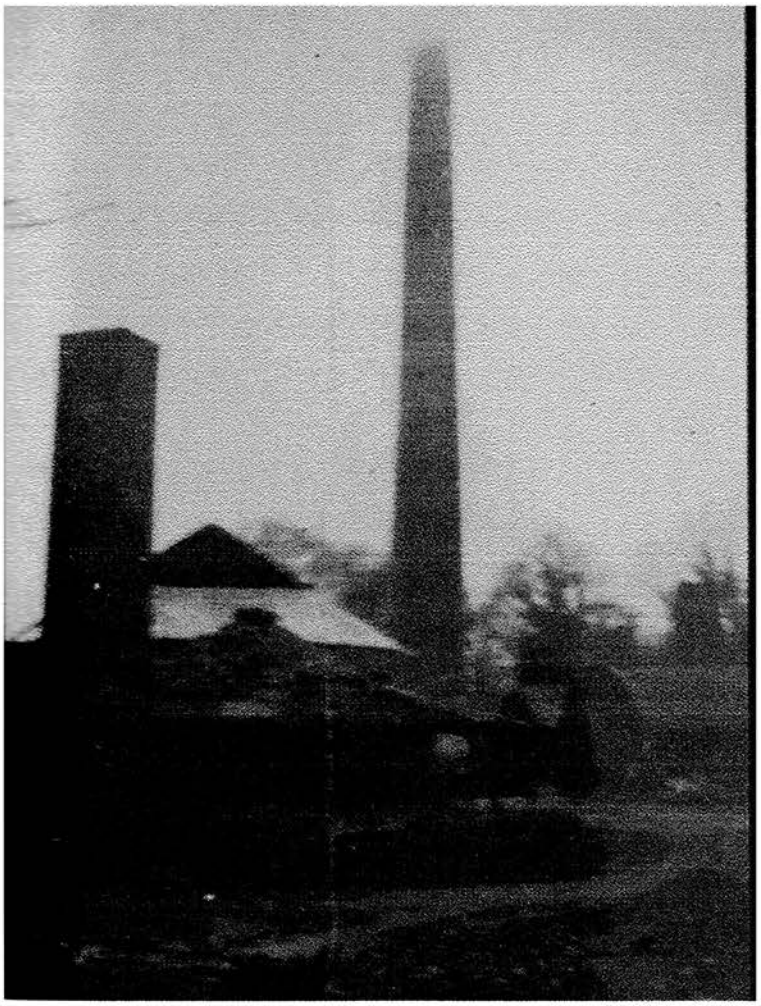


Fig. 25. Ruston Bucyrus similar to that used at Clyne.

A letter to the local *Evening Post* requesting people that remembered the Brickworks to contact me, resulted in a number of responses from men who had actually worked there. This led to further contacts.

The following accounts have been compiled from the details given to me by these men, who worked at Clyne and Dunvant brickworks from the early 1930s. Much of my investigations were corroborated during these interviews both on the initial research I made, and by the cross referencing which the men made with one and other.



The Clyne Valley Brick and Tile Company before its closure in the 1950s.

Fig. 26. 91 year old Mr Thomas Roberts who worked at Clyne most of his life.

Although some of the men who were employed in these Brickyards, are now in their eighties and nineties, memories of these times are still strong. They were eager to talk about the 'old days'. This was time consuming but rewarding and provided useful and interesting facts. They were able to supply me with first hand information regarding the manufacturing process and the conditions under which the men worked. All agreed that working in the Clyne and the Dunvant Brickworks was extremely tough and that no one stayed very long as the wages were so low.

In the 1930s a stationary haulage engine with a cable was sited between the clay pit and the works with tramlines running from one to the other. Trucks full of clay were hauled up on rails from the pit and run down into the works. As they worked further into the pit, the rails were extended. Four men worked the quarry, taking the clay from the top and working down. It was blasted out with explosives and shovelled manually into drams together with a quantity of shale.(16)

There were two wires running the length of the track and when they met, the circuit was completed. This caused a bell to ring in the winding house informing the men that the load was ready. The dram was then hauled up to the brickyard by means of a steam driven winch, via the tunnel running underneath the main railway line. Rollers were attached to the rails at intervals by means of steel bars. These acted as revolving buffers and helped to prevent the wire haulage rope from fraying. Prior to the winch being installed, when Napier owned the Works in the 1920s, the drams were pulled along the track by a horse. (17)

Today, the claypits are the same as they were at the time of closure, and excavations are clearly visible from the path at the bottom of the quarry.

