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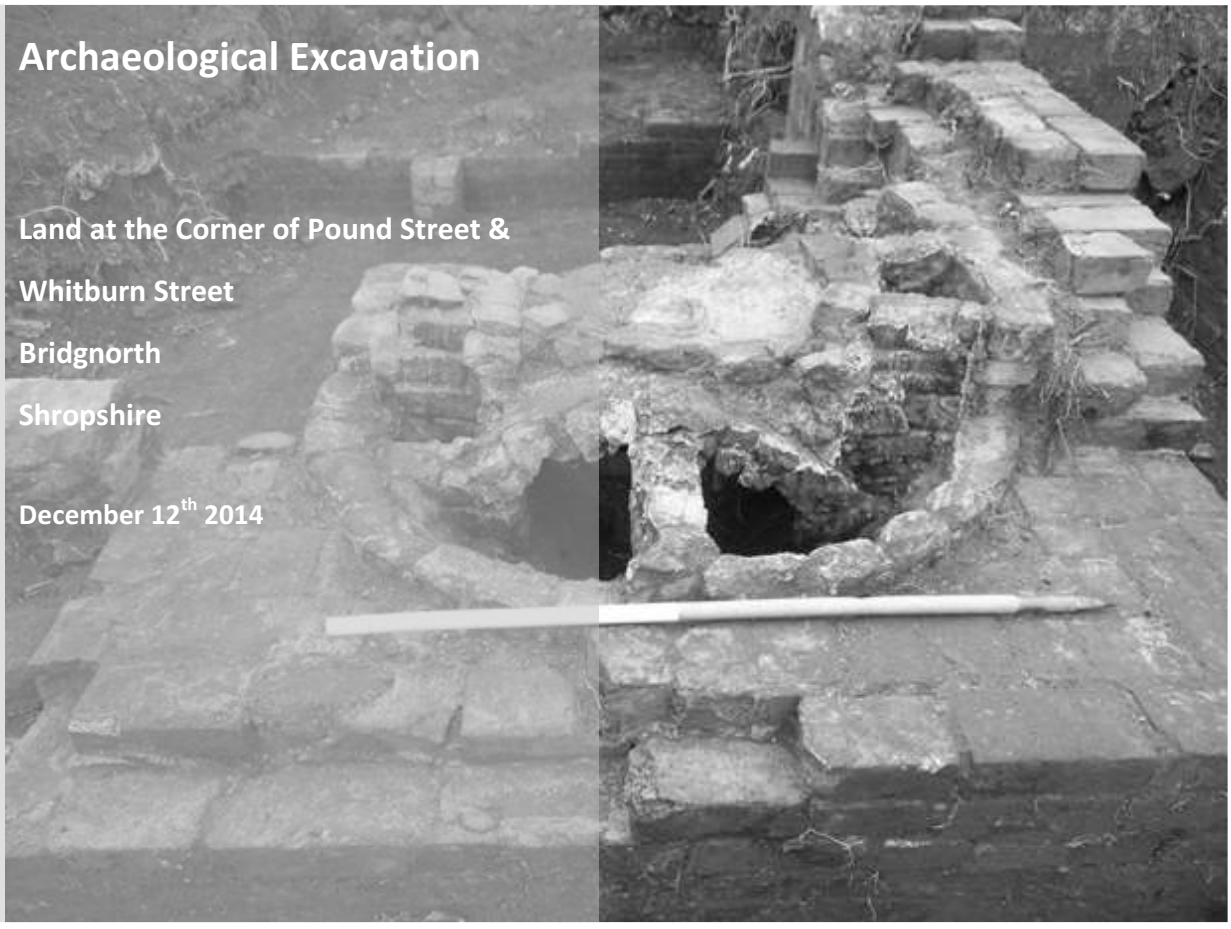

Land at the Corner of Pound Street &

Whitburn Street

Bridgnorth

Shropshire

December 12th 2014

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unearth the past....resolve the future

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Cover: The clay pipe kiln, following excavation

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Contents:

1 Executive summary

Border Archaeology conducted a programme of archaeological excavation between March 24th and April 4th 2014 on land situated at the corner of Pound Street and Whitburn Street in Bridgnorth Shropshire prior to the construction of nine dwellings.

Work followed a desk-based assessment and archaeological field evaluation undertaken in 2002 (Border Archaeology 2002a & 2002b), with further evaluation taking place in 2007.

The clay tobacco pipe kiln identified during the 2007 evaluation was excavated, together with further structures representing the SE corner of the factory complex.

The kiln base that was found during this work is regarded as being of national importance:

- *It is the most complete kiln base ever excavated*
- *It includes construction techniques unparalleled on any other known site*
- *It includes fragments of sagger (which contains the pottery to protect it from direct contact with the flame during firing) or kiln furniture of a form that has not been previously recorded and that are of unknown function*
- *The construction technique used for the muffle (the inner chamber inside the firing chamber) is extremely unusual*

A quantity of kiln debris was recovered, including fragments of the kiln's muffle chamber and clay-pipe 'wasters' (deformed or otherwise defective ceramic items discarded at manufacture), with the pipe wasters revealing that at least 27 different designs of clay pipe were manufactured on the site.

However, despite the clearance of an irregularly-shaped area measuring some 18m in length and a maximum of 12m wide, no evidence was found for any of the processes associated with pipe manufacture, apart from the kiln itself and the E wall of the factory. This is probably a result of alteration for the later use of the building as a watch factory, the realignment of Pound Street and the subsequent clearance of the site in the 21st century.

Whilst the majority of finds and features related to the clay-pipe factory and were of later post-medieval date, two post-medieval features were thought to predate the establishment of the factory and a short length of possible stone culvert was also found. The feature contained later 13th -or 14th -century pottery, which suggests deposits and features of this date may survive in the locality, possibly relating to tenement plots that appear to have been established in the vicinity of Pound Street in the 13th –century.

A decision was subsequently made to preserve the structure of the kiln itself beneath the development and a further site visit was thus undertaken on May 9th 2014 to observe factory wall (040) and stone wall (006) being lowered. The kiln was then covered with sand and protected by concrete beams.

2 Introduction

Border Archaeology (BA) was commissioned by Andrew Hilton Esq of Urban Synthesis UK Birmingham to undertake a programme of archaeological excavation of land at the corner of Whitburn Street and Pound Lane in Bridgnorth Shropshire (*fig. 1*). The programme of work followed two previous evaluation excavations carried out by BA in 2002 and 2007, which encountered remains of the former pipe manufactory established by Thomas Parsons Southorn Jr. in about 1822, which continued to be run by his family until its closure *c*. 1886. Work on site took place between March 24th and April 4th 2014.

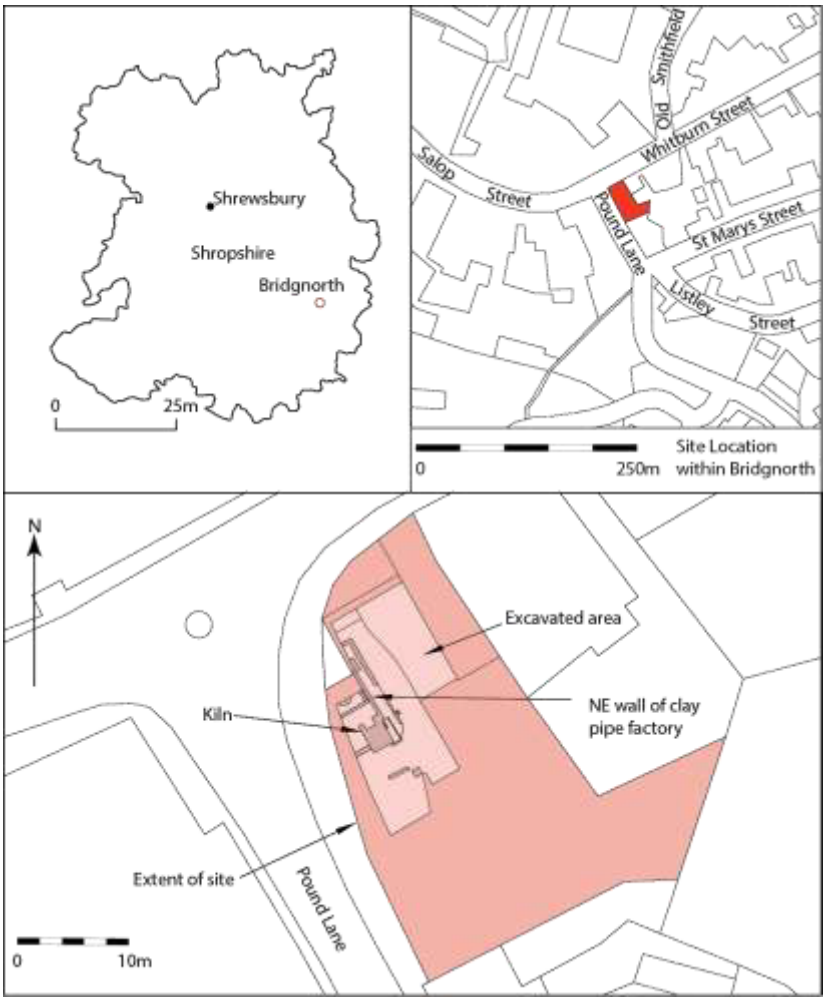

Fig. 1: Site location

2.1 Soils & geology

The site lies on the E side of the junction of Pound Street and Whitburn Street in Bridgnorth and at a height of some 64m OD, sloping steeply down to the W (*fig. 1*).

Due to the site's location within an urban centre, the Soil Survey of England and Wales (1983) has not assigned a soil association description. However, neighbouring soils comprise stagnogleyic argillic brown earths of the HODNET series (572c) and cambic stagnogleys of the BARDSEY series (713a). The former are described as reddish fine and coarse loamy soil with slowly permeable subsoil and slight seasonal waterlogging with similar well-drained, reddish fine loamy soils with a slight risk of water erosion. These soils overlie Permo-Triassic and Carboniferous reddish mudstone, siltstone and sandstone. The BARDSEY soils consist of a slowly permeable seasonally waterlogged loam which overlies clayey and finer silty soils. The geology is composed of Carboniferous mudstone with inter-bedded sandstone (SSEW 1983).

3 Historical & archaeological background

The site lies within the parish of 'Little Brug' (also referred to as 'Brugg') but outside the influence of the castle and early medieval settlement (located within the outer bailey) (Buteux 1996). A series of burgage plots appear to have been set out fronting onto Whitburn Street, Listley Street, Pound Street, St Mary's Street and Salop Street at some point prior to the construction of the early 13th -century town defences (Buteux 1996, 9). The area is noted as the site of the tobacco pipe factory founded and operated for much of the 19th century by the Southorn family.

Although directly outside the Medieval Urban Form, there are nonetheless a number of medieval sites which appear to suggest that 'Little Brug' was an important component in the growth of the medieval town.

The 'half-moon battery' lies some 50m E of the site in a yard to the rear of No. 16 Pound Street. The structure was formerly attached to the town defences - the course of which is reflected in the alignment of Listley Street - and its remains comprise roughly coursed red sandstone masonry surviving in places to a height of 4m. Urban settlement activity probably existed alongside this section of the wall during the late medieval period when the defences fell into disrepair.

Sections of town wall associated with a 13th -century semi-hexagonal section of a half-moon battery (PRN 00127) (NGR SO 7137 9309) survive as masonry remains to the rear of No. 93 Cartway (PRN 00374). The wall is shown to be in a fragmentary condition on 17th -century mapping. Also associated with the town walls are the sites of Listley Gate (SA 376) and Whitburn Gate (SA 380, PRN 00380). The Listley Gate stood at the junction of Listley Street and Pound Street, immediately S of the half-moon battery, whilst the Whitburn Gate occupied a site between Nos. 34-5 and 52 Whitburn Street. The gate remained intact until 1761 and prior to this had been a dwelling.

Survival of medieval and later post-medieval tenement plots within the vicinity of the site is good. The HER lists tenement plots in Listley Street (PRN 05643 & 06053), Pound Street (PRN 05682 & 06052), St Mary's Street (PRN 05643), Salop Street (PRN 05681, 06040, 06041 & 06042) and Whitburn Street (PRN 05642 & 05644). These streets form the parish of 'Little Brugg' and it is likely that the area around the site contained tenement plots dating from the 13th century. An identical layout is repeated after 1600 with new build occupying existing plots

(PRN 05681).These tenements may have pre-urban origins based upon the relationship of St Leonard's churchyard to the layout of the medieval town (Buteux 1996, 7). No medieval buildings evidently survive within this area but there are a number of 16th -century Listed Buildings.

A substantial number of sites dating from the post-medieval period (after 1600) are recorded within the vicinity of the site, including 11 Grade II Listed Buildings. Industrial activity is reflected in the presence of a timber yard in Whitburn Street (PRN 06027) and the Southorn tobacco clay pipe factory (PRN 06028).

Southorn's tobacco clay pipe factory (PRN 06028) was established by Thomas Parsons Southorn Jr. (1771-1845) who appears to have been active during the period 1822/3-1845, having evidently learnt his trade in his native Broseley, where both his mother and stepfather may have had links with pipe-making. He founded a dynasty that ran the Bridgnorth works for over 60 years and is credited with establishing the influence of Broseley pipe-making in the town.

Both the manufactory and adjacent timber yard are marked at the corner of Pound Street and Whitburn Street on the 1884 Ordnance Survey 2500 Map, but the factory is no longer identified as such by the time of the 1902-3 OS, though the timber yard is still shown. By the 1960s, the footprint of the building had altered, with the NE part of the building gone. The W part of the building was apparently demolished during realignment of the road.

Previous archaeological work on the site included a desk-based assessment (BA 2002a) and subsequent archaeological evaluation (BA 2002b), comprising three trenches, which revealed pits underlying the modern ground surface and foundation deposits. A variety of 19th -20th -century manufacturing debris was sampled and recorded, including ash and building debris, slag, saggars, clay-pipe muffle and clay-pipe fragments. A series of re-deposited soils were dated to the 19th century. An E/W alignment of stones discovered in Trench 1 was considered to constitute the remains of a 19th -century boundary wall.

The evaluation revealed no evidence of medieval activity. The recovered assemblage contained a small quantity of late post-medieval pottery and a substantial 19th -and 20th –century clay-pipe assemblage containing a large number of well-preserved clay-pipe bowls and stems.

BA subsequently carried out further evaluation in July 2007 and an Interim Report (BA 2007) provided a summary of results. The evaluation revealed no record of medieval occupation but significant evidence of clay-pipe manufacture, including the remains of a kiln base and indications of workshop/storage buildings, together with a considerable amount of waste pipe material.

The kiln base (307) and an associated brick floor-surface (308) were exposed in Trench 3, together with the remains of a brick wall (309) abutting this structure, which was orientated N-S and measured >1.3m N-S × 0.25m E-W × > 0.3m. This section of wall and the kiln appeared to align precisely with the position of the factory buildings, as indicated on Wood's map of 1835. A further section of wall (409) was identified in Trench 4 and this was interpreted as representing the rebuilding of a boundary wall shown on the 1835 map, which appears to have been realigned at some point during the late 19th -or early 20th century.

4 Methodology

The programme of archaeological work was carried out in accordance with *Standard and Guidance for an archaeological watching brief* (IfA 2008, updated November 22nd 2013), *Standard and guidance for archaeological excavation* (IfA 2008, updated November 22nd 2013) and with EH *MoRPHE* guidance (EH 2009). Border Archaeology adheres to the IfA *Code of conduct* (2013, updated March 20th 2014) and *Code of approved practice for the regulation of contractual arrangements in archaeology* (2008, updated March 20th 2014).

Initial Archaeological Observation was carried out during removal of topsoil and demolition debris associated with the proposed development within the footprint of the former tobacco clay-pipe works. All such activity was under the direction of BA. Following removal of the topsoil and demolition debris and initial cleaning of the surface, all significant archaeological features were subject to full archaeological excavation.

Manual excavation proceeded in a manner consistent with achieving full characterisation of all structures, features and deposits constituting the archaeological sequence thus revealed and with the aim of securing preservation by record of the archaeological deposits.

Full written, graphic and photographic records were made in accordance with Border Archaeology's *Archaeological Field Recording Manual* (2014). Separate written descriptions of each context were compiled using numbered context recording sheets.

A drawn record was produced on gridded, archive-stable polyester film at scales of 1:20 or 1:10, as appropriate. An overall site plan was produced at a scale of 1:100. Representative measured sections were prepared showing the sequence and depths of deposits. A temporary benchmark (TBM) was established on the site relative to a known spot-height value of 63.4mOD located at the junction of Pound St and Whitburn Street and level information was incorporated into all plans, elevations and sections. Drawings were numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A photographic record was made using a high-resolution digital camera comprising photographs of archaeological features and appropriate groups of features and structures. A scale was included in each photograph and all such records were indexed and cross-referenced to written site records. Details concerning subject and direction of view were maintained in a photographic register, indexed by frame number.

Finds from very recent deposits were sampled or were dated but not retained. However, archaeological objects, artefacts and industrial waste were recovered and related to the contexts from which they derived; these were exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with accepted guidelines.

The site yielded evidence of process residues, including waste materials. Material was retained from each spatially and chronologically distinct deposit to ensure that any chronological or spatial changes in the use of the site could be investigated. All artefacts were bagged and labelled with the site code and context number before being removed off-site.

The area examined during the excavation was limited to that occupied by, and in the immediate vicinity of the clay tobacco pipe kiln, with the further constraint that it was not possible to exceed the engineering depth across the site, this being agreed with Shropshire County Council for understandably pragmatic reasons. Fig. 3 clearly shows that a considerable portion of the Southorn clay tobacco pipe factory was lost during realignment at the N end of Pound Street.

Samples of clay pipe were taken only from securely stratified deposits. In the event, it was apparent that a number of dumped deposits containing wasters from the kiln had been substantially disturbed during recent levelling. The majority of this disturbance appeared to have occurred during the 20th century but more recent disturbance had taken place following the demolition of the last standing wall of the factory in 2013

A decision was subsequently made to preserve the structure of the kiln itself beneath the development and a further site visit was thus undertaken on May 9th 2014 to observe factory wall (040) and stone wall (006) being lowered. The kiln was then covered with sand and protected by concrete beams.

