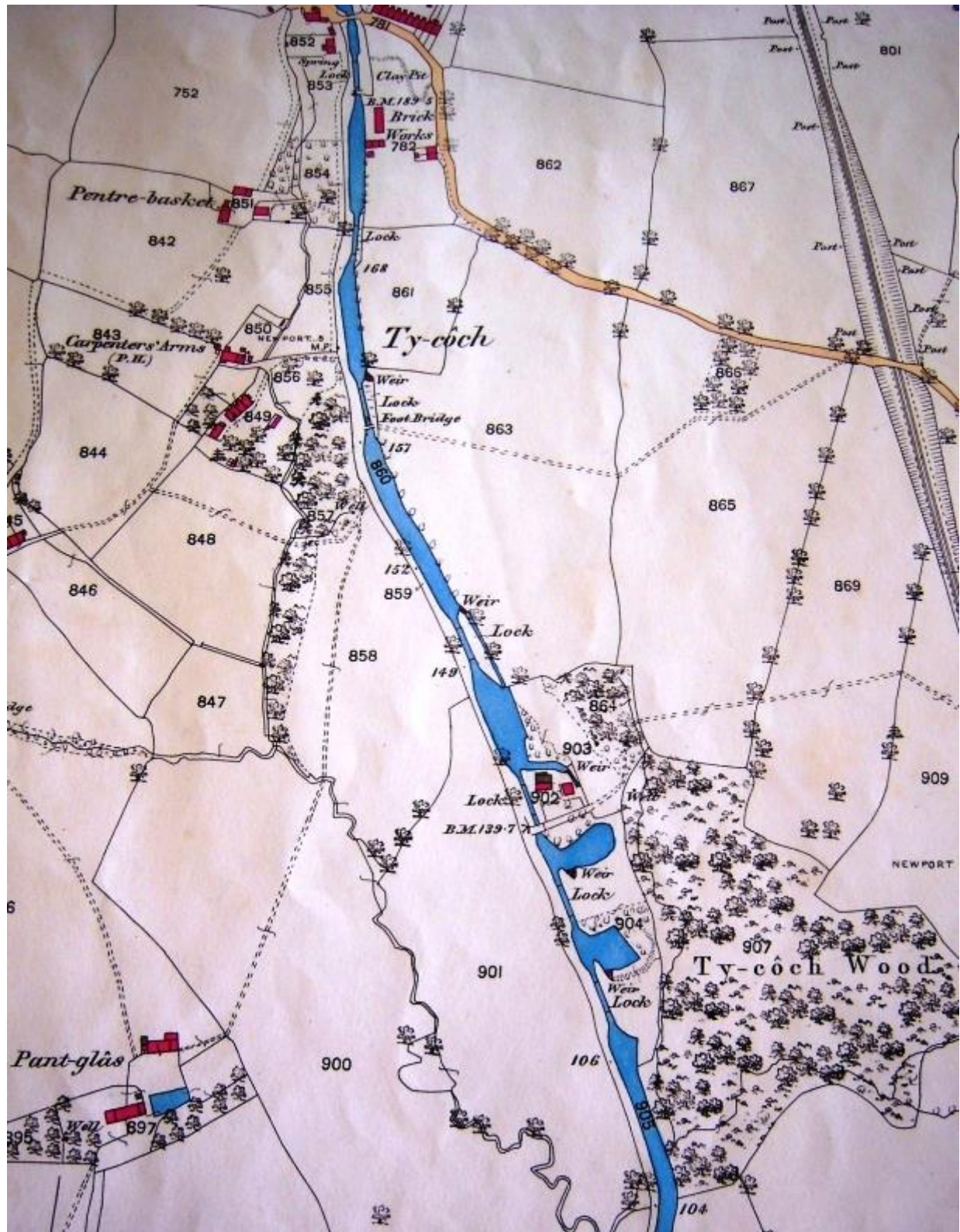


An Archaeological Report on an excavation at Shop Lock Ty Coch



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I have from time to time been informed light-heartedly, that all I do is 'walk about and watch what others do; whilst they work so hard.' I hope that in some way this report reflects all the hard work the volunteers commit themselves to perform for no reward and it is my pleasure to interpret that endeavour and reflect their heritage in this report.

1. Non Technical Summary.

This report details the results of a programme of archaeological works commissioned by Torfaen County Borough Council. The archaeological programme comprised shallow excavations undertaken at Ty Coch, Cwmbran during June 2013. The archaeological contractor was The Ancient Cwmbran Society Ltd. The contract was project managed and directed by a qualified member of the Institute for Archaeologists (IfA), R Burchell MA, PlfA.

The archaeological programme comprised excavations undertaken at Shop Lock, Ty Coch, Shop Lock Cwmbran during June 13, 14 & 15 2013 centred on NGR 329258-193078. The site is comprised of a canal-side plot of land believed to contain a building, the nature of which was investigated through the means of an archaeological excavation. The removal of turf and topsoil to the level of the first indication of archaeological remains was by the use of a mechanical excavator and small dump truck; this was conducted under the supervision of R. Burchell MA, PlfA the previous day, 12th June.

The site formed an open area excavation 13 X 12 metres in extent. Within this area a building was apparent measuring 9.420 metres X 8.800 metres. A small trench (Trench 1) was opened outside of the south eastern corner of the building in order to ascertain the condition and depth of the archaeological remains; this trench yielded a single sherd of ceramic. A second trench (Trench 2) was opened in the south western corner of the building being approximately 2 X 2 metres square to evaluate the archaeological potential on the south western side of the excavation area and revealed a post hole and building debris.

The large building was found to be a sawmill and workshop that had originally been a hand sawpit and was later converted to a mechanical Saw Mill. The sawpit is an excellent example of a purpose built industrial sawpit with only one other known along the entire length of the canal. The mapping evidence suggests that the building was enlarged between 1902 and 1920 and this is in accord with the archaeology that shows a stub of a wall in the north eastern corner of the site. A large amount of metalwork was recovered from the floor of the workshop area a representative sample of which has been illustrated for this report. The assemblage included several tools such as chisels, woodworking bits, rakes and a hoe along with many nails and bolts and a cast iron ratchet winding mechanism for operating the water controls of the locks.

A large amount of unstratified finds were recovered including glass along with a selection of 19th century ceramics and some modern 20th century sherds; most of which probably arose from the waste generated from the Lock Keepers cottage situated a few metres to the east and within the same curtilage as the saw mill. The remains of three clay pipes were also recovered, these have been dated from around 1840 to the late 1890's the latter being a large example of a plain bowl. Two recovered inkwells possibly bear witness to the administrative and business use of this building. Small Finds were limited. A single coin was retrieved, a halfpenny dated 1956. Three buttons, one of

which was a GWR uniform button reflecting the later ownership of the canal by the Great Western Railway Company. An unusual survival of a phial of perfume, possibly belonging to a 'door to door' salesman was also recovered intact and is probably of 20th century date. A small stoneware jar that once held 'Professor Holloway's' Patent Rheumatism Remedy was recovered from the sawpit. Overall the finds reflect occupation in the immediate area of the sawmill from the late 18th century to the late 20th century none of which appear to be 'out of the ordinary'.

It is only the archaeological remains that are now able to inform us that this was in fact a prime example of an industrial sawpit and workshop dating from the earliest days of the Monmouthshire Canal Company.

LOCATION MAP

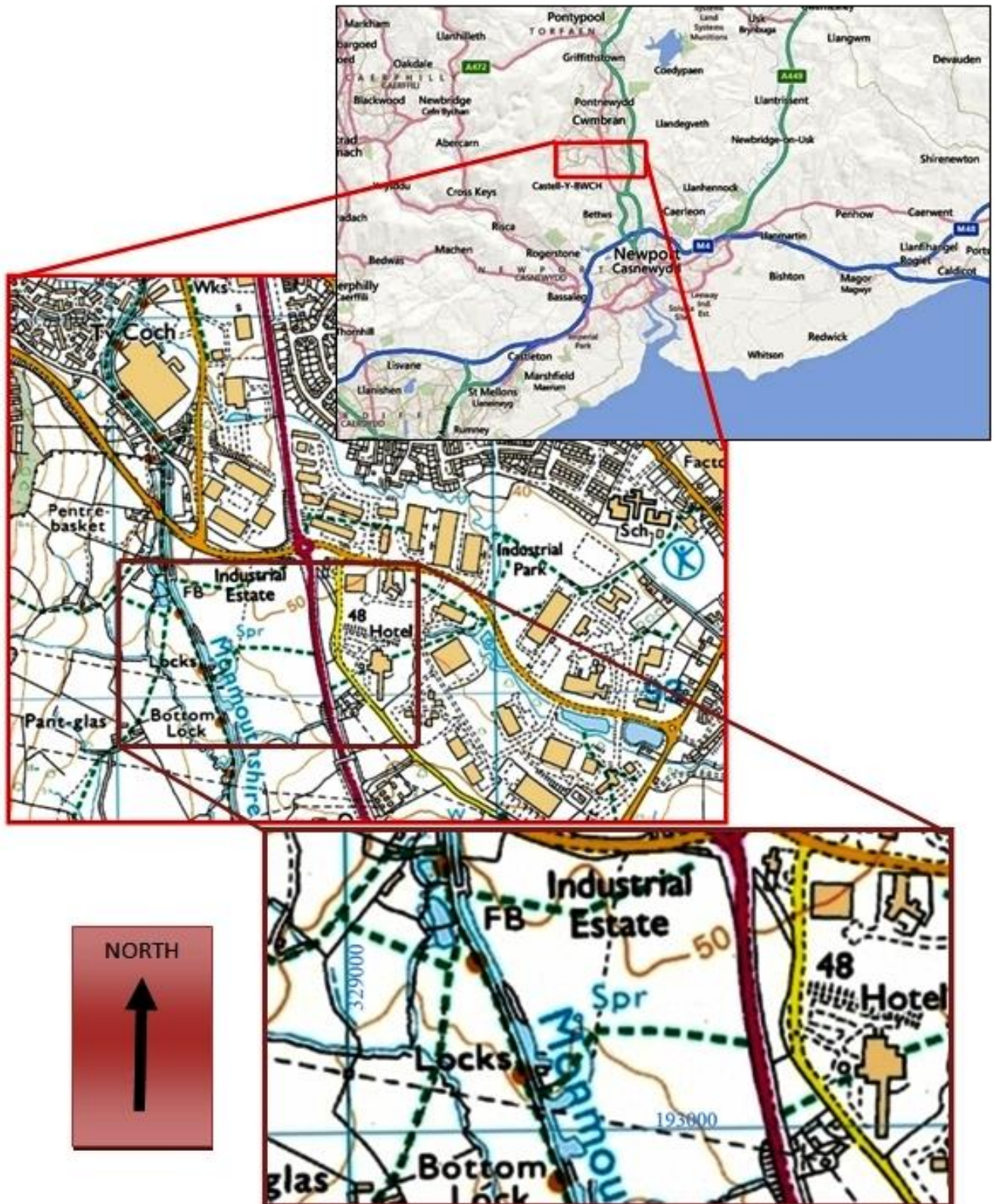




Plate 1. Site prior to commencement of excavation. Facing east.



Plate 2. Site prior to commencement of excavation. Facing west.

2. Introduction

Preparatory work was conducted by Mr R. Burchell M.A. PlfA under the guidelines of an Archaeological Watching Brief carried out in accordance with the standards, as set out by the Institute for Archaeologists, (IfA), guidance notes in; *Standard and Guidance for an archaeological watching brief* (2008).

All other works were carried out in compliance with the *Standard and Guidance for archaeological excavation* (2008), *Code of conduct* (2013) and *Code of approved practice for the regulation of contractual arrangements in field archaeology* (2008). Fieldwork was supervised by R. Burchell M.A. PlfA with the participation of a number of members of the community; several qualified archaeologists also participated as volunteers throughout the project. Training in the use of field techniques was also provided, both before and during each phase of the excavation programme.

A limited programme of documentary and cartographic research was undertaken at the Gwent Archives, Ebbw Vale, local libraries and research via the internet, in order to clarify the interpretation of the archaeological features identified.

A copy of this report will be sent to Torfaen County Borough Council and Richard Davies Esq. for the Ancient Cwmbran Society Ltd. All documentary material collated for this report will be archived by the Ancient Cwmbran Society Ltd. All Material finds will be deposited with Torfaen Museum, Pontypool.

3. Soils & Geology

Cwmbran is classified as an un-surveyed urban/industrial area by the Soil Survey of England and Wales (SSEW, 1983). A review of the 1:50,000 scale British Geological Survey (BGS) solid geological map (Sheet Number 249, Newport, 1975) indicates that the site is underlain by the Raglan Marl Group within the Old Red Sandstone Formation. The Raglan Marl Group consists of fine-grained, well-cemented sandstone which gently dips to the west. In nearby Ty Coch quarry (NGR 29359343) approximately 800 metres south of Central Cwmbran, almost 76 metres of marls comprised of fine-grained sandstones and impure concretionary lime-stones may be seen. The concretionary limestone contained fish remains: acanthodian scales along with bone fragments and specimens of *Kallostrakon sp.* and *Onchus sp.* However, a more detailed local account of the surface geology may be obtained by reference to the "Geology of the South Wales Coalfield" (Squirrell & Downing), with particular reference to the Ty Coch area. (pp44 &45)

4. Historical background

Monmouthshire in the 1790s was rich in resources, with embryonic coal and iron industries being established. A consortium of these industrial entrepreneurs sought to build canals through the Eastern and Western valleys of Monmouthshire linking the industries to the river and wharfs at the port of Newport. It was always envisaged that this system would include a number of feeder tramways to transport coal and iron from the mountainous valleys to the canal heads, often situated at lower elevations. 'The Monmouth Canal Navigation Company was created by the Monmouthshire Canal Navigation Act 1792 (32 Geo III, c102) which authorized the construction of a canal from the River Usk near Newport to Pontnewynydd and a branch from Crindai Farm to Crumlin.'¹ The original subscribers to this enterprise were Josiah Wedgewood, Sir Charles Morgan, The Duke of Beaufort, Hill (of the Plymouth iron works), Harford and Co (Ebbw Vale iron works) James Harfod, John Bowsher, William Esdaile and Dr Richard Griffiths. It was to have two lines; a 17.7 kilometres main line with over 40 locks and a 17.7 kilometres 'Crumlin Branch' with over 30 locks.² Thomas Dadford Junior was made the engineer. The Crumlin to Abercarn section of the Canal was opened in 1794 and in 1796 the main section from Pontnewydd to the Newport basin was navigable although some work remained uncompleted. Further acts were passed in 1797, when an act was passed to extend the Canal entitled 'An act for extending the Monmouthshire Canal navigation: and for explaining and amending an Act, passed in the thirty-second year of the reign of His present Majesty, for making the said canal. (4th July 1797).'³ Later, in 1812, the Canal was linked with the Brecon and Abergavenny Canal. Further Acts were passed to authorize the construction of additional tramroads and in 1865 the Brecknock and Abergavenny Canal was purchased.

From the very beginnings of the Monmouthshire Canal tramways had played an important part in the development of the company. As time went on the tram-roads were replaced with railways. The first of these being the Sirhowy Railway, and, eventually, the tramway systems were superseded by the railways. As this process developed, the canals were also absorbed by the railway companies or became railway companies themselves. This process of change resulted in the Monmouthshire Canal Company being renamed the Monmouthshire Railway and Canal Company in 1845.

