Aqueduct

Journal of the Neath and Tennant Canals Trust

2006

Neath and Tennant Canals Trust

The N&TC Trust is an independent organisation concerned with the welfare of the canals and their surroundings and takes an active part in restoring and promoting canals.

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TIME LINE
CANALS OF THE NEATH VALLEY

1690's Sir Humphrey Mackworth constructed a wind way with wooden rails from his colliery in the Llantwit area down to the River Neath. The wind way was probably a tramroad system by which waggons were let down under gravity and wound back up using a mechanical winding means such as a horse gin.
Sir Humphrey Mackworth canalised the tidal Melyncryddan Pill, which ran from the River Neath towards his copper works at Melyncryddan. The tidal cut was approximately 300 yards long, 18 to 20 feet wide and capable of taking ships of up to 30 tons. Soon after construction heavy flood gates were fitted converting part of the cut into a dock. A wooden railed waggon way ran for 400 yards from the dock into the copper works, but the cut and dock were disused in 1720 as shown on O'Conner's map of that date. The cut and dock were replaced by a cart way which ran from an ore wharf on the river bank into the copper works as shown on Wm. Jones' map of 1766.

The River Neath has been navigable up to the Neath town bridge for sea going ships since Roman times. The river was also navigable up to the bend at Aberdulais at spring tides for smaller craft such as barges and lighters.

In about 1700 a lock was constructed from the river at Aberdulais into the Dulais Forge, which allowed the smaller lighters and barges to bring in raw pig iron and trade in the iron products produced.

Fifty years later, in 1751, the leat feeding water from the River Neath to power the forge hammers at the Dulais Forge was converted to a navigable cut and ran parallel to the River Neath for 600 yards to a location above the confluence of the Neath and Dulais rivers. A weir was built across the River Neath below the confluence allowing navigation on the River Neath from the Dulais Forge to the newly established (1751) tinplate works at Ynysgerwen. This navigation was used to transport bar iron and finished tinplate between the two works and was one of the earliest canal navigations in Wales.

William Kirkhouse built the Tennant Canal, and an aqueduct was constructed across the River Neath at Aberdulais to connect with the Neath Canal. The aqueduct has ten spans in it's construction to cross the river, with an additional span built of cast iron to cross the old cut of 1751, indicating that the old cut and river navigation between the two works was still in use at the time 1824.

14th August 1788 a lease granted by Lord Vernon to Richard Jenkins to build a canal from his colliery at Glan-y-wewrn to Trowman's Hole (Red Jacket Pill).

Richard Jenkins died 14th. August 1788, the day the lease was granted, and his partner, Squire Edward Elton was left to build
1788 the Glan-y-wern Canal, which was completed by 1790.

Lewis Thomas, Lord Vernon's agent was instrumental in securing this lease for his friend Richard Jenkins and probably played a significant role in the canal's construction.

A meeting held at the Ship & Castle, Neath, on the 12th. July
1790 1790 discussed the building of a canal from Pontneddfechan to the town of Neath.

A further meeting was held on the 13th. September 1790 where it was resolved to place advertisements in the Gloucester and Hereford Journal and the London Journal regarding the setting up of a company to build the canal.

The first meeting of The Company of Proprietors of the Neath Canal Navigation was held on the 22nd September 1790 and the application of a Canal Act was sought.

Thomas Dadford Junior was appointed as Engineer and requested to carry out a survey. T. Dadford's original survey was for a canal , with 22 locks, from Abernant (Glynneath) to near Ynysbwllog and then to utilise the River Neath to the town of Neath, at an estimated cost of £25,716, this was accepted by the new Canal Co. Lewis Thomas, Lord Vernon's agent who already had some experience of canal building on the Glan-y-wern canal, proposed the use of the river navigation from

Ynysbwllog be replaced by a canal on the eastern side of the river to the town of Neath.

1791 Neath Canal Act passed. At the meeting on 18th August 1791, Thomas Dadford instructed by the Neath Canal Navigation Co. to " make out the middle line of the canal".

Construction started northward from Neath in 1791.

1792 Penrhiwtyn Iron Works built by Alexander Raby. Lord Vernon (Lewis Thomas) built a canal from the iron works to Cwrt Sart pill on the River Neath at a cost of £6000.

1792 Thomas Dadford's construction of the Neath Canal reached the River Neath at Ynysbwllog. He terminated his employment with the Neath Canal to take on the building of the Monmouthshire Canal. On 5th. July 1792, Thomas Sheasby contracted to complete the building of the Neath Canal by1st November 1793 at a cost of £14,886. Construction was slow and unfinished when in 1794 Thomas Sheasby was arrested over the accounts of the Glamorganshire Canal, on which he had been a contractor, and imprisoned in Fleet Prison. He was unable to complete the canal and the Canal Co., using direct labour, was obliged to carry on, but work continued on improvements and rebuilding locks for sometime afterwards.

Construction of the main line of the Neath Canal completed apart from carrying out improvements.

1795 The second Neath Canal Act was passed to extend the Neath Canal from Melyncryddan to Giants Grave where better shipping facilities for sea going vessels existed.

1798 Construction of the extension to the Neath Canal completed the earlier Penrhwtyn Canal absorbed into the Neath Canal.

1799 George Tennant built his Redding (Rhyddings) Canal, which ran from his colliery near the Duffryn Arms at Bryncoch along a contour line to the head of an incline plane down to the River Neath near the town bridge.

1818 George Tennant started work on an extension to the Glan-y-wern Canal to link the River Neath and the River Tawe and work was completed by 1818. He hoped to promote his port facilities at Swansea (Port Tennant) by the transfer of barges from the Neath Canal to his canal via the River Neath at Red Jacket Pill. The link between the Neath Canal and the river Neath, authorised under the 1798 Neath Canal Act was never built and the trade was slow. George Tennant saw the advantage of extending his canal further up the Neath Valley and making a connection with the Neath Canal at Aberdulais to more conveniently tap into the traffic on the Neath Canal.