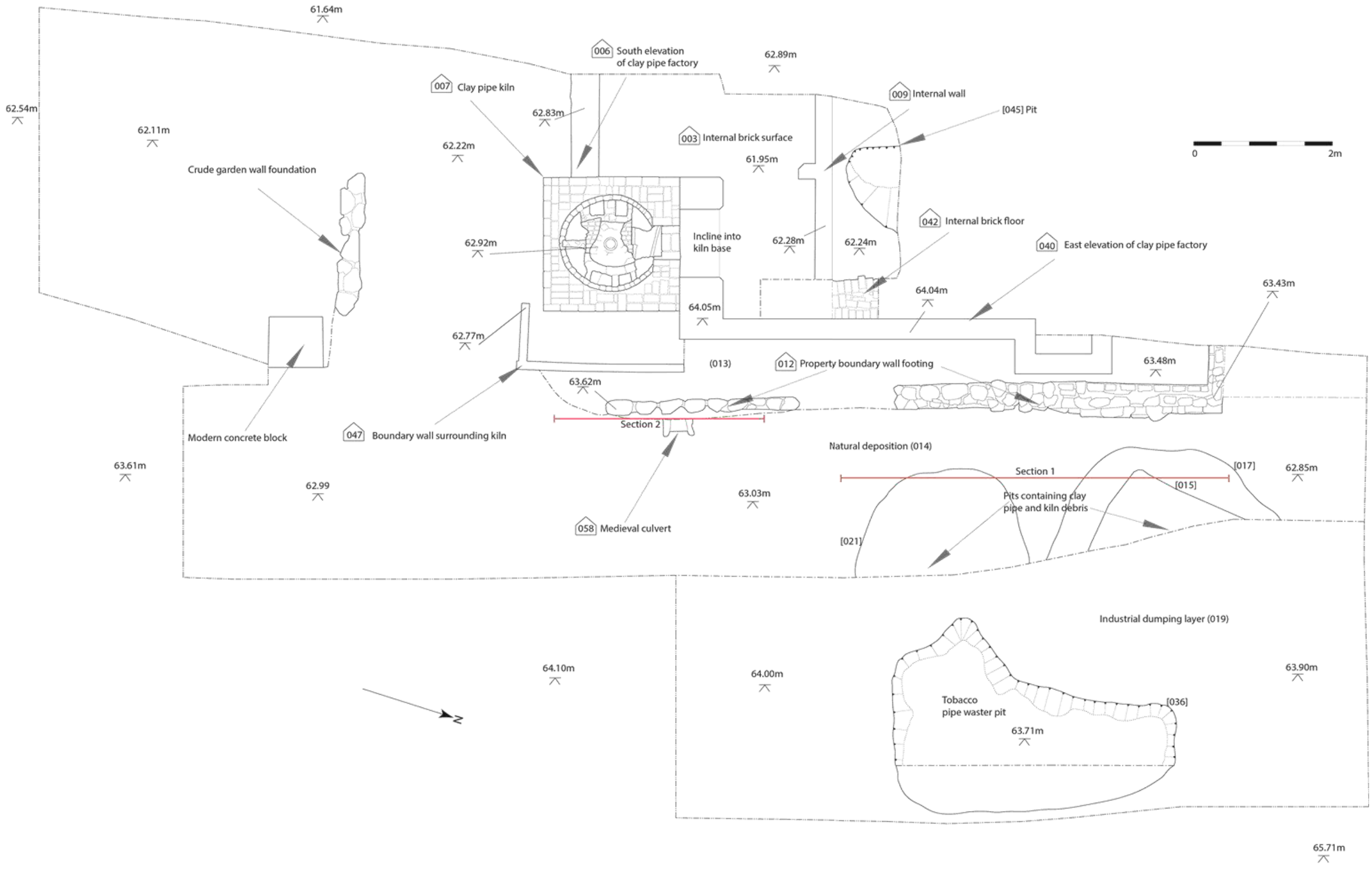

Fig. 2: Site plan

5 Results

Item	Context No.	Matrix Phase	Type	Interpretation	Discussion	Finds					Comments
						Small Find	Pot	Bone	Misc.	Sample No.	
1	(001)	5	Deposit	Rubble/topsoil site wide	Loose mixed dark greyish-brown rubble; frequent stone, brick, mortar & clay pipe fragments; up to 1.6m deep site wide	-	-	-	-	-	-
2	(002)	5	Structure	Rough wall Footing	Masonry; aligned SW/NE large roughly shaped un-bonded sandstone. Measured 1.80m × 0.70m × 0.40m.	-	-	-	-	-	-
3	(003)	3	Structure	Brick floor of coal store/kiln	Masonry; brick; laid end to end; slopes down into flue	-	-	-	-	-	-
4	(004)	3	Structure	Brick extension of earlier structure	Masonry; brick - corner bricks bevelled, lime mortar bonding; 4 courses; measures 0.11m × 0.09m × 0.24m	-	-	-	-	-	Same phase as (010) to E
5	(005)	3	Structure	Main body of kiln	Masonry; brick (size of materials: 240mm × 110m × 90mm), lime mortar bonding; measured 2.0m × 2.0m × 1.0m;	-	-	-	-	-	-
6	(006)	3	Structure	Stone wall demarcating S limit of kiln	Masonry; brick (top) & stone (size of materials: 300mm × 200mm); roughly dressed and coursed; measured 1.60m × 0.30m × 0.86m	-	-	-	-	-	-
7	(007)	3	Structure	Chimney of clay pipe kiln	Masonry; yellow brick (size of materials: 230mm × 100mm × 70mm); running bond; measured 1.20m diameter	-	-	-	-	-	Contrasts with red brick of (005)
8	(008)	5	Deposit	Deposit of household rubbish providing levelling/fill in kiln area	Loose yellowish-brown silt sand with building rubble containing scrap metal, which was not retained.	-	-	-	-	-	Post-industrial
9	(009)	3	Structure	N wall of factory building	Masonry; brick (size of materials: 250mm × 120mm × 70mm); brownish-white sandy mortar; aligned E/W; measured 2.42m × 0.24m × 0.32m	-	-	-	-	-	-

Item	Context No.	Matrix Phase	Type	Interpretation	Discussion	Finds					Comments
						Small Find	Pot	Bone	Misc.	Sample No.	
10	(010)	3	Structure	Brick pier - addition to original structure	Masonry; red/grey brick (size of materials: 240mm × 90mm × 120mm); English bond (?), lime mortar bonding material; measured 1.20m × 0.48m × 0.60m. Same as (004)	-	-	-	-	-	-
11	(011)	4	Structure	Poorly constructed blocking at kiln entrance	Masonry; brick (size of materials: 120mm × 80mm × 228mm); no clear bond (English bond at sides).	-		-	-		-
12	(012)	4	Structure	Unfinished & roughly coursed wall. Same as (038)	Masonry (seen only in section); brick; aligned N/S; lime mortar bonding material with black and white flecks; measured >4.10m × >0.24m. Same as (038) and (041)	-	-	-	-	-	-
13	(013)	5	Deposit	Layer. Same as (035)	Loose greyish-brown rubble; frequent brick, mortar & patches of sand.	-	-	-	-	-	-
14	(014)	2	Deposit	Natural sand	Firmly compacted but soft bright orange sand; no inclusions	-	-	-	-	-	Archaeological features overlie or cut this deposit
15	[015]	3-4	Cut	Pit	Cut; circular in plan; measured 2.80m N/S × 0.90m wide. Not excavated and seen in base of trench.	-	-	-	-	-	Not excavated
16	(016)	3-4	Deposit	Fill of pit [015]	Soft greyish-brown sand; frequent brick & mortar fragments & clay pipe waste	-	-	-	-	-	Industrial & post-industrial debris
17	[017]	4	Cut	Pit	Cut (extended beyond trench); sub-rectangular in plan; aligned N/S; measured >2.40m × >1.20m. Filled by (024)	-	-	-	-	-	Cut by [015]
18	(018)	5	Cut	Foundation	Cut – assumed – for insertion of wall (002)	-	-	-	-	-	
19	(019)	4	Deposit	Layer	Loose black ash; inclusions of clay pipe wasters; measured 8.0m × 2.30m × 0.25m. Post-industrial/industrial dump	-	-	-	-	-	-
20	(020)	-	Deposit	Fill of pit [021]	Loose greyish-brown silty sand; frequent clay pipe waste & CBM, occasional coal; measured 2.3m × >0.94 deep.	-	-	-	-	-	Extends into base of trench

Item	Context No.	Matrix Phase	Type	Interpretation	Discussion	Finds					Comments
						Small Find	Pot	Bone	Misc.	Sample No.	
21	[021]	-	Cut	Pit	Cut; circular in plan; sides steeply sloping; measured 2.3m × >0.94m. Base not seen. Filled by (020) and cuts (022).	-	-	-	-	-	In section
22	(022)	-	Deposit	Fill of pit [023]	Firm orange-brown silt/sand; occasional clay pipe waste, moderate CBM and charcoal/ash; measured 1.20m × 0.70m	-	-	-	-	-	-
23	(023)	-	Cut?	Waste pit	Cut (seen in section); sub-circular (?) in plan; sides gradually sloping sides, base flat; measured 1.20m × 0.70m. Filled or overlain by (022).	-	-	-	-	-	In section
24	(024)	-	Deposit	Layer or fill	Fairly soft mid brownish-red silt sand; frequent stones, clay pipe debris & ash, occasional coal & charcoal	-	-	-	-	-	Either fill or dumping deposit
25	(025)	-	Deposit	Layer or fill	Loose light greyish-brown silt sand; very frequent mortar, frequent stone and CBM; measured (as seen) 2m N/S × 0.30m thick.	-	-	-	-	-	Seen in section
26	(026)	-	Deposit	Fill of pit [017]	Loose dark greyish-brown/black sandy silt; frequent clay pipe, occasional gravel & stones, CBM, ash/clinker; measured >0.30m deep.	-	-	-	-	-	-
27	(027)	2	Deposit	Former garden soil, possibly predating the Southorn manufactory	Moderately firm mid/dark brown sandy silt; occasional CBM & roots	-	-	-	-	-	-
28	(028)	-	Deposit	Layer or fill	Moderately loose mid greyish-brown sandy silt; discrete patches of dirty greyish-brown sandy silt, frequent mortar; measured 1m N/S × (?) 1m E/W × >0.30m	-	-	-	-	-	Continued into base of trench
29	(029)	4	Deposit	Layer of rubble filling an area of *c*.1.20m diameter	Mortar & brick/burnt crushed pale yellow clay	-	-	-	-	-	Demolition of chimney
30	(030)	4	Deposit	Post-industrial dump	Loose greyish-brown sandy silt; frequent mortar, clay pipe, occasional CBM, charcoal, coal & clinker. Beneath (001)	-	-	-	-	-	-

Item	Context No.	Matrix Phase	Type	Interpretation	Discussion	Finds					Comments
						Small Find	Pot	Bone	Misc.	Sample No.	
31	(031)	4	Deposit	Post-industrial dump	Loose dark greyish-brown sandy silt; frequent clay-pipe wasters, ash, clinker, CBM & mortar; measured >1.80m E/W × >1.0mN/S × 0.40m.	-	-	-	-	-	-
32	(032)	4	Deposit	Post-industrial dump	Loose yellowish-grey crushed mortar; frequent broken CBM, scrap iron	-	-	-	-	-	-
33	(033)	3	Deposit	Possible disturbed floor surface. Same as (042)	Loose yellowish-grey crushed mortar; >70% broken brick & tile; measured >2.2m E/W × >1.0m N/S × 0.20m thick.	-	-	-	-	-	Disturbed during excavation pit [045]
34	(034)	4	Deposit	Pit fill. Same as (025)	Firm yellowish-brown silty sand; occasional pipe debris, moderate mortar, occasional stones; measured >2m × >1.60m. Fill of [017].	-	-	-	-	-	-
35	(035)	4	Deposit	Post-industrial dump. Same as (103)	Loose orange/greyish-brown silt sand; frequent clay pipe; measured 9.5m N/S × 0.95m E/W × >1.40m.	-	-	-	-	-	Same as (013)
36	[036]	4	Cut	Pit	Cut; irregular in plan with rounded corners; sides sloping (steeply to S and more gradually to E); measured1.6m N/S × 2.1m N/S × max 0.5m.	-	-	-	-	-	-
37	(037)	4	Deposit	Fill of [036]	Loose ash & clinker; frequent clay pipe, sandstone, brick	-	✓	-	-	-	Finds not retained
38	(038)	4	Structure	Unfinished stone wall. Same as (012)	Masonry; aligned N/S; single course only - brick mortared to upper surface; measured 2.8m × 0.2m × 0.15m.	-	-	-	-	-	Continued alignment of (012) to S
39	(039)	4	Deposit	Bedding for (038)	Moderately compact cream mortar; frequent black and lime flecks; measured 2.8m × 0.2m × 20mm. Beneath (038)	-	-	-	-	-	-
40	(040)	3	Structure	Perimeter of clay pipe factory	Masonry; brick (size of materials: 240mm × 110mm × 90mm); English bond; measured 8m × 0.30m	-	-	-	-	-	-
41	(041)	3	Structure	Retaining or boundary wall, with kiln fragments built into wall	Masonry; stone (size of materials: 0.35m × 0.27m × 0.12m) & kiln fragments; roughly coursed; measured 2.40m × 0.40m × 0.60m.	-	-	-	-	-	Footing only (?)

Item	Context No.	Matrix Phase	Type	Interpretation	Discussion	Finds					Comments
						Small Find	Pot	Bone	Misc.	Sample No.	
42	(042)	3	Structure	Floor surface. Same as (033)	Masonry; aligned N/S brick (size of materials: 180mm × 100mm × 70mm); 2 courses; measured 2.90m × 0.80m × 0.28m.	-	-	-	-	-	-
43	(043)	3	Deposit	Levelling or bedding for (042)	Loose mixed mid greyish-brown sandy gravel & mortar (seen in section); occasional stones; measured (as seen) 2.40 m × 70mm thick	-	-	-	-	-	-
44	(044)	4	Deposit	Fill of pit [045]	Loose mid grey coarse sand/fine gravel & brown patches; frequent grey mortar flecks/fragments & large tile fragments	-	✓	-	-	-	Pottery not retained
45	[045]	3-4	Cut	Pit	Cut; irregular oval in plan; sides vertical to S and W, sloping to E, base flat; measured 1.30m E/W × 0.80m × 0.65m. Filled by (044)	-	-	-	-	-	-
46	(046)	3	Structure	Brick wall of industrial building	Masonry; brick (size of materials: 240mm × 110mm × 90mm); English bond; measured 20m long aligned E/W	-	-	-	-	-	-
47	(047)	3	Structure	Superficial structure; single skin brick wall with return at S end	Masonry; brick (size of materials: 240mm × 110mm × 90mm). Abutted (046) aligned E/W	-	-	-	-	-	-
48	(048)	3	Structure	Arched capping structure over fire chamber	Masonry; yellow brick (size of materials: 80mm × 100mm × >160mm); irregular bond; sandy mortar bonding material; measured 0.90m × 0.76m × 0.10m.	-	-	-	-	-	Also bonded by vitrification
49	(049)	3	Structure	Saggar base on top of kiln	Fired clay, cemented to top of kiln fire-chamber; measured 0.70m diameter & 50mm deep	-	-	-	-	-	-
50	(050)	3	Deposit	Vitrification inside kiln caused by the heat of the firing process	Glassy, greenish vitrified brick & silicate within kiln chamber	-	-	-	-	-	-
51	(051)	3	Structure	Buttress or support forming a rectangular pillar	Masonry; brick (size of materials: 240mm × 110mm × 90mm); measured 0.24m × 0.23m and 0.30m	-	-	-	-	-	-
52	(052)	3	Structure	Internal structure of kiln; includes	Masonry; aligned N/S; brick (size of materials: 230mm × 110mm × 90mm); bond unclear due to vitrification; measured	-	-	-	-	-	-

Item	Context No.	Matrix Phase	Type	Interpretation	Discussion	Finds					Comments
						Small Find	Pot	Bone	Misc.	Sample No.	
				pillars and flue	1.2m × 1.07m × 0.47m.						
53	[053]	2	Cut	Post-medieval pit	Cut; form in plan unclear as truncated; sides gently sloping, base flat; measured 0.45m × 0.30m × 0.30m. Filled by (0.54)	-	-	-	-	-	Truncated
54	(054)	2	Deposit	Fill of [053]	Firm grey sand; occasional rounded stones, mortar flecks, charcoal flecks & red sand	-	✓	-	-	-	-
55	[055]	2	Cut	Post-medieval pit	Cut; (?) rectangular in plan with rounded corners; sides steep to rounded base; measured 1.10m × 0.60m × 0.37m. Filled by (056)	-	-	-	-	-	Truncated
56	(056)	2	Deposit	Fill of [055] - predated clay pipe kiln as no industrial debris present	Firm dark grey-brown silt sand; occasional rounded pebbles, patches of orange sand & CBM (not retained).	-	✓	-	-	-	-
57	[057]	1	Cut	For insertion of culvert (058)	Cut; rectangular in plan; base flat; measured 0.75m N/S × 0.6m × 0.45m.	-	-	-	-	-	-
58	(058)	1	Structure	Possible culvert	Masonry; stone (size of materials: 0.25m × 0.27m × 0.10m; 0.30m × 0.24m × 0.10m); aligned E/W within cut [057]	-	-	-	-	-	-
59	(059)	1	Deposit	Fill of [057]	Moderately firm dark greyish-brown silt sand; occasional stones, charcoal flecks & patches of red sand.	-	✓	-	-	-	-

6 Discussion

The excavations at the Whitburn Street Pipe Manufactory identified and recorded a remarkably complete kiln base (005), which in several respects may be considered as being of national importance. First, the structure incorporates construction techniques unparalleled on any other known site. Secondly, it includes sagger or kiln furniture fragments of previously unrecorded form and unknown function and third, the muffle displays an extremely unusual construction technique - the use of firebricks to form an external cylinder has only a single parallel, this having been previously recorded at Westgate Street in Gloucester (Peacey 1979, 72-5).

In addition to the survival of the kiln base (005), a number of walls, including the likely S boundary wall (006) and E factory wall (040), were also identified, together with a brick paved floor or working area (003) on the S and W sides of the kiln. A layer of coal dust indicated that this area was used for at least short-term storage of kiln fuel.

Samples of clay-pipe waste and kiln furniture were removed from the site and included examples of pipes from a number of different clay-pipe designs, including highly decorated pieces with roses on the bowl and with the stems inscribed 'J. Southorn, B'north'. It is clear that the W side of the factory now lies beneath the N end of Pound Street (*fig. 3*).

Realignment of the road in this area began during the 1960s, although drastic realignment, including widening of the N end of Pound Street and the insertion of the mini roundabout, seems to have occurred fairly recently. So far as could be established, the footprint of the building was as indicated on 19th -century maps of this area, with the various elements of the factory under one roof and no evidence for ancillary structures. Despite this there was some discrepancy in their position. Therefore, on Fig. 3 above, the position of the manufactory building on the OS map has been adjusted, being moved some 5m to the N, demonstrating that they correspond almost perfectly. It is clear that the majority of the building was lost during the widening and remodelling of Pound Street during the 20th century.

Four phases of activity were identified on the site. Features from Phases 1 and 2 contained no clay pipe waste, indicating that they predated the establishment of the clay-pipe works. Medieval pottery was recovered from the fill (059) of a possible culvert, indicating the survival (albeit in a small area) of deposits possibly associated with burgage plots established prior to the construction of the city defences in the early 13th century. Phase 2 deposits dated to the post-medieval period but were thought to predate the establishment of Southorns' clay pipe works, while Phase 3 included deposits and features relating to the construction and use of the kiln during the latter half of the 19th century. Phase 4 marked the cessation of factory production at the end of the 19th century, as signalled by a blocking-up of the fire-pit and demolition of the chimney. Use of the former clay pipe works for other purposes is included in this phase. Phase 5 included demolition of the remaining above-ground structures in the present century.