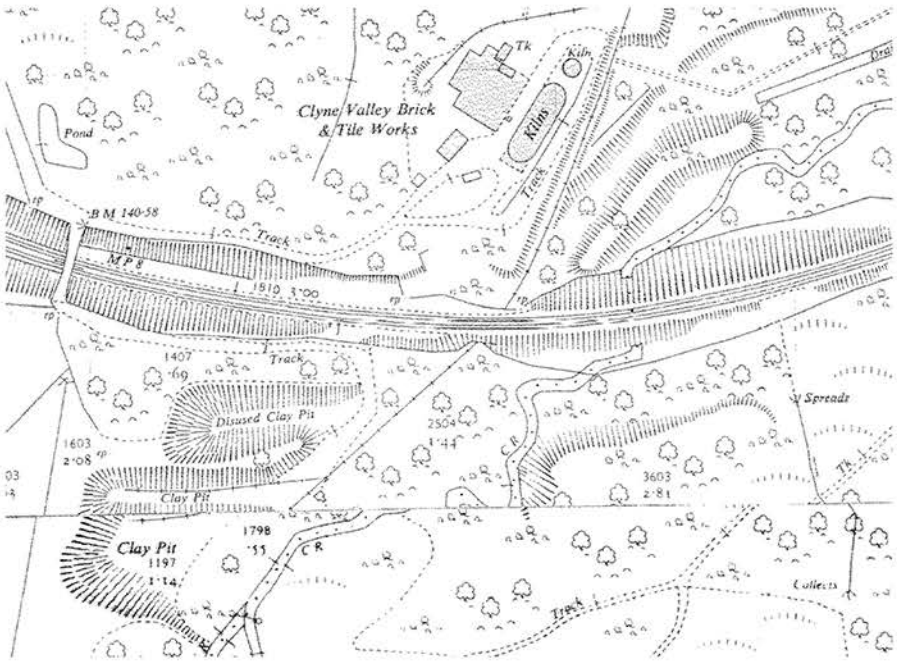


Fig. 27. *O.S. map* 1956 showing the clay pits and the position of the works at the time of closure.

The water necessary to manufacture the bricks at Clyne, was taken from surrounding ponds where the clay had been dug. When the ponds dried out water was pumped from the River Clyne. The drying sheds were made of corrugated iron but were not used often because the damp bricks could be loaded straight into one of the chambers of the Continuous kiln, beside one that was being fired. When the bricks were sufficiently dry, the chamber was ignited and the greenware bricks were fired. This was a continual process which took four and a half days to complete. As one chamber finished its cycle, another started. Each was independent of the other. Damp bricks could be loaded into at least one compartment every day, resulting in one, and sometimes two chambers being emptied.

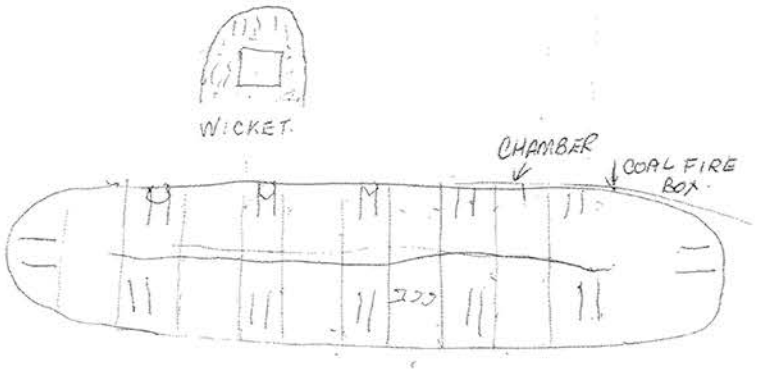


Fig. 28. Drawing of the continuous kiln by Wyatt, which was between 150 and 200 feet long..