1820 Work started on the extension of the Neath and Swansea Junction Canal (later to be called the Tennant Canal towards Aberdulais.

1824 George Tennant made the junction between his canal and the Neath Canal at Aberdulais and traffic from the Neath to the Tennant Canal began to flow immediately as far better shipping facilities existed at Swansea.

Extensions to the Neath Canal reached the eventual terminal basin at Briton Ferry.

1815-1842 A number of initial extensions were the result of creating additional wharf facilities at Giants Grave, but the major extension to Briton Ferry was the building of the Jersey Canal. The last section was not built under Canal Act and therefore has no statutory right of navigation.

1851 Opening of the Vale of Neath Railway.

1881 Traffic at the river wharves of the Neath Canal at Britton Ferry had virtually ceased, all barges from the Neath Canal now transferred to the Tennant Canal at Aberdulais and export shipments now made for Swansea.
Traffic on the Neath Canal increased from 1799 and reached an annual tonnage of 200,000 ton in the mid 1820's and continued at this level up to the 1870's despite competition from the Vale of Neath Railway.

It was only after a court case in 1875 between the Neath Canal Co. and Ynysarwed Colliery that the right to build a tramway over the canal was established after which most of the collieries on the western side of the valley built branch lines and transferred to rail transport.

The last major coal producer, Morgan Stuart Williams of Aberpergwm built a bridge over the canal to link with the Great Western Railway in 1888.

After most of the collieries in the Neath Valley transferred over to the railway the canal fell into decline and by the start of the First World War traffic had virtually ceased. After the war, traffic was almost non existent, the last toll was taken in 1934.

The Company of Proprietors of the Neath Canal Navigation, the original company set up in 1791 to build the canal, is still in existence today and still own the greater length of the Canal. Some small sections of the canal have been sold off, but right of navigation over the complete line still exists.

The company were able to continue trading over this long period of time due to the fact that since 1865 they have sold water to local industry, and in latter years have only maintained the canal as a water channel.

The last major extractor of water from the canal, B.P. Baglan Bay, has ceased manufacturing operations in this area and revenue from water sales has now ended.

The future of the canals in the Vale of Neath is mainly in the recreational field with possibly small quantities of water being sold to future small industrial enterprises.

The major shareholder in the Neath Canal Navigation Co. at present is B.P. Baglan Bay and as they have no ongoing interest in the area, they are seeking a body to which they could transfer their shares in the company.

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Restoration Timetable of the Neath Canal

1974 / 1985

The Neath & Tennant Canals Preservation Society soon after it's formation in 1974 set about surveying the condition of the abandoned section of the Neath Canal above Resolven and the transfer basin of the Neath and Tennant canals at Aberdulais.

A lease was taken out on the Aberdulais basin and work started on restoration, and was completed by 1975.

Clearing of the overgrowth on the towpath of the abandoned section of the Neath Canal north of Resolven, was undertaken and clearance of the actual canal line continued by felling and clearing the heavy growth of trees from it's bed, all the work was initially undertaken by volunteers working in their spare time on weekends.

Some work was done within the limitations of the Society members to repair or stabilise some of the stone structures on the Neath Canal. Society funds were used to hire an excavating machine to clear the canal between Resolven and Crugiau.

During the period 1980-1984 the Society were forbidden access by the NCN to the abandoned sections of the Neath Canal north of Resolven, it was at this time the Society concentrated it's activities on the restoration of the Tonna Canal Workshops.

Resolven to Ysgwrfa. (Near Aberpergwm).

Three and a half miles of canal restored using YTS and Manpower Services Schemes. First section up from Resolven managed by Society Canals Officer (Pete Dymond). The remainder of restoration to Ysgwrfa was managed by Neath Borough Council appointed Canals Officer (Colin Powell).
All Schemes where sponsored by NCB.

With the three and a half mile restoration scheme seven locks were restored, four under NCB Schemes and three by a Contractor, Midland Construction.

The gates for the Resolven Lock were built by the Surrey & Hampshire Canal Society's YTS Scheme based at Deep Cut near Basingstoke, all other gates were built at Llandarcy under an NCB sponsored YTS Scheme, and the construction was supervised by Don Bater

Four stone access bridges were restored and a complete new canal aqueduct built with funding from the Welsh Office to take the canal over the Rheola brook.

The lock keeper's cottage, Ty Banc at Resolven, was in a derelict state at the start of the canal restoration, the last of the lock keeper's cottages on the Neath Canal, it was considered to be of some importance and was rebuilt to it's original design. It is now leased by Neath and Port Talbot County Borough Council to the Enfys Trust and used as a gift shop and tea room to support the activities of the Trust, which provides boat trips for the disabled.

1985/ 1990

At Crugiau a siphon was built during the initial building of the canal to take the stream under the canal, it became totally blocked causing the stream to overflow into and block the canal with a considerable amount of silt. This siphon has now been replaced by a stone clad concrete culvert built during the restoration scheme.

The first boat to use this restored section of the canal at Resolven was Enfys, an electrically propelled boat designed and built by the Rainbow Trust to take disabled people on trips along the canal and was launched in 1989.

A slipway was provided at Resolven Basin to allow the general public access to the canal subject to obtaining a licence from the NPTBC, to launch their boats/canoes into the Neath Canal for use only on the restored section of the canal.