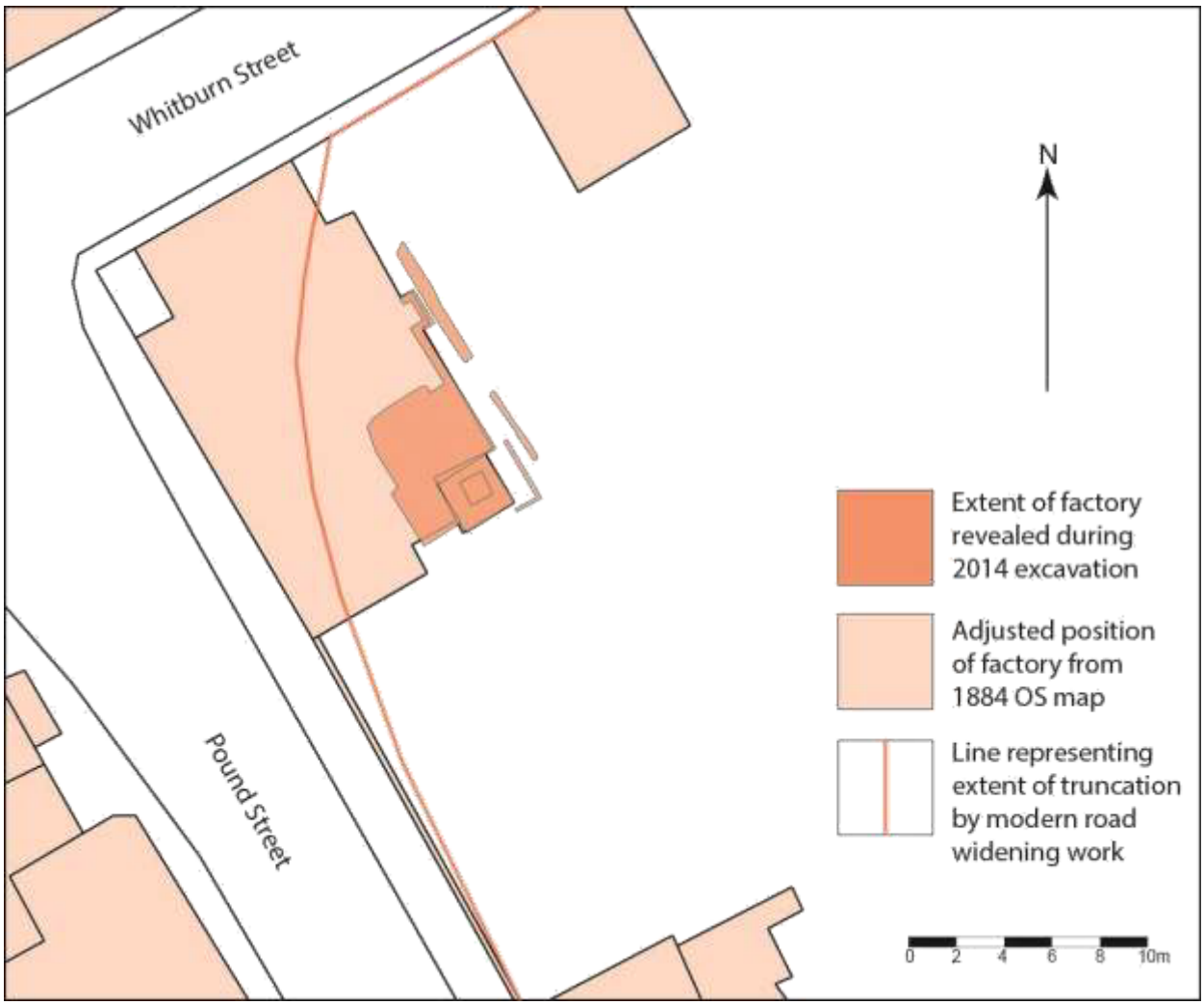

Fig. 3: Structures uncovered during the excavation superimposed on the footprint of the factory shown on the 1st Edition OS map

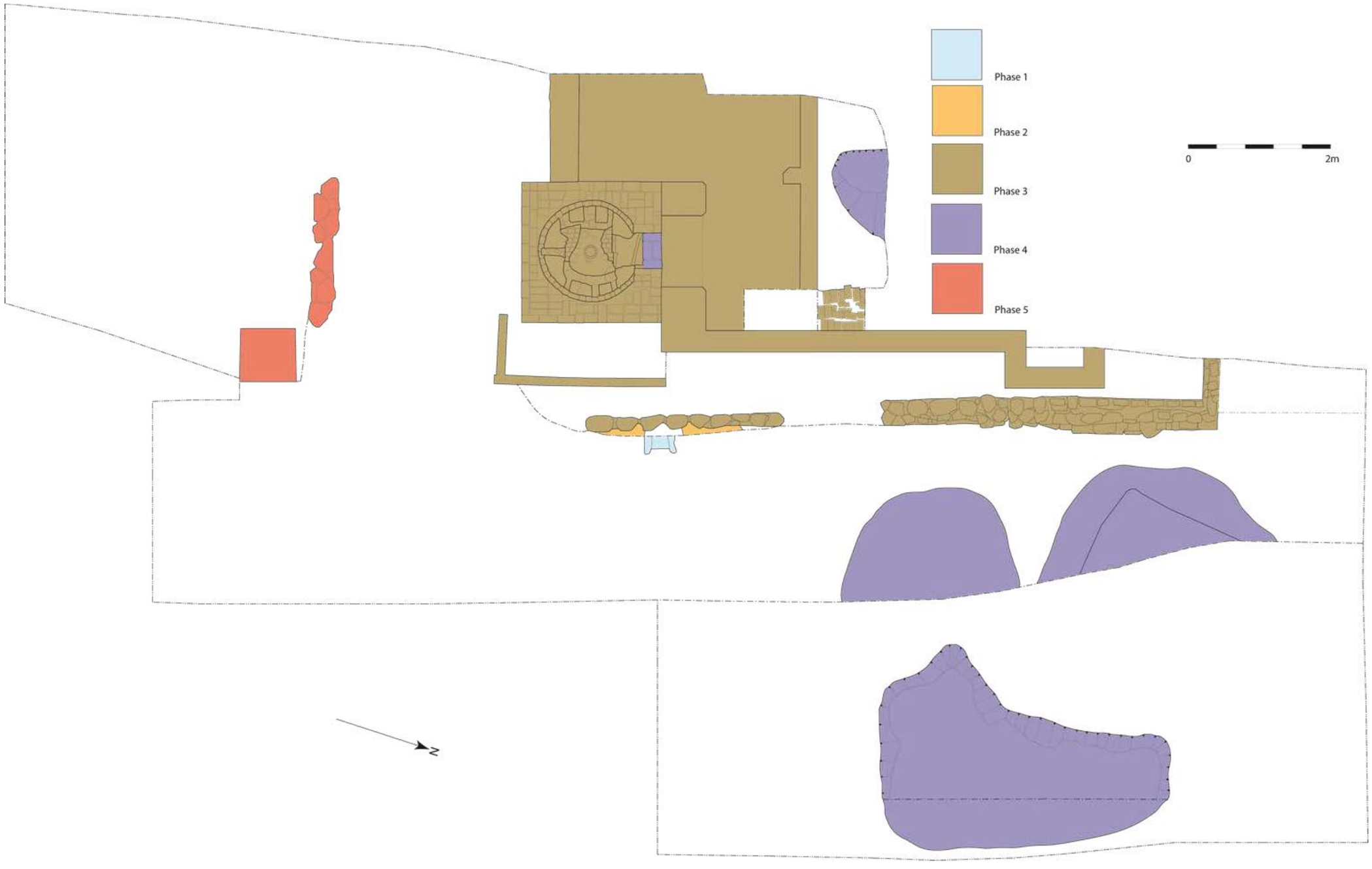

Fig. 4: Phased plan

6.1 Phase 1 - Medieval

Phases 1 and 2 pre-dated the establishment of the clay tobacco pipe factory, the earliest (Phase 1) feature to be identified on the site being a possible stone-built culvert (058) (*Plate 1; figs.. 2, 4 & 5*). The fill (059) contained three sherds of pottery dating from the later 13th or 14th centuries. The 'culvert' was constructed from three substantial fragments of sandstone, with further smaller stones serving as packing. It was cut on its N side by a shallow pit [053], the fill (054) of which contained both medieval and later post-medieval pottery, indicating disturbance of the medieval feature during the post-medieval period. On its S side the culvert was cut by a further pit [055].

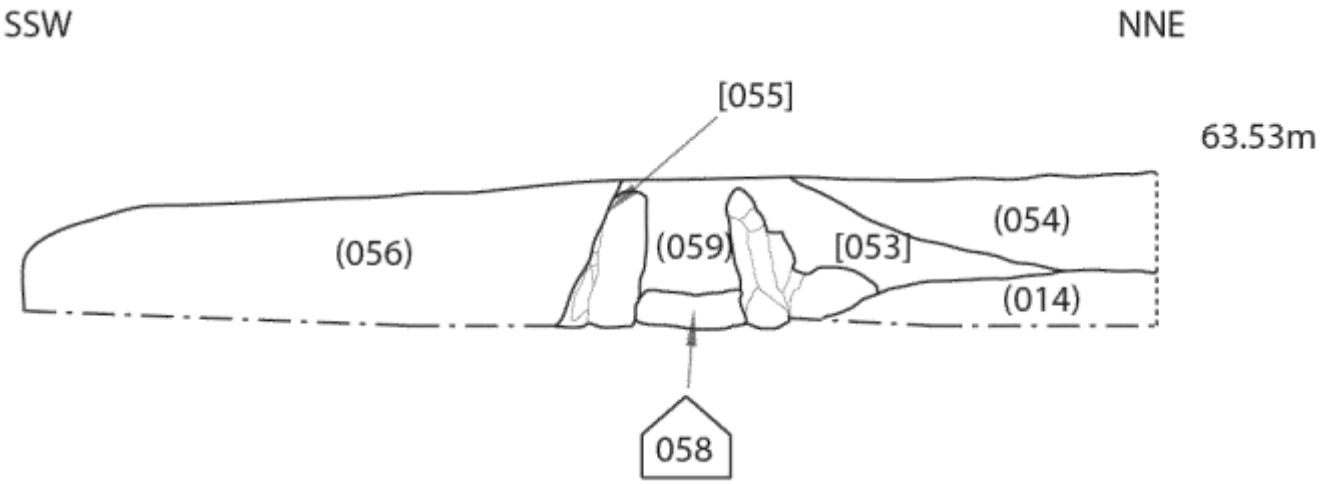

Fig. 5: Section 2 (see fig. 2– section line shown in red), showing features and deposits of Phases 1 & 2

Plate 1: Culvert (058), view W

6.2 Phase 2 – 19th century

Cutting the S side of the culvert fill (059) was [055], which contained post-medieval CBM, a sherd of pottery from the 16th or 17th centuries and 19th -century wares, suggesting disturbance of existing early post-medieval features, as well as the 14th century structure, during the 19th century. The dark brown silty sand fills of the three features, [053], [055] and [057], were more or less identical, obscuring the limits of individual features. Despite the presence of 19th -century pottery, pits [053] and [055] were both thought to predate the establishment of Southorn's clay-pipe factory, based on a lack of industrial debris in their fills; this material was ubiquitous in Phase 3 and later deposits across the site. Both culvert [057] and the later pits had been heavily truncated on their W sides during the insertion of factory wall (047) and on their E side they had been truncated during Phase 4/5 demolition and levelling. They therefore survived to a maximum width of some 0.30m E/W.

6.3 Phase 3: The Southorn clay tobacco pipe factory

The main feature to be excavated during the course of the work was the single chamber updraught muffle kiln first encountered during the evaluation excavation in 2007 (BA 2007).

The kiln base that was found during this work is the most complete that has ever been excavated and is regarded as being of national importance (*Appendix 2*).

The kiln chamber itself (007) was circular in plan and some 1.4m in diameter. It was constructed using pale yellow firebrick, as distinct from the red brick of the factory buildings, the kiln base (005) (*Plate 2*) and wall (040). Repeated firings to a high temperature had caused the brick chamber to vitrify (050).

The roof of the chamber was arched (048), the arch being supported by two pillars (052). Further construction details were difficult to ascertain due to the high degree of fire damage. Above the arch was the base (049), for the muffle chamber (*Appendix 2*).

As only the base of the kiln and combustion chamber survived, there was no evidence *in situ* for the means by which the tobacco pipes were protected from combustion gasses and other debris when in the kiln. A number of fragments recovered from post-industrial dumping layers may have been part of the muffle chamber. It is suggested that kiln technology remained constant throughout the life of the kiln (*Appendix 2*).

The kiln base (005) measured 2m square and, unlike the combustion chamber itself, was built of red brick. A chute leading to a lower level suggested that this was the stokehole. Two iron fire-bars were still present in this part of the kiln. Consistent with preservation *in situ*, the blocking was left in place and no further investigation of the stokehole was undertaken.

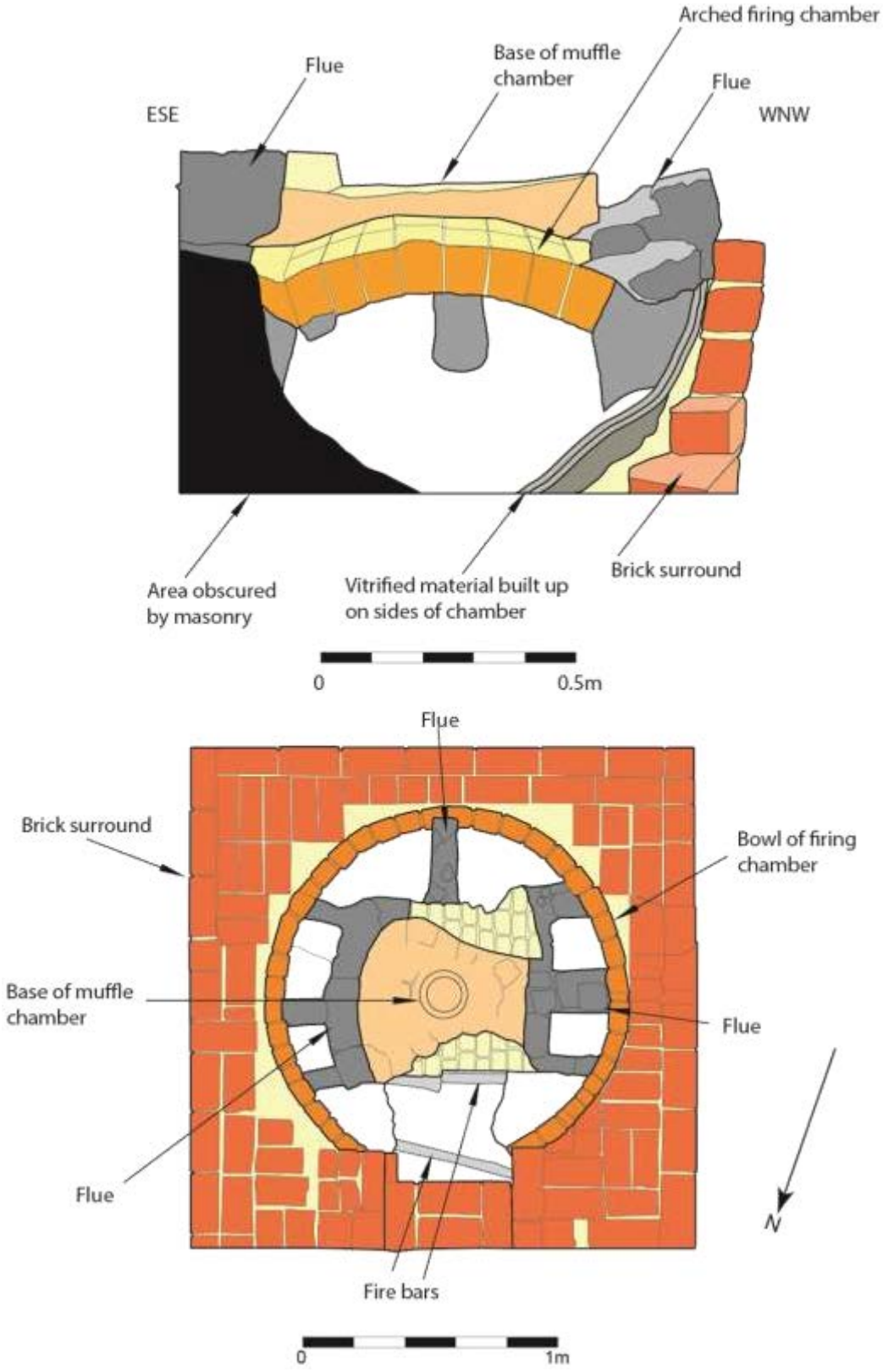

Fig. 6: Elevation and plan view of kiln

Plate 2: View SW of kiln

The kiln was surrounded by a brick floor surface (003), which was covered by coal dust; this surface was first identified during the 2007 evaluation excavation (BA 2007). Some alteration of the kiln had taken place following initial construction of (005), with two brick piers, (004) and (010), added on the E and W side of the stokehole. These are not shown on the 1st Edition Ordnance Survey map of 1884 and it is thus possible that they were added after that date, although other details of the kiln are present. It is possible that the piers lay beneath the roof of the factory or were too small to be detailed.

No waster pits were positively identified on the excavated part of the site, although a discrete dump of kiln wasters (037), lying outside the focus of the excavation and within a late dump (019), may have been a pit. This material dated to the last phase of production on the site, when the factory was run by John Southorn. The pipes included a number of 'cutties' with the bowls decorated with a rose, and stems stamped with 'J. Southorn, B'north. John Southorn took over the running of the kiln in 1875, following the death of his mother, and ran it until it closed down in about 1886. The deposit can therefore be dated to a 10 or 11 -year period at the end of the 19th century. The deposit lay outside the focus of the excavation, as did a number of others containing clay-pipe debris, together with kiln debris, such as vitrified bricks.

The factory was shown as a single structure on the 1st Edition OS, with the kiln at the SW corner. Comparison with the footprint of the building revealed through excavation shows that the substantial red-brick wall (040) was the E wall of the factory, as shown on this map, while brick walls (046) and (047) enclosed the kiln on its S and E sides. The 1st Edition map appears to show them completely surrounding the kiln but the position of these features strongly supports identification of (046) and (047) with the structures shown on the map. A rubble deposit (035/013), lying behind these walls, contained pipe dating to 1820-60. The walls may have afforded protection to other parts of the site, including the workshop area, from heat generated by the firing process or

they may simply have served as a boundary for the kiln itself. Furthermore, wall (006) seems identifiable with the E/W wall running W from the kiln. This might indicate that it was constructed as part of the industrial complex at the same time as the kiln. As stated, there was no sign on the 1st Edition map of pillars (004) and (010) set either side of the stokehole. These were clearly later additions to the structure although the fact that the factory was only in production for a short time after the map was produced makes it unlikely that they were added after this date. Wall (009) was not shown, suggesting that this was part of an internal structure. It is possible that the area close to the kiln, which would probably have included a coal store, was covered by a lean-to -type structure and wall (009) may have been the rear of the factory proper.