As the production of coal and iron increased in the valleys, the pressure on the transport systems to deliver produce to the port of Newport, also increased; the transport system was largely comprised of pack mules and tramways already in place. In 1843, for example, the Monmouthshire Canal Company was still struggling with their one ton trams carrying as much as 3 tons of coal each.⁴ Canals with their "feeder" tram-roads had enabled the valleys to industrialise but the next phase of development was to come with the railways. In 1871 the control of the Pontypool, Caerleon and Newport railways

¹ Monmouthshire canal company records held by the National archives

<http://discovery.nationalarchives.gov.uk/SearchUI/details?Uri=C13086>

² Gwent Archives Monmouthshire Canal Act 1792 - warrant to sheriff

http://www.tlysau.org.uk/cgi-bin/anw/fulldesc_nofr?inst_id=36&coll_id=77355&expand=

³ <https://ifind.swan.ac.uk/discover/Record/462127/Details>

⁴ Gladwin, D. and Gladwin, J. 1974. *Canals of the Welsh Valleys and their tramroads*. The Oakwood Press. p 24

passed to the Great Western Railway Company, the Pontypool Railway Company was constructing a line with two junctions at Maindee to join with the main line of the GWR. This line created a shorter and faster connection from the eastern valley collieries to towns like Swindon, Reading and the city of London. It also provided access to the ports and Dockyards of southern England and was opened in 1874.⁵ In 1880 the Monmouthshire Railway and Canal Company was purchased by the GWR and from this time onwards canal receipts continued to decline.⁶ In 1879 a bill was brought before parliament for the closure of a part of the Monmouthshire canal between Llanarth Street and Newport Docks, this particular stretch of the canal was said to have been disused for the previous 5 years.⁷ The last boat that is said to have passed along did so on the 9th January 1915 when a market boat carrying miscellaneous goods travelled from Llanarth Street in Newport on reaching its destination its Crew was said to have then joined up and gone to France.⁸ The canal as a transport system underpinning the industrial development of South Wales became outmoded, old fashioned and slow and the decline in its use reflected the needs of the industrial societies that had created it to find and adopt more modern and convenient modes of transport. In 1950 a Mr Edwards, a local canoeist, could only say: "The canal is in a very bad way and most of the locks are unworkable. The weed and general neglect by previous railway owners make this canal scarcely canoe-able", the only section then open was from Cwmbran to Pontymoile.⁹

⁵Griffiths, R., Aldhouse-Green, M., Howell, R., Williams, C. and Williams, S. 2004. *The Gwent County History*. Cardiff: University of Wales Press on behalf of the Gwent County Historical Association. P 64

⁶Russell, R. 1982. *Lost canals and waterways of Britain*. Newton Abbot: David & Charles. p113

⁷Hadfield, C. 1967. *The canals of South Wales and the border*. Newton Abbot: David & Charles in conjunction with Wales U.P.. p 158

⁸Hadfield, C. 1967. *The Canals of South Wales and the border*. Newton Abbot: David & Charles in conjunction with Wales U.P..p 158

⁹Gladwin, D. and Gladwin, J. 1974. *Canals of the Welsh Valleys and their tramroads*. The Oakwood Press. p 27

5. Methodology

The programme of archaeological works was carried out in accordance with the standards, as set out by the Institute for Archaeologists, (IfA), guidance notes in; *Standard and Guidance for an archaeological watching brief* (2008), *Standard and Guidance for archaeological excavation* (2008), *Code of conduct* (2013) and *Code of approved practice for the regulation of contractual arrangements in field archaeology* (2008). Archaeological features and deposits were excavated down to undisturbed natural deposits where possible. Following topsoil stripping all other excavations were carried out manually¹⁰ and written records along with graphic and photographic records were produced using pro-forma recording sheets.

All excavated material was examined visually and some spoil was also sieved, all spoil was sorted for artefacts, which were recorded and, where appropriate, retained. A written record was created using individually numbered pro-forma context sheets in order to create a detailed stratigraphic record of the site. Plans, sections and elevations were produced at scales of, 1:20, or 1:10, as appropriate, on archival standard stable film. All plans and sections contain grid and level information relative to O.S. data, although for clarity they may be presented on separate drawings. All drawings are numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A photographic record of all stratigraphic contexts was made using a 12.2MP digital camera, together with representative photographs of the progress of the excavation. All such records were indexed and cross-referenced to written site records and details concerning subject and direction of view were maintained in a photographic register, indexed and captioned appropriately. A temporary benchmark was established at the site to be investigated, this data being derived from a known Ordnance Survey datum point situated alongside the towing path and incised upon the parapet of the nearby bridge.

¹⁰ The exception to this was the deep excavation of the 'pit' by a Mini digger, which proved to be below safe working practice and was not entered until a structural assessment of its condition had been carried out.

6. Ty Coch, Shop Lock. Results.

The archaeological programme comprised excavations undertaken at Ty Coch Shop Lock, Cwmbran during June 2013 and centred upon NGR 329258-193078. The site is comprised of a canal-side plot of land believed to contain a building, the nature of which is to be investigated through the means of an archaeological excavation. The removal of turf and topsoil to the level of the first indication of archaeological remains was by the use of a mechanical excavator and small dump truck; used to remove the spoil outside of the area to be investigated. The site formed an open area excavation 13 X 12 metres in extent. Within this area, a building was apparent measuring 9.420 metres X 8.800metres. A small trench (Trench 1) was opened outside of the south eastern corner of the building in order to ascertain the condition and depth of the archaeological remains. A further trench (Trench 2) was opened to the south western corner of the building being 2 X 2 metres i.e. 4 square metres to evaluate the archaeological potential on the south western side of the excavation area.



Plate 3. Exposure of subsoil showing marls with ash and clinker inclusions.

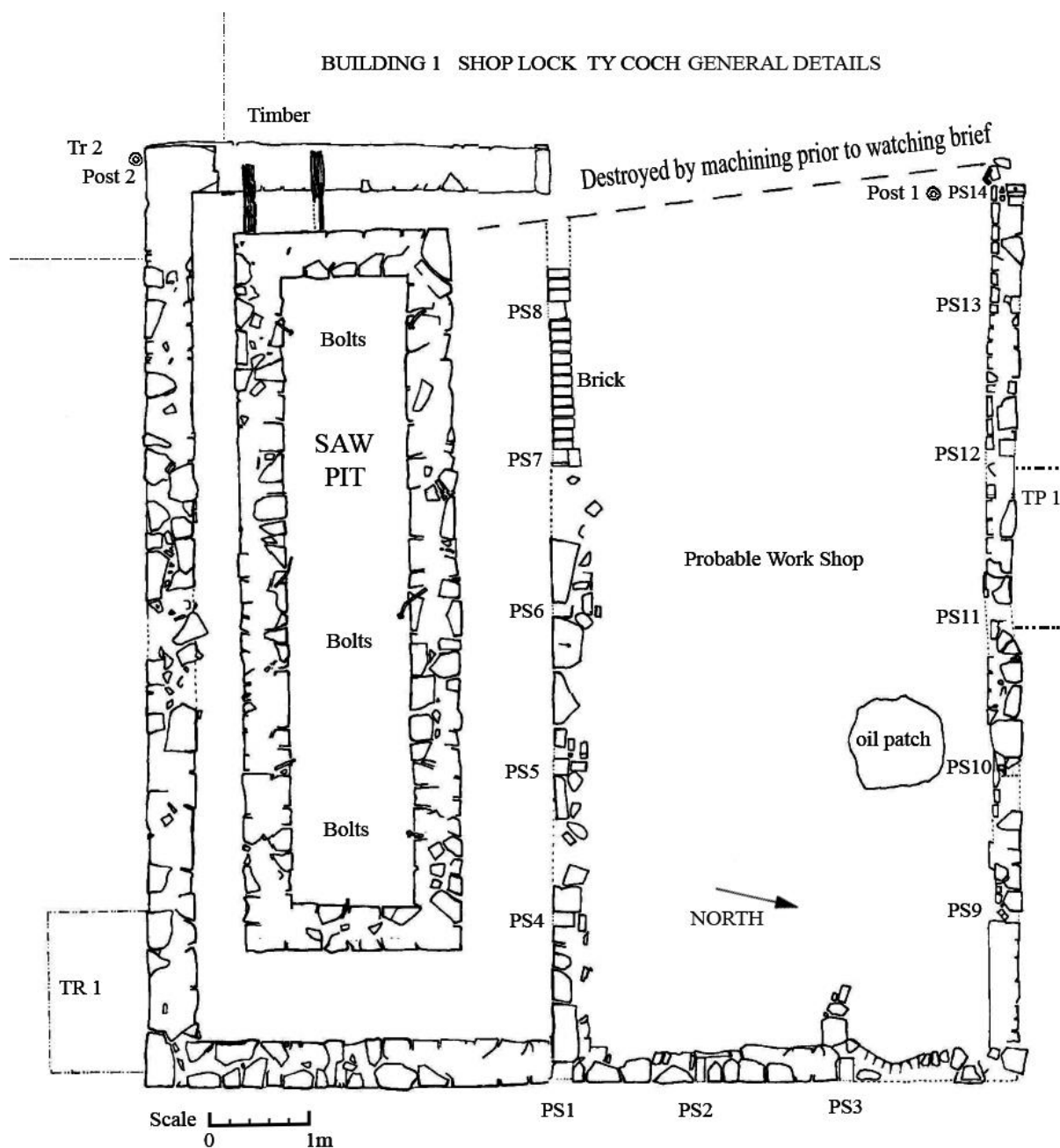


Fig 1. Scale 1:20. General plan of trenches and building.

6.1 Trench 1.

Trench 1 was aligned west to east and situated at the extreme south eastern corner of the excavation area and adjacent to the southern wall of a large building. (Fig 1) The trench measured 1.650m X 1.0m and is 330mm on the east below ground level and 420 millimetres on the west below ground level, a datum for drawing was established at 42.206 metres AOD. (Fig. 2) Four individual contexts were identified (1001), (1002), (1003), (1004). Context (1001) comprised of a section of stone walling forming the south-eastern extremity of a larger building and set in a matrix of lime mortar (1002). Underlying (1001 & 1002) was (1003) a deposit of light red clays 100mm thick at its maximum thinning towards the east to 80mm and being 550mm in extent within the section. All three above contexts were seen to overlie context (1004) a red/brown clay with charcoal, coal-ash and lime inclusions in moderate quantities. Context (1004) had dimensions of 1200mm X 290mm in the section and continued across the base of the trench. A single sherd of pottery was recovered from this trench within context (1004), 1004 / 001.Finds Index.



Plate 4. Trench 1 showing surviving depth of masonry and underlying soils. Looking north.

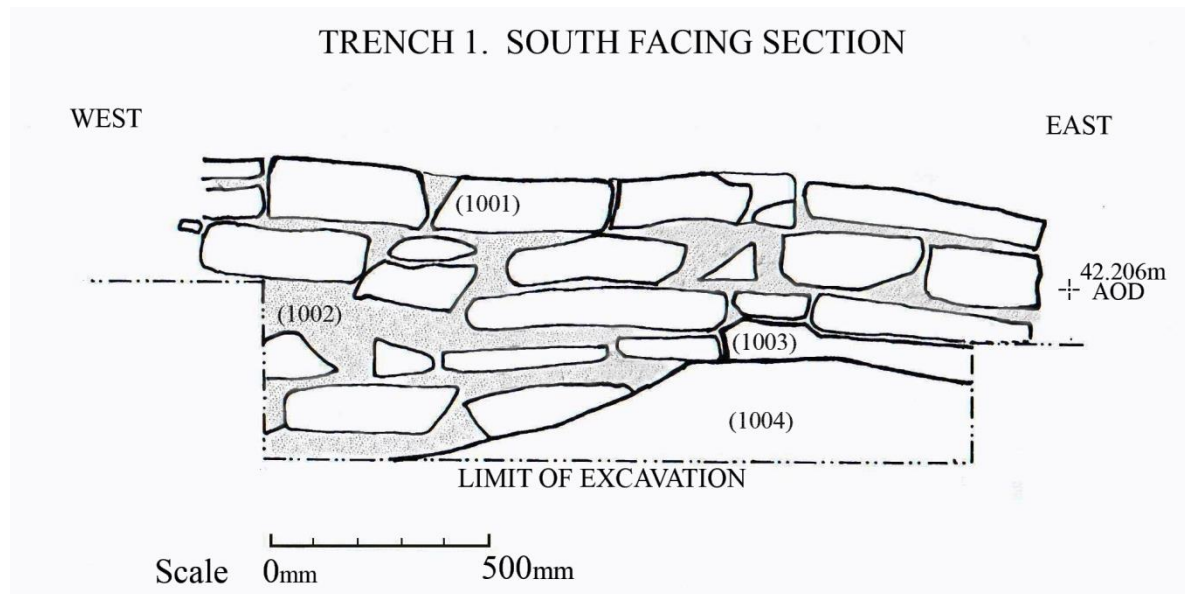


Fig 2. Scale 1:10. Section showing context numbers and detail.

6.2 Trench 2.

Trench 2 was situated to the south west of the large building. The trench was 2660mm X 2740 mm in extent and so placed as to evaluate that area of the excavation site. (Fig.1) Ten individual contexts were identified (2001) – (2010). (Fig. 3) The area was towelled by hand to reveal the surface features and these were then recorded for the record. The south-western corner of the trench was found to contain a Post hole (2002) the cut of which was seen to be sub-circular in shape and approximated a diameter of 480mm, [2001]. Several pieces of wood remained *insitu* (2003) the largest remaining timber had iron nails lying to its eastern and western sides (2004). The underlying surface of the trench (2010) was a reddish brown clay with inclusion of coal ash and clinker concentrated towards the western edge of the trench. Lying on and within this surface a scatter of material was observed comprised of roof tile (2007), Slate (2006), Brick (2005) and Stone (2008). Adjacent to the south west corner of the building a wooden 'stake' had been driven into the ground that had 'rotted off' at ground level, (2009).

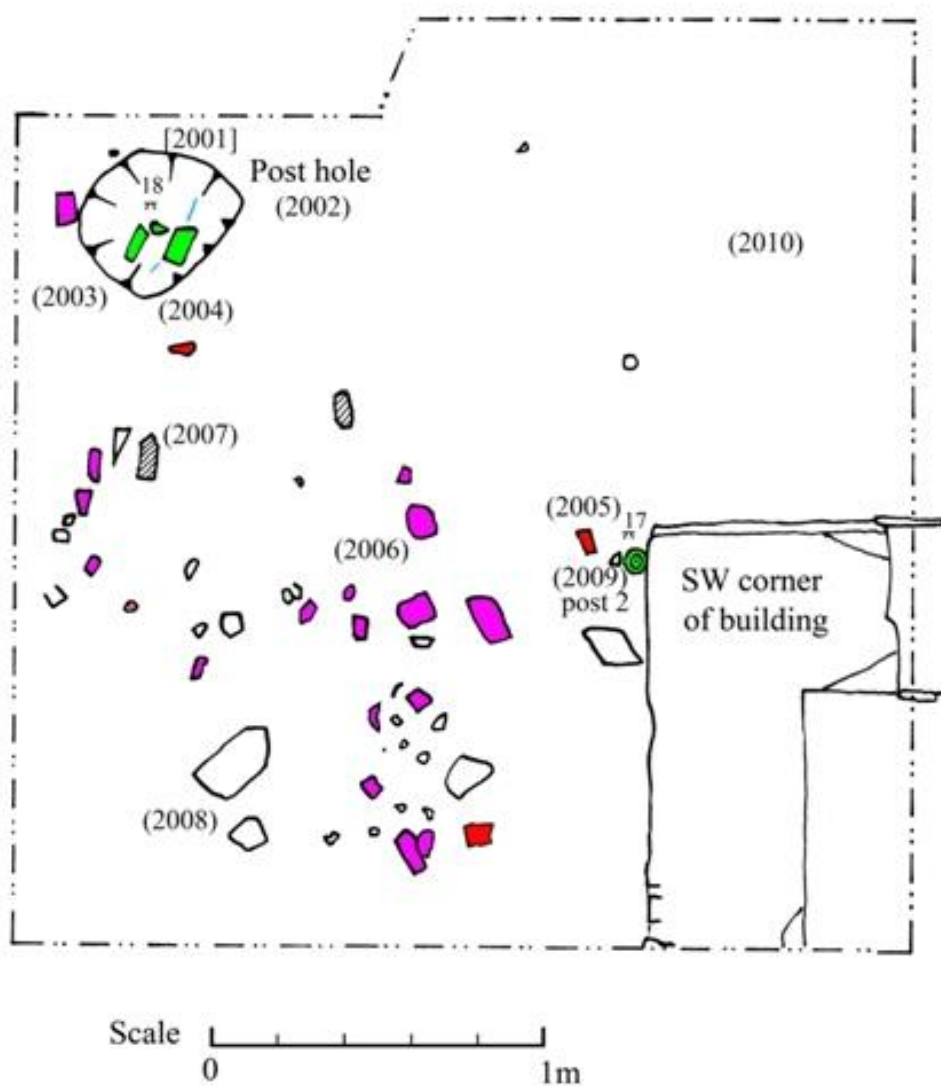


Plate 5. General view of Trench 2 showing post hole and debris scatter looking east.



Plate 6. Detail of post hole extreme south west of Trench 2.

TRENCH 2. SHOP LOCK TY COCH



KEY TO DRAWING	
WOOD	
NAILS	
TILE	
BRICK	
SLATE	
STONE	
Limit of recording	
LEVELS	



Fig 3. Plan view of Trench 2 showing details

6.3 The Building.

Following the removal of surface debris and soils the area was hand towelled by a team of volunteers overseen by three qualified archaeologists. The aims set out in this archaeological excavation were to identify the nature and quality of any remaining structure and possibly its usage and date.