The Neath and Tennant Canals Preservation Society in 1990 launched their trip boat, The Thomas Dadford at Resolven operating at this location

2000 In 2000 the trip boat was transferred to the Neath Canal at Neath Town Centre and has operated at this location since then to promote the lower western length of the canal.

The NCN dredged the section of the canal from Bridge St., Neath to Tonna to enable the Thomas Dadford's trouble free running. The operation of the trip boat, on this lower section of the canal has helped to secure the grant for the environmental scheme at Tonna, showing that the canal was available to the general public.

The Neath Canal Navigation Co. secured funding amounting to £2.6 million to carry out the clean up of the polluted section of the Neath Canal between Tonna and Abergarwed. The scheme spread over a period of almost 2 years, cleaned approximately 60,000 tons of polluted silt from the canal and transported it to approved and licensed tips.

NCN also obtained funding of £1.5 million, which was granted to carry out the restoration of the structures on the newly cleaned section of the Neath Canal.

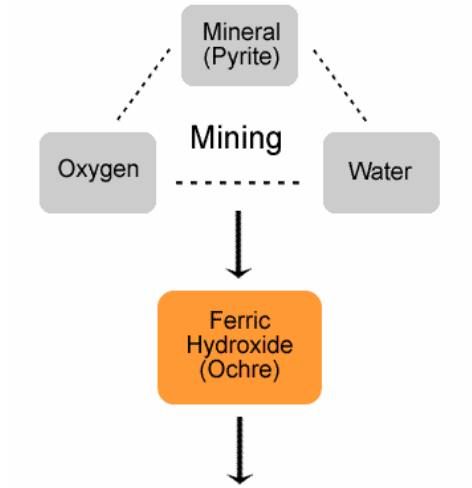
These structures include 3 locks at Clyne and the partially collapsed Ynysbwllog Aqueduct.

Both the clean up and restoration schemes were funded through Objective 1 and other generous sponsors.

The N&TCPS were successful in obtaining funding through Objective 1, of £250,000 to carry out the restoration of Tyn-yr-heol Lock and Lock House.
Due to the unforeseen high cost of the tenders for the work, the restoration of Lock House has been postponed to a later date.
Work started on the lock in November 2005 completion being forecast for the end of January 2006.
Completion of the restoration of Tyn-yr-heol Lock will give navigation on the Neath Canal between Neath Town Centre and Lock Machin, a distance of approximately 5kms.

What is Minewater ?

The diagram below shows how heavily polluting minewater is formed. Within the last thirty years or so, as coal production in the UK has reduced so have the underground pumping arrangements. This cessation has allowed underground water levels to rise and outbreaks to occur at the surface.The top three boxes in the diagram show how minewater is oxidised through the process of mining. Once the minewater reaches the surface it comes into contact with the air and a chemical reaction takes place changing the iron in the water from a Ferrous to Ferric state. This causes small particles of iron (ferric hydroxide) to form from the solution, more commonly known as ochre. The photograph shows the obvious visual effect of the minewater on a natural watercourse.



What is Ochre ?

Iron exists in two forms **Soluble Ferrous Iron** and **Insoluble Ferri**c **Iron.** Iron exists in the ferrous form within the country's mine workings. Upon exposure to the surface the ferrous iron oxidises to become ferric iron, a hydrolosis reaction which causes the precipitation of ferric hydroxide. These particles fall from the solution and join together to form a thick substance that coats the river bed. It is this substance that causes affected watercourses to appear a red/orange colour.

When it comes to removing the iron ochre from the settlement lagoons, the Authority use a floating pump arrangement to extract the ochre, this is passed into a centrifuge which spins the mixture and extracts the water. Once this has taken place the iron ochre sludge, which is a thickened form of the ochre, remains and is stored awaiting delivery to landfill.

The iron ochre sludge is currently taken to specialised landfill sites, whilst The Coal Authority's search for a better use of the iron ochre sludge continues

Pollution at Ynysarwed

Types of Minewater Treatment

Active

Active treatment is the enhancement of water quality by methods which require the pumping of minewater and/or biochemical reagents (hydrogen peroxide, caustic soda).
Examples of active treatment schemes are Ynysarwed mine water treatment scheme, South Wales and Horden mine water treatment scheme, in County Durham.
Fully active minewater treatment schemes are not the Authority's preferred way of treating water from abandoned coal mines. Active schemes have a high visual impact and do not increase the biodiversity of the area in any way. Active schemes are expensive to purchase and maintain and require a high level of maintenance to work effectively. Active plant is used as a short term solution or when the required land area for a passive scheme is not available.

Passive

Passive treatment is the deliberate up grade of water quality, using only naturally available energy sources (e.g. gravity) in systems which require infrequent maintenance in order to operate effectively over the entire system design life.
Examples of passive treatment schemes are Morlais mine water treatment, South Wales and the Blaenavon mine water treatment scheme.
The preferred form of treatment for the Authority. Totally passive schemes are fed by gravity so expensive pumping arrangements are not required. There is very little maintenance required.

Active - Passive

Schemes can have both active and passive elements with the need for pumping and dosing at the start of the process, whilst still passing the water through reed bed cells for final polishing. Built examples include Six Bells mine water treatment scheme, South Wales, and Acomb mine water treatment scheme Northumberland.

The use of Reed beds in Minewater treatment

Reed beds are the most ecologically friendly way of treating what is a serious problem - Minewater. The reed beds provide a visually attractive solution to the minewater problem brought about by years of coal mining and, more recently the cessation of dewatering of such mines which has allowed many watercourses in Britain to become polluted with Iron Ochre, lowering their ecological diversity drastically and in some cases completely. The constructed wetlands form a concentrated habitat for insects and birds which can also be used as a public amenity with some of the Authority's minewater treatment schemes incorporating picnic areas, paths, benches and viewing points.
However, there is a scientific side to reed beds. Reed beds serve two main purposes in minewater treatment these are:

1)Filtration

Filtration occurs both within the soil and subsoil of the reed bed and through the roots of the reeds themselves. As the water makes the journey through the reed beds, the particles of Ferric Hydroxide become caught and remain within the natural filter whilst the rest of the mixture progresses. A successful treatment scheme is one where the reed beds are of a sufficient size that all of the particles are removed before the water re-enters the watercourse.