Although very little kiln debris was present on the part of the site to be excavated a number of fragments from the muffle chamber were identified and it is thought that the kiln technology probably remained constant throughout the use of the kiln (*Appendix 2*). It seems likely that the load was supported in the kiln by a series of props and buns, together with internal shelves, part of one of which survived (*Appendix 2*, *Ap. fig. 32*). A single example of a bun was also found on the site.

The forms of the pipes recovered from the site followed the Broseley pattern of being mainly undecorated. The Broseley pipes had the reputation of being plain but of good quality and were frequently burnished. There was, however, no evidence for burnishing on any of the wasters recovered from the site and it is suggested (*Appendix 2*) that less range in quality was provided by the Bridgnorth factory. However, knife-trimming of the inside of the bowl remained a characteristic of Broseley pipes after it was abandoned in the 19th century in most parts of the country. It also continued on the Bridgnorth site, suggesting that the site remained under the influence of the Broseley industry.

Examination of the surviving groups of pipes suggests that as many as eight different moulds may have been in use at the same time with a change of style over the period. This was particularly apparent in the late group recovered from 'pit fill' or dump (036) where the majority of the bowls were of the decorated 'cutty' type which became popular at the end of the 19th century (*Appendix 2*). Furthermore a decline in quality seems to have taken place at the end of the period, with alteration of moulds and lack of trimming of the seams, which was apparently unusual (*Appendix 2*). It is tempting to suggest that this may have been a result the expansion of the Broseley factory which may have forced out smaller manufacturers. The Broseley factory employed 40 people in the 1880s.

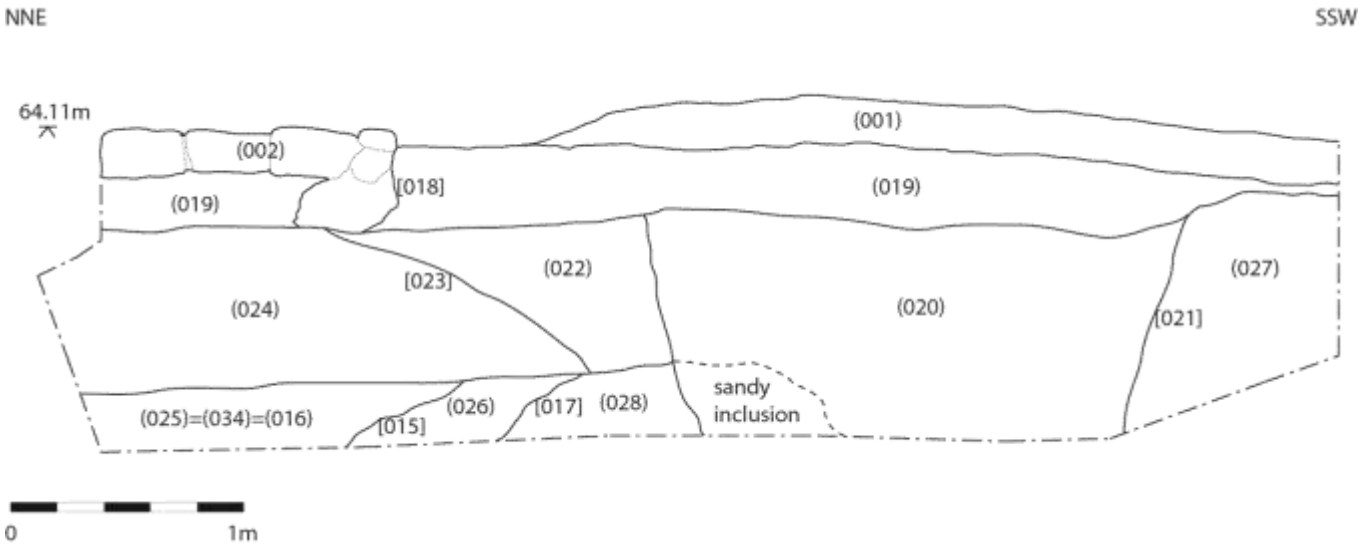

Fig. 7: Trench Section 1 (see fig. 2 – section line shown in red)

6.4 Phase 4 Demolition of the kiln, post-industrial dumping and features

Demolition of the kiln was represented by deposit (029), which lay above (049), the seating for a saggar, and consisted of rubble derived from the structure of the kiln itself and its chimney, including vitrified and heat-shattered bricks. Also relating to this phase was the blocking of the stokehole (011) (*Plate 3*).

Plate 3: Blocking of kiln entrance; view SE

A large irregular pit [044] some 3m to the N of the kiln contained a substantial amount of building debris, including brick and tile in a matrix of coarse sand and fine gravel. Pottery from it dated to the later 19th or 20th centuries and it did not contain clay-pipe debris. The large amount of tile in its fill might indicate that it derived from alteration of the factory building, with the fill sealed by a possible surface of brick and tile (033); it may have related to the demolition or alteration of the factory following the cessation of clay-pipe manufacture.

The wall, comprising contexts (012) (038) and (041), cannot be discerned on the 1st Edition map, suggesting that it does not relate to this phase of activity on the site. Its use is uncertain and it does not seem to appear on subsequent maps. It was initially thought to have been an early structure; however, a fragment of kiln waste built into wall (041) suggested that it was still present at the time the kiln was demolished or that it might post-date the factory. It may have been a retaining wall or possibly a pre-existing boundary repaired and restored at various points during the life of the factory. It was primarily of stone; however, at the N end (012) it was of brick.

A fragment of a further N/S aligned wall (002) on the E side of the site was un-bonded. It was formed of substantial blocks of roughly-shaped sandstone, possibly derived from the demolition of the nearby town wall. It lay above a number of pits and dumps containing clay-pipe debris so was of late date.

6.5 Phase 5: Modern

Modern deposits on the site included a post-industrial dumping layer (019) containing large amounts of clay pipe debris together with a substantial dump (008) consisting mainly of mortar, which covered the kiln base (005) and associated floor (003). It contained glass, animal bone, tin cans and scrap iron with some clay pipe debris. The clay pipe recovered from this deposit included forms from both the earlier and later phases of manufacture on the site, as might be expected from re-deposited material. As a result of the recent (20th century) date, the majority of the finds were not retained although a sample of the bottles was photographed. Above these deposits the topsoil (001) contained material of very recent date, including plastic bottles, fabric and newspaper. It probably dated to the demolition of the last standing walls of the factory in the 21st century.

7 Conclusions

Although the kiln (005) (007) was excavated and wall (040) is identified as the wall of the factory as shown on the 1884 OS map no evidence survived for either the fittings of the factory or for any stage of the manufacturing process apart from firing. The excavation focussed upon the kiln meaning that a number layers containing clay pipe manufacturing debris lay outside the designated excavation area. It seems evident that alteration of the building during the 20th century and demolition in the 21st century, together with realignment of the road had destroyed evidence for the workshop and for earlier stages of the manufacturing process.

Analysis of the finds has shown that at least 27 individual moulds were used on this site over the years and a sequence for these is suggested (*Appendix 2*). The three features thought to date to the pre-factory period had all been heavily truncated on their W side during the construction of walls (040) and (046)

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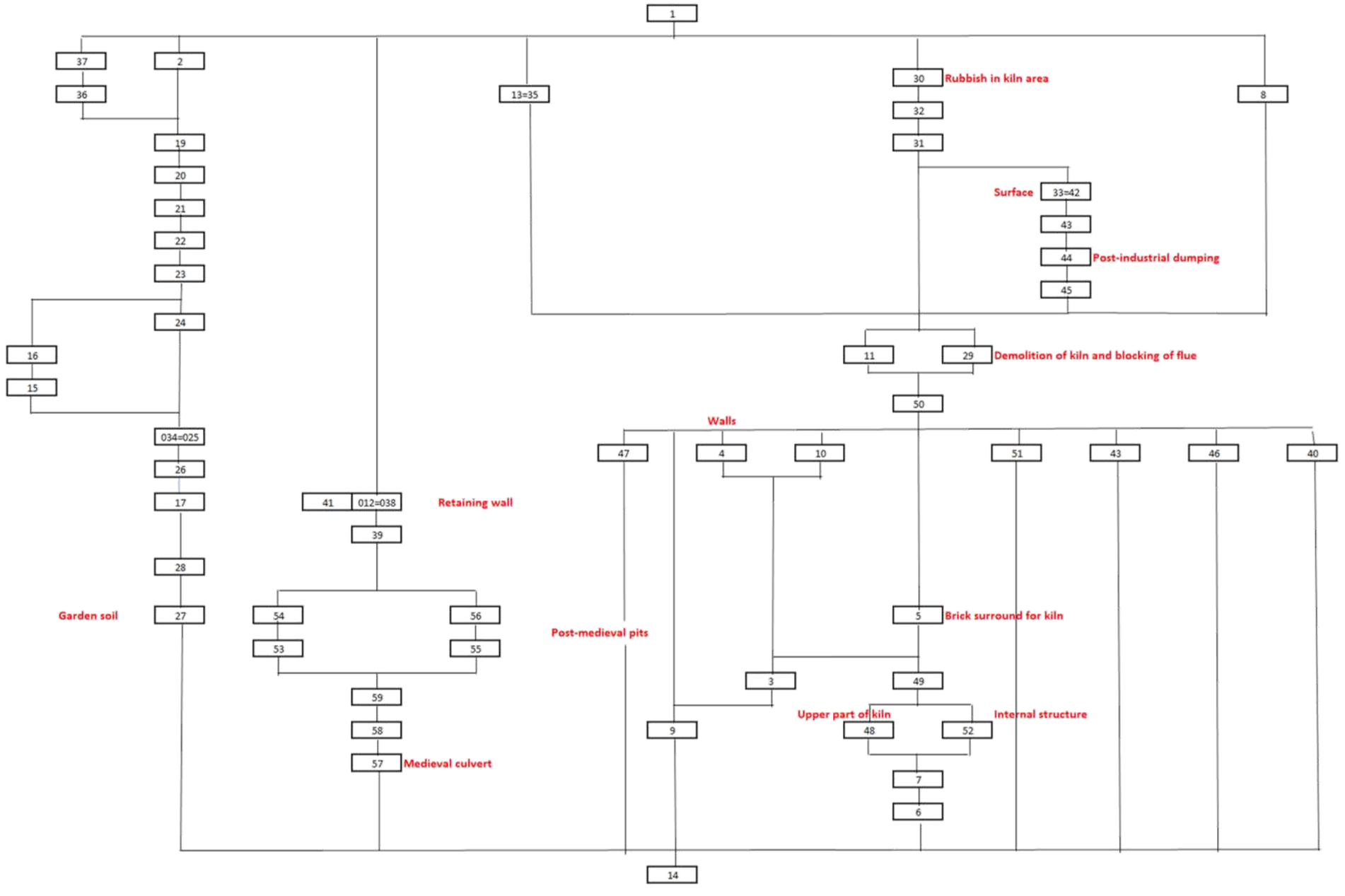
10 Appendix 1: Site Matrix



11 Appendix 2: Clay tobacco pipes & kiln debris

D. Higgins
25 November 2014

11.1 Introduction

This report deals with the clay tobacco pipes and kiln debris from the present programme of archaeological excavation and examines this material together with the finds from two earlier phases of archaeological work carried out by Border Archaeology in 2002 and 2007 on the site of a former pipe manufactory situated on the corner of Whitburn St and Pound Street in Bridgnorth, Shropshire.

The site itself was probably newly established by Thomas Parsons Southorn Jr. in about 1822 and continued to be run by his family until its closure in about 1886. The kiln base that was found during this work is the most complete that has ever been excavated and is of national importance. The pipes and kiln debris from this site are examined in detail to try and establish the range of products made here and the kiln technology that was employed. The report concludes with an appendix listing all the pipe-makers who are known to have worked in Bridgnorth.

The 2002-2014 excavations site have done much to flesh-out our knowledge of the pipes produced there and the kiln technology that was being employed. From the trade directories (see *Appendix*), it is clear that the factory was regarded as having a Whitburn St address until the 1860s, after which it was referred to as being in Pound St. It is not known whether this reflects a structural change of layout on the site (for example, the principal access being from Whitburn St until the 1860s and from Pound Street thereafter) or whether it is simply a product of the Post Office changing the postal address (or even just the door to which the post was delivered). It may be significant, however, to note that the census returns always list the family as living in Pound St (1841-81), even during the period when the directories are listing the factory address as Whitburn St.

When other pipe-makers are listed in the area, they are also given as being in pound Street (*i.e.*, Daniel Phillips, Edward Bradley and James Richardson). The later census returns give an exact street number as well, which shows that Edward Bradley was at No. 23 Pound St in 1861 while James Richardson was at the same address in 1871. In contrast, the Southorn family were living at No. 24 Pound Street in 1861 & 1871 and at Nos. 23 & 24 Pound St in 1881. From this, it would appear that both Nos. 23 & 24 Pound St were closely associated with the pipe-works, with No. 23 being used as the Southorn family accommodation, while No. 24 was used for employees' accommodation (until the declining workforce in the 1880s allowed John and Thomas to have one property each). In terms of the layout and use of the site, this may well mean that two residential properties (Nos. 23 & 24 Pound St) formed an integral part of the business and that these were always accessed from Pound St, while the works itself was accessed from Whitburn St.

Pipes were retained from two of the three phases of work, in 2002 and 2014, the site codes for which are BRW02 and WSB14, respectively. A total of 687 pipe fragments were recovered, 18 of which had stamped maker's marks on them, as follows: -

YEAR	BOWL	STEM	MOUTHPIECE	TOTAL	STAMPED MARKS
2002	147	284	14	445	15
2014	86	141	15	242	3
Total	**233**	**425**	**29**	**687**	**18**

Table 1: pipe fragments recovered during work carried out in 2002 and 2014

In addition, the author has been able to study around another 350 fragments that have been collected from the site over the years to provide a fuller picture of the pipes produced there. A detailed mould flaw analysis of the pipe bowls has shown that at least 27 mould types were in use at the site over the years. So far as is possible, these have been arranged into a broadly chronological sequence (*figs 1-27*), followed by decorated stems (*figs 28-30*) and then kiln debris (*figs 31-35*). The finds from the various seasons of excavation are described in more detail below.

11.2 The 2002 Excavations

The first phase of archaeological investigation regarding this site took place in 2002 when a desk-based assessment was carried out, followed by the excavation of three trial trenches within the northern two-thirds of the site (Border Archaeology 2002a and 2002b, respectively). The site code used for the trial trenches was BRW02 and the finds from this phase of work were re-examined for this report. The 2002 excavations produced a total of 445 fragments of pipe, comprising 147 bowl, 284 stem and 14 mouthpiece fragments. These were recovered as five context groups plus one group of unstratified material and are described below by trench and then context (*Table 2*).

CONTEXT	BOWL	STEM	MOUTHPIECE	TOTAL	STEM STAMPS
BRW02 004	62	213	10	285	11
BRW02 012	0	3	0	3	0
BRW02 Tr 1 U/S	68	67	4	139	4
BRW02 302	9	0	0	9	0
BRW02 303	6	1	0	7	0
BRW02 304	2	0	0	2	0
Total	**147**	**284**	**14**	**445**	**15**

Table 2: Clay pipe fragments recovered from the 2002 investigation

Trench 1: BRW02 (004) - This was by far the largest group of pipes recovered, comprising 285 fragments in total (62 bowl, 213 stem & 10 mouthpiece fragments). The large size of many of the fragments (stem fragments of up to 149mm survive and there is one bowl with 145mm of stem still attached) and the unsmoked nature of the pipes shows that this was a freshly deposited and little-disturbed deposit of kiln waste. When excavated, the

deposit was described as a very loosely compacted, greyish ash deposit with moderate quantities of burnt ceramic building material, slag and occasional saggar debris. It was recorded as being 560mm in depth and interpreted as a kiln dump, which is consistent with the nature of the pipes recovered. The pipe stems are all stamped 'SOUTHORN / B NORTH' and the bowl forms are consistent with a date of *c*. 1820-60 (and they could well all fall within a *c*. 1820-50 bracket).

A re-examination of this material has shown that the bowl fragments can be divided into at least eight mould types (*figs 1-8*) that appear to have been in contemporary production, offering a range of products for consumers. All of these moulds would have been for long stemmed pipes but no attempt has been made to see if complete examples can be reconstructed. The various bowl forms are likely to have been associated with different lengths of pipe, which make it difficult to arrive at any meaningful conclusion from the extrapolated stem taper of the mixed stems from the context as a whole.

However, the surviving fragments show that these would generally have been pipes with relatively long, thin stems, with an extrapolated length of at least 17-18" (430-460mm) while unstratified fragments collected at the same time (cumulatively measured and then divided by the estimated number of bowls represented) suggest this average length could have been as long as 21" (535mm). Some of the stems are slightly waney but they appear to have come from pipes with either straight or only gently curved stems rather than the more sharply curved 'churchwarden' style that might have been expected. This could indicate that a conservative and traditional style was being maintained rather than the new fashion for distinctly curved stems that was generally adopted across the country in the late 18th century. The surviving mouthpieces show that these were very long and slender and simply finished with a cut tip. There is no trace of glaze having been used to provide a tip coating at this date.

The bowl forms themselves are mainly plain, which is characteristic of the Broseley industry, where long stemmed pipes were a speciality (Higgins 1987). There is one large form (*fig 1*), which most likely had a particularly long stem, plus five other varieties with slightly smaller plain bowls (*figs 2-6*). One of these (*fig 5*) has a particularly light and relatively thin-walled bowl with a thin stem and would probably have been a slightly shorter form of pipe. Both this type and another (*fig 6*) have a slight line visible around the rim where the mould top had been altered or repaired (the mould line on *fig 5* is only visible on the left-hand side of the pipe).

There are two forms with moulded decoration. One of these (*fig 8*) just has simple leaf seams while the other (*fig 7*) has leaf seams and a line of crosses in a band near the rim with enclosed flutes below. Facing the smoker is a shield containing the initials 'WS'. This decoration and distinctive style of mark is particularly interesting for two reasons. First, it is of a style that is characteristic of the NW, particularly the Liverpool area, where it was current from about 1820-60 (but especially *c*. 1820-50). Although outlying examples are known, it is not a style that has been found elsewhere in Shropshire, especially in Broseley where the bowl forms were overwhelmingly plain at this period. Second, the maker's initials are hard to explain, since the bowl dates from a period when Thomas Parsons Southorn and his wife Elizabeth were running the site. There are no other known Bridgnorth pipe-makers with these initials (see *Appendix*) and so both the style of the decoration and the mark are hard to explain. One very speculative scenario might be that he made these pipes as a commission for his younger cousin from Cardington, William Southorn, who had moved to Broseley where he established a successful pipe-making business in 1823.