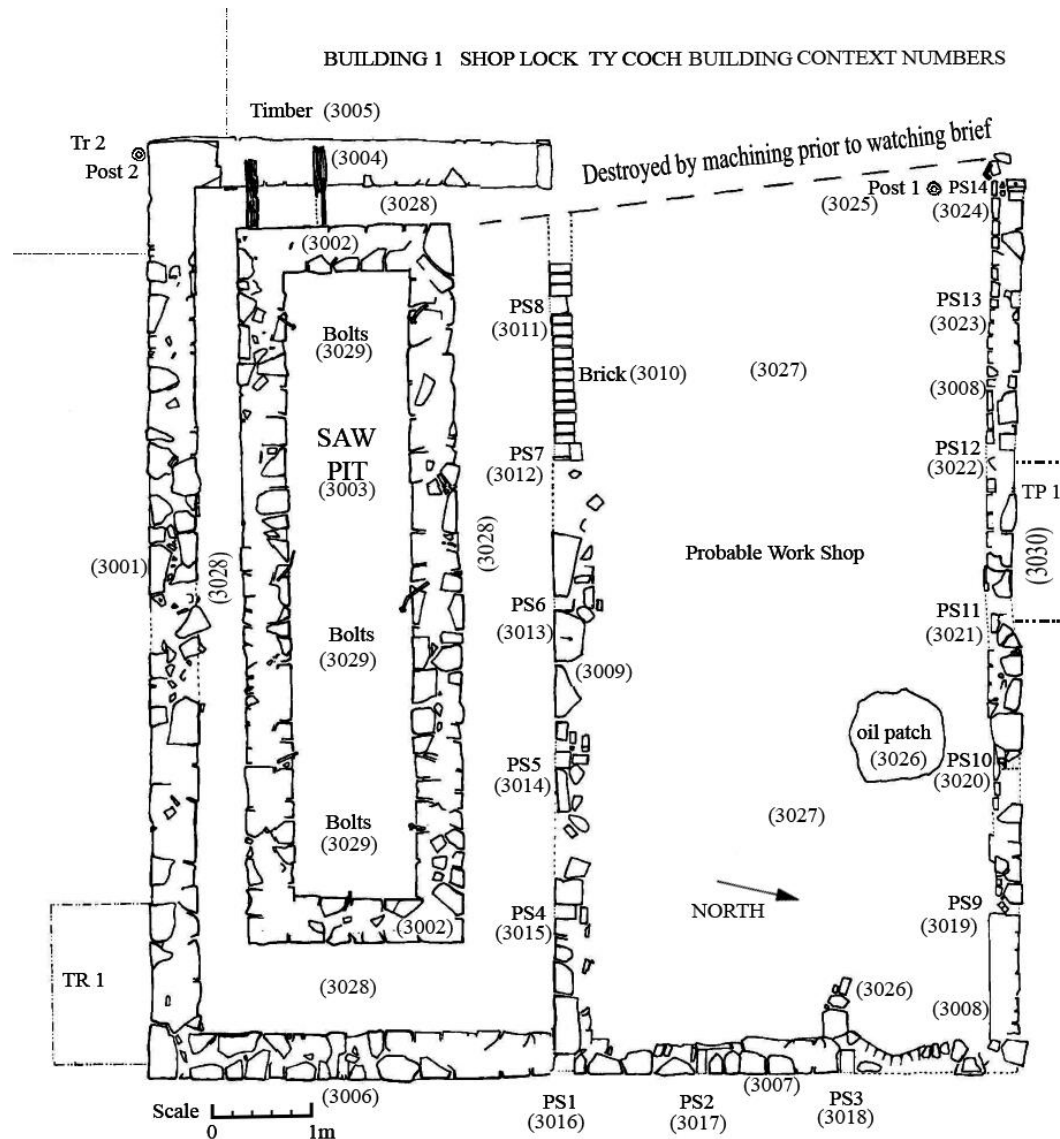


Fig 4. Showing building context numbers and details.

The area was reduced by approximately 150mm across the whole site revealing a series of stone walls with random brick forming an outline of a building that was approximately square in plan, Fig. 1, (Building 1 Shop Lock Ty–Coch). Within the outer walls of the building was a second rectangular structure (3002) (Plate 7).



Plate 7. View east showing remains of doorway, timbers and sawpit.

The building 'footprint' has dimensions of 8.92m X 9.64m and is aligned west to east along its length. Its southern wall (3001) is largely constructed of coursed stone bonded with a lime mortar matrix and rubble fill faced on both sides, the wall is 9.64m in length X 460mm thick and survives as 3 courses above ground level. The south eastern corner of the building (3006) is also of the same construction being 4.16m in length X 460mm and aligned N-S also faced on both sides. The remainder of the eastern wall of the building (3007) continues the alignment of wall (3006) but is faced only on its eastern, outer, side. The inside face is irregular, this section of walling is 4.76m long X 460mm in places, but as narrow as 300mm towards its northern extremity where the wall has been highly disturbed; along its length three post sockets were visible set back from its outside, eastern face and labelled as PS1 – PS3. PS1 (3016) is so positioned as to align with the post sockets referred to below, PS4 –PS8.

The western wall of the building (3004) survives for a length of 4.12m and is also 460mm wide. The remainder of this wall towards the north (3004) had been destroyed by machining prior to commencement of this excavation. The northern wall of the building (3008) is situated approximately 1.5 metres from the canal and has subsided all along its length due to wet conditions. This wall is comprised of stone with a lime mortar bonding and some brick. The wall survives for a length of 9.520m, its width is 340mm, slightly smaller than the walling in the southern sector of this building, along its length six post sockets were visible set back from its outside, north face and labelled as PS9 – PS14, (3019)-(3024).

To the north of this wall and approximately at its mid-point a Test Pit (TP1) was excavated by machine following advice from the members of the canal trust who monitored the results. No structures were encountered and nothing of archaeological importance was observed within this test pit; as its base lay below the water table and due to its close proximity to the canal it was immediately back filled.



Plate 8. View of eastern wall of building showing post socket (3016) and sawpit.

The building is bisected by a wall (3009) and (3010) faced only on its southern side; this wall runs west to east across the building and is 8.44metres long. Towards the western extent of this wall a single course of bricks was apparent (3010) extending for 2.4 metres. These bricks are discontinuous being interrupted by two post sockets (3011) labelled as PS8 and (3012) labelled as PS7. (Fig 1 & Fig. 4 showing context numbers). Three other post sockets lay along the remainder of the wall (3009) a continuation of (3010) to its east. These are (3013), (3014) and (3015) labelled as PS6, PS5 and PS4 respectively. All the post sockets on this alignment lie flush with the southernmost face of the wall abutting the ash clinker floor (3028) to the south and the surface (3027) to the north. PS1 is situated within the eastern wall and divides the walls (3006) and (3007), but shares a common alignment with the post sockets dividing the building along walls (3009) and (3010).

The northern sector of this building bounded by (3007), (3008) (3009) and (3010) is comprised of a surface (3027) of re-deposited rubble containing coal ash, coal, brick, roofing pan-tile, sundry discarded iron artefacts, including tools and an oily deposit (3026) (Plate 9), all of which overlie a pinkish /red brown clay equivalent to (1004) as witnessed in Trench 1. Context (3026) an oily deposit was sub-circular in shape and approximately 900mm in diameter with a depth of 55mm; samples of which have been retained. In the north eastern corner of (3027) was (3025) a small section of masonry wall lying above (3027) and abutting to (3007), this 'wall' had dimensions 260mm X 620mm and was aligned west to east. In the north western corner of (3027) was (3030) a wooden stake, labelled as Post 1 and having a diameter of 120mm.



Plate 9. Showing Oily deposit / ground contamination. (3026).



Plate 10. Sawpit following removal of fill.



Plate 11. Sawpit following cleaning. Looking west.



Plate 12. Detail of south wall of sawpit showing lighting alcove and shelf. Note cut out for bolt at upper left.

Within the southern sector of the building was a second rectangular structure (3002) aligned west to east.

This structure had external dimensions of 7.4m X 2.2m and internal dimensions of 6.44m X 1.28m, all the walling (3002) was found to be 460mm thick and bonded with a lime mortar. Eight metal bolts appeared to be embedded vertically within its walls (3029) these bolts were 22mm in diameter and of varying lengths above the existing stone walling ; four of which had retained their 'nuts' that were found to be approximately 22mm thick X 38mm square. To the west of this structure were the remains of two timber beams (3005) labelled A and B abutting the western edge of (3002). Timber A had dimensions of 125mm X 100 X 600mm and Timber B had dimensions of 125mm X 100 X 820mm, both timbers overlay (3028) a reddish ash and clinker deposit forming a 'floor' and surrounding the structure (3002) on all sides. The timbers also rested upon the wall (3004) on their western extremities.

The interior of the structure contained by walls (3002) was reduced, firstly by hand; and later, following a decision to remove the fill, (3003), by mechanical excavator. The fill, having been removed, it was then inspected by a team of volunteers who recovered all artefacts. The interior was excavated to the natural clays (4008), at its deepest point the interior was 1.9m below the excavated ground levels, the pit base lying at 40.910 A.O.D. The interior was then hand trowelled and cleaned prior to recording. The northern and southern walls of the structure were seen to contain two recesses each, such that they formed an alcove within the walls of the structure (4001) – (4004). These were numbered, 1 & 2 being designated to the north wall and 3 & 4 to the southern wall. Alcove 1 had dimensions 475mm in height X 480mm width and 300mm deep; Alcove 2 had dimensions 505mm in height X 500mm width and 300mm deep, Alcove 3 had dimensions 515mm in height X 460mm width and 240mm deep, Alcove 4 had dimensions 463mm in height X 490mm width and 280mm deep. It was also observed that where the 8 wrought iron bolts (3029) had been seen at ground level within the walls of the structure (3002) below ground level it was apparent that eight corresponding cavities in the masonry had been cut to allow access to their opposite ends. (4006) These access holes were not of a uniform size but were set at approximately the same level throughout the structure. In the base of the pit at its south eastern corner and passing through the southern wall was a salt glazed earthenware pipe forming a drain. The pipe had an internal diameter of 160mm. (4005) and rested upon the natural (4008). Seven 'weep holes' were apparent at the base of the walling (4007). Due to the wet conditions and the possibility of collapse due to the levels within the pit being reduced below the walling in places the pit floor was filled to the level of the stone work with clean sandstone chippings. During the excavation of this pit a large block of brickwork was removed in two pieces this was later realised to be a brick pier and was photographed for the record, and recorded as (3003) a constituent of 'fill of pit'. (Plate 14)

Several bricks were recovered from the sawpit and along with those recovered amongst the surface scatter form a small representative sample of brick making in and around the Ty Coch area. (Plate 15)



Plate 13. Drain South Eastern corner of sawpit



Plate 14. Remains of the brick pier.



Plate 15. Selection of Bricks recovered from Ty Coch

7. Site specific discussion

The evidence for a large building occupying the site is undisputed and although the tithe maps of the 1840's does not show any buildings the tithe apportionment records a cottage and garden within field 774. (Fig. 6)

The Ordnance series of 1:2500 maps from 1882 onwards and the more modern 1:10 000 all record buildings on the site. The first series is particularly helpful in so much as it shows the shape of the building changes over time.

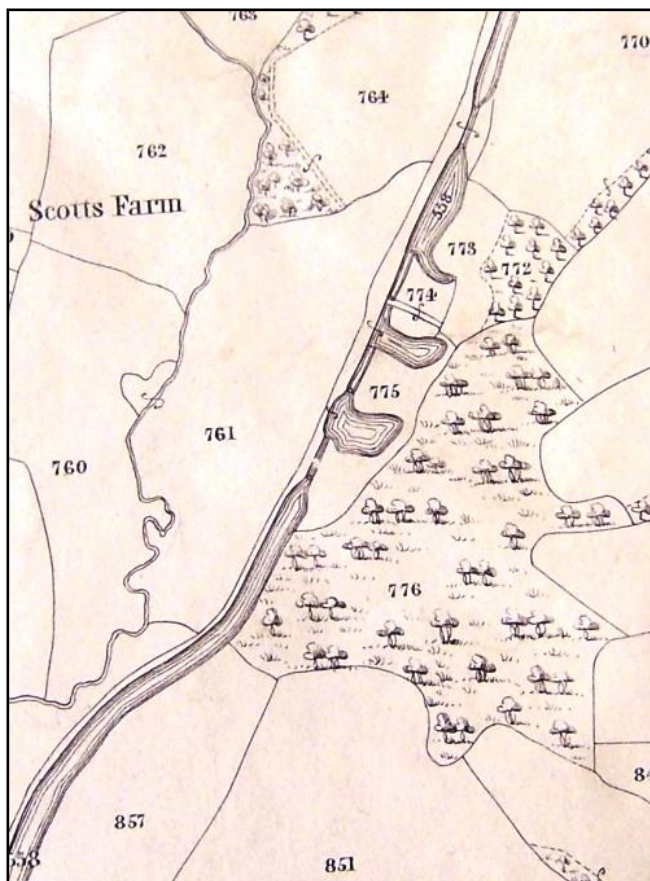


Fig 6. Tithe map of 1846 and extract of apportionment below

Monmouthshire Canal Company, In Hand of Proprietors of						
332	..	..	..	Garden	0 0 38	
333	..	..	..	..	0 0 21	
334	House	..	and	Garden	0 0 14	
340	..	..	..	do	0 0 17	
509	House	..	and	do	0 0 12	
558	Canal Towing Path, &c.	..	..		20 0 14	
558a	..	..	..	Waste	0 1 3	
774	Cottage	..	and	Garden	0 1 13	
775	..	..	..	Pasture	0 3 21	
996	..	..	..	..	0 0 15	
					22 1 11	1 8 8

Trench 1 revealed the depth of remains on the south eastern corner of the large building; it was seen to be constructed of coursed stone set in a lime mortar matrix that survived at that point to three courses below the current ground levels. The wall (1001) had an overall height of 600mm, 280mm of which was visible above ground level. The

underlying soils were a mixed soil comprised largely of the local marls (1003 & 1004) but here contaminated with ash, coal, charcoal and a single sherd of pottery. The pottery (1004/001) was identified as 'Mocha' ware probably of Staffordshire origins and has a lengthy history commencing in the mid 18th century and throughout the 19th century. It was also apparent that the building had suffered some distress at this corner as the easternmost end of the wall had a distinct downward trend breaking away from the main body of the wall (Fig 2 & Plate 4), possibly caused during the buildings demolition or the infilling of the pit.

Trench 2 was able to provide information on the area outside the south western corner of the building. Here it had been noted that two wooden posts had survived just below ground level whilst stripping the site of topsoils, (2009) and (2002) No further posts were found within the area following hand cleaning and no relationship could be drawn between the larger post in the south western corner of the trench and the smaller post set against the building. It is possible that the larger post delineated the end of a fence line that was the boundary of the lock keepers cottage garden as such a boundary is shown on the tithe map of 1846 for this area that approximates its position. The scatter of material overlying the subsoils was seen to contain stone, tile, brick and slate and was of the same nature as the debris scatter seen across the whole of the excavation site and can be understood to be demolition debris of this building and also of the adjacent Lock Keepers cottage situated only a few metres away.

The building covers a large area of almost 86 square metres and has been found to be a Saw Mill. The building has two components the Sawpit and a probable workshop.

The 'workshop' occupies the northern sector of the building and was substantial enough to have facilitated the building of lock gates, as well as other timber products. This 'workshop' area measured 4.76m X 9.64m and would appear to have been constructed of a timber frame, possibly clad with wooden planks or perhaps later, corrugated sheeting. The evidence for the Timber framing can be seen in the pairing of the post sockets between the north wall (3008) and the dividing walls (3009) & (3010) such that PS4 & PS9, PS5 & PS10, PS6 & PS11, PS7 & PS12, PS8 & PS13 all form matched pairs. Other Post Sockets are seen along the eastern wall of the proposed 'workshop'. The 'bywash' to the immediate north of the workshop has proved, by measurement, to be long enough to take a standard narrow boat or barge enabling shipment of large and small products to destinations along the canal. The floor of the 'workshop' was just an earthen floor protected by the walls and roofing from the weather. A large number of metal artefacts were recovered from this surface including a number of woodworking tools, although iron bolts and nails formed the bulk of the assemblage. The metalwork was largely comprised of wrought iron nails, bolts and straps of various sizes, some cast iron objects were also recovered and these may be of a later date than the wrought ironwork. (Appendix 3 Metal finds). The tools recovered were 3 chisels, a drill bit, a file, a scythe, a shovel, a spanner, a punch, a hoe and two rakes. A selection of metallic finds is illustrated below. (Appendix 9) A patch of oily ground within the 'workshop' (3026) may possibly indicate that the area was used for oil storage at some time perhaps to provide lubrication for the Saw Mill machinery. A 'stub' of masonry in the

north eastern corner of the building (3025) appears to be the remains of an earlier wall that was removed when that corner of the building was 'squared off'. The mapping indicates that previously the walling at this point was stepped but altered between 1902 and 1920 to its present configuration. A wooden post, (3030) in the far north western corner of the building is also enigmatic; its purpose unknown. The area of brickwork (3010) forming a section of the partition wall between the 'workshop' and the Sawpit suggests a doorway flanked as it is by the post sockets, PS8 to the west and PS7 to the east affording direct access to the 'workshop' area from the Saw mill.

The Sawpit was seen to be constructed from stone and brick bonded with a lime mortar (3002) and forming an oblong pit below ground level. Its dimensions internally were 6.44m X 1.28m X 1.9m deep (Fig. 5). It can be seen that there are two phases in the development of this Saw mill. The first phase is manual. Set into the north and south walls are four alcoves that are staggered along the length of the pit, these were to provide shelves for lamps thus lighting the underside of the sawpit whilst it was in use by the 'Bottom Sawyer'. The timbers to be sawn would be close to floor level with the 'Top Sawyer' standing on or over them, the 'bottom sawyer' being below him. The nature of the work demanded that timbers are sawn up into planks or beams by the use of a large double handed saw used vertically, as illustrated below, (Appendix 8).