2) Settlement - Settlement occurs once filtration has taken place. Most of the Authority's reed beds have a design life (storage capacity) in excess of 15 years. Settlement is the process by which the particles formed during filtration collect together and fall to the base of the reed bed.

At present we allow approximately 10mg/l to enter the reed beds at all our schemes with less than 1mg/l entering the watercourses at the end of the reed bed process.

Types of Reeds

Reeds have been used in water remediation for many years. They are used because they thrive in waterlogged conditions, surviving in up to 12" of water. Reeds also have extensive root structures and it's these structures that are an integral part of the filtration process within a reed bed remediation system.

Within the reed beds of the Coal Authority's minewater treatment schemes, there are generally three types of reed/rush.

1) *Phragmites Australis* - It is characterized by its towering height of up to three metres and its stiff wide leaves and hollow stem. Vegetative spread by below-ground rhizomes can result in dense colonies with up to 200 stems/m^2

2) *Typha Latifolia* - The common English 'Bullrush''. This robust species grows up to 2.5 m in height, and has linear leaves. The most characteristic feature of this plant, is the distinctive, dark brown busby-like flowering head, known as a 'spadix'

3) *Yellow Flag Iris* - The flower is made of 6 yellow petals that spread out 2-4 inches wide. The flower stalk rises out of the reed bed reaching heights up to 3 feet tall. The leaves are long and sword-like often reaching lengths of 32 inches. These plants are generally used around the exterior of the reed beds as a decorative plant which gives a softer appearance to the edges of the reed beds.

Reed Beds under construction at Ynysarwed

Reed Beds in action at Ynysarwed

"Extract from the Ystradfellte Scrapbook 1850-1950"

Silica Mining. This industry was carried on extensively in the neighbourhood of Pontneathvaughan some 50/60 years ago.The mines under review, strictly speaking, are not in the Parish of Ystradfellte, but just across the border on the left bank of the river Mellte. Ystradfellte Parish being on the right bank and Penderyn Parish on the left bank (both parishes however forming part of the County of Brecknock.

These mines provided a livelihood for some 20/30 inhabitants of Pontneathvaughan and neighbourhood who worked there. After making the location (Bwa Maen) of the mines clear, it remains to be decided whether their inclusion is permissible in the scrap book history of Ystradfellte Parish. Following is a brief account of these mines which in those days were of importance to the local Inhabitants.

In l821-22 a gentleman by the name of Wm. Weston Young invented a method of making fire-bricks of exceptional value from the Dinas Silica at Pontneathvaughan.

The extraordinary and exceptional fireproof qualities of the Dinas fire-brick became known all over Europe and America. Most text books on science sang the praises of Young's invention. Operations were carried on under the shadow of the famous Dinas Rock, which legend claims as the resting place of King Arthur and his Knights.

The material, silica, in rock form was conveyed by means of horse drawn trams over a tramline extending two miles to Pont Walby brick Works, Glynneath. After being ground and moulded into brick. form and finally placed in kilns for hardening emerging as solid bricks for use in lining furnaces in iron and steel works, and also fire places in dwelling houses. The Pont Walby brick works closed in 1920.

Considerable quantities of silica from these mines are dispatched daily by the present owners Messrs. Richard Thomas and Baldwin. Transport of sand is by means of lorries by road.

Some 70 years ago a silica mine with brickworks for processing, owned by Messrs. Sheppard and Young, were in operation, the finished bricks being sent away by means of an incline to the railway siding (G.W.R.) and loaded into railway trucks for despatch to the required destination. The site of these works was near to the entrance to the Gunpowder Works in the Parish of Ystradfellte.
Other silica mines known as 'Lluest' and 'Cwmcorrin' were worked. These were situated on the banks of the Little Neath river about a mile from Pontneathvaughan, where its work people lived, also some from Glynneath. In this case the silica in rock form was conveyed by horse drawn trams over a tramline extending two miles leading to the Abernant Brick Works in Glynneath to be processed. into fire-bricks. These brick works ceased operations in 1902.

Limestone Quarrying. This was another industry employing local labour and was carried on by the late Mr. Wm. Davies, J.P., of Plas-y-felin, Glynneath, and, by the way, father of Ald. Mervyn Davies now residing in Brecon. The limestone was carried out of the Dinas Rock, a huge block of limestone. The raw material was conveyed by means of horse drawn trams over the tramline mentioned above to Pontwalby Brick Works on which site was a kiln for the process of producing lime for agricultural and other purposes.
The limestone after being broken down to a size 2" to 3" was also used in those days for road metalling. This industry also ceased operations some 40 years ago.

Manufacture of Gunpowder. The only industry of its kind in Wales at the time. The "Cambrian" of April 10th 1857 contained the following comment: -
"We last week mentioned that the waterfalls of the upper part of the Vale of Neath were likely to be made the site of a Gunpowder Manufactory. The promoters of the undertaking obtained a licence at the Breconshire Quarter Sessions on Wednesday last to erect their mills over a space of two miles including the Upper Cilhepste Falls"

The mills were erected on the banks of the River Mellte in Ystradfellte Parish, but not on the waterfalls. The land on the left hand side of the Mellte, 80 acres in the Parish of Penderyn were leased from the Owners of the Aberpergwm Estate; on the right

of the river 54 acres were rented from the Tredegar Estate who owned property in the area, the remaining land in the occupation of the Owners of the Gunpowder Works was freehold making a total in all of 180 acres.
Much of the land acquired was for protection purposes only. the motive power was by means of turbines and waterwheels, the River Mellte supplying the water for same.