Whatever the explanation of the bowls marked 'WS', there can be little doubt from the documentary records and dating of these pipes that they represent a good sample from the period when this site was being run by Thomas Parsons Southorn (*c*. 1771-1845) and/or his second wife Elizabeth (*c*. 1788-1875). The 11 marked stems from this context are all stamped lengthwise with a relief mark reading 'SOUTHORN / B NORTH' in two lines with a 'square and compasses' depicted at the end of the mark (*Ap. Plate 1*, bottom). The 'square and compasses' is an interesting choice of motif and was presumably chosen to show Thomas's connection with the Freemasons in Bridgnorth; he was a founding member of the Freemasons Lodge of Industry in 1799 as well as a member of the Agenorian Chapter, probably from about 1801 (Graham 1892, 73 & 76).

At least two almost identical dies were being used to mark the pipes. The first is characterised by two flaws: a dot-like motif at the bottom left of the letter 'U' and a small flaw like a tiny tick above the top right serif of the final 'H' (six examples). Four examples do not have these flaws and so must represent at least one other die while the final example is too fragmentary to allocate. The need for more than one die suggests that more than one workbench was in use at any one time while the relatively small number of marked stems (11) compared with bowls (62) shows that only about one in six of the pipes was being marked. A similar situation has been observed by the author amongst late 18th -and early 19th -century kiln waste from Liverpool, where only certain styles of pipe appear to have had stamped stems (probably the longer and more expensive types). Unfortunately, none of the Southorn stamps could be related to their original bowl type(s) to show which the better quality products were. One stamp, however, has 91mm of clear stem surviving towards the bowl showing that these marks were applied at some distance from the bowl on long-stemmed pipes.

Another difference relating to the quality (and hence cost) of the various patterns can be observed by looking at the specific finishing techniques employed. Five of the patterns (*figs 1-4 & 6*) all have internally trimmed rims (*i.e*. the internal angle of the bowl rim has been chamfered with an angled knife cut to give a more pleasing appearance and finer lip to the bowl). In contrast, three of the types all have simple square-cut rims (*figs 4, 7 & 8*) which gave a quicker and simpler finish. The same is true of the finishing of the base of the spur where five of the types (*figs 1-3, 5 & 6*) almost always have trimmed bases. In contrast, none of the examples of three other mould types (*figs 4, 7 & 8*) have trimmed bases. In short, two types (*figs 7 & 8*) have the quickest and cheapest type of finish, without either internally trimmed rims or bases while one type (*fig 4*) does not have a trimmed base but has a trimmed rim and another type (*fig 5*) does have a trimmed base but not an internally trimmed rim. This shows that particular finishing techniques were associated with particular types of bowl form and that they were not just randomly used according to the whim of the maker. It is only through detailed analysis such as this that the complex relationships between bowl form and finishing technique can be related to the style, quality and price of the finished object, which is what would have been relevant to the original manufacturer/customer.

Trench 1: BRW02 (012) - This was the fill of a pear-shaped cut [013] measuring 1.32m × 0.86m × 0.16m. The fill (012) was a loosely compacted, greyish-brown ash deposit with frequent burnt coal particles and occasional pieces of CBM. The feature was interpreted as a 19th -century ash pit and it produced three pieces of plain, unmarked pipe stem. These stems are all of 19th -century types and both the ashy waste and pipe stems are likely to derive from the kiln.

Trench 1: BRW 02 (unstratified) - A substantial group of pipe fragments (139 pieces comprising 68 bowls, 67 stems and four mouthpieces) is bagged as being from 'Trench 1 (outside)' and these appeared in the 2002 report as 'unstratified'. Although not as complete a sample as from deposit (004) (the number of bowls is similar but there are far fewer stems and mouthpieces), this is still an important group because of the completeness of the bowls (mainly intact) and the number of examples, which allows comparative data to be collected. The material itself must have either derived from deposit (004) or an exactly contemporary deposit since not only were precisely the same eight bowl types present (*figs 1-8*), they also occurred in almost exactly the same proportions.

There are also four stem stamps present, three of which are of the same two types as described from deposit (004) (two examples of the die with a dot under the 'U' and one example without). The fourth example is very poorly impressed but can be recognised from another example found on the site as originally having read 'SOUTHORN / B.NORTH' in two lines but without the 'square and compasses' motif at the end and with the lettering being larger and more crudely executed.

A slightly clearer example of this type of mark from the author's collection is shown (*Ap. Plate 1* top). This group also contains one stem with the very end of a scheme of relief moulded decoration on it (*fig 30*). The style of decoration accords with the *c*. 1820-60 dating of other finds, but this type of moulded decoration is very rare in Shropshire, being much more common in London and the SE and so this could be a stray piece from elsewhere. If this is a Southorn product, then - like the 'WS' bowl (*fig 7*) - it represents a very interesting and unusual design for the area.

Trench 3: BRW02 (302) - This was a tightly compacted, concrete and brick deposit, 80mm thick, which was interpreted as the sub-base for the floor of the building that occupied the site at the time of the excavation. The 2002 excavation report notes that this context produced nine clay pipe bowls, one of which had leaf decorated seams.

Trench 3: BRW02 ((303) E side) - This deposit was a moderately compact, mid-brown sandy loam with moderate clay-pipe stem fragments and occasional charcoal and brick flecking. The deposit measured 160-180mm thick and was interpreted as a re-deposited soil directly underlying the modern sub-base and forming part of the foundation of the floor for the building that occupied the site at the time of the excavation. This context produced seven pieces of clay pipe (six bowls and one stem fragment) plus one kiln supplement. The kiln supplement (*Ap. Plate 2*) consists of an applied strip that has been thumbed onto a convex surface with a diameter of about 120mm and then had widely spaced pipe stems pressed into it (75mm apart). Finally, a thin clay sheet has been added to the outer surface of the strip, probably also covering the stems that has been pushed into it. The stem fragment is of 19th -century type and the bowls can be divided into four mould types, all of which can be matched amongst material of *c*. 1875-85 recovered from a pit in 2014 (see WSB14 (037) below); two examples of *Ap. fig. 22*, one of *Ap. fig. 23* and two of *Ap. fig. 26*. There was also one example of a fourth mould type (*Ap. fig. 27*) that can therefore be added to the products from the last phase of the site's use as a pipe manufactory.

Trench 3: BRW02 (305) - This was a tightly compacted, purplish-brown slag/ash deposit, 20-60mm thick, which was interpreted as a dumped deposit from the pipe kiln. This produced two plain pipe bowls; both of their spurs are missing, which makes them very hard to identify to individual mould type. They are clearly from different moulds and, so far as it is possible to tell, neither of them appears to be the same as any of the other 27 types identified during the course of this study. They are both typical 19th -century forms and so seem likely to represent another phase of production from any of the other excavated deposits.

11.3 The 2007 Excavations

A further four trial trenches were excavated on the site in 2007, located around the middle and southern parts of the site. Contexts containing pipes were noted in at least two of these trenches (Trenches 2 & 3) and the results stated that, 'significant evidence of clay pipe manufacture, including the remains of a kiln base and indications of workshop / storage buildings, together with a considerable amount of waste pipe material' was found (Border Archaeology 2007). Trench 3 also located the top of the kiln itself, which was fully excavated in 2014 (see below).

11.4 The 2014 Excavations

An area in the NW corner of the site was excavated, including the whole of the kiln base located in 2007. Clay pipes were collected from four contexts during the course of this work, which produced a total of 242 fragments of pipe (86 bowl, 141 stem and 15 mouthpieces), as shown below (*Table 3*). The site code used for this phase of work was WSB14 and the pipes from the four context groups are described in the following sections.

CONTEXT	BOWL	STEM	MOUTHPIECE	TOTAL	STEM STAMPS
WSB14 (008)	23	121	9	153	0
WSB14 (020)	4	10	1	15	0
WSB14 (035)	2	2	0	4	2
WSB14 (037)	57	8	5	70	1
Total	**86**	**141**	**15**	**242**	**3**

Table 3: Clay pipe fragments recovered from the 2024 investigation

WSB14 (008) - This context produced 153 pipe fragments (23 bowl, 121 stem & nine mouthpieces) and was described as a modern deposit of general building waste and household rubbish overlying the kiln. The pipes recovered from it are rather mixed in nature and include both late 'cutty' types that date from the final years of the site's use (*Ap. fig. 25*), as well as earlier styles that can be matched in the *c.* 1820-60 kiln deposits excavated in 2002 (*Ap. figs. 2 & 4*). Twenty-three bowl fragments were recovered and these included the products from at least 11 different mould types, most of which are represented by one or two specimens (*Ap. figs. 2, 9, 11, 15-17, 19-21 & 25*).

Only the three types mentioned above can be matched with better-stratified groups and this means that the majority of the types recovered from this context provide the only evidence for their production on this site. As this deposit was clearly re-deposited over the kiln after it had gone out of use, these forms cannot be closely associated with particular phases of production on the site. Despite this, they still provide a valuable record of

the forms made here, particularly since so few other good pipe samples were recoverable from elsewhere on the site, and they seem likely to represent 'mid-phase' production, being largely absent from the stratified earlier and late groups that were recovered. As such, the majority are likely to date from the middle or third quarter of the century. None of the 141 stems was marked, which is also notable, since 11 out of the 213 from BRW02 (004) did have marks on them. This suggests that the use of stem-stamping may well have declined or ceased completely around the middle of the century. One of the stems has a thin streak of pale translucent green glaze down one side but it is not clear if this was from a glazed tip or simply a glaze patch that accidentally formed on the stem. There was certainly no other indication of glazed tips from elsewhere on the site, although very few of the later mouthpieces were found and it is worth noting that red lead, which would have been used to make the mouthpiece glaze, was recorded from WSB14 (044), a pit fill.

WSB14 (020) - This context, which was a pit fill, produced a small group of pipe fragments (15 pieces comprising four bowls, 10 stems and a mouthpiece). None of the fragments is marked or decorated and the mouthpiece is a simple cut type from a long-stemmed pipe. The stem fragments also appear to have come from long pipes, some of which seem to have had curved stems. The bowls all have distinctive mould flaws on the sides of their spurs and represent two different mould types, two examples of each mould type being present (*figs. 13 & 14*). Neither of these mould types matched with any of the other excavated contexts and so they seem likely to represent a different phase of production, most likely around the middle of the century.

WSB14 (035) - This context was a demolition layer to the W of wall (012) and produced four pipe fragments; two plain bowls and two stems. One of the bowls is damaged and cannot be identified to mould type but the other is of a mould type different from any other recovered from the excavations (*Ap. fig. 12*). Both of the stems retained have stamped marks on them and both are of the type with relief lettering reading 'SOUTHORN / B NORTH' followed by a 'square and compasses' motif. The presence of these marks seems likely to indicate an earlier date (*i.e. c*. 1820-60) for this group.

WSB14 (037) - This was the fill of a pit containing pipe-making waste and was one of the few closed groups of pipes recovered during the excavations. This material was sampled on site and 57 bowls were recovered together with eight stem fragments and five mouthpieces (70 fragments in total). It was thus not possible to reassemble any of the pipes nor was it possible to see what sort of stem marks were present or to assess the frequency with which they were used. One of the eight stems collected does have a stamp on it and this is an incuse stamp reading 'SOUTHORN / BRIDGNORTH', the only example of its type found from any of the excavations (*Ap*. *Plate 3*). This would probably have been applied to a long-stemmed pipe and copies the contemporary style of mark being used at Broseley in both style and production method.

It also shows that the use of stem-stamping was revived in the final phase of the site's use, after an apparent lull in the third quarter of the century (see context (008) above). This group also included 30 fragments representing at least 26 different pipes from a mould with a rose decorating the bowl and the moulded mark 'J.SOUTHORN / B.NORTH' on the stem (*Ap. fig. 26*). This confirms that the deposit dates from the time when John Southorn was running the site, a short period of only about 10 years, from the time of his mother's death in 1875 until the works closed in about 1886. In total, five different bowl-types were present amongst the sample collected (*Ap. figs. 22-26*), the last two of which were short-stemmed or 'cutty' pipes. A third style of 'cutty' pipe can be added

to this range, since it was found associated with other bowl forms that match this group in 2002 (see BRW02 (303) above). This shows that the range of bowl forms collected from context (037) in 2014 is not complete for the last phase of the site's use and that at least seven mould types were in use *c*. 1875-85.

11.5 Discussion of the Pipe Evidence

Analysis of the finds has shown that at least 27 individual moulds were used on this site over the years (*figs. 1-27*). Only a small number of closely datable context groups were recoverable and so it is difficult to refine the dating for many of these types or to be sure how long each remained in production. It has been possible to allocate eight of the moulds to an 'early' group, dating somewhere between about 1820 and 1860 (*figs. 1-8*). A relatively large sample suggests that this represents most or all of the types that were in contemporary production at some point during this period.

At the other end of the site's use, a 'late' group dating from *c*. 1875-6 was found to contain at least six different types of pipe (*Ap*. *figs 22-27*), to which a seventh can probably be added due to its typologically late form and the stylistic similarity of the symbol mark on its heel (*Ap. fig. 21*). This suggests that this workshop was typically producing seven or eight different patterns of pipe at any one period and that this number remained fairly constant over the entire period of its use.

The next question is how long any of these individual types remained in use. The moulds would almost certainly have been made of cast iron but the life expectancy of these moulds in everyday use is not very well understood. It is evident that the moulds were maintained and repaired at intervals since some exhibit faint 'mould lines' around the rim where the top of the mould has been altered or repaired. Similarly, one of the mould types (*fig. 5*) occurred with at least three slightly different forms to the heel where the mould itself has been reshaped in this area at intervals.

Another of the bowls appears to have had leaf-decorated seams originally but these have been almost completely removed by filing the mould, with just one small section remaining on the front left seam (*fig. 18*). What is certain is that none of the 'early' forms was still in use by the time the 'late' group was being deposited and so none of the moulds was in use for this length of time. In between these two groups are quite a large number of other forms that clearly belong to different phases of production. Many of these mould types are represented by only one or two examples so the total number of moulds that would have been on the site over the course of its life is likely to have been much larger. All the indications are that a relatively small number of moulds would have been in use at any one point but that there was quite a rapid turnover of these moulds over time. This suggests that mould life may have been rather shorter, perhaps just a few years, than has previously been supposed.

With regard to the typological evolution of the pipes themselves, there are two main trends that can be observed. In the 'early' group (*Ap. figs. 1-8*) the pipe bowls are all of a generally similar, forward leaning type with a slightly funnel shape to them. This underlying form remains the same, even when leaf decoration has been added to the seams (*e.g*. *Ap. fig. 8*). Among the later group (*Ap. figs. 22-27*), the bowl profile and rim angle is much more variable, reflecting the fact that individual styles of pipe based on bowl-shape had become much

more popular. The other change is with regard to the stem length and curvature. In the early group, all of the pipes would have had relatively long stems and these appear to have either been straight or only very gently curved. There would have been differences in length between different types of pipe and it is this stem length that would probably have differentiated them as much as any change in the actual bowl form. In the later group, however, the long-stemmed pipes seem to have had more sharply curved stems while short stemmed 'cutty' pipes had also been introduced (*Ap. figs. 25-27*) adding to the range of lengths that were available. These short-stemmed pipes, often with decorated bowls, became very popular in the late 19th century, with large firms offering hundreds of different decorative patterns. Small manufacturers could not produce anywhere near this number of patterns and competition from these large factories was probably one of the reasons for the decline of local workshops such as this.

Only four of the 27 forms identified have moulded decoration on them (*Ap. figs. 7-9 & 26*). This is a much smaller number than would be expected for a comparable group from elsewhere in the country and reflects the fact that Bridgnorth lay firmly within the orbit of the Broseley pipe-making industry. Broseley had developed a reputation for making good-quality long-stemmed pipes with plain bowls and it is clear that this was the style of pipe that was demanded by local markets in and around Bridgnorth.

It is interesting to note, however that none of the fragments recovered from this site was burnished. Burnishing was a finishing technique that enhanced the value of a pipe and was particularly associated with good-quality products. Pipes of this period from Broseley included burnished varieties, which show that the Bridgnorth works was not offering the same range of qualities as was available at Broseley. Similarly, apart from one stem with what could be an accidentally formed patch of glaze, there is no evidence that glazed tips were being produced at Bridgnorth. Untreated pipe-clay is very porous and tends to stick to the smoker's lips unless made damp before use or coated with some sort of finish to seal the pores of the clay. The absence of glazed tips from this site reinforces the impression that it was producing everyday pipes in the local tradition but not competing in terms of the range or quality of its products.

That said, the pipes produced were competently made and with a good enough finish to be able to hold their place in their own sector of the market. In particular, the finishing of the bowls was what would be expected in the Broseley area, including two features that are very rarely found in other parts of the country at this date. First, the internal lip of the bowl rim was often internally trimmed with a knife to give a more slender, bevelled finish to the rim. This technique was widely used on earlier pipes but, by the 19th century, most areas of the country had abandoned this additional finishing task in favour of a simple square-cut rim. Similarly, most pipes before *c*. 1800 had the base of the heel or spur knife-trimmed to remove the mould seam and give a clean, crisp finish. This technique was also abandoned in most areas around 1800 in order to speed up the production process but continued in the Broseley area where more traditional styles remained in vogue.

Analysis of the mould types identified at this site has shown that these finishing techniques were not always used but that, where they were used, it was not at random but almost always specifically associated with particular patterns of pipe (see table below). Some types of pipe (particularly amongst the earlier material) always had trimmed spur-bases and internally trimmed rims (*e.g. Ap. figs. 2 & 3*) while others only ever had either the spur-base (*e.g. Ap. fig. 5*) or the inside of the rim (*e.g. Ap. figs. 4 & 22*) trimmed, but never both.

While there was a general prevalence of these finishing techniques in the Broseley area long after they had been abandoned in other parts of the country, this clearly shows that these techniques were specifically related to individual pipe patterns and so formed an integral part of their expected finish. Some types had neither cut spurs nor internally-trimmed rims, particularly amongst the later material, where these techniques were much more rarely employed. This demonstrates that there was also a chronological dimension to the use of these finishing techniques, with a decline in finishing quality towards the end of the site's use. This can also be seen in the bowl seams, some of which were not trimmed (*e.g. Ap. figs. 25 & 27*). This is quite unusual and suggests that these particular examples were rather cheaply produced and poor quality styles. The two examples given both come from the late group and perhaps indicate that declining standards played a part in the site's final demise. If so, it is possible that other examples with untrimmed seams (*Ap. figs. 18-20*) can therefore be placed towards the end of the site's life. One of these poorly-finished examples (*Ap. fig. 18*) is also the one with an altered mould rim and traces of leaf decoration that has been removed from the mould. The result is a poor quality product that is also indicative of cost-cutting and falling production standards.