Plate 16. Recesses in Sawpit for lamps and bolts illustrating the advent of mechanical sawing

At some stage in the Saw mills life it would appear to have been converted to a mechanical Saw Mill. The eight large bolts (3029) that held down a frame for a mechanical saw having been inserted into the walls of the pit after they were built. The

large brick pier that was removed from the sawpit provided additional support in the centre of the pit for the mechanism above it. There is no evidence for which type of mechanical saw that was employed at Shop Lock, there are only two systems known, the circular saw and the reciprocating saw. The motive power for the saw would have been generated by a small steam boiler, possibly housed exterior to the main building. A possible location for such a boiler is to the southwest of the building where a large amount of coal ash and clinker was seen when stripping the topsoils in the area of Trench 2 whilst the 'floor' (3028) surrounding the sawpit was largely comprised of ash and clinker. The building itself is quite rare as only one other sawpit is known throughout the 33miles (53 kilometres) of the canal system although it is probable that another remains to be located somewhere close to Fourteen Locks. The surviving sawpit building is alongside the locks at Llangynidr on the Brecon and Abergavenny section of the canal, however the sawpit has been filled in and concreted over and the building converted into a dwelling.¹¹



Plate 17. The sawmill and workshop at Llangynidr locks prior to restoration.

¹¹ Pers Comm Mr & Mrs Ware previous owners of the building.



Plate 18. The sawmill and workshop at Llangynidr locks following restoration.

The general form of the building at Llangynidr is thought to be similar to that at Shop Lock however it can be seen that the sawmill area is the reverse of that at Shop Lock. The three shuttered openings shown on Plate 18 provided light and ventilation to the sawpit. Whilst the workshop was situated closer to the canal and in the view provided on Plate 18 the workshop was located behind the large doors to the left. It is possible to imagine a building of the same shape and form but using the 'cat-slide' roof to cover the workshop area as being the building that stood at shop lock. However, the difference in these buildings would have been that at shop lock the 'cat-slide' roof was supported, perhaps wholly, upon a timber frame with only the sawpits outer walls being entirely constructed of stone.

8. Finds

Metalwork

Metalwork was recovered from all areas of the site and was largely comprised of wrought iron artefacts: one steel artefact, several cast iron artefacts and a few copper alloy small finds. Within the workshop area of the building a number of tools were recovered associated with woodworking practices such as an auger bit and chisels. Metal straps of the type used for banding together wooden barrels or buckets were also found. A large percentage of the metal finds was comprised of bolts, nails, washers, staples and screws. The only steel artefact identified was a hexagonal machined bar drilled and tapped at one end, its original purpose is unknown. The cast iron items recovered are all associated with water management on the canal and are parts of a rack and pinion winding system which may still be found in use on the locks of the Brecon and Abergavenny Canal. A selection of the iron work has been illustrated for this report and is given in Appendix 9 below. The metal work finds discovered may be considered consistent with the day to day operation of a canal side workshop.

Ceramic

A substantial quantity of un-stratified surface scattered ceramics and glass were recovered during the excavation of the building and from within the sawpit. Most of the sherds recovered were not diagnostic being badly damaged or too small to be readily identified. The sherds that were identified included jug handles, domestic table wares, largely stonewares with only a few pieces of porcelain present. Several pieces were modern and fell within the 20th Century however, the bulk of the ceramic finds are predominantly from the 19th Century.

CBM

The ceramic building material recovered from the site was comprised of a number of bricks reflecting all makes that were seen on the site; these largely reflect the wares of the brickworks local to the area. (See Plate 15 above) Earthenware pan-tile roofing was also recovered across the workshop area; this roofing material bore no marks of identification but in all probability originated within the locality, samples have been retained for future analysis. (Plate 19)



Plate 19. Samples of Pan tile roofing material.

Glass

Numerous small pieces of window glass were recovered from the surface scatter and within the sawpit, a small representative sample has been retained. Three sherds of glass jugs of differing sizes and attributed to 19th/20th Century were also recovered along with a selection of bottle/vessel bases and fragments of vessel bodies. One such bottle body was heavily ribbed which indicates that it may have held medicine or possibly poison.

Leather

A leather flexible drive coupling, 140 mm diameter and 22mm thick, was found within the workshop area and identified as a type commonly used on motorised drives for canal boats and within the engineering industry on powered tools. Plates 20 & 21.



Plate 20. Flexible leather drive coupling.



Plate 21. Flexible leather drive coupling. Reverse view.

Small finds.

There were eight 'small finds' these were 1 copper nail, 1 copper alloy escutcheon, 1 fragment of clockwork mechanism, 1 sample file of perfume, 1 plastic button, 2 brass buttons and 1 coin. The copper nail was hand made with a flat head and shank of 39 mm in length, such nails were often used on canal boats/barges due to their resistance to corrosion. The escutcheon was formed from a copper alloy 55mm in length and fashioned as a decorative surround to a keyhole. The fragment of clockwork mechanism is comprised of a toothed wheel with 5 spokes and an escapement mechanism at its centre. The sample file of perfume such as that used by 'door to door' sales men was recovered in tact along with its contents. Attributing this find to a known firm of perfume manufacturers may prove difficult. A dark green plastic button with 2 holes for thread was attributed to the 20th Century. A brass button with a iron alloy back plate 25mm in diameter was recovered. The button was embossed on its face side with the letters G.W.R. and on its reverse side is stamped J. Compton and Son. London and maybe attributed to the period between 1850 and 1900. A second copper alloy button 17mm in diameter was recovered from the sawpit this button had four thread holes situated in a concave half dome, this 'dome' was surrounded by raised dots set within parallel lines incised and circular. There appears to be stamped lettering on the reverse which is indistinct. Only 1 coin was recovered from the site this was a half penny from the reign of Elizabeth II and dated 1956 in 'fair' condition.

9. Conclusions.

This report details the results of a programme of archaeological works commissioned by Torfaen County Borough Council. The archaeological programme comprised excavations undertaken at Ty Coch, Shop Lock Cwmbran during June 13, 14 & 15 2013 centred on NGR 329258-193078.

The site was comprised of a canal-side plot of land that contained a building, the nature of which was investigated through the means of an archaeological excavation. The site formed an open area excavation 13 X 12 metres in extent. Within this area a building was apparent measuring 9.420m X 8.800m.

The large building was found to be a sawmill and workshop that had originally been a hand sawpit and was later converted to a mechanical Sawmill. The sawpit is an excellent example of a purpose built industrial sawpit with only one other known example along the entire length of the canal at Llangynidr. The mapping evidence suggests that the building was enlarged between 1902 and 1920 and this is in accord with the archaeology that shows a stub of a wall in the north eastern corner of the site.

A number of metal artefacts were recovered from the floor of the workshop area: a representative sample of which has been illustrated for this report. A considerable amount of un-stratified finds recovered from within the building were comprised of a selection of 19th century ceramics and some modern 20th century sherds; most of

which probably arose from the waste generated from the Lock Keepers cottage situated a few metres to the east and within the same curtilage as the sawmill.

Recovered from the base of the sawpit was a crisp packet dated 1984 providing a *terminus post quem* for the fill of the sawpit, this accords well with the known history of the site which was cleared by a Manpower Service Commission Scheme around that time.

It therefore appears that the building in all probability was built following the excavation of the flight of locks at Ty Coch in order to construct the necessary lock gates along with any other timber produce needed. The building survived throughout the era of the canals takeover by the GWR as evidenced by the single find of a GWR uniform button and the date of the last canal boat to pass through the canal in 1915.

No one apparently remembers the building standing and only one person has come forward who worked with the 'Manpower Services Commission' during the 1980's at this site. They can confirm that the buildings here were demolished around 1984. It is only the archaeological remains that are now able to inform us that this was in fact a prime example of an industrial sawpit and workshop dating from the earliest days of the Monmouthshire Canal Company.

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Appendices

Appendix 1

Levels For Ty Coch Cwmbran (Shop-lock)

TBM 42.576m AOD.

Instrument Height 43.976m AOD

No on Drawing	Staff	AOD	Comments
1	1.155	42.721	
2	1.245	42.731	
3	1.180	42.796	
4	1.400	42.576	B/S to TBM
5	1.315	42.661	
6	1.522	42.454	
7	1.172	42.804	
8	1.172	42.804	
9	1.191	42.785	
10	1.155	42.821	
11	1.183	42.793	
12	1.770	42.206	Level Datum for Trench 1

TBM 42.576

Instrument Height 44.075m AOD

No. on Drawing	Staff	AOD	Comments
13	1.435	42.640	
14	1.347	42.728	
15	1.499	42.576	
16	1.350	42.725	
17	1.645	42.430	
18	1.615	42.460	
19	1.725	42.350	
20	1.990	42.085	
21	1.692	42.380	
22	1.7.5	42.370	
23	1.418	42.657	

Sawpit Levels

TBM 42.576

Instrument Height 44.075m AOD

No. on Drawing	Staff	AOD	Comments
1	2.310	41.765	Shelf 1
2	1.835	42.240	Bottom of Lintel 1
3	3.080	40.995	Clay 1
4	2.355	41.720	Shelf 2
5	1.850	42.225	Bottom of Lintel 2
6	3.105	40.970	Clay 2
7	2.375	41.700	Shelf 3
8	1.860	42.215	Bottom of Lintel 3
9	3.165	40.910	Clay 3
10	2.295	41.780	Shelf 4
11	1.832	42.243	Bottom of Lintel 4
12	3.040	41.035	Clay 4
13	2.980	41.095	Top of pipe drain collar. Int Dia 160mm

Appendix 2

Context Register (Shop Lock Ty Coch)

Trench 1

CONTEXT	DESCRIPTION
(1001)	Stone walling south east corner of larger building. 1.650mm in length and sat in a matrix of lime mortar(1002)
<i>INTERPRETATION</i>	<i>Part of a structure</i>
(1002)	Lime mortar matrix of (1001)
<i>INTERPRETATION</i>	<i>Lime mortar bonding for wall</i>
(1003)	Deposit of light red clay 80-100 mm thick 550mm in extent W-E. underlies (1001) and (1002) overlies (1004)
<i>INTERPRETATION</i>	<i>Re-deposited clays</i>
(1004)	Deposit. 1200 x 290 mm red/brown clay with inclusions of charcoal, coal-ash and lime. Underlies (1001)(1002) &(1003)
<i>INTERPRETATION</i>	<i>Re-deposited clays</i>

Trench 2

CONTEXT	DESCRIPTION
[2001]	Cut . sub-circular approximately 480 mm Diameter
<i>INTERPRETATION</i>	<i>Cut of Post hole (2002)</i>
(2002)	Post hole. Approximately 480mm in diameter, sub-circular.
<i>INTERPRETATION</i>	<i>Post hole</i>
(2003)	Pieces of wood
<i>INTERPRETATION</i>	<i>Insitu post</i>
(2004)	Iron
<i>INTERPRETATION</i>	<i>Nails</i>
(2005)	Brick fragments lying on and embedded within (2010)

<i>INTERPRETATION</i>	Possible demolition rubble
(2006)	Slate fragments lying on and embedded within (2010)
<i>INTERPRETATION</i>	<i>Possible demolition rubble</i>
(2007)	Roof tile fragments lying on and embedded within (2010)
<i>INTERPRETATION</i>	<i>Possible demolition rubble</i>
(2008)	Stone fragments lying on and embedded within (2010)
<i>INTERPRETATION</i>	<i>Rubble</i>
(2009)	Wooden Stake. Rotted at ground level. South west corner of large building
<i>INTERPRETATION</i>	<i>Post</i>
(2010)	Deposit. Reddish brown clay with inclusions of coal ash and clinker
<i>INTERPRETATION</i>	<i>Redeposited material seen to underlie the whole of the excavation site.</i>

Building

CONTEXT	DESCRIPTION
(3001)	Southern wall of building. Comprised of coursed stone bonded with a lime mortar matrix 9.64m in length and 460mm thick. Faced on both sides.
<i>INTERPRETATION</i>	<i>Wall/ part of a larger structure</i>
(3002)	Stone structure aligned W-E measuring externally 7.4m x 2,2m and internal dimensions of 6.44m x 1.28m. Bonded with a lime mortar matrix. Faced on both sides.
<i>INTERPRETATION</i>	<i>Structure</i>
(3003)	Deposit. Fill of structure surrounded by (3002) (removed by excavator) comprised of re-deposited rubble containing metalwork, CBM, plastics, ceramics, glass, soil and stone.
<i>INTERPRETATION</i>	<i>Rubble</i>
(3004)	Structure. Western wall 4.12 m in length x 460mm wide north section of this wall destroyed

<i>INTERPRETATION</i>	<i>Wall/ part of a larger structure.</i>
(3005)	Two timber beams labelled A and B abutting the western edge of (3002) Timber A125mm x 100 x 600mm and B125mm x100 x 800mm overlying (3028)
<i>INTERPRETATION</i>	<i>Wooden joists</i>
(3006)	Structure. South eastern wall 4.16 m in length x 460mm and aligned N-S
<i>INTERPRETATION</i>	<i>Wall/ part of a larger structure.</i>
(3007)	Structure. Eastern wall of the building 4.76 m x 460mm comprised of stone within a lime mortar matrix. Partially destroyed at its northern extremity
<i>INTERPRETATION</i>	<i>Wall/ part of a larger structure.</i>
(3008)	Structure. Northern wall 1.5m from canal. Stone and brick with lime mortar bonding 9.52 metres x 340mm width. Partially destroyed at its north western extremity.
<i>INTERPRETATION</i>	<i>Wall/ part of a larger structure.</i>
(3009)	Structure. Stone wall running W-E 8.44 m in length with lime mortar bonding. Faced only on its south side.
<i>INTERPRETATION</i>	<i>Internal wall / part of a larger structure.</i>
(3010)	Structure. Single course of bricks 2.4m in extent a continuation of (3009)
<i>INTERPRETATION</i>	<i>Internal wall / part of a larger structure. Possibly forming a threshold.</i>
(3011)	Structure. Post socket labelled PS8.180mm X180mm set in (3010) towards its western extremity.
<i>INTERPRETATION</i>	<i>Post socket and possible door post.</i>
(3012)	Structure. Post socket labelled PS7.140mm X180mm set in (3010) towards its eastern extremity.
<i>INTERPRETATION</i>	<i>Post socket and possible door post.</i>
(3013)	Structure. Post socket labelled PS6. 140mm X200mm set in wall (3009) towards its western extremity.
<i>INTERPRETATION</i>	<i>Post socket for possible roof/wall support.</i>

(3014)	Structure. Post socket labelled PS5. 160mm X 160mm set in wall (3009) at its mid-point.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3015)	Structure. Post socket labelled PS4. 140mm X 220mm set in wall (3009)
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3016)	Structure. Post socket labelled PS1. 220mm X 200mm set between walls (3006) & (3007) Eastern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3017)	Structure. Post socket labelled PS2. 100mm X 260mm set in (3007) Eastern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3018)	Structure. Post socket labelled PS3. 130mm X 260mm set in (3007) Eastern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3019)	Structure. Post socket labelled PS9. 120mm X 120mm set in (3008) Northern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3020)	Structure. Post socket labelled PS10. 120mm X 140mm set in (3008) Northern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3021)	Structure. Post socket labelled PS11. 160mm X ?mm set in (3008) Northern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3022)	Structure. Post socket labelled PS12. 160mm X 160mm set in (3008) Northern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>
(3023)	Structure. Post socket labelled PS13. 100mm X 200mm set in (3008) Northern exterior wall of building.
INTERPRETATION	<i>Post socket for possible roof/wall support.</i>

(3024)	Structure. Post socket labelled PS14. 100mm X 160mm set in (3008) Northern exterior wall of building extreme west.
<i>INTERPRETATION</i>	<i>Post socket for possible roof/wall support.</i>
(3025)	Structure. Section of masonry wall overlying (3027) 260mm x 620mm aligned W-E. Survives as a single course bonded with lime mortar.
<i>INTERPRETATION</i>	<i>Remains of stone wall</i>
(3026)	Deposit. Oily deposit sub circular in shape 900mm in diameter and 55mm deep
<i>INTERPRETATION</i>	<i>Contamination of floor (3027)</i>
(3027)	Deposit. Surface, re-deposited rubble containing coal ash, coal, brick, roof tile, (pan) and sundry discarded iron artefacts.
<i>INTERPRETATION</i>	<i>Earth/clay floor.</i>
(3028)	Deposit. Surface, re-deposited coal ash, and boiler/hearth clinker. Overlies (1004) and abuts (3002) on all sides.
<i>INTERPRETATION</i>	<i>Red ash and clinker floor.</i>
(3029)	8 metal bolts 22mm in diameter, 4 retain their nuts (22mm X 38mm square.
<i>INTERPRETATION</i>	<i>Retaining bolts</i>
(3030)	Wooden post labelled Post 1 120mm in diameter situated inside the N W corner of the building.
<i>INTERPRETATION</i>	<i>Post purpose unknown.</i>

Context for interior of Sawpit

CONTEXT	DESCRIPTION
(4001)	Recess Labelled 1 North wall 475mm X 480 mm X 300mm
<i>INTERPRETATION</i>	<i>Alcove</i>
(4002)	Recess Labelled 2 North wall 504mm X 500mm X 300mm
<i>INTERPRETATION</i>	<i>Alcove</i>
(4003)	Recess Labelled 3 South wall 515mm X 500mm X 300mm

<i>INTERPRETATION</i>	<i>Alcove</i>
(4004)	Recess Labelled 4 South wall 463mm X 490mm X 280mm
<i>INTERPRETATION</i>	<i>Alcove</i>
(4005)	Salt glazed earth wear pipe 160mm diameter in south eastern corner of the structure resting on natural
<i>INTERPRETATION</i>	<i>Drain</i>
(4006)	Access slots in stone walls of sawpit. 8 in number.
<i>INTERPRETATION</i>	<i>Access for bolts (3029)</i>
(4007)	Weep holes in stone walls of sawpit. 7 in number. 3 in south and north walls and 1 in west wall.
<i>INTERPRETATION</i>	<i>Ground drainage for sawpit walls.</i>
(4008)	Natural. Reddish brown marls containing small sub-angular and rounded frequent stone.
<i>INTERPRETATION</i>	<i>Natural geology.</i>

Appendix 3.