In the first instance the owners were the Vale of Neath Powder Company, and in 1862-3 Messrs. Curtis and Harvey took over and later were merged in Nobel's explosives Company, and finally became part of Imperial Chemical Industries Limited.
The Gunpowder made here was principally for use in coal mines and quarries, including slate quarries in North Wales.

The refining of Bengal crude saltpetre was also carried on at the works, Saltpetre being another ingredient of gunpowder.
Quite a large quantity of the gunpowder produced was shipped abroad.
The barges were lowered by means of horses on the canal bank along what is known as the Neath and Tennant Canal to the Red Jacket Wharf, Briton Ferry, a distance of 12 to 14 miles, afterwards transferred into sailing ships, when tides were suitable.

Owing to the prohibiting of the use of gunpowder in coal mines, its place being taken by what is termed as "Permitted Explosives" sanctioned and approved by the Home Office, the demand for gunpowder became less, consequently operations ceased in December, 1931.
The writer, L. I. Moses, a native and born in the parish, is the last of the five who held the position of Manager. They were in succession: Messrs. W.J.Williams, H.Elcock, W.H.Ealdon, W.N.Hogben.65
to 70 persons including 10 women, who hailed from Pontneathvaughan and Glynneath were normally employed.

Grist Mill. There existed a mill on the right bank of the Little Neath River, a short distance from Pontneathvaughan, about midway between the village and the Pyrddin confluence. This mill was made use of by the farmers around for grinding their corn etc. Another mill on the Upper Little Neath, Nedd Fechan (Pont Felin Fach), also served a useful purpose at one period.

Limonite. The discovery of deposits of limonite, a brown iron ore, in September, 1923, at Aberllia Farm, Ystradfellte, aroused a great deal of interest. Sinking a test pit of 21 ft. in a field near the house, Mr. William Thomas, M.E., the prospector found a seam of this rare material which is reported to be 20 inches in thickness. The site is a long way from the Vale of Neath Railway line, and at the time, Transport presented difficulties.Up to the present no further developments have taken place.

Rural Crafts. Pontneathvaughan, in years gone by, had its Shoemaker, Tailor, Blacksmith, Wheelwright, Thatcher and Handyman William Llewellyn. Ystradfellte village also had its Shoemaker, Cooper and Tyler

An almost forgotten Industry

"For many years, until a comparatively short time after the first Great War, along the lovely rivers and streams of Breconshire and in the marshy parts of its pleasant woodlands, a not uncommon sight was the white calico tents of the clogger. A tent was an essential part of the stock-in-trade to the men who carried on the breaking-up branch of the clogging industry, when a large number of Lancashire workers wore clogs with soles hewn from Alder.

The work entailed crosscutting the trees into lengths varying from 7 to 12 ins. according to the size and quality of the timber. These lengths were split to suitable thicknesses with a short-handled axe and mallet, and after the heavier chips were axed off, they were piled inside the tent and hewn to the required shape with a huge Knife. The knife had a bent beam at one end, two and a half ft. in length, with a large hook on the other end, which was inserted in the eye of a strong box screw fitted in a stout bench. The knife with its long beam and made of finest steel, gave the user considerable cutting power. To an onlooker it was a very attractive work, and made cutting timber look as easy as slicing turnips.
When hewn they were termed Clog Blocks, and stacked in circular stacks to dry and then sent to Lancashire usually to dealers who retailed them to the clog shops, where the sole-makers fashioned them for the irons and uppers to be nailed on.

The hand made clog was a reliable and comfortable footwear, and waterproof in the wettest conditions. In Breconshire fifty years ago the industry was operated mostly from three centres Brecon town, Llangynidr and Glasbury where the master cloggers resided, and the work was done by journeymen, always at piece work rates. A capable workman would break-up two tons of timber each week.

If the trees were straight and free from knots, this quantity would provide clogs for approx 500 wearers. In 1921 the demand for clogs fell steadily and the prices of clog blocks slumped. Eventually they became uneconomical to make. Work became spasmodic for the journeyman, and he sought other employment. This was a decided wrench to a man who took a pride in his craft, and liked the independent and vigorous life in the woods. It was all hard work, especially the hewing, but no- push-button method will ever equal the personal satisfaction which a job like this gave.

The narrow steep sided valleys of the parish were covered with copses of alder and these attracted clog makers for years at the beginning of the present century when there was such a demand for clogs in the industrial areas of the North and Midlands.

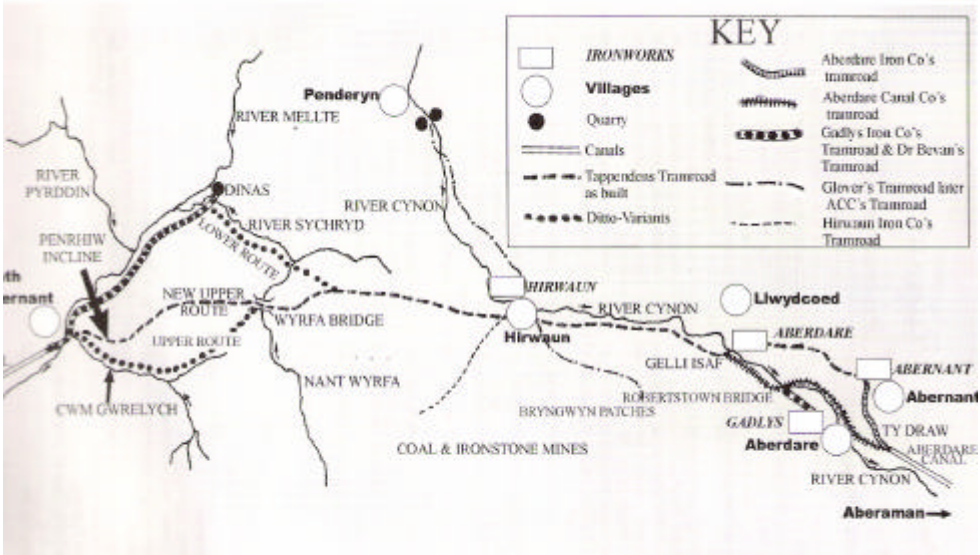
In 1886 three brothers named Thomas, John and Morgan Morgan came to Dyffryn Nedd Farm and cut alder for clog making. The clogs were not actually made in the parish but the timber cut in convenient lengths was taken to factories outside the Parish.