Fig.	Mould	MN	Date		T	NT	% T	CI	C	% CI	BSNT
1	A	4	1820-1860	1	2	33%	3		100%		
2	B	43	1820-1860	37		100%	39		100%		
3	C	22	1820-1860	20		100%	22		100%		
4	D	4	1820-1860		4	0%	3		100%		
5	E	23	1820-1860	18		100%		17	0%		
6	F	20	1820-1860	13	3	81%	18		100%		
7	H	17	1820-1860		7	0%		12	0%		leaf
8	G	7	1820-1860		4	0%		4	0%		leaf
9	T	2			1		0%		2	0%	leaf
10	M	1			1		100%	1		100%	
11	R	2			2		0%	1		100%	
12	I	1			1		100%	1		100%	
13	J	2			1		100%	2		100%	
14	K	3			1	1	50%	1		100%	
15	L	1			1		100%	1		100%	
16	Q	2			2		0%	2		100%	
17	S	2			2		0%	1		100%	
18	N	1			1		0%		1	0%	1
19	O	1				-		1		0%	1
20	P	3			2		0%		1	0%	3
21	U	1			1		0%		1	0%	
22	V	8	1875-1886		6	0%	8		100%		
23	W	12	1875-1886		8	0%		10	0%		
24	X	7	1875-1886		4	0%		6	0%		
25	Z	6	1875-1886		3	0%		5	0%	6	
26	AA	29	1875-1886	NA	NA	NA		26	0%		
27	AB	2	1875-1886	NA	NA	NA	1	1	50%	1	

Table 4: Analysis of the mould types showing: the figure number (Fig.); the mould identification letter allocated to that design; the minimum number (MN) of examples of that mould identified; the date range for the 'early' and 'late' groups (only); the number of examples with tripped spurs (T); the number of examples where the spur was not trimmed (NT); the percentage of the total with trimmed spurs (%T); the number of examples with both cut and internally trimmed rims (CI); the number of examples with just cut rims (C); the percentage of the total with cut and internally-trimmed rims; the number of examples where the bowl seams were not trimmed (BSNT). (Note that numbers of rims or heels do not always equal the minimum number identified from the site as a whole since some examples are missing their spurs or rims).

Analysis of the finishing techniques used on particular mould types shows that understanding the style and quality of any given bowl form is much more complex than simply classifying its shape. In the same way, the stem length would have been an equally important factor for contemporary consumers in choosing which sort of pipe to buy. Good excavated groups are needed so that complete examples of the various mould types can be reassembled but it is likely that the best finishing was used on the more expensive patterns of pipes, which would have been those with the longest stems and perhaps the 'straws' (those with thin delicate stems). These better-quality patterns of pipe were also those that would probably have been marked. The low incidence of stem stamps amongst the earlier group (only around one in six pipes) makes it likely that only selected patterns of pipe were 'branded' in this way.

Two different styles of stamped mark were in use during the early period (*Ap. Plate 1*) but there is not enough evidence to show whether these were associated with specific bowl forms or whether there is any chronological distinction between them. There were certainly two almost identical dies being used to create the second style of mark (*Ap. Plate 1,* bottom), which suggests that more than one worker was finishing pipes with these marks at any one time. The relatively large group of pipes from WSB14 (008) contained mainly 'mid-range' bowl forms but no stamped stems, suggesting that stem-stamping may have gone out of use for a while around the middle of the century (although the sample size is rather small to be sure of this). Likewise, insufficient stems were found to assess the later production in any detail but stem-stamping using a different (incuse) style of mark had clearly come into use (*Ap. Plate 3*), with moulded marks also being employed. One of these moulded marks identifies John Southorn as the maker (*Ap. fig. 26*) but others only have generic symbol marks (*figs. 21-24*) which are not specific to any one manufacturer. These would not have served to identify or promote the business and can be seen more as part of the style of design of these particular patterns of pipe rather than serving any advertising function.

The final point to note about the pipes is that two coiled stem fragments were recorded from spoil that is likely to have come from kiln waste associated with earlier phase of pipe production on this site (*figs. 28-29*). This dating (*c*. 1820-60) would also fit with the period during which this style of pipe was in vogue (Higgins 2005). These were pipes made in ordinary long-stemmed moulds that had had their stems twisted into various coiled forms before being fired so as to produce novelty pipes. Examples of these coiled pipes occur widely across the country but can now be shown to have been produced at Bridgnorth as well.

11.6 The Kiln Debris

The kiln debris present on any pipe-production site is fundamental in understanding the kiln technology that was being used and in comparing that technology with evidence from elsewhere. The following descriptions of the

groups of kiln debris are, so far as possible, arranged in chronological order from earliest to latest. The nomenclature used follows that set out by Peacey in 1996. A total of 22 pieces of kiln waste, plus one bag of ashy residue, were retained for study.

11.6.1 The 2002 Excavations

The author visited the site in 2002 and noted four types of kiln debris from Trench 1, which was the trench that produced large quantities of waste pipes dating from c1820-60. First, there were numerous fragments of thin pipe-clay sheet, which were typically used to stabilise the load within the kiln and to provide a temporary covering to seal the muffle chamber. Second, there was a fireclay bat, about 25-30mm thick, that had been bonded into a larger structure using fireclay. The external surface (the broad side of the bat) had been coated with a 10mm thick layer of fireclay and subjected to direct contact with the flue gasses so that it had completely vitrified to produce an uneven brown glassy surface. Third, there was a piece of muffle chamber lining made of buff fireclay and 10-15mm thick. This had been pressed against a hard surface (from which it had flaked) and then the internal surface coated with layers of white pipe-clay luting. Finally, there was what appeared to be a small piece of fireclay sagger, about 15mm thick and with the rim cut at a slight angle down towards the interior (the exterior being identified by a slight flash glaze). This seemed to have come from a flat-sided sagger rather than a round one and is very similar to a fragment from WSB14 (029) (see below). The site also produced a small fragment made of white pipe-clay roughly made into a circular shape with a diameter of about 75mm. Previously-fired pipe stems appear to have radiated from the curved sides of this object (three impressions survive). This fragment may well have come from a prop with pieces of projecting pipe-stem used to make 'arms' against which to rest the ends of the pipes as they were stacked for firing.

11.6.2 The 2014 Excavations

A total of 25 pieces of kiln debris was collected from the work in 2014, plus a sample of ashy debris from context (037). The kiln debris from 2014 is described below, with the contexts having, so far as is possible, been placed in chronological order from earliest to latest.

WSB14 (026) - The kiln debris from this pit is stratigraphically earlier than (020), which was a 'mid-phase' deposit (see below). Kiln debris sampled from this fill included a fragment of buff fireclay brick, 60mm thick, one side of which has vitrified to a glossy dark brown from exposure to the flue gasses (265g).

WSB14 (020) - This context was a pit fill that contained two pipe-bowl types, neither of which could be matched with either the early or late groups from elsewhere on the site. This context can, therefore, be regarded as a 'mid-phase' group, dating from around the middle of the 19th century. It is stratigraphically later than context (026) above.

Four pieces of kiln debris were sampled from this deposit. One piece is just an amorphous piece of glossy brown slaggy concretion on a fireclay base that must have come from one of the flue areas of the kiln (104g). There is also the corner of a pinkish/grey fireclay bat, 30mm thick, which has been set on edge to form part of the kiln

structure. The external surface of this piece is vitrified to a matt brown from direct contact with the flue gasses (425g).

Finally, there are two fragments from the lining of the muffle chamber itself. One of these is just a chunk from the wall, the external surface of which appears to have been pressed against a hard surface from which it has flaked (230g). What is significant about this piece is that it shows that repeated linings of fireclay were applied to the muffle chamber wall (*Ap. Plate 4*). There are two pinkish fireclay linings, each about 10mm thick, on top of which are about 4mm of white pipe-clay washes, showing that this was at one time the inner surface of the chamber.

At a later date another fireclay lining was applied, this time white and up to about 15m thick, and then a further 4mm of white pipe-clay washes. The final piece looks a little like a 'rim' fragment (*Ap. fig. 32*), although this is more likely to be an internal shelf for stacking within the chamber (238g). This piece shows a similar construction sequence with a thin pinkish fireclay layer (about 5-7mm thick) with white pipe-clay wash that has been overlaid with a thick white fireclay (up to 20mm) over which are further white pipe-clay washes. The first pinkish layer stops at the at the top of its vertical run but the second whitish layer turns a right-angle above the pinkish layer to form a horizontal 'rim' about 50mm wide. The outer part of this has flaked rather and the surface it was bedded against turns up at its outer edge too, which is why it could be a shelf with the next vertical lift flaked off, rather than a final lip to the chamber opening.

WSB14 (037) - This context was a pit fill that contained large numbers of pipes made by John Southorn and therefore datable to *c*. 1875-86. A bag containing a large number of small and generally crumbly fragments was sampled from this context (130g). Most of these pieces appear to be a very light and poorly-compacted white material with many voids in the fabric and a dark-ash coating externally. The identification of this is uncertain since it could be a light clay body or some sort of burnt mineral. There are also a smaller number of very dense heavy slaggy fragments and some cindery material. This material most likely derives from the ash pit of the kiln.

WSB14 (029) - This context represents the blocking of the flue and demolition of the kiln and so can be related to its final use in about 1886.

Seven pieces of kiln debris were retained from this context. One piece is a half brick, 110mm wide and 60mm deep (1,475g). This is discoloured to a pinkish hue but is probably made of fireclay. The corners and edged have been chipped or rounded and there is white clay coating over most of it but with one side showing traces of having been permanently bedded against something. This has probably been used (or reused) as a prop within the kiln.

The second piece has certainly been used as a prop and is also made from half of a firebrick (1,041g). In this instance, the fabric is buff-coloured and the edges have almost all been carefully chipped away to leave a cylindrical drum shape with a diameter of about 100mm and a depth of 63mm. Part of one flat face survives on the side of the drum (*Ap. fig. 35*). There are two fragments from the lining of the muffle itself. These are both of very similar form but must have come from different linings since the larger piece (*Ap. fig. 31*; 474g) has a pinkish fireclay body while the smaller (284g) is made of a very pale buff (almost white) fireclay. Both fragments come

from the same type of lining that has clearly been applied directly to a hard, faceted surface, the impressions of which are clearly visible on the back (*e.g. Ap. fig. 31*). These facets were almost certainly formed by firebricks or bats forming the outer cylinder of the muffle chamber. At the top, both pieces extend over the top of one of these firebricks to form a 'rim' about 30mm wide in the larger piece and 35mm wide in the smaller, which could either have formed an internal shelf or the top opening of the muffle chamber. The internal surfaces of both pieces (but not the top of the 'rim') are coated with white pipe clay washes.

The next piece (201g) is made of fireclay and looks like part of a sagger except that it is of a very unusual form. It appears to be from a straight-sided vessel, the sides of which are sloping steeply inwards (*Ap. fig. 33*). Furthermore, the base extends inwards for about 100mm, after which there is an angled cut edge, very similar to that observed amongst waste from 2002 but apparently cut in the other direction (if the flash glaze on the other fragments marks the outside; see above). The function of this piece is uncertain.

The final two pieces join and to form about half of a bun (1,879g & 1,755g, making 3,634g in total). This is very substantially built, having a thickness of about 60mm and a slightly uneven circular form with a diameter of 300-350mm (*Ap. fig. 34*). It appears to have been made of fine compacted white-clay trimmings, of the type generated by trimming pipe seams, and had been reinforced internally with three layers of pipe stems, with the central layer being placed at 90 degrees to the other two. One long fragment is clearly curved, showing that stems of this type were in production. The bat has been formed on a flat surface that has left a ridge across the base, most likely where two planks of wood were used as a working surface to make it on. There is also a slight circular scar of white clay in the centre of the base with a diameter of about 10cm. This is where a circular prop would have been bedded using pipe clay when the bun was set up within the kiln.

WSB14 (013)/(035) - These two contexts are equated as being the same in the site matrix and represent rubble/demolition deposits immediately overlying the kiln. Six fragments of kiln debris were collected from context (013), all of which have glossy dark brown/black surfaces on them, showing that they came from flue areas of the kiln. Four of the pieces come from commercial buff clay firebricks, two of which join to show how they were bedded in the kiln structure. The two joining pieces weigh 453g and 186g; the other two pieces are 1,097g and 82g. Two of the fragments have complete depths for the bricks surviving, both of which are 65mm. The other two fragments are both amorphous fragments with vitrified surfaces. One appears to be a piece of burnt stone (134g) and the other a chunk of white clay (106g).

The finds from (035) are quite different in nature and comprise four fragments from within the muffle chamber itself. One is a wall-lining fragment made of a buff clay with a thickness of about 10mm for the walls but then expanding to a squarish 'rim' about 30mm deep and 35mm wide at the tip (459g; very similar in form to *Ap. fig. 31*). This could either have been an opening at the top of the chamber or a shelf within it. Both the wall and rim exterior have been formed against a hard surface and the back of the wall clearly shows impressions of two bricks or bats against which it has been formed. There are multiple white-clay wash-linings to the interior but these do not extend onto the top of the rim or shelf. There are two further wall fragments from the chamber lining (71g & 69g) of similar construction, with about 10mm of pinkish clay overlaid by white slip washes on the interior. The final piece is a lump of vegetable-tempered white clay (very light and full of small voids) that has been pushed against a concave surface and then crudely smeared smooth with the fingers on the top (28g).

WSB14 (008) - This context was a layer of demolition debris and modern rubbish above the kiln (and later than contexts (013)/(035)) from which five items were retained. There is one fragment from a ring-wad made of white pipe clay (22g; *Ap. Plate 5,* top). This has been flattened to a thickness of 12mm and has an external diameter of about 80mm. There are two small joining fragments (2g total) of a vegetable-tempered pipe-clay made into a thick sheet (about 4mm), one side of which appears to have been formed against paper (*Ap. Plate 5*, bottom). The other two objects may not be directly associated with the kiln and comprise a small chip from a highly fired brick (5g) and a piece of mortar bedding from between two bricks, with a white painted surface (24g). This could well be from the demolition of the workshop wall, showing that it had a lime-washed interior.

11.7 Discussion of the Kiln Evidence

Although the kiln debris noted in 2002 was unstratified, the trench from which it had come produced large quantities of pipes dating from *c*. 1820-60. It is at least possible, therefore, that these fragments represent the earlier kiln technology being used at the site. The kiln structure at this time seems to have included clay bats that were set on edge and coated with a layer fireclay on the outside, which was in direct contact with the flue gasses.

The interior of the muffle was also coated with a layer of fireclay, which was finished with pipe-clay luting. There was also evidence for the use of clay sheeting to seal the load prior to firing and for what appears to have been straight-sided saggers. The use of saggers at this date would be particularly interesting, if this fragment does indeed belong to the 1820-60 period. The pipes being produced at this date appear to have all been long-stemmed types and so a long, rectangular sagger, such as those known to have been developed at Broseley (Walker 1977, *fig. 98*), would have been required to hold them. Large saggers like this, however, would have required a much larger kiln than that excavated at this site to hold them. What is perhaps more likely is that this fragment comes from the base of some other type of fireclay object, as represented by the fragment from WSB14 (029) (*Ap. fig. 33*). If so, then the bevelled cut to the interior slopes in the other direction (assuming the flash glazed surface was on the outside). With the exception of the clay sheeting, all of the classes of kiln debris noted in 2002 can be matched with finds from the 2014 excavations. If these pieces really do date from the earlier period, then this would show that the same type of kiln technology would have been used for most or all of the site's life.

The 2014 finds come from a couple of small pit groups of 'mid-range' date but principally from late deposits associated with the final use and demolition of the kiln during the period *c*. 1875-86. These fragments, together the surviving base of the kiln itself, provide a good indication of the overall nature of the kiln, even if some of the detail is missing. The muffle chamber itself was carried on a barrel vault of firebricks that also formed the roof of the fire box (*Ap. Plates 6-8).* This is a unique form of construction that has never been recorded before, the muffle usually being supported directly on radial supports from the sides of the kiln. In this case, the barrel vault has been constructed between seven radial firebrick buttresses (three on each side and one at the back) that also formed flues to lead the gasses up around the muffle itself (*Ap. Plate 6*). The fire-mouth itself had an arched opening, now almost completely missing, that had later been blocked, presumably when the kiln was abandoned. There was then a short gap before the barrel vault carrying the muffle, so that gasses could pass up in front of it as well (*Ap. Plate 8*, left-hand side). Fire bars still survived inside the fire-mouth (*Ap. Plate 8*).

The external diameter of the firebrick ring forming the outer wall of the kiln was 1.4m but this was set within and supported by a larger 2m square brick base. The muffle chamber was constructed directly on top of the barrel vault and its base seems to have been formed by laying a dished bed of clay within a ring of firebricks, which also provided the footings for a cylindrical outer wall for the muffle chamber.

In the centre of this dished base was a raised area of clay about 180mm in diameter that was probably the bedding for the central prop that would have supported the load within the muffle chamber itself. This bedding is another feature unique to this kiln site that has never been observed before. The kiln debris included fireclay bats set on edge and these may have been used higher up in the outer wall of the muffle, perhaps above a peripheral shelf, where the walls would have been thinner. The interior of the firebrick chamber was then coated with a layer of fireclay that was finished with washes of pipe clay, in the same way as a normal muffle kiln. There is also evidence for at least one peripheral shelf of about 50mm in width and then either a second shelf or a top opening to the muffle of 35mm in width. The internal diameter of the kiln, as represented by the inner surface of the lining fragments, was around 550-600mm.

In order to support the load within the kiln, a system of props and buns was used in conjunction with peripheral shelves (*cf* Peacey 1996, *fig. 94*). The only evidence for props comprised one half-brick that had been adapted to form cylindrical supports with a height of just 63mm (*Ap. fig. 35*) plus a second half-brick that had possibly been used for the same purpose (60mm tall). These props would have been far too short to be of much use for the long-stemmed pipes that formed the mainstay of production for much of the site's use and were still in production in this late phase. It is probable that larger, purpose-made props were also used and that these short props were only for 'fine tuning' (the lowest central prop appears to have been permanently bedded within clay in the centre of the muffle chamber, *cf* above and *Ap. Plates 6-8*) .

One bun for resting the stem ends on was also recovered (*Ap.fig. 34*). This is large and very substantially constructed, with three layers of pipe-stem reinforcement within it. There is a 100mm diameter scar on its base from where a prop would have supported it. A single ring-wad fragment, with a diameter of 80mm, was also recovered and this would have been used as bedding between the props and buns (*Ap. Plate 5*, top).

Besides the nature of the main props, another unknown is how the muffle chamber itself was sealed during firing. Normally muffle kilns were sealed with a final capping of slag/stem laminate but no evidence for this was recovered from any of the excavations.

Parallels for this kiln are hard to find for a number of reasons. First, it is the most complete kiln base that has ever been excavated. No other kilns with the base of the muffle chamber *in situ* have ever been found and so it is hard to know how representative features such as the dished base and the central setting for the main prop actually are. Second, it includes construction techniques, such as the barrel-vaulted support for the muffle, which is unparalleled on any other known site. Third, it includes sagger or kiln furniture fragments of a form that has not been previously recorded and that are of unknown function (*Ap. fig. 33*). Finally, the construction technique used for the muffle is extremely unusual. Normally muffle chambers were constructed of clay plastered around a framework of previously fired pipe stems in the same way as wattle and daub. The use of

firebricks to form an external cylinder is only paralleled by one previously-known example, from Westgate Street in Gloucester (Peacey 1979, 72-5). The Westgate Street kiln is contemporary, dating from *c*. 1871-5 but only the demolished remains of the upper part of the kiln was found, not the base itself. The construction of this differed in detail in that there was no evidence of an internal lining within the firebrick shell and the peripheral shelves were formed around previously-fired pipe stems set between the brick courses rather than being an integral part of the lining itself.