Metal finds list

Quantities	Tools
3	Chisels 320 x25 mm sq1
1	Door lock (deadlock cover plate)
1	Drill bit
1	File
1	Hoe
1	Pintle hinge (Broken)
1	Punch
2	Rakes (weed)
5	Round washers (Various sizes)
1	Scythe
1	Shovel
1	Sluice gearing winders
2	Spanner
1	Square washer 9 cms sq 25 mm hole
1	Winding gear

Quantities	Assorted Metal Items
19	Bolts 22 cms x 18 mm
3	Bolts 275 mm x 15 mm
5	Bolts 30 cms x 20 mm
1	Hexagonal bar 285 x 20 mm. Machined steel bar. Drilled and tapped
1	Hinge Pin
1	Horse shoe
2	Iron bands
10	Iron staples
3	Iron straps (Large)
2	Iron wedges
42	Iron nails (Handmade various)
1	Pig iron
3	Square nails (Handmade Illustrated)
1	Tether
1	Wooden screw (Handmade)
1	Brass button embossed GWR
1	Copper alloy 4 hole button
1	Copper coin dated 1956
1	Copper alloy lock escutcheon
1	Copper alloy hand crafted flat headed nail
1	Copper alloy partial clockwork movement toothed, spoked 42mm dia.

Appendix 4.

Finds Index.

Context	Fabric and Form	Code	Date	Sherds	Weight
1001 / 001 Tr1	'Mocha' slipware. Cup or Tea Pot body. Staffordshire	Mod	19 th C	1	
Surface scatter	Cup Handle. Blue glazed	Mod	20 th C	1	
Surface scatter	Stoneware. Blue & white hand painted bowl rim.	Mod	Late 18 th –19 th C	2	
Surface scatter	Stoneware. Jug handle blue glazed.	Mod	19 th C	1	
Surface scatter	Stoneware. Blue & white teacup rim. Transfer pattern printed.	Mod	19 th C	1	
Surface scatter	Stoneware. Tin-glazed flagon.	Mod	19 th C	1 large	
Surface scatter	Stoneware. Blue & white floral pattern possibly Spode. Meat dish.	Mod	19 th C	1 large	
Surface scatter	Stoneware. Storage jar.	Mod	19 th C	1	
Surface scatter	Stoneware. Fluted flagon. Marked and incised Newca.... A	Mod	19 th C	1	
Surface scatter	Stoneware. Sherd pedestal of bowl white tin glazed	Mod	19 th C	1	
Surface scatter	Stoneware. Sherd rim possible jug yellow glazed.	Mod	19 th C	1	
Surface scatter	Stoneware. Sherd foot of basin or small bowl white tin glazed	Mod	19 th C	1	
Surface scatter	Stoneware tin glazed inkwell 40mm diameter 53mm high.	Mod	19 th C	1	
Surface scatter	Stoneware Tin-glazed base. Possible bowl.	Mod	19 th -20 th C	1 large	
Surface scatter	Stoneware. Glazed two tone container. Stub of handle.	Mod	19 th -20 th C	1	
Surface scatter	Stoneware / pearlware. white glaze. foot of cup.	Mod	19 th /20 th C	2	
Surface scatter	Stoneware Sherd of plate. Green transfer printed geometric design with possible fleur de lis	Mod	19 th /20 th C	1	

Surface scatter	Stoneware. Sherd of bowl rim geometric design. Brown on white background.	Mod	19 th /20 th C	1	
Surface scatter	Stoneware. Yellow glazed cup body, with handle stub.	Mod	20 th C	10	
Surface scatter	Earthenware rim. Large vessel glazed on inner face. Probable bowl.	Mod	19 th C	1	
Surface scatter	Blue & white. Transfer printed wares inc Willow pattern and floral.	Mod	19 th C	10	
Surface scatter	Porcelain. Sherd blue and white pattern transfer printed flowblue	Mod	19 th C	1	
Surface scatter	White porcelain 4 sherds	Mod	19 th /20 th C	4	
Surface scatter	Porcelain. Brown transfer printed oriental pattern tea cup	Mod	19 th /20 th C	1	
Surface scatter	Glass bottle neck. Hand blown rolled top.	Mod	Late 18 th /19 th C	1	
Surface scatter	Window / picture glass	Mod	19 th C	4	
Surface scatter	Ribbed Glass, possible medicine bottle or poison container.	Mod	19 th C	1	
Surface scatter	Glass. Base of bottle stamped W15 –M/3BM.	Mod	19 th – 20 th C	1	
Surface scatter	Glass bottle base marked D1 16. Rectangular. Moulded	Mod	19 th / 20 th C	1	
Surface scatter	Glass bottle base. mould blown mkd C S & Co	Mod	19 th / 20 th C	1	
Surface scatter	Glass. Sherd, bottle base marked P 131 ?	Mod	19 th / 20 th C	1	
Surface scatter	Glass 3 rims of jugs	Mod	19 th /20 th C	3	
Surface scatter	Glass phial, sample containing perfume.	Mod	20 th C	1	
Surface scatter	Bone. 2 rib fragments possibly horse			2	
Surface scatter	Bone 1 fragment sheep or lamb			1	
Surface scatter	Wood stopper or tree nail 21mm diameter 28mm in length possible timber framing			1	

	peg.				
Surface scatter	Copper alloy. Lock escutcheon 55mm in length 17mm in width.	Mod	19 th C	1	
Surface scatter	Copper alloy. Handmade flat headed copper nail 39mm in length, head 10mm diameter.	Mod	19 th C	1	
Surface scatter	Copper alloy part of clockwork movement toothed with 5 spokes 42mm diameter	Mod	19 th /20 th C	1	
Surface scatter	Copper Alloy. Button embossed front with 4 hole piercing, traces of enamelling.	Mod	19 th / 20 th C	1	
Surface scatter	Brass button embossed relief G.W.R. on face stamped on rear face J. Compton and Son London.	Mod	19 th C	1	
Surface scatter	Plastic button 2 centre holes 19mm diameter	Mod	20 th C	1	
Surface scatter	Coin. Copper half penny. Elizabeth II dated 1956.	Mod	20 th C	1	
Surface scatter	Clay pipe stems includes one fragmentary mouth piece	Mod	19 th C	10	
Surface scatter	Clay pipe, partial bowl with handshake design, possibly Oddfellows or friendship pipe	Mod	19 th C	1	
Surface scatter	Clay pipe bowl partial, oak leaves along mould line, fluted design on body of bowl	Mod	19 th C	2	
Surface scatter	Clay pipe, complete bowl with spur, unmarked.	Mod	Mid 19 th C	1	
Fill of Sawpit	'Mocha' slipware. Mug base. probably Staffordshire.	Mod	19 th C	1	
Fill of Sawpit	Stoneware jar, transfer printed and marked Holloways.	Mod	19 th C	1	
Fill of Sawpit	Stoneware. Relief moulded buff outer with flower pattern, Blur glazed inner, possible jug or vase.	Mod	19 th C	1	
Fill of Sawpit	Stoneware. Blue & white Transfer printed rim of plate.	Mod	19 th C	1	
Fill of Sawpit	Stoneware. Blue and white. White sprigging applied as	Mod	19 th C	1	

	relief, possible Spode or Copeland.				
Fill of Sawpit	Stoneware. Container ribbed body possibly Marmalade / jam jar.	Mod	19 th / 20 th C	1	
Fill of Sawpit	Stoneware. Transfer printed Green on white background. 'Fern' pattern. Saucer.	Mod	19 th / 20 th C	1	
Fill of Sawpit	Stoneware. Patterned in ruled oblongs of Black, Brown and Beige on a white background. Possible cup or bowl.	Mod	20 th C	2	
Fill of Sawpit	Porcelain. Rim of plate. Tin glazed, plain.	Mod	19 th / 20 th C	2	
Fill of Sawpit	Glass jar. 45mm dia 39mm high, Mkd made in England. Shiphams paste type.	Mod	19 th / 20 th C	1	
Fill of Sawpit	Glass Bottle base. Green glass, Mkd- P&R B. probable wine bottle.	Mod	19 th / 20 th C	1	
Fill of Sawpit	Glass Bottle. Brown glass, base Mkd –R. crown closure.	Mod	20 th C	1	
Fill of Sawpit	St Michael brand crisp packet	Mod	20 th C (1984)	1	

Appendix 5.

Photographic Log.

Frame	View	Notes	Taken by	Date
1	Facing east.	Site prior to commencement of excavation.	RB	12/06/13
2	Facing west.	Site prior to commencement of excavation.	RB	12/06/13
3	Facing west	Exposure of subsoil showing marls with ash and clinker inclusions to west of building.	RB	13/06/13
4	Looking north	Trench 1 showing surviving depth of masonry and underlying soils.	RB	14/06/13
5	Looking east	General view of Trench 2 showing post hole and debris scatter	RB	14/06/13
6	Vertical view	Detail of post hole extreme south west of Trench 2.	RB	14/06/13
7	View East	Showing remains of doorway, timbers and sawpit.	RB	14/06/13
8	Looking west	View of eastern wall of building showing post socket (3016) and sawpit.	RB	16/06/13
9	Vertical view	Showing Oily deposit / ground contamination. (3026).	RB	16/06/13
10	Facing East	Sawpit following removal of fill.	NT	14/06/13
11	Looking west.	Sawpit following cleaning	RB	14/06/13
12	Facing north	Detail of south wall of sawpit showing lighting alcove and shelf.	RB	16/06/13
13	Facing south	Drain South Eastern corner of sawpit	RB	16/06/13
14	Facing west	Remains of the brick pier.	RB	16/06/13
15	Vertical view	Selection of Bricks recovered from Ty Coch.	NT	14/06/13
16	Facing north	Showing recesses in Sawpit for lamps.	RB	14/06/13
17	General view	The sawmill and workshop at Llangynidr locks prior to restoration.	SW	28/10/13
18	General View	The sawmill and workshop at Llangynidr locks following restoration.	SW	28/10/13

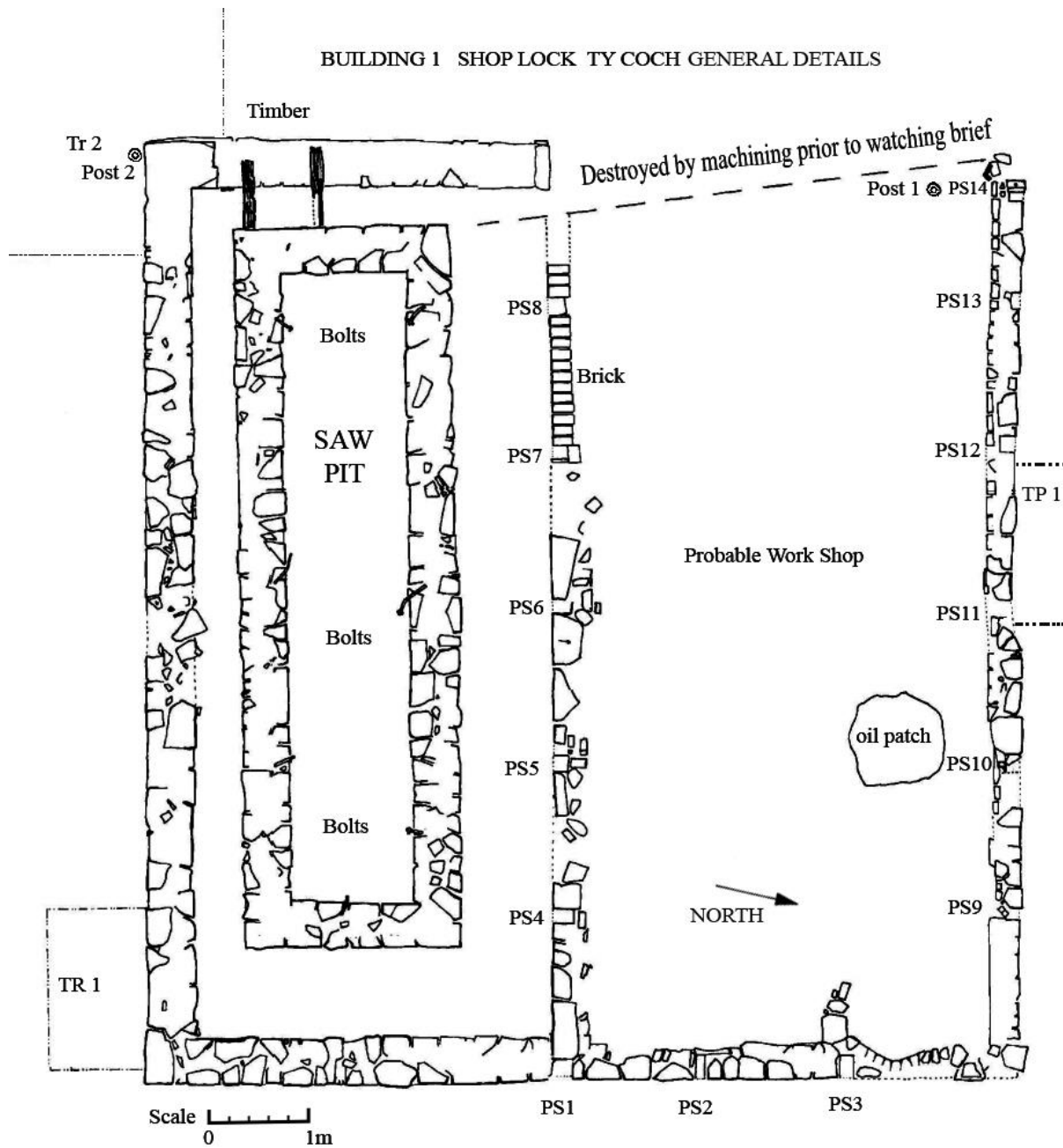
19	Vertical view	Samples of Pan tile roofing material.	RB	01/11/13
20	Vertical view	Flexible leather drive coupling.	RB	01/11/13
21	Vertical view	Flexible leather drive coupling. Reverse view.	RB	01/11/13