In 1920 - another family of three brothers came to live at Ystradfellte. 'They were Alfred, George and Richard Rigg.
They leased the timber land of Cil Hepste Coed - deep down in the Mellte-Hepste valleys, where there was a considerable amount of 'alder'. The Riggs estimate they made some 3,000 dozen pairs of clog blocks.
At the end of the two year lease, the Rigg brothers tried to have it extended for a third year as there was still a lot of alder left. The request was refused. So the three brothers enlisted the aid of one Frank Beaver and set to work in earnest to make clogs. In three weeks they had cut all the available alder and shaped it into clog blocks. There was no time to dry or transport them so they were

thrown into the Mellte to float down to Pont Neath Fechan. Here they were gathered together by a wire boom across the river and then transported, in the Powder Work Skips to Pontwalby. Mr. Moses, then the manager of the Powder Works had given the necessary permission.
From Cil-Hepste-Coed the brothers went to Glyn Mercher, Goitre, Pentre and Nant-y-Wenynen and finally Bryncul in the Hepste Valley 1,000 dozen pairs were made during this period.
After 1925 very little of the trade has been seen in the county. Small quantities were worked near the towns of Brecon, Llandridnod Wells, Builth Wells and Glasbury, and the last near Llyswen in 1930.

The changing fashions which overwhelmed the clogger include more and more rubber being used as a substitute for leather, which is now processed in a few weeks whereas the old tanning method took 7 years to make a hide into leather. Clogs do not look so attractive when worn with short skirts and silk stockings
Thus within a decade a well-established industry became obselete.

Extracts from The Ystrasfellte Scrapbook 1850—1950



MAP 1. The principal tramroads of the Aberdare/Glyn-neath area with the ironworks, canals and settlements (Aberaman ironworks omitted)

Thomas Dadford

Thomas Dadford was an English canal engineer, as were his sons, Thomas Dadford Junior, John Dadford and James Dadford. He probably originated from Stewponey near Stourbridge.

He started as one of James Brindley's many pupil assistants, in which capacity he worked on the Staffordshire and Worcestershire Canal and the Birmingham Canal Navigations.

He was engineer and surveyor on the Dudley Canal until 1783, and consulted by them later when they were extending through the Dudley Tunnel.

1774-with John Priddy he surveyed the Stroudwater Canal

1776-became engineer of the Stourbridge Canal but resigned in 1781

1782-with Thomas, he made recommendations for improvements to the River Trent.

1784-advised on the Coventry Canal's aqueduct over the River Tame.

1789-cutting contractor on the Cromford Canal.

In 1791 he became a shareholder of the Neath Canal.
until 1794, with his son and Thomas Sheasby, he was engineer and contractor on the Glamorganshire Canal, until they had a row with the company and were arrested for alleged overpayment. The matter was later resolved in their favour.

His last canal was the Montgomeryshire , where he succeeded his son John as engineer in July 1797

Gloucester Journal
25th. February 1799
Glamorganshire
Neath Canal Navigation

We the underwritten, being five proprietors possessed of some four shares each in the said Canal Navigation, conformable to the powers of a certain Act of Parliament passed in the 31st. Year of the reign of his present Majesty King George the Third, entitled “An Act for the making and maintaining a Canal or navigable communication from or near a certain place called Abernant, in the County of Glamorgan, to a through a certain place called the Brickfield, near Melyncrythan Pill, into the river of Neath, near the town of Neath in the said County:-

“Do HEREBY GIVE NOTICE, that a Special General Assembly of the Company of Proprietors of the said Canal Navigation, will be held at the Ship and Castle Inn, in the town of Neath, in the said county, on the 7th. Day of March next, at 12 o’clock at noon of the same day, for the purpose of taking into consideration the propriety of referring all accounts, disputes, and matters in difference, between the said Company of Proprietors and Mr. Thomas Sheasby, their late Engineer, to the award, order, arbitrament, final end and determination of the Three Persons indifferently chosen, by and between the said parties to award, arbitrate, settle and determine, concerning the same. and if so approved and determined, by such Special Assembly, that an order to that effect be made accordingly.

Given under our hands, the 22nd. Day of February, 1799

Lewis Thomas
Alex Cuthbertson
R. Williams
Richard Pendrill
William Gwyn

Penllergaer Documents
A letter from Lewis Thomas from Britton Ferry to John Llewellyn Esq.

Dated 1791, February 10th.

" Mr Cuthbertson with Mr. Robson and myself lately took a survey of the cuts that bring the waters to Ynys y Gerwen Mills and Dulais Forges; from what appeared to us, we think it almost impracticable to carry the intended navigation through these cuts without manifest great inconvenience both to the works and the navigation occasioned by the strong currents that unavoidably always will be in the cuts when the mills are at work and the water drawn low.
The cut that brings the water to Ynysgerwen works in our opinion cannot be widened and deepened sufficiently at the upper end near the waste for more water for boats to pass each other without much hazard of the hill running in into the canal if it were attempted

It occurred to us to examine the channel of the river from the mill tail of the Tin Mills upward.