There were many links between pipe-makers in the Severn Valley and Broseley pipes were traded down the river in large numbers, which may explain the connection between these two sites. The connection between the Southorn family in Bridgnorth and Broseley is also important. The Broseley area rose to become a nationally-significant pipe-production centre during the 17th century and maintained that position until the last works there closed in about 1960 (Higgins 1987). Until the second quarter of the 19th century, the Broseley industry was serviced by large numbers of essentially family run workshops, each of which would probably have had its own kiln. Despite this, none of the 18th -or early 19th -century kilns has ever been excavated and so it is impossible to say what form these took or how they developed.

Given the distinctive nature of the pipes produced in Broseley (which specialised in long-stemmed varieties), it is likely that kiln technology would have evolved there to meet these requirements. Thomas Parsons Southorn Jr. learnt his trade in Broseley and established his business in Bridgnorth at the very end of the 18th century before setting up what appears to have been a new works at Whitburn Street in about 1822. The technology he employed is likely to have been the same as that current in Broseley at the time and so this site provides a window into what might be expected at that important production centre. It also stands as a nationally-important type site in studying the size and nature of the kilns that would have been used by a small family-run business around the middle of the 19th century.

The wider range of products that could be offered by larger factories once the rail network had become established contributed to the demise of these small local works, which had once flourished in almost every market town across the country**.**

The Bridgnorth kiln base is an extremely rare survival and one that is of national importance.

11.8 Illustrations

11.8.1 List of Figures

The illustrations start with the 27 pipe mould types identified during this study (*Ap. figs. 1-27*) followed by decorated stems (*Ap. figs. 28-30*) and then illustrations of the kiln debris (*Ap. figs. 31-35*). The following list gives the context number(s) for the illustrated pieces. Most of the pipe illustrations are composite drawings prepared from two or more examples so as to provide as complete a representation as possible of each individual mould type. Where the illustration is based on fragments from more than one context, then both context numbers are given. The following list also notes those bowl forms specifically associated with the 'early' and 'late' deposits. All of the drawings were prepared by Dr S. D. White.

1 – Bowl form from the 'early' group of *c.* 1820-60. BRW02 (004)

2 – Bowl form from the 'early' group of *c.*1820-60. Composite drawing from BRW02 Trench 1 U/S and an unstratified find recorded in 2002

3 – Bowl form from the 'early' group of *c.*1820-60. BRW02 (004)

4 – Bowl form from the 'early' group of *c.*1820-60. Composite drawing from BRW02 (004) & BRW02 Trench 1 U/S

5 – Bowl form from the 'early' group of *c.*1820-60. BRW02 (004)

6 – Bowl form from the 'early' group of *c.*1820-60. BRW02 Trench 1 U/S

7 – Bowl form from the 'early' group of *c.*1820-60. BRW02 (004)

8 – Bowl form from the 'early' group of *c.*1820-60. BRW02 Trench 1 U/S

9 – WSB14 (008)

10 – Unstratified find recorded in 2002

11 – WSB14 (008)

12 – WSB14 (035)

13 – WSB14 (020)

14 – WSB14 (020)

15 – WSB14 (008)

16 – WSB14 (008)

17 – WSB14 (008)

18 – Unstratified find recorded from the site

19 – WSB14 (008)

20 – WSB14 (008)

21 – WSB14 (008)

22 – Bowl form from the 'late' group of *c.*1875-86. WSB14 (037)

23 – Bowl form from the 'late' group of *c.*1875-86. WSB14 (037)

24 – Bowl form from the 'late' group of *c.*1875-86. WSB14 (037)

25 – Bowl form from the 'late' group of *c.*1875-86. WSB14 (008)

26 – Bowl form from the 'late' group of *c.*1875-86. WSB14 (037)

27 – Bowl form from the 'late' group of *c.*1875-86. BRW02 (303)

28 – Unstratified find recorded from the site

29 – Unstratified find recorded from the site

30 – BRW02 Trench 1 U/S

31 – Muffle chamber lining from WSB14 (029)

32 – Muffle chamber lining from WSB14 (020)

33 – Unidentified fireclay object from WSB14 (029)

34 – Reinforced bun made of pipe=clay trimmings from WSB14 (029)

35 – Prop made from an old firebrick from WSB14 (029)

11.8.2 List of Plates

Ap. Plates 1-5 were taken by the author; Plates 6-8 are site photos taken by Border Archaeology

Ap. Plate 1 – Two types of relief stem stamp used by Thomas and Elizabeth Southorn c.1820-60 (examples from the author's collection).

Ap. Plate 2 – Applied strip with traces of clay sheet adhering (BRW 02 (303))

Ap. Plate 3 - An incuse stamp reading SOUTHORN / BRIDGNORTH that can be associated with John Southorn's running of the site in its final phase from c.1875-86 (WSB14 (037))

Ap. Plate 4 - Muffle lining (section) showing repeated linings of fireclay and pipe clay wash (WSB14 (020))

Ap. Plate 5 – Part of a ring wad and two fragments of a thick clay sheet (WSB14 (008))

Ap. Plate 6 – Plan view of the kiln as excavated with the (later blocked) fire-mouth at bottom right.

Ap. Plate 7 – View north of the kiln as excavated, showing the back of the barrel vault supporting the base of the muffle chamber.

Ap. Plate 8 - View N of the kiln as excavated, showing the blocked arch (collapsed) to the fire-mouth and one of the surviving fire-bars to the left.

Ap. Plate 1

Ap. Plate 2

Ap. Plate 3

Ap. Plate 4

Ap. Plate 5

Ap. Plate 6

Ap. Plate 7

Ap. Plate 8

11.9 References

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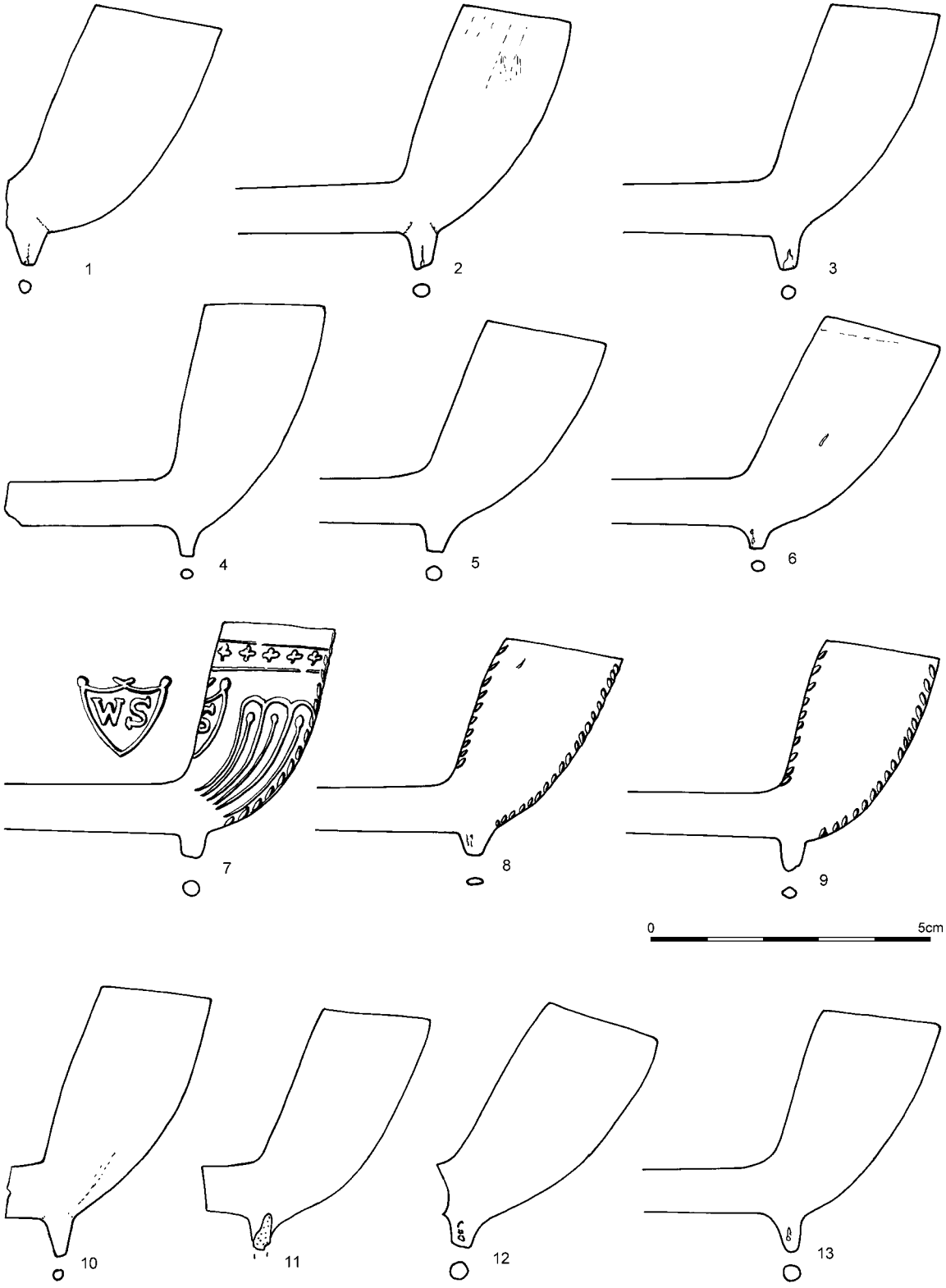
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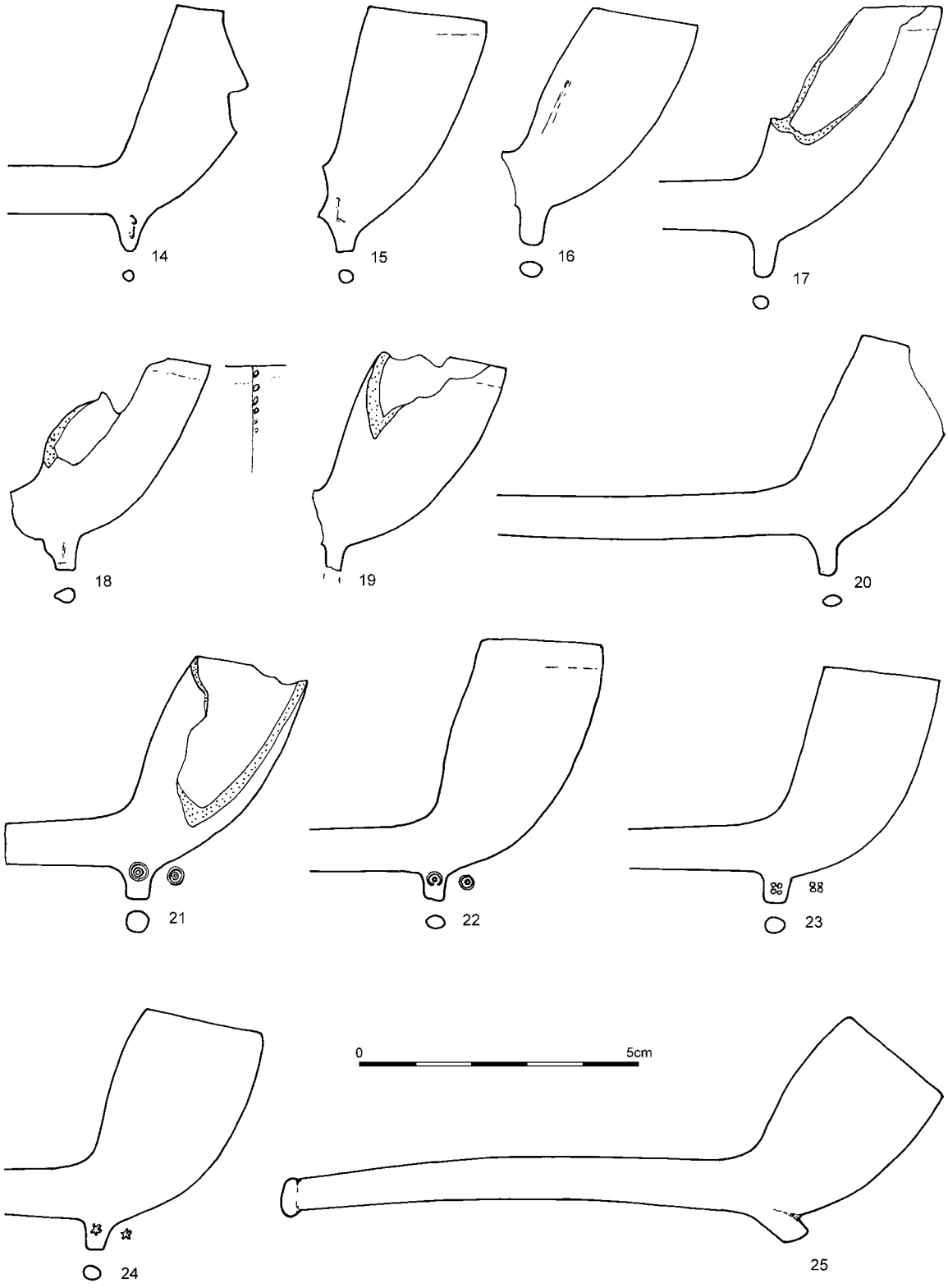
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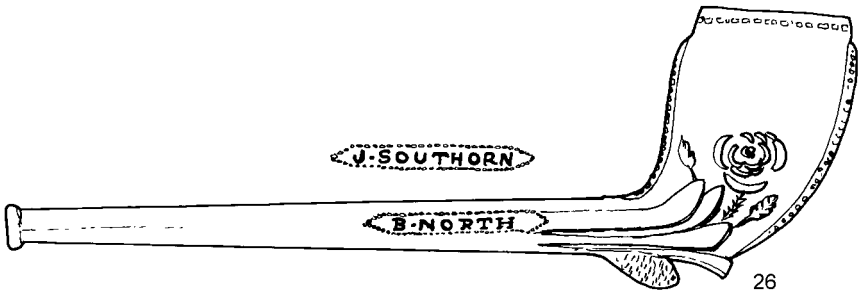

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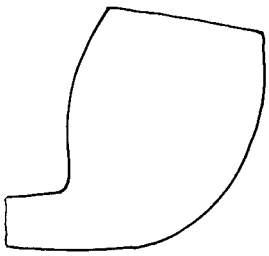

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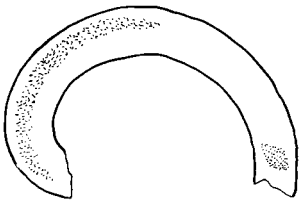

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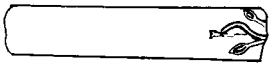

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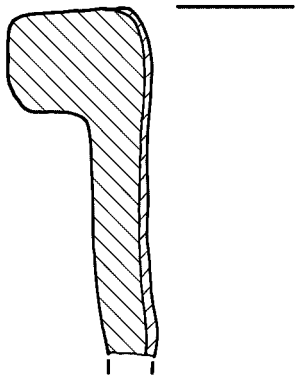

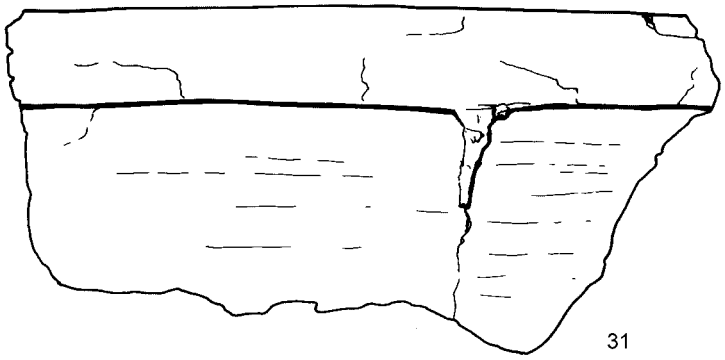

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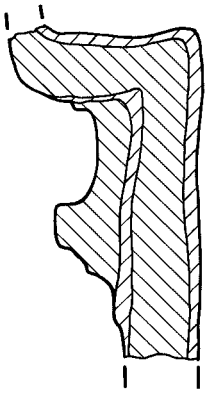

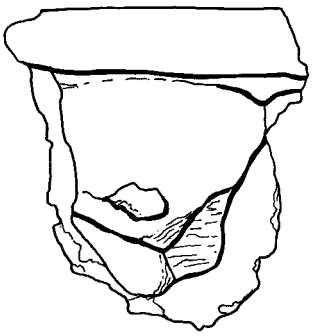

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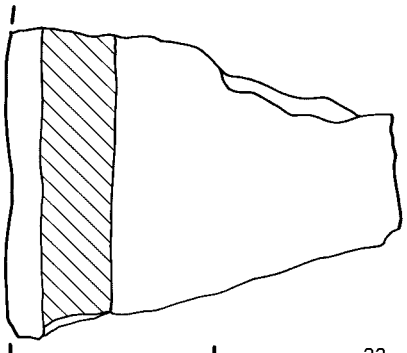

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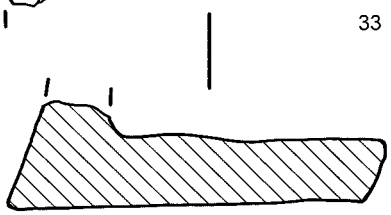

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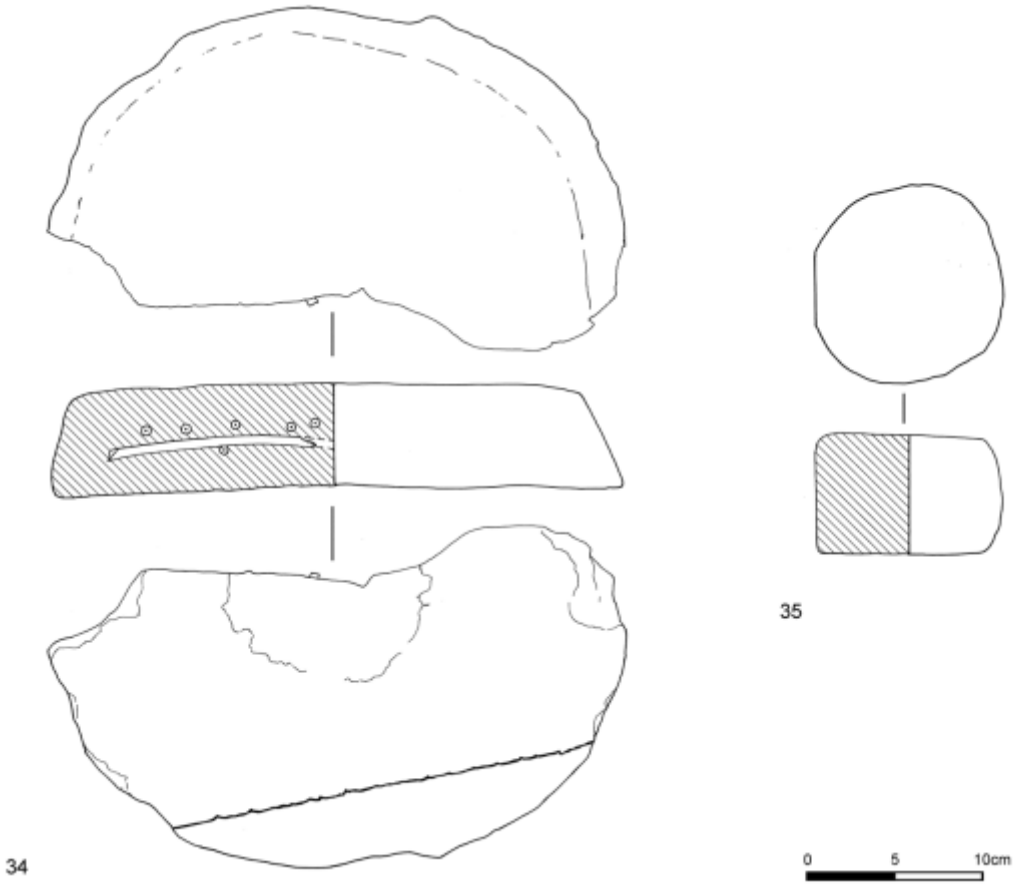
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12 Appendix 3: A note on the medieval and post-medieval pottery

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12.1 Introduction

A total of 24 sherds of medieval and post-medieval pottery ranging in date from between the later 13th century and the 19th centuries was recovered from the site at the corner of Pound Lane and Whitburn Street in Bridgnorth.