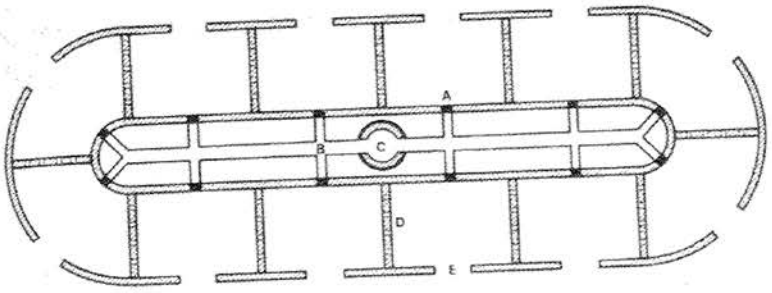


Fig. 29. Diagram of Hoffman Kiln.

The entrance to the fire box holding the coal, known as the wicket, was bricked up around a steel door and sealed with wet clay. There were about twelve interchangeable, steel doors, each about 18 inches square which could be opened up in order to throw in more coal. The roof of the kiln was flat so that the burner could walk on top of it and look through spy holes to see how the firing was progressing. Coal was kept on the roof and could also be added through the spy holes. The heat was controlled by a series of dampers, situated at intervals along the kiln roof. These were hand operated by means of heavy chains.

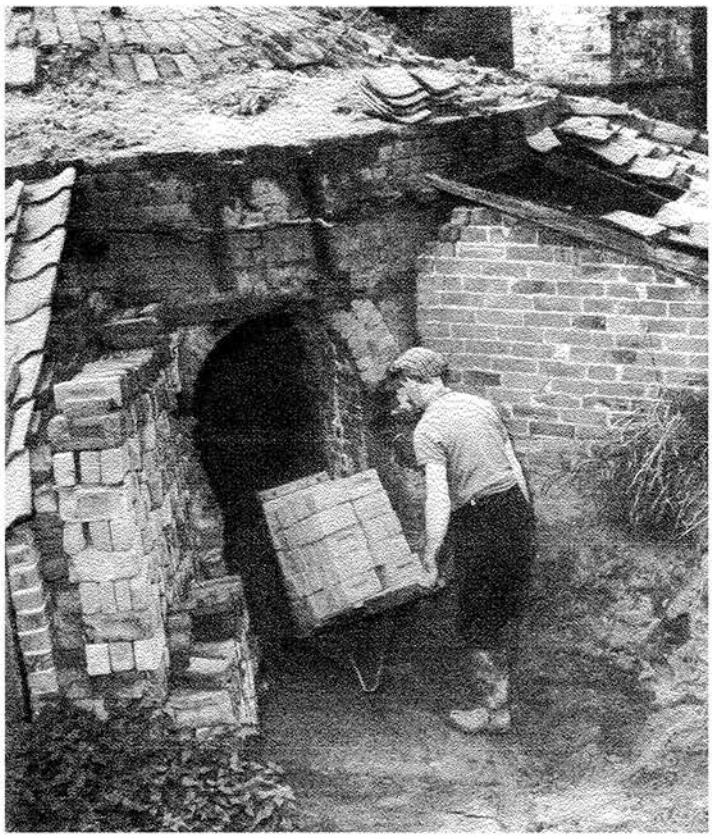


Fig.30. Entrance to the chamber of the continuous kiln as remembered by Roberts, The bricks stacked on the left were used to brick up the wicket.

When the bricks were fired the damper plate was dropped and the fire, starved of oxygen, extinguished. Each chamber had its own spy hole and damper. The firing took 24 hours, and the burners worked in shifts in order to keep the kilns going. (18)

Fig.31. Roof of continuous kiln illustrating coal, spy holes and dampers as remembered by Roberts

One of the men recalled that his occupation in the 30s, when he left school at 14 was a 'Taker Off'. This meant that he was responsible for putting the bricks on the barrow after they had been pressed, in order to be wheeled to the kilns. There were many accidents over the years and one particular brick worker left Clyne when two of his fingers were amputated by the 'Bradley and Craven' press when he was too slow removing the bricks from the working press. (19)

The clay in its raw state was fed into a grinding pan which had two big rollers inside.