Here we went up in a boat about 300 yards. It surprised us to find 4 to 6 feet of water, and often deeper, save just at the weir that was made to secure the ford to the Ynys y gerwen works. There is some gravel collected at this point, but both the weir and the gravel may be removed at a very small expense, near the upper end of the Llyn. At A in the plan is a proper place to lock out of the river to a meadow of yours on the south side of the river.

The canal will be dug through a camlais along side the hedge that bounds your lands and Lord Vernon's, till it comes into a meadow of Sir H. Mackworth, and proceeds from thence through Ynysneath Farm to Llyn Dwrch, doing but little injury.

It is our opinion that it will be best to adopt this plan of alteration in the line of the canal which we think will be attended with less expense than making the improvements in the mill cuts. (provided they can be done).

The mills will not be interrupted a day in doing this work, the works will be more secured from pilfering than if there was a public path through the works

Similar alterations are also proposed at Dulais Forges to come out to the river, without passing through the Forge cut.

In case these alterations take place, the works are to give up exemption from toll, as was proposed.

I have enclosed sent you a sketch describing the alterations proposed. (see map of 1791)

Mr Robson had a letter the other day from Sir H. Mackworth signifying that Mr. White, Clerk of the House of Commons, was to have a plan, estimate, and references, list of subscribers and some other necessaries. Mr John Morgan, Sir H. Mackworth's clerk, went up to Merthyr on Monday. He saw Mr. Dadford's eldest son, who promised that either himself or Father would come down yesterday to perfect the plan, but neither are come as yet. It would be more regular to have one of them to complete the work as they took the levels and made the estimates, and I suppose that person must attend the House of Commons to substantiate the plan and estimates by his testimony, when this business is perfected, we propose sending it up to Mr. White.

I think the 25th. Is the last day for presenting private petitions. I wish there had been more time and that when the Gentlemen of the neighbourhood were in the County, to have the business fully considered and to get such powers are as likely to be wanted hereafter without being obliged to go again to Parliament to procure the same.

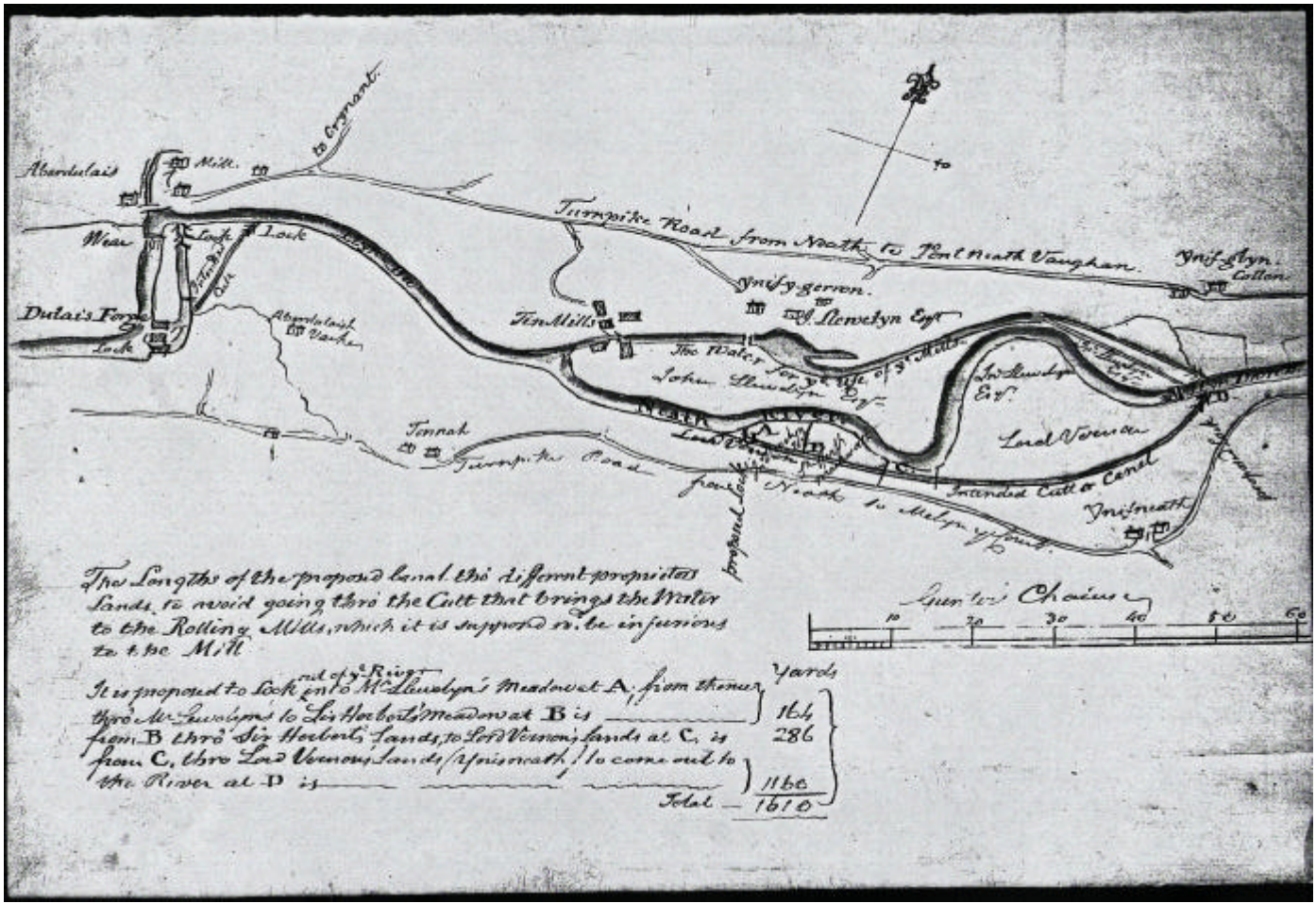
A turnpike road from the termination of the canal towards Hirwayn Furnace and Aberdare for 4 to 5 miles, and a bridge over the Neath river near (obscured by seal) which would secure the goods made there to this canal.