During work on site a considerable amount of pottery from later deposits was visually assessed; this material was sampled rather than being retained. Pottery from pit [045] was identified on site, but owing to the presence of a deposit thought to be red lead it, too, was not retained. Pottery from the very latest deposits, including dumps and levelling was not retained.

12.2 Method

The pottery was washed and was examined under magnification (x10) and was sorted on form and fabric. The results were entered on an Excel spreadsheet.

12.2.1 The later post-medieval pottery (Phases 2 & 3)

The later post-medieval pottery was recovered from contexts dating to the period during which the kiln was in use and immediately afterwards. It included a sherd of a mocha ware chamber pot, recovered from a pit containing clay pipe debris (037) and a fragment of the same fabric from a post-industrial dumping layer in the vicinity of the kiln. Also present were sherds of Staffordshire coarsewares including baking wares, and transfer printed wares. Pottery from (044) the fill of pit [045] included plain white ware and sherds of earthenware pancheons, suggesting that this deposit dated to the 19th century.

12.2.2 The post-medieval and medieval pottery (Phase 1)

Pottery from Phase 1, thought to predate the factory, was recovered from three features, all of which were heavily truncated by activity relating to the Phases 2 and 3 construction and subsequent demolition of the factory. From pit [53] came a sherd of stoneware, possibly the base of a tankard. It appeared to have been burnt. A sherd of a fine redware with an internal and external black glaze was thought to date to the 16th or 17th century. The Pottery included two sherds of black glazed cups, including the base of a possible tyg, with evidence for at least two handles. However, the pit had been disturbed or the pottery was residual as a sherd of modern white pottery was also present in the same deposit. Sherds of black glazed coarseware were recovered from the same feature. A single sherd of medieval pottery probably dating to the later 13th to 14th centuries was found in the same deposit suggesting considerable disturbance of earlier features on the site.

Pottery dating to the later 13th or 14th century was recovered from (059), the fill of culvert [057]. Two sherds were of a jug or pitcher in an iron rich fabric with frequent well-sorted rounded quartz. It had oxidised red brown

surfaces and a reduced core. One sherd had spots of an external clear glaze while the other was decorated with a painted iron rich slip and a thin green speckled glaze. It seems likely that the unglazed patches on this sherd may have been part of the decorative scheme. These sherds may have come from the same vessel. A further sherd of medieval pottery from the same deposit was of a very similar fabric. It had an internal green glaze suggesting a form other than a jug.

12.3 Conclusions

The majority of the later post-medieval pottery seen on the site was poorly stratified in layers relating to the demolition of the clay pipe kiln in the early 21st century. The medieval pottery probably dates from the period following the establishment of burgage plots in the area in the 13th century. The features containing this survived in a very limited part of the site and had been heavily truncated. However, it would seem to indicate the potential survival of deposits of this date in the locality.

13 Appendix 4: Pipe-making in Bridgnorth

A list of the pipe-makers known to have worked in Bridgnorth has been compiled and can be found in the Appendix to this report. Most of the research undertaken has focussed on 19th -century sources and so the list is likely to be fairly complete for this period. There are a number of pipe-makers recorded in the Bridgnorth Burgess books from the early 18th century onwards. There has not, however, been any systematic work on the earlier records and so it is quite possible that pipe-makers were established in the town at a much earlier date than the current list would suggest.

Bridgnorth is an old market town situated on the Severn, where it commands one of the few river crossings, and it is located about seven miles SSE of the important pipe-making centre at Broseley. The main settlement, known as 'High Town', occupies a high sandstone outcrop overlooking the river, below which lies a subsidiary settlement known as 'Low Town'. This probably grew up from the trade generated by a combination of road and river traffic at the crossing point. A background to the town is conveniently given by Dr J. F. A. Mason in the Bridgnorth Official Guide (undated, 11):

"The town has grown slowly through the centuries, though most rapidly with the new housing development of the years since 1948. The main factors of the town's prosperity were, in earlier days, the presence of the castle, the town's situation on an important road from Bristol to Chester, a cloth industry, and (until about 1850) the river trade, of which tangible reminders still remain in the rings on the Bridge, three sets of Quay steps, and an iron barge rail. After 1760 the town Mills were the scene of early operations by the Darby's Coalbrookdale Company; in the 1790s an important early foundry was set up by the Hazeldine family in Low Town. Early in the 19th century came the manufacture of carpets which has ever since remained an important industry in the town, and was long the staple industry."

River traffic was responsible for much of the trade until the mid-19th century and was doubtless one of the key factors in the early development of industry on the Shropshire coalfield. An indication of the quantity of trade that affected Bridgnorth is given by a note in the *Gentleman's Magazine* for 1756 (quoted in *The Salopian Monthly Illustrated Journal*, March 1876):

"Bridgnorth had 41 owners of vessels, who had 75 barges and trows, the former carrying 20 to 115 tons, and the latter 40 to 80 tons burden, and worked by from three to four men each, besides horse drivers."

There are four references to pipe-makers being made burgesses of the town during the 18th century; Thomas Hughes of Broseley in 1709, Francis Deacon of Wolverhampton in 1727, Richard Cope of Wolverhampton in 1732 and Richard Jewkes of Astley in 1757. The fact that these individuals are all named as coming from other places may indicate, however, that they only wanted voting or trading rights in the town and they may not actually have worked there. In any case, it seems unlikely that these would have been the first makers in Bridgnorth, since not only is it a market of suitable size to support the trade but it must also have had pipe-clay bound for Broseley passing through it since at least the early 18th century. The earliest firm reference to pipe-making in the town dates from the very end of the 18th century, when Thomas Southorn is first recorded in 1799 (see *Appendix*). A few years later, in 1807, John Rhoden (*sic*), pipe-maker, took Elizabeth Corns as an apprentice in housewifery (Much Wenlock Archives Q1/7/25). The 1807 reference is the only one known for John, although he is almost

certain to be related to the prolific pipe-making family of that name in Broseley and had moved to work there by 1812 (see Appendix 1). There is an early 19th -century mark reading 'I.RODEN/B.NORTH' in relief along the stem in Bridgnorth Museum which must have been produced by this maker in the town before 1812.

The remainder of the 19th century industry appears to be bound up in the workshops of two families, the Phillips' and the Southorns', who can be traced through until the end of the century. These two families were probably related, with the Phillips family apparently working for the Southorn family before setting up their own works in about 1850. With the possible exception of John Perry (see below) all of the other pipe-makers recorded in the census returns appear to be employees of these two firms. None of the other pipe-makers appearing in the census or other records appears in their own right in the local trade directories, no pipes marked by them are known and often local residence or family ties suggest that they worked at one of the two main workshops. Details of these two dominant pipe-making families will be considered individually.

The Southorn Family: The Southorn family business was founded by Thomas Parsons Southorn Jr., who was working in Bridgnorth by 1799 and is the first pipe-maker who is certainly known to have worked in the town (the spelling of the family surname has been standardised as Southorn in this report, which is as it was used on their pipe marks, although contemporary documents often give it as Southern). Thomas was also the earliest member of this well-known family known to have been a pipe-maker (his younger cousins from Cardington later moved to Broseley where several of them worked as pipe-makers, in particular William Southorn I, who established a nationally important business there in 1823). Thomas was born in Broseley and appears to have had close family ties with other pipe-making families there. As a result he is likely to have brought Broseley styles and production techniques with him to Bridgnorth.

His father was Thomas Parsons Southern Sr, who was baptised on August 2nd 1747 and married Lydia Legg at Much Wenlock on May 4th 1770. Lydia was daughter of Samuel and Elizabeth Legg, who may well have been members of the Legg family of pipe-makers. They appear to have moved to Broseley where a son Thomas Parsons Southorn Jr. was baptised on 19 May 1771. Thomas Parsons Sr. must have died within a short time since his widow married a Richard Russell at Broseley on 24 June 1776. Although no firm connection can be demonstrated, it is worth noting that an 'I.RUS(SELL)' was working as a pipe-maker in Coalbrookdale during the early 19th century (stem mark; Higgins 1987, *fig.* 64.13). Oswald (1975, 199) notes a John Russell in Worcester in 1835, perhaps the same person since no later documentary record has been found of the Coalbrookdale maker. In addition, it may be significant that Richard's stepson should choose the Christian names John Russell for one of his own sons (see *Appendix*). From all this, it seems likely that Lydia was again associating with a pipe-making family. This means that Thomas Jr.'s mother and stepfather may both have been from pipe-making families, giving him ample opportunity to learn the trade. What is certain is that he was eventually to become a pipe-maker with his own works in Bridgnorth.

Thomas Parsons Southorn Jr. married Susanna Gethen, who probably also came from a pipe-making family, at Dawley Magna on October 3rd 1790. The fact that he was only about 19, while she was about 35, brings into question the reason for the marriage perhaps more of a political union between families rather than a romantic arrangement. It is possible that they lived and possibly worked as pipe-makers in Broseley for a short time but, by 1799, they had moved to Bridgnorth where they set up a pipe-works (Wight 1950, 39). Their first works was probably at a property in St Mary's Street, which was described as a "dwelling house, shop, buildings, garden

and premises . . . late in the occupation of Thomas Southern, pipe-maker, but now void" when it was sold in 1822 (*The Salopian Journal*, No 1,500, October 30th 1822). This reference presumably marks the moment when the business moved to a new site on the corner of Pound Street and Whitburn Street, where Thomas is documented from 1824 onwards (Appendix 1). Susanna died in 1826, aged 71 and apparently childless. By 1832, Thomas had married a younger woman, Elizabeth (*née* Rutter), who had been born in Bridgnorth in about 1788. She was already a widow with children of her own when she married, one of whom (Michael Bradley) was also recorded as a pipe-maker, as were her grandson Edward Bradley and his wife Elizabeth. All three of these individuals probably worked at the Southorn factory, as it appears did Daniel Phillips initially. Daniel had married Mary Ann Rutter in 1832 and it is her surname that suggests the two families were related. Elizabeth bore Thomas at least three children; a daughter, Isabella, and two sons, Thomas and John Russell, both of whom later went on to work at the family business.

Thomas Parsons Jr. died in 1845 aged 73 but his widow Elizabeth continued to run the business at Pound Street until her death in 1875, aged 86. It seems likely that it was during this period that the largest output from the Bridgnorth works was achieved. The census returns record that not only were her two sons helping but that other workers were being employed. In 1861, Elizabeth's grandson, Edward Bradley, was living with them at 24 Pound Street and working as a pipe-maker (census returns). In addition, William Bradley, another clay-pipe maker and his family were living next door at 23 Pound Street. He may well have been working for Elizabeth, especially since 23 Pound street is again occupied by a pipe-maker in 1871 and then in 1881 by one of her sons, suggesting that this property was also intimately connected with the works (census returns). From these references it is clear that in 1861 Elizabeth and at least four men were employed at the works (her two sons, Edward Bradley and William Bradley).

In 1871, Elizabeth was still living at 24 Pound Street and is recorded as employing three men and two women (census returns). It is not clear whether this number includes her two sons who were still living with her and working as pipe-makers. One of the men was probably James Richardson, 60, who was living next door at 23 Pound Street. This gives a total of Elizabeth and seven others at this date, if her sons are counted separately. In addition, a servant Elizabeth Richardson, probably the daughter of pipe-maker James, was living at the house and working as a pipe-maker. The Southorn's had also had a servant in 1851, suggesting that they were reasonably successful and enjoyed a good standard of living, despite her sons' wayward behaviour (both sons had numerous convictions for drunkenness and assault; see *Appendix*).

Following Elizabeth's death in 1875, the works appears to have contracted. In 1881, the brothers John and Thomas, both still single, were living at 23 and 24 Pound Street. John had taken over the running of the works, being described as master employing one man and one woman, while Thomas is described as his assistant. The business appears to have closed at some point during the 1880s, the last directory entry occurring in 1885. The closure most likely took place early in 1886 since, on April 7th of that year, a horse, waggon, furniture, etc., at Pound Street, the property of Mr John Southorn, were sold under a distress for rent (Shropshire Archives 4752/48/27). John subsequently moved to Coventry, where he died in 1890.

Assuming that Thomas Parsons Junior's wives would have helped with the pipe production, and that John and Thomas started helping at the age of 14, a graph can be drawn to show the approximate level of employment at the works, compared with the total number of pipe-makers recorded for the town in each census (Higgins 1987,

fig. 23). This shows that for much of the time the Southorns controlled about half of those engaged in pipe-making, the remainder presumably working for the Phillips family (see below). There was a marked expansion in the trade during the 1840s and 50s, then a decline setting in from the 1870s. At its peak, in the 1860s, about 10-12 people in the town would have been employed at any one time. Although production figures are notoriously difficult to estimate, it is possible (using an estimated production of 3 gross per worker per day; Walker 1977, 399) that this would have been sufficient to produce somewhere in the region of 1,100,000 pipes annually (although this may have been less if primarily long-stemmed pipes were being made). The rapid late 19th century decline in pipe-making has been noted in many other places *(e.g.*, Hammond 1982, 23, for Nottingham and Davey 1982, 92, for Rainford, Chester and Hull), as changing trends in smoking replaced clay pipes with briar pipes and cigarettes.

The Phillips Family: The Phillips business was founded by Daniel (I), who was born in 1813 and who married Mary Ann Rutter in 1832. By 1841 (census), he was living in Pound Street, next door but one to Thomas Parsons Southorn Jr., for whom he was presumably working and to whom he may well have been related (the maiden name of Thomas' wife was also Rutter). By 1851, Daniel had moved to Foundry Yard where he was working as a pipe-maker, presumably having just established how own works. This must have newly set up since he did not appear in Slater's 1850 directory, but was listed as an independent manufacturer by the time of the Post Office directory in 1856. This new business was on the opposite side of the river to the main town and had been the area previously occupied by Hazeldine's foundry, which closed during the 1830s (Dr B. Trinder, pers comm). At least two of Daniel's children, Daniel II and Charles Jeffrey, are later recorded as pipe-makers and it is likely that the others would also have helped with trimming and packing when young. His eldest son, Daniel II, is recorded as a pipe-maker living with the family in 1861 and 1871, although he married later in 1871 in Bordersley to another pipe-maker's daughter and, by 1881, was working away from the family business, in Manchester.

Daniel Phillips is listed in the trade directories from 1856 until 1885 and then, from 1891 to 1900, his son Charles Jeffry Phillips appears. The census of 1891 shows that Daniel and his wife had retired and were living in Birmingham with their son Benniah (a plumber), leaving Charles to run the family business. Charles is recorded in the directories until 1900 and the business must have closed at about that time since, in the census of 1901, he was still living in Foundry Yard but by that time recorded as a dyer's labourer. He is the last pipe-maker known to have worked in Bridgnorth, having run a family business that operated from *c*. 1850-1900.

Both of these firms (the Southorns' and the Phillips') appear to have been run as small family workshops employing mainly members of the extended family, but with other journeymen employed as necessary. They would have been responsible for their own marketing, presumably using the established routes from Broseley to distribute their products, including water until 1862, after which rail transport was available (Morris 1985). The only other maker who possibly functioned independently in Bridgnorth during this period is John Perry. He was a Broseley maker known to have been marking his own products there during the first half of the 19th century. In 1851 he appears as a widower, aged 55, living in Foundry Yard, where he was presumably working for the Phillips family. He died in Bridgnorth in 1859.

Products and Marks: Although there is a largely unprovenanced collection of pipes in the Bridgnorth Museum, there are very few which can be attributed to these well documented local workshops. Quite a range of waste pipes were recovered during the 2002-2014 excavations on the site of the Southorn factory at Pound Street (see

below) but this only covers production from *c*. 1822-86 and not the earlier material that would have been produced at the St Mary's Street site. Bridgnorth is clearly a production centre where the recovery of good excavated groups, particularly for the 17th and 18th centuries, and for other kiln sites, would add much to our knowledge.

The earliest mark which can be attributed to a Bridgnorth maker with any degree of certainty is the 'I. RODEN / B.NORTH' mark in the museum collection (Higgins 1987, *fig.* 74.12). This may have been found with a bowl of *c*. 1800 30 (Higgins 1987, *fig.* 74.13) and can certainly be attributed to the John Roden documented at Bridgnorth in 1807 (but who had moved to Broseley by 1812). It is a relief stamp along the stem and is typical of the marks used by contemporary Broseley makers. Several examples of relief stem stamps reading 'SOUTHORN / B.NORTH', sometimes with a square and compasses motif at the end, have also been recorded. These relief marks (*e.g.*, Higgins 1987, *fig*. 47.29 30) probably date from the first half of the 19th century and were demonstrably being used during the second quarter of the century at the Pound Street factory site. Later stem stamps with the incuse lettering 'SOUTHORN / BRIDGNORTH' probably date from after *c*. 1850 and were certainly being used during the last phase of the Pound Street site's management by John Southorn from *c*. 1875-86. John Southorn also produced some pipes with moulded symbol marks on the spur as well as a distinctive cutty pipe a rose design on the bowl and the moulded stem mark 'J.SOUTHORN / B.NORTH' within a beaded border on the stem.

Somewhat surprisingly, examples of the Southorn stem stamps have been found at Broseley, Ironbridge and Little Dawley, all within two or three miles of the prolific Broseley workshops. There is also a reference to John Southorn buying a new horse for his cart so that he could sell his pipes and him making a journey to Much Wenlock with the new horse (*The Wellington Journal*, May 12th 1877, p6). This shows that the Southorns were able find a market for their pipes even in the Broseley and Much Wenlock areas, some 8-10 miles N of Bridgnorth, and that they were using a horse and cart to deliver them. To the S there is an even wider distribution of their products. Several examples of the earlier relief stamped marks have been found in the Ludlow area, 20 miles to the SW of Bridgnorth, as well as one example of the mater moulded stem mark (Berlyn Collection, now in the author's possession). There are also examples of the