Appendix 6. Drawing Register

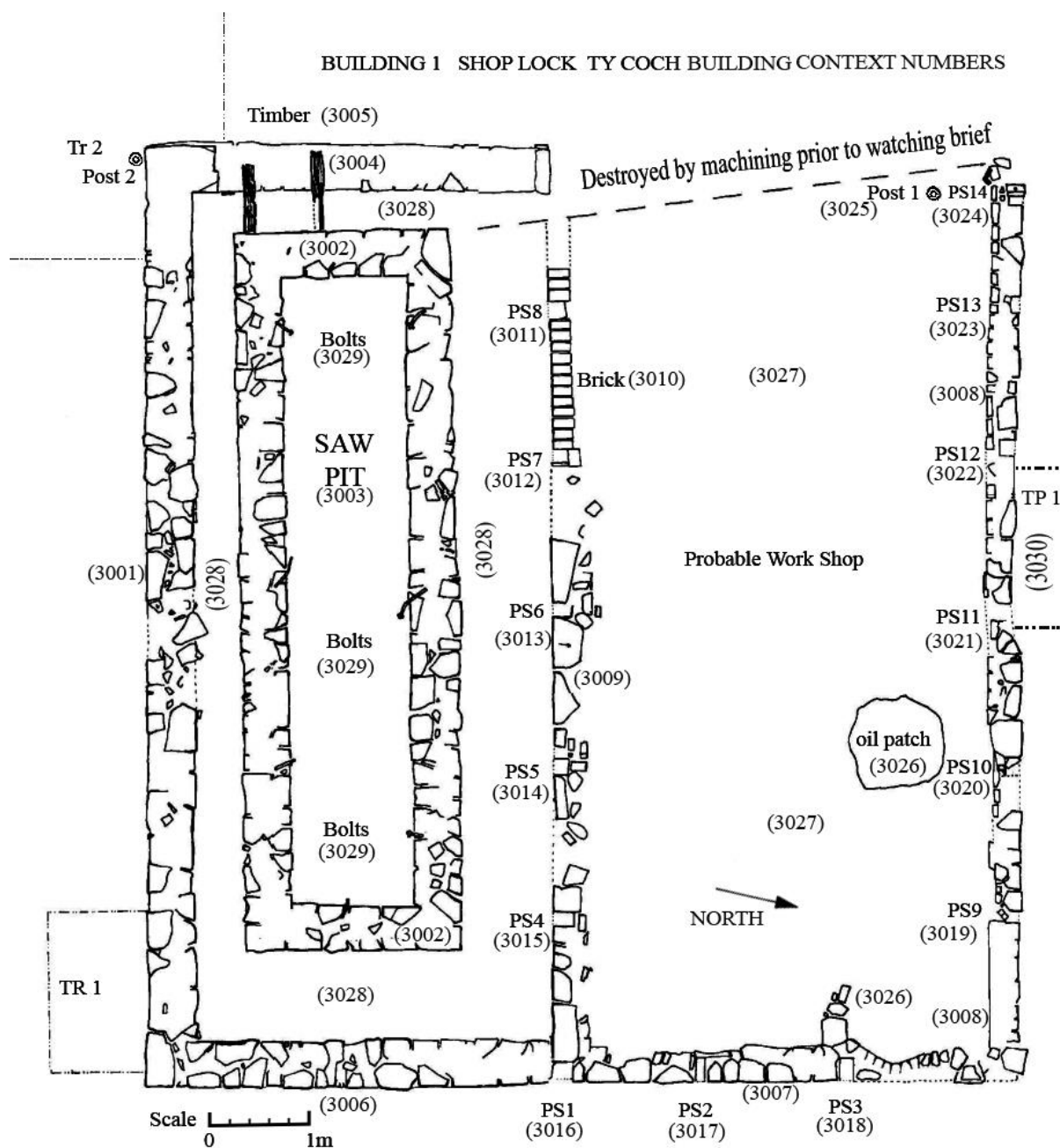
Drawing No	Description	Date	Drawn by	Comments
0001: scale 1:10	Section. Trench 1. Walling SE corner of larger building. Facing south.	14/06/2013	SW & Ralph	Drawing shows depth of remains and stratigraphy.
0002: scale 1:20	Plan. Trench 2. South west corner of site.	14/06/2013	GP; MP& Ralph	Drawing shows detail of surface scatter and posts.
0003. Scale 1:20	Section of North face of Sawpit walling.	24/06/2013	RGGB	Drawing illustrates bolts, alcoves, weep holes & levels.
0004. Scale 1:20	Plan. Entire building.	24/06/2013	RGGB	General plan of site including trench locations.
0004a. Scale 1:20	Plan . Entire building.	24/06/2013	RGGB	General plan of site including context numbers.
0004B. Scale 1:20	Plan. Entire building.	24/06/2013	RGGB	General plan of site showing level point.

Appendix 7

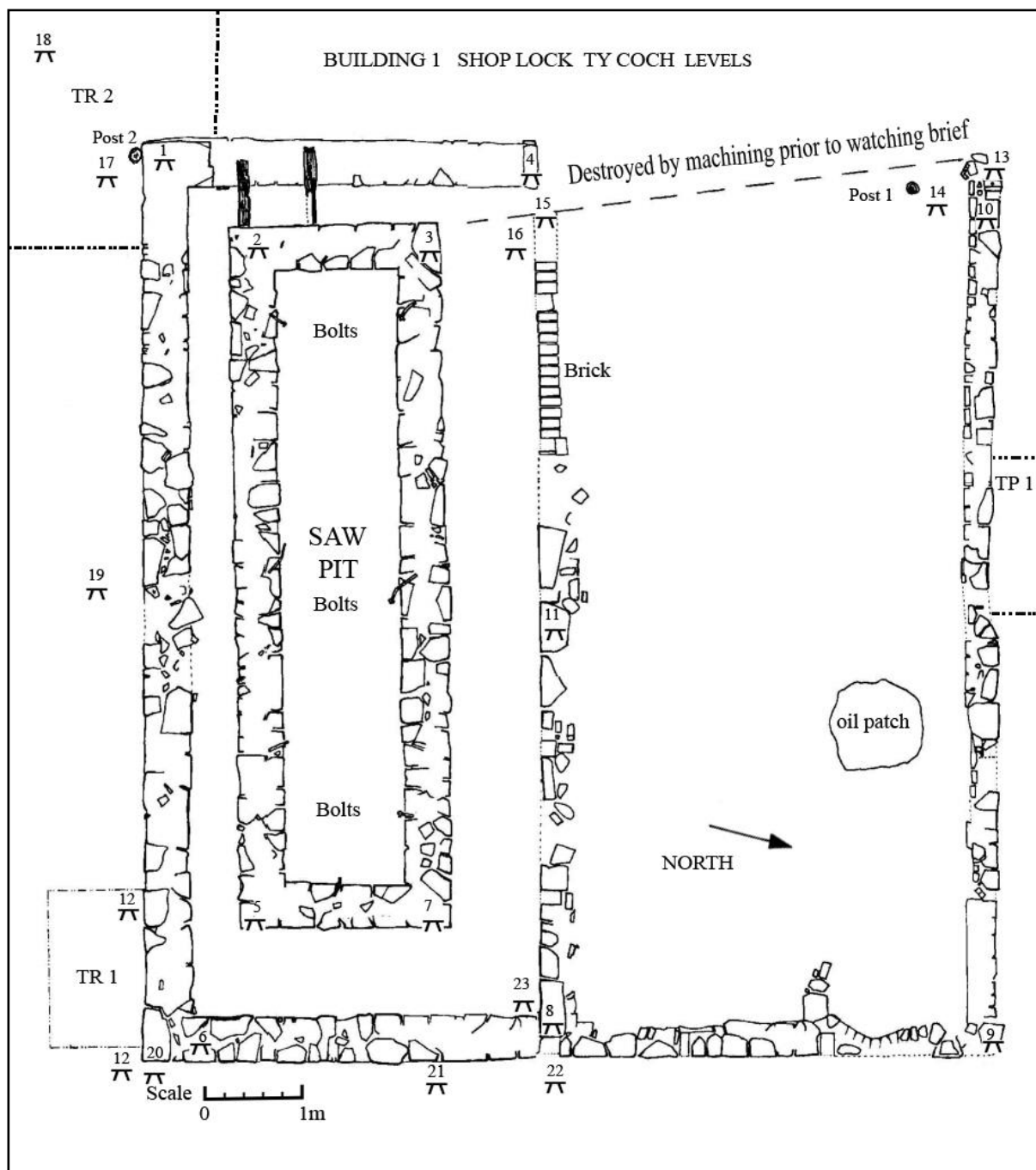
Drawings



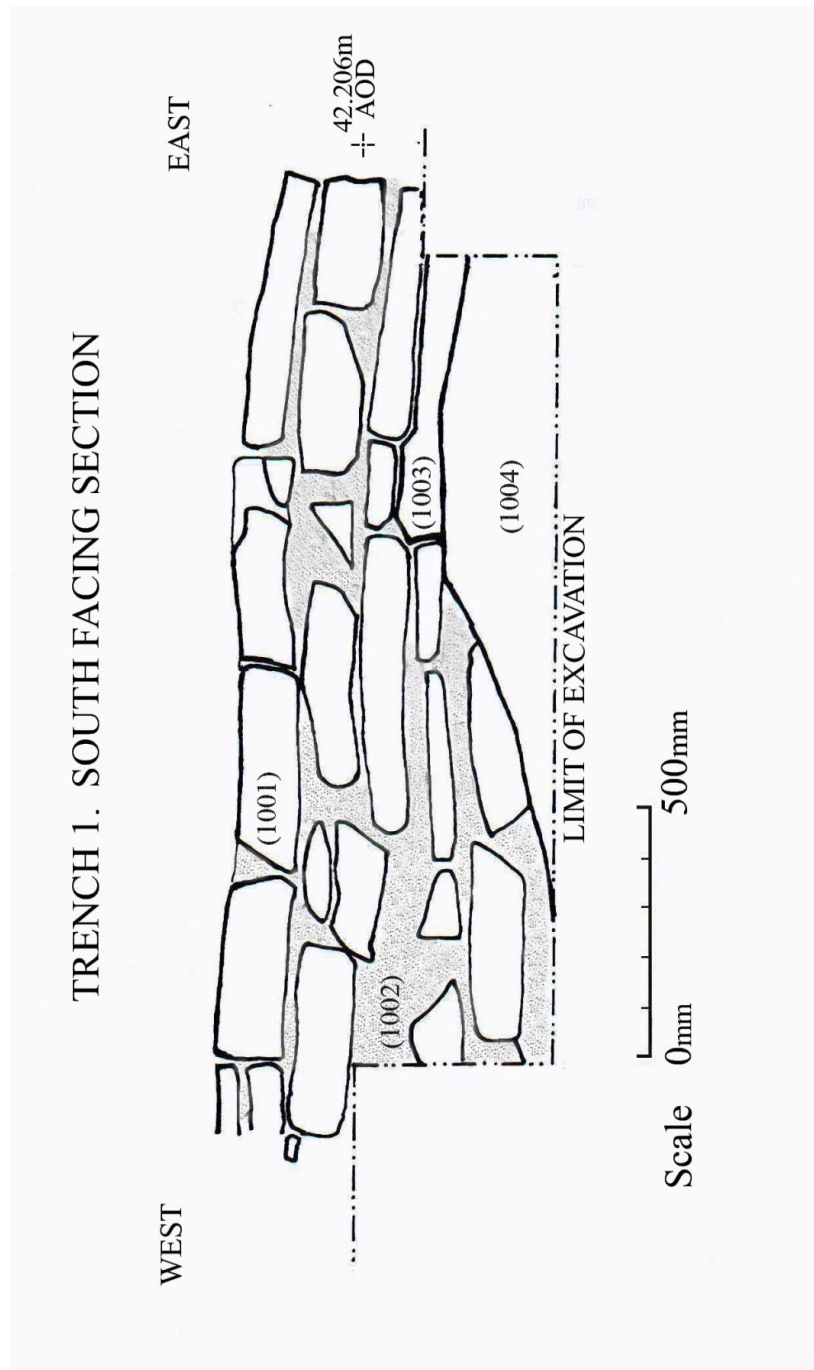
Drawing 4. Scale 1:20. Showing position of posts and general details.



Drawing 4a. Scale 1:20. Showing context numbers.

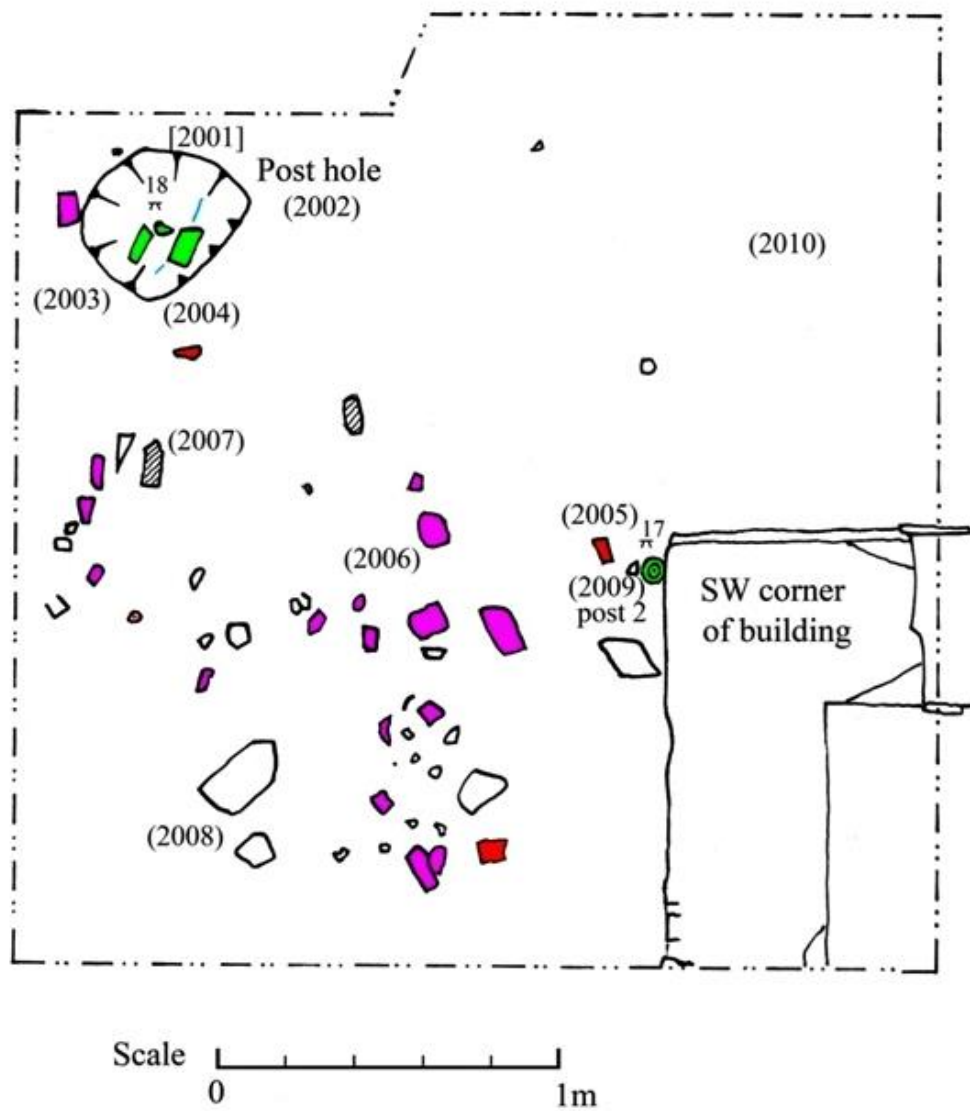


Drawing 4b. Scale 1:20. Building Ty Coch Shop Lock. Showing Level points.

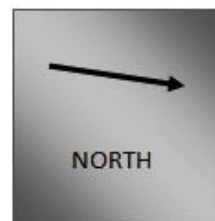


Drawing 1. Scale 1:10. South facing section of Trench 1.

TRENCH 2. SHOP LOCK TY COCH

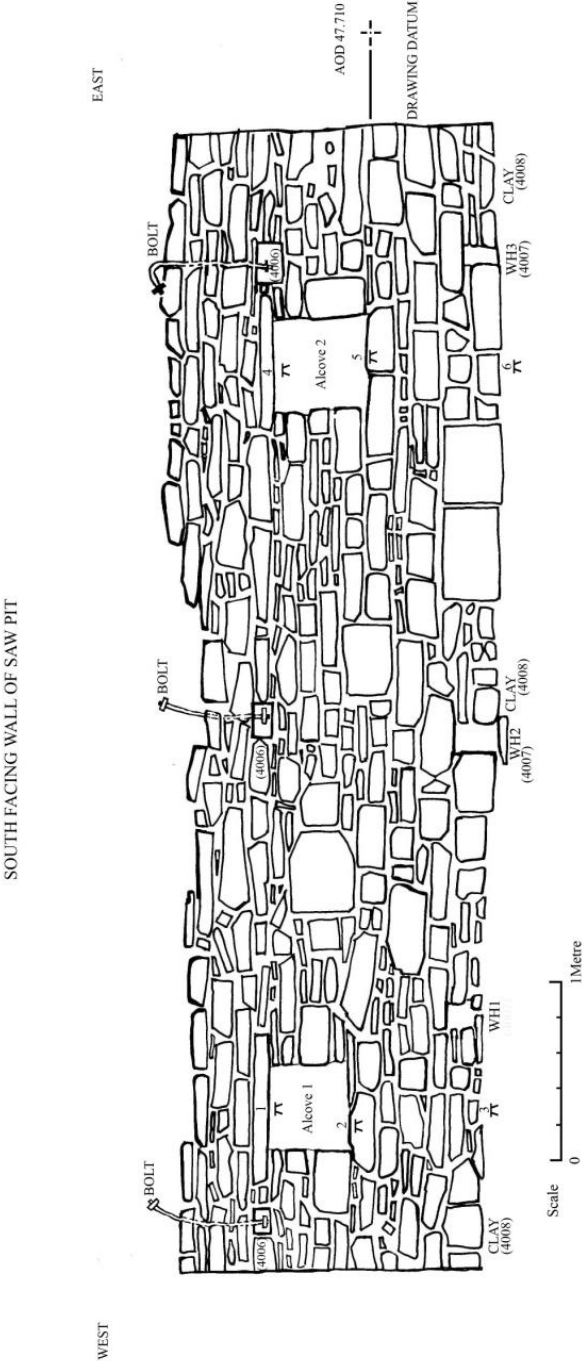


KEY TO DRAWING	
WOOD	
NAILS	
TILE	
BRICK	
SLATE	
STONE	
Limit of recording	
LEVELS	



Drawing 2. Scale 1:20. Plan view Trench 2 with details.