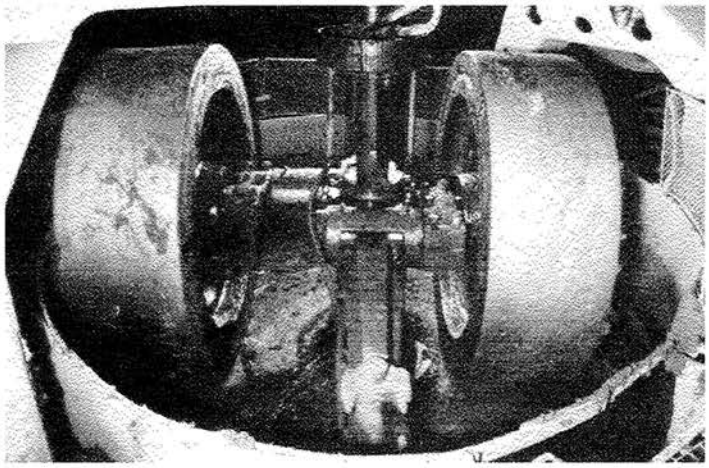


Fig. 32. Rollers similar to those at Clyne. (Roberts)

There were grids in the bottom of the pan through which the powdered clay fell into a huge bucket. Any clay which did not go through the sieve was fed back into the pan. A boy was employed to remove any stones or large pieces of shale and coal, as these would block the grids and damage the machinery. The clay, which resembled sugar grains at this stage was elevated by steam driven machinery in dozens of steel cups bolted to a thick belt. (see fig.16) When the cups reached the top they tipped over, emptying the clay onto a wire screen which was positioned over a large trough. The belt was continually rising and falling, picking up the clay and depositing it on the screen. A boy fed the clay into a shute leading to the mixer and water was then added. This was considered a responsible job; if too much or too little water was added, the mixture of clay and shale would be useless. The mixer, which was belt driven, had a steel rod in it rather like a cork screw. Clay was mixed with anthracite dust which added strength to the brick and assisted in the firing. This coal used was called ' Carry

in, Carry out Coal' because as much ash was carried out as coal was carried in. The coal was neither a house nor a steam coal, and it was rather soft. (20)

The mixture was then fed into a pugmill which pressed the clay into a series of moulds positioned on a revolving, circular table. The moulds had to be greased with brick oil to prevent the clay from sticking. The oil was almost black in colour and the men hated using it. It was impossible to remove from clothes and the user's sense of smell and taste was diminished for days. If the clay in its plastic state was released too quickly a boy would have to put a big canvas tube like bag over the pipe to slow down the process. This was quite a dangerous operation because the operator's hands were close to the moving machinery. 'Frogs' were pressed into the moulds, causing an indentation in the brick and stamping out the name of the Brickworks at the same time. Different stamps were used and the plates could be altered. 'Clyne Killay' was on one stamp, while another bore the name 'Killay'. The names could only be applied by means of a press and was an advantage over the wire cut bricks manufactured in Dunvant, which had to remain anonymous. At the bottom of the moulds were two round holes which were called escape holes. The press bore down on the clay in the mould and any excess was forced through, and recycled. This method left two circular marks on the bottom of the brick. The bricks were put on the barrow,

and wheeled off into one of the kiln chambers. The setter then loaded them into the kiln ready for firing.