It is about 5 miles from the termination of the canal to Hirwayn Furnace and a good road may be made there through Cwm Gwrelirch of easy ascent. Mr. Glover gives his opinion much in favour of such a road under the management of the Trustees of the canal, as the most eligible plan in such a situation.

He assures me that many additional works will be built in the neighbourhood of his furnace, the produce of which will come to this canal, if such a communication was opened to it. I beg your pardon for troubling you so long on this subject.

Your obliged and very obedient servant

Lewis Thomas


Abertulais
Mill.
To Cynant.
Turnpike Road from North to Pont Neath Vaughan.
Ynis-Glyn.
Cotton
Weir
Lock
Lock
Ynis-y-gerron.
Dulais Ferry
Lock
Abertulais Yard
Tin Mills
Sr. Stevelyn Esqr
The Water for the use of Sr. Stevelyn
John Stevelyn Esqr
Sr Edwd Esqr
Tennah
Turnpike Road
Lord Vernon
Intended Cutt or Canal
Ynisneath
From Neath to Melyn Ybont
Quarter Chains
10
20
30
40
50
60
The Lengths of the proposed Canal thro' different proprietors Lands, to avoid going thro' the Cutt that brings the Water to the Rolling Mills, which it is supposed will be injurious to the Mill
It is proposed to Lock out of the River into Mr. Llewelyn's Meadow at A, from thence thro' Mr. Llewelyn's to Sir Herbert's Meadow at B is 164 Yards
from B thro' Sir Herbert's Lands, to Lord Vernon's Lands at C, is 286
from C, thro' Lord Vernon's Lands (Ynisneath) to come out to the River at D is 1160
Total 1610

Extract From a Journey Along The Vale Of Neath
By Rev. Richard Warner of Bath 1797

The appearance of Neath, from whence I last addresses you, does not prepossess the traveller much in its favour. It is seated at the bottom of a valley, and on the banks of a river of the same name; the streets are irregular and narrow. And the houses, with very few exceptions, ill-built and incommodious. It's population may be estimated at between two and three thousand.

The small ruins of the Old Castle, built, probably, by Richard De Greenfield, Fitz-Hamon's companion, attracted our notice; from the circumstances of one narrow piece of wall, which rises to a great height, and being unsupported by other parts of the building, threatens to crush the sorrounding cottages on the first hurricane that shall happen. We also paid a visit to the remains of its Abbey.

The ruins are of a prodigious extent, but being in the immediate neighbourhood of the metal works, and inhabited by the squalid families of the workmen employed there, they do not produce the pleasing emotions that religious remains, under different circumstances, so naturally inspire.

Neath has a more productive colliery in its immediate neighbourhood as well as a canal running 12 miles up its Beautiful valley, and conducting to its port all the products of the different mines and manufactories that enrich this extensive Cwm. Having received very minute instructions from our obliging landlord (The Ship and Castle Inn) our party proceeded up Cwm Neath following either the course of the river, or walking along the banks of the canal.

Leaving Knoll (the once celebrated, but now neglected seat of the late Sir Robert Mackworth)on our right, we persued the canal, and at the distance of two miles from Neath reached Aberdillis Forge, the property of John Meirs Esq., were the crude or pig iron is formed into bars, and sent in that state to another forge belonging to the same gentleman, further up the valley, called Ynysgerwen. A scene of great beauty after it occurred, the

pleasing cascade at Aberdillis Mill.

Quiting Ynysgerwen, we crossed the canal aqueduct, and soon found ourselves at Melincourt, a romantic village five miles from Neath. Here is another large work of Mier's consisting of a blast furnace, a finery, and a foundary; the whole apparatus of which is upon an improved and stupendous plan. The great wheel exhibits a periphery of one hundred and twenty feet; and the bellows, of a new construction, may be considered as another triumph of modern mechanism. They are easily regulated, but still some care is necessary in the management of them, since their action may be increased to such a degree as to threaten the destruction of the whole building. An accident of this sort occurred a short time ago, when, by giving them too much power, an immense piece of timber, which had been bought in Shropshire, and cost Mr. Mier five hundred pounds, was snapped in sunder in a moment.

We now forded the river and took the banks of the canal, continuing along its sides for three or four miles. At the distance of ten miles from Neath, near to the side of the canal, we passed a productive colliery, worked by Mr. Williams, and shortly after Aberpergwm, the seat of Mrs. Aubrey, behind whose house are the iron-stone works belonging to Messrs. Fox and Co. The proprietors of both these mines avail themselves of the new cut through the Vale, by sending the materials of them down to Neath, where the coal is shipped for a distant market, and the iron-stone manufactured in Messrs. Fox and Co's works at the Abbey.

Passing on for half a mile, we crossed a rail-road along which the stone-coal is brought from the works of Mr. Leigh and Mr. Thomas, to the side of the canal.

Extremely pleased with our ramble through the Vale of Neath, we reached the Angel In at Pontneathvaughan.

Even contractors have to be careful
!!!!!!!! Splosh!!!!!!!!

Danger!!!! Men at Work