Drawing 3, Scale 1:20. South facing wall of Sawpit with details



Appendix 8

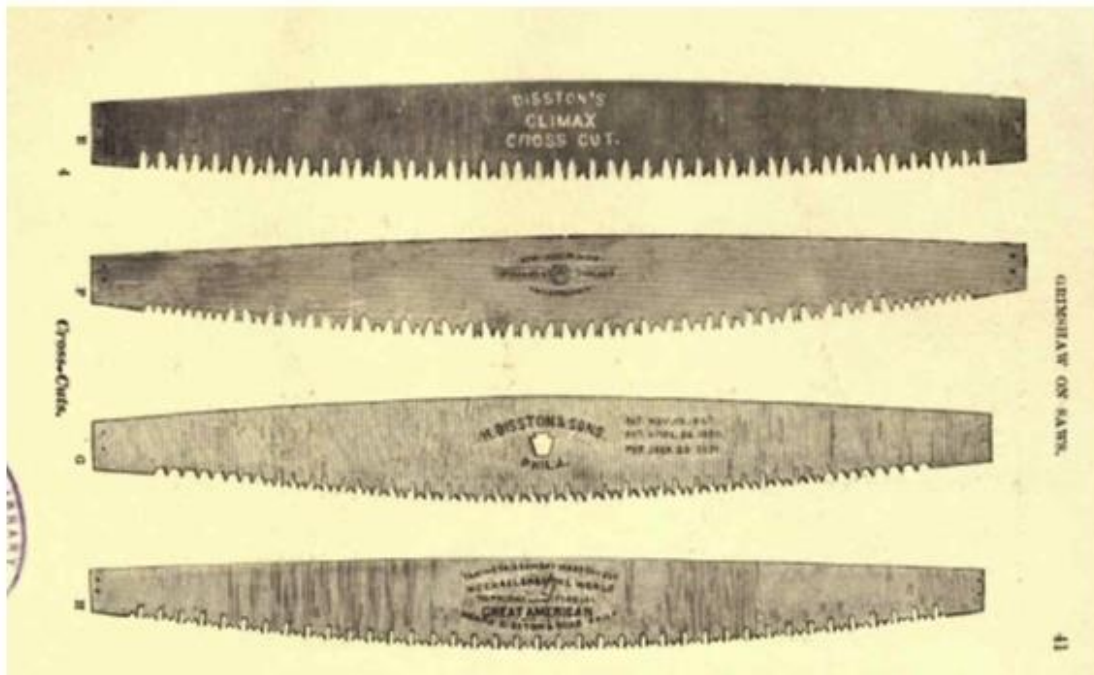


Fig 7. Top Grimshaw, R. 1880. Saws. Philadelphia: Claxton, Remsen & Haffelfinger; [etc., etc.], p.41 Bottom Left .

http://www.brunyislandferrytimetable.com/gum_sawpit.jpg Bottom Right

http://www.brunyislandferrytimetable.com/convict_sawpit.jpg

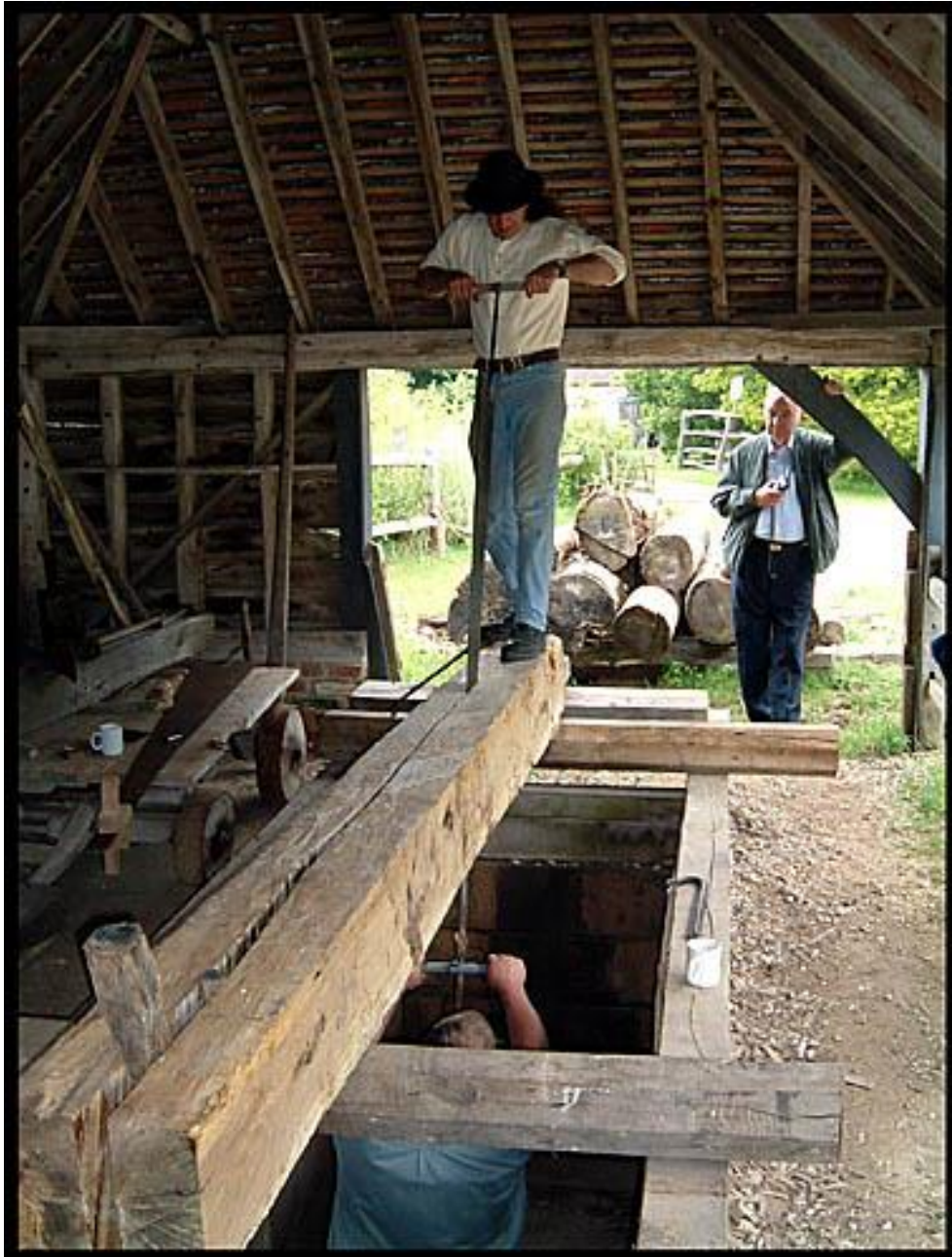
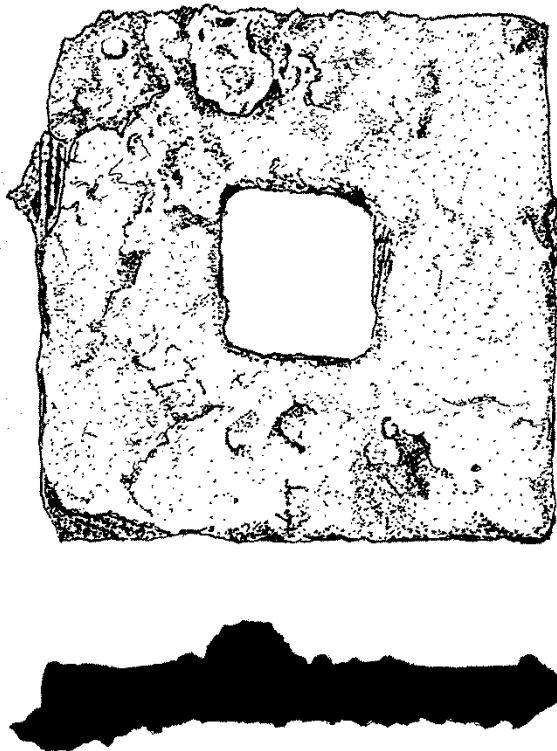


Plate 22. A modern sawpit

<http://www.khaosproductions.com/2003/sussex2/DSCF0397.html>

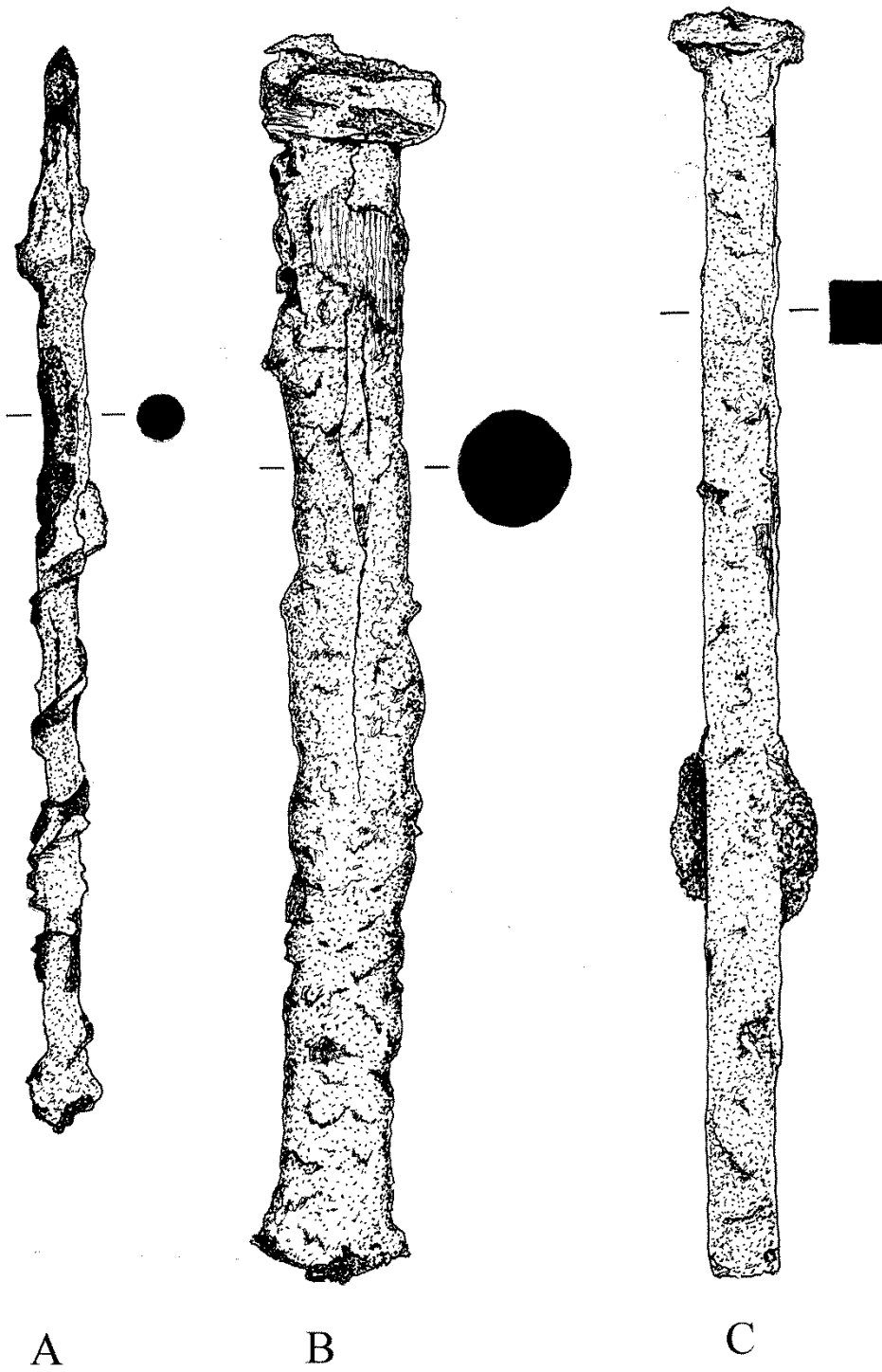
Appendix 9.

Illustrations of selected Ferric metalwork.



Square, hand forged washer in wrought iron. 70mm X 8mm. Hole 20mm X 22mm.

Scale: Full Size. 1:1

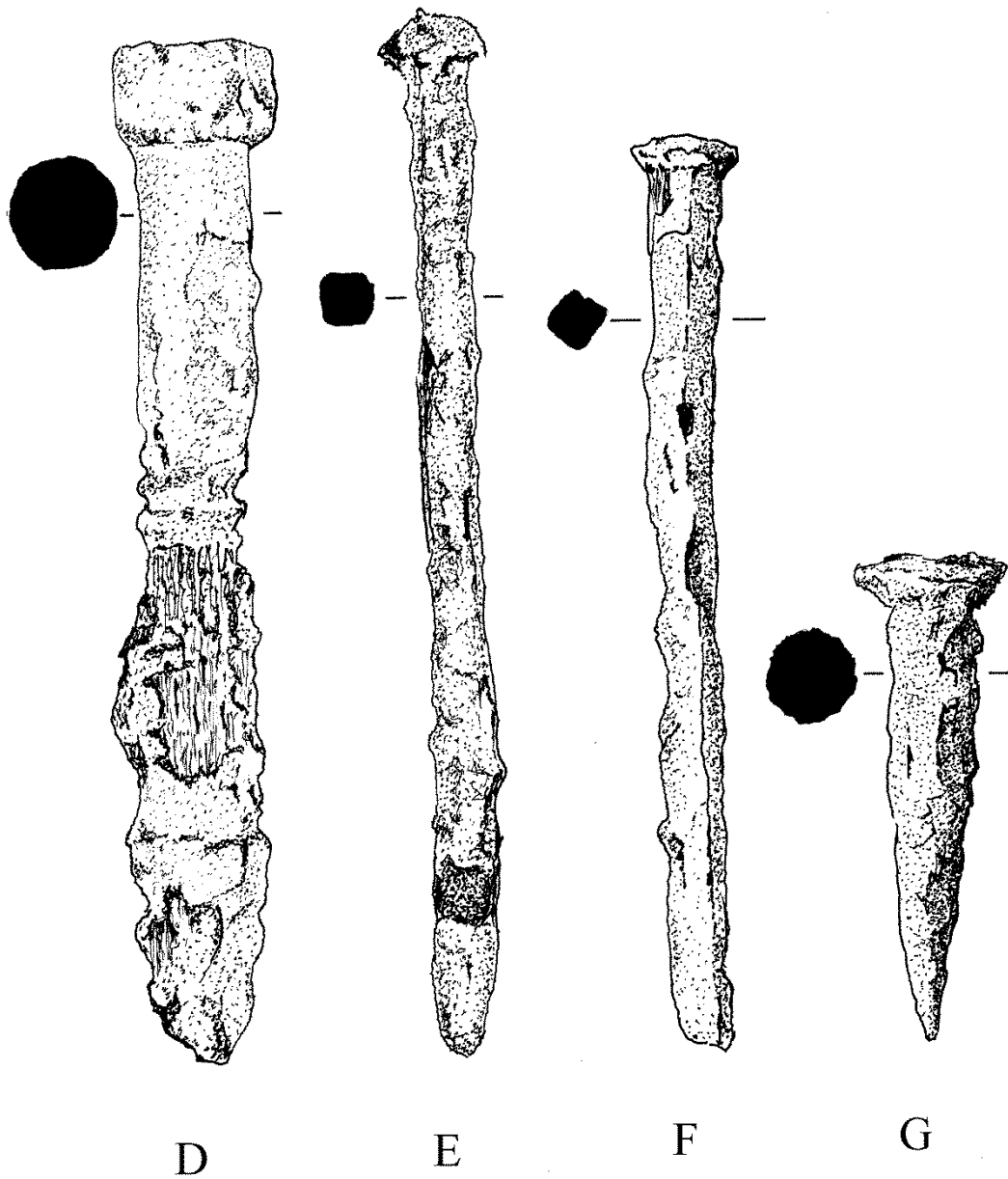


A. Auger – Woodworking bit.

B. Chisel. 16mm.

C. Chisel. 10mm

Scale Full Size. 1:1



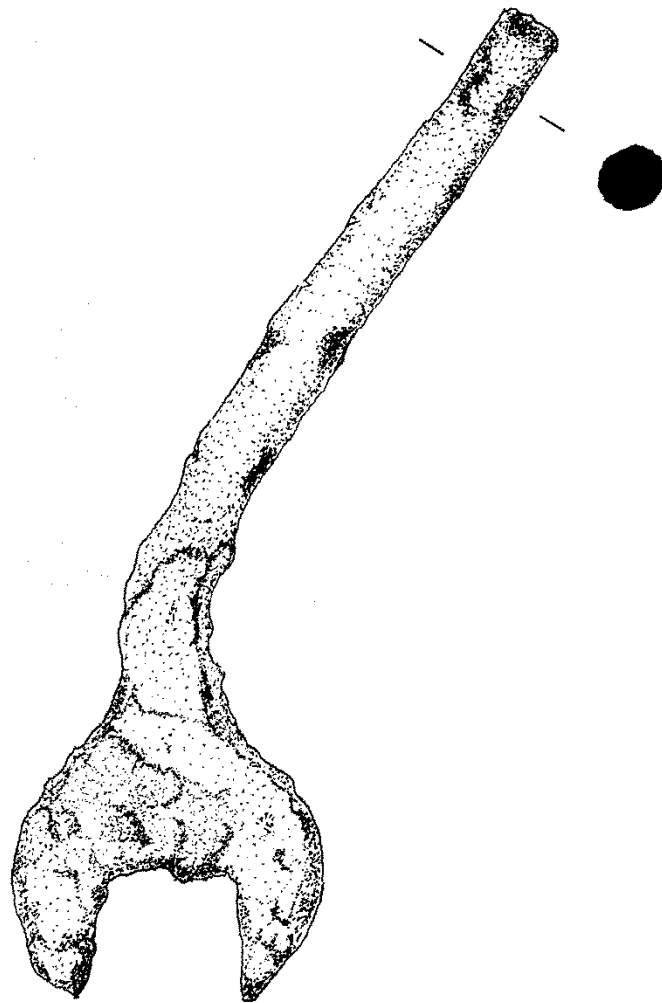
D. Hand made square headed bolt 15mm diameter.