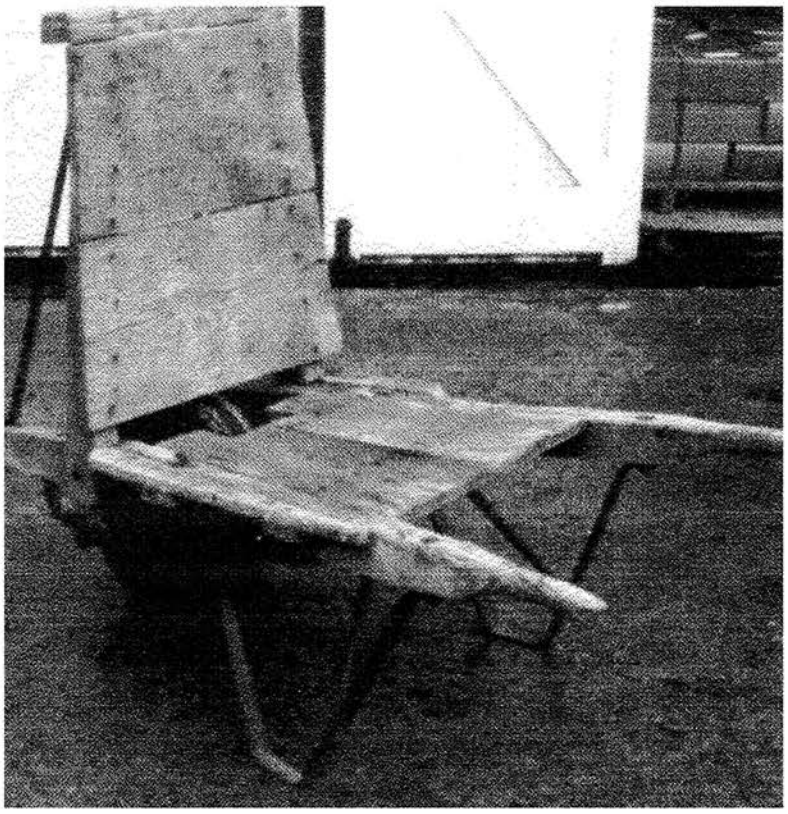


Fig. 33. Barrow, similar to that used at Clyne, (Roberts.)

The steel barrow, which had been previously made of wood, had no sides and only held about fifty bricks. The bricks were placed in the kiln two at a time, and seven or eight thousand were put into one chamber. The men were on 'piece work' which meant that the more bricks they placed the more they earned.

James Jefferies, who was fourteen when he went to work at Clyne in 1934, was responsible for running the loaded barrow to the setter who would be ready waiting inside the kiln. Sometimes the cart tipped over and the unfired bricks fell

on the ground. " There'd be a hell of a row then," he said "I'd have to pick it all up and return it all to the pug and be ready for the next lot of bricks which were being turned out." He remembered the Union men waiting in the lanes for them when they finished work. The men knew if they joined the Union they would be sacked, because their employers were against the unions and did not wish their employees to have any rights in the workplace.(21)

There were no industrial gloves and the men made covers for their hands out of old rubber tyre inner-tubes to prevent the rough bricks tearing their skin. (22) The only other form of protection they had were bags of old sacking. Like the coal miners returning home with black faces, the brick workers were covered in red brick dust which stuck to the sweat on their bodies. They did not have the luxury of a hot shower before returning home. (23)

The drying sheds were only used when demand for bricks was high. The damp bricks were dried on a bed of sand on the shed floor which was heated by steam. When dry, the bricks were fired in the 'round' kiln, or the beehive kiln as it is now called. The height of the chambers was about eight feet and close to the kiln was a chimney stack which was connected to the kiln by underground vents.

During Napier's ownership (1927-1934), top quality clay was extracted from what was known as the 'Blue clay pit'. This pit was close to the works and the clay was good quality, being more plastic, smoother and, when fired, a rich colour. Supplies of the raw material were exhausted before the mid thirties when only common bricks were made. Attempts to use the clay from the main clay pits for facing bricks proved unsuccessful, as the clay was inferior in quality.

Fig.34. The Blue clay pit used for the facing bricks.

Fathers, sons and even grandfathers often worked alongside each other in the brickworks. One of three brothers who worked at Clyne when he was 14 recalled going down to Peacock's stall in Swansea Market to buy dungarees, "It was wonderful" he remembered "leaving school and going to buy dungarees."(24) He wheeled the bricks to the kiln. The brickyards sometimes closed in September because of bad weather, and men would be laid off until the Spring. For wheeling 1,000 bricks to the kiln, Gill was paid threepence. But in the Spring the pay rose

to fourpence halfpenny, because there was a greater demand for bricks. There were between 18 and 20 men employed at Clyne when it was owned by J. Brook-Taylor in the 1930s. (25)

The bricks nearest to the fire where it was hottest, burned and bubbled and there was a lot of wastage. These bricks were known as 'Busters'. There were many 'Blackheart' bricks, so called as the interior was black and this diminished the structural strength of the brick. This was caused either by firing too rapidly in the early stages, or the clay body being too finely grained to allow the water to evaporate through the capillaries in the clay, which had a reducing effect on the clay. At high temperatures the reduced iron content behaves as a very active flux vitrifying the clay at a much lower temperature. (26) The 'Blackhearts' and 'Busters' and any soft faulty bricks, were crushed down and sold to the Council for tennis courts or garden paths. Sometimes they were purchased for the building of pig sties and cesspits.

Many bricks were transported by lorry in the 1930s and used by Spragg, the builders, in the construction of houses in Harlech Crescent and the surrounding areas of Tycoch, approximately three miles from the Brickworks. The bricks were covered with a rendering of stippled cement because they were 'commons' and not considered good enough to use as facings.

Other bricks were transported by rail. Men man-handled trucks of coal, up the sidings to the kilns. The coal was tipped out and bricks were loaded into the wagons by hand. Trucks holding 10,000 bricks were pushed back by the men to the main railway line.

The shift was 7.30a.m. to 5.00.p.m; 80 year old Soleman recalls running three miles home from Blackpill School at 4.30.p.m and trying to beat the steam driven hooter which would sound at 5 p.m. telling the workman to finish for the day. The white steam could be seen rising above the trees in the Valley. (27)

There is some dispute as to when Clyne Brickworks actually closed. A leaflet on Clyne Valley issued by the Council in 1992 states that the Works was demolished in 1950. Some of the men who worked there insist that production ceased in 1957, yet an article in The *Gower Journal* 1960 Number 13, states that it is the only remaining industry in the Valley. A lorry owned by Aubrey Williams, index number BWN 287 B, collected bricks from the yard in the 1960s. (28) This lorry was first registered in 1964. (29) According to one of the brickworkers the works did close in the fifties but re-opened, unsuccessfully for a period of about eighteen months. (30) This might account for the discrepancy and disagreement in the date of closure. *The Directory of British Clay Products and*

Manufacturers 1961-1962 lists 6 Swansea brickworks but there is no mention of Killay or Dunvant. (31)

Between the years of 1934 and the date of closure in 1957, the Clyne works, offices and kilns altered little. However the hauling winch was replaced by the petrol driven lorry, the caterpillar machine took over from manual clay digging and the old press was updated to one with an automatic feeder. Wages had been increased to £3. 7. 6d a week and the workforce had been reduced to four. The machines had progressed from being horse drawn to steam driven, to diesel to electric, the latter being installed in the 1940s.

Notes.

1. *Parts of the Clyne and Parcs of the Le Breos Estate*. Auction catalogue Astley Samuel, Estate Agent, Swansea, 1950.

2. John Hayman, 18, Westbourne Road, Sketty, Swansea.

3. Edward Stone, Woodside Residential Home, Gowerton, Swansea.

4. Norman Lewis Thomas, *The Mumbles Past and Present.* (Llandusul : Gomer Press, 1978), p 84.

5. Gerald Gabb, *Swansea Before Industry*. (Swansea: Museum Services, 1992), p.91.

6.John Lewis, *Swansea Guide 1851*. (West Glam: Dalesios Printers 1989) p.8.

7.Alan Cox, *A Survey of Bedfordshire Brickmaking.* (Bedfordshire: County Planning Department Publications, 1979), p.36.

8. ibid.

9. John Hayman, op. cit.

10. Alan Williams, 17, Orpheus Road, Ynystawe, Swansea.

11. Thomas Roberts, 33, Killan Road, Dunvant, Swansea.

12. Edward Stone, op. cit.

13. Terrance Johns, 17, Hafan Y Don, Killay, Swansea.

14. John Williams, 7, Clyne Valley Cottages, Killay, Swansea.

15. R.B. International, Beevor Street, Lincoln.

16. John Williams, op. cit.

17. Thomas Roberts, op. cit.

18. ibid.

19. Richard Wyatt, 29, Y Bellan, Killay, Swansea.

20. ibid.

21. James Jeffreys, 21, Long Acre, Murton, Swansea.

22. Thomas Roberts, op. cit.

23. James Jeffreys, op. cit.

24. Desmond Gill, The Populars, Clyne Valley Road, Killay, Swansea.

25. ibid.

26. David Hamilton, *Architectural Ceramics*. (London: Thames and Hudson, 1978), p. 43/44.

27. Edward Soloman, Brynmoel Farm, Blackhills, Fairwood, Swansea.

28. John Williams, op. cit.

29. D.V.L.C. Morriston, Swansea.

30. Brian Jones, 572, Gower Road, Killay, Swansea.

31. *A Directory of British Clay Products and Manufacturers*. 1961/1962, p.112. lists the following Swansea Brickworks only.

Baldwins (Holdings) Ltd.
British Anthracite Co. Ltd.
Emlyn Bricks Co. Ltd., Wind Street.
Llwyndu Fire Brick Co. Ltd., Glais.
Onllwyn Brickworks, (N.C.B.South Western Division.)
Swansea Brickworks Co. Ltd.