E. Hand made large square shanked nail.

F. Hand made square sectioned nail.

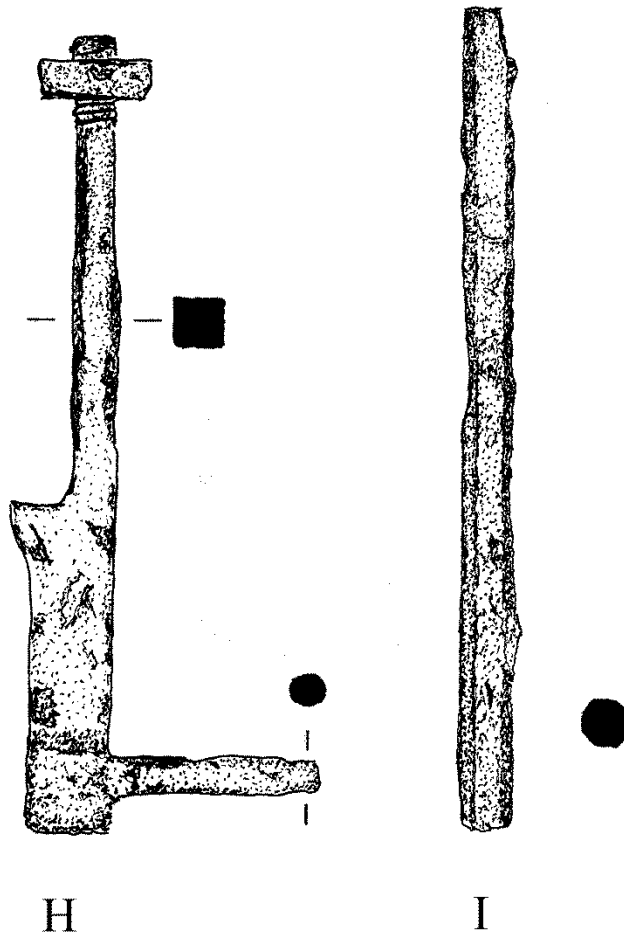
G. Short hand made nail

Scale Full Size. 1:1



Cranked Spanner.

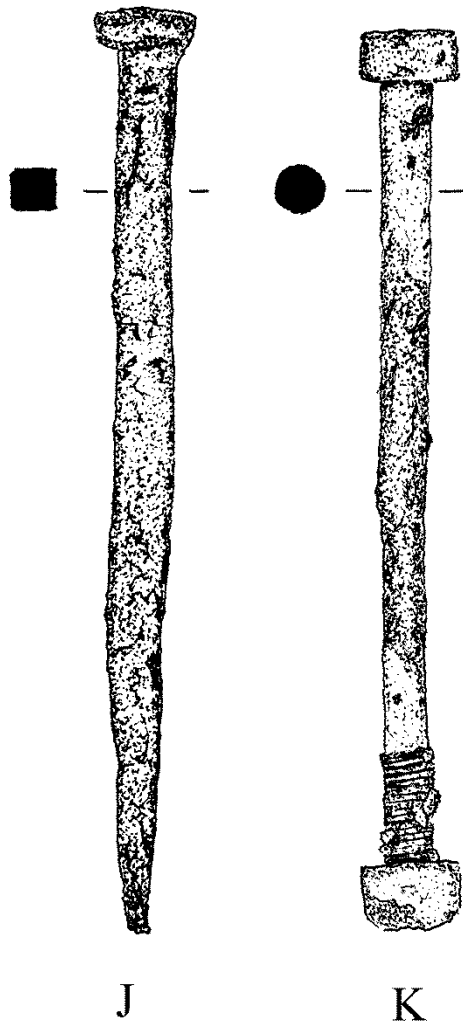
Scale Full Size. 1:1



H. Wrought iron hinge with nut.

I. Steel hexagonal machine part drilled one end.

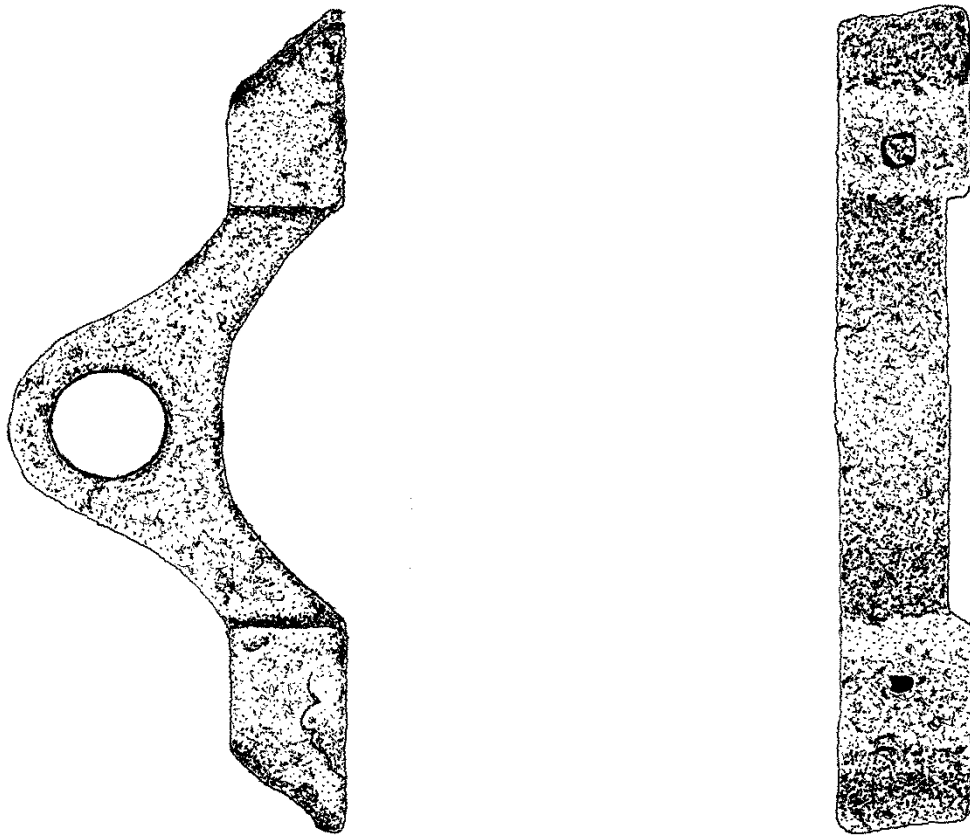
Scale: Half size 1.2



J. Forged square sectioned wrought iron spike.

K. Forged round sectioned wrought iron nut and bolt.

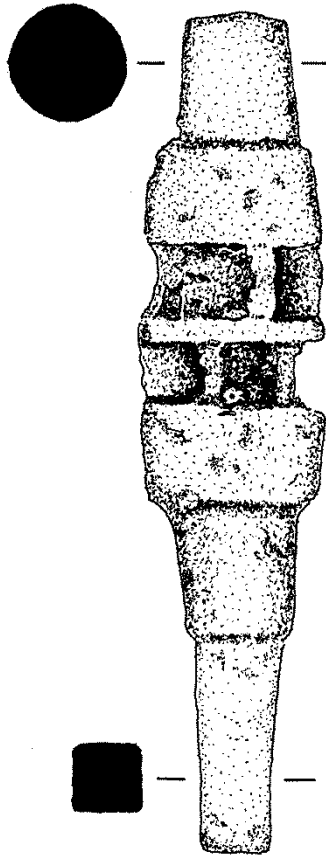
Scale: Half size. 1:2



Cast iron Pinion mounting bracket from rack and pinion paddle gear. End elevation (left)

Bottom elevation (right).

Scale: Half size. 1:2



Cast iron Pinion from rack and pinion paddle gear. Fits into support shown above.

Scale: half size 1:2

Appendix 10

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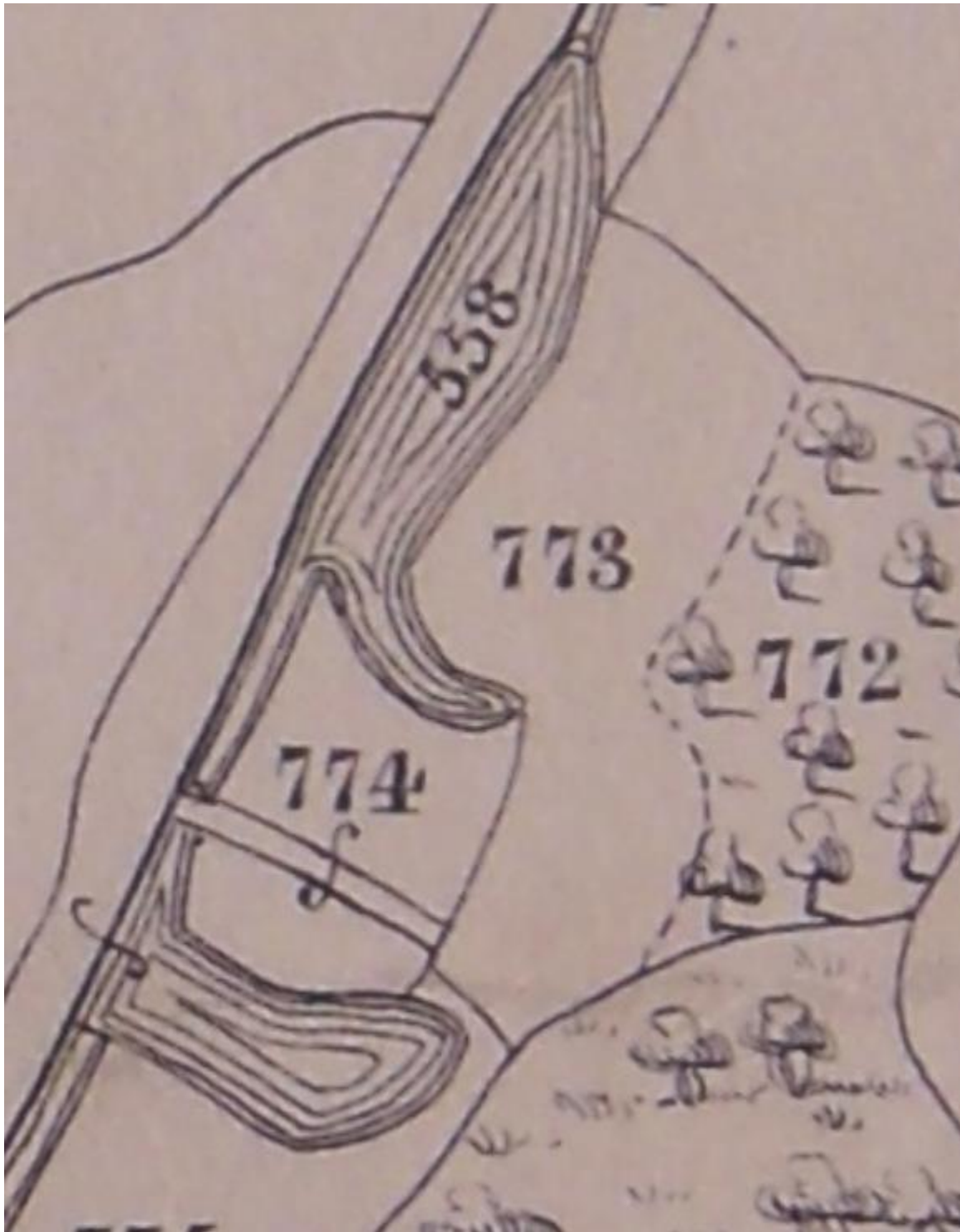
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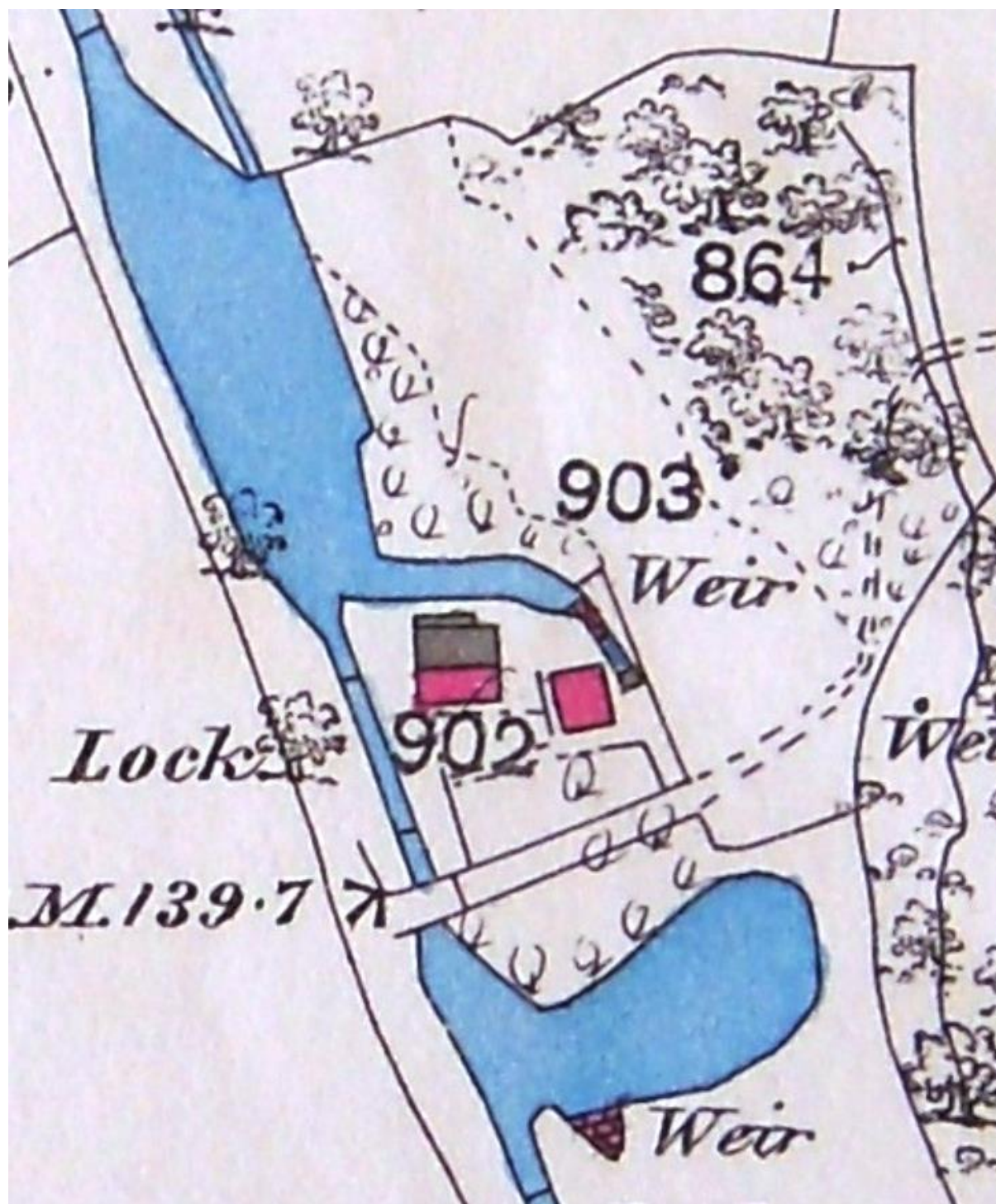
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Cartography



Tithe map showing towpath. Dated 1846. Note no structures are depicted within field 774 although the tithe apportionment lists a cottage and Garden. There is little doubt that the Saw mill also existed.



Extracted from the 1882 O.S. 1:2500 map showing Ty Coch, Shop lock; sawmill and cottage in field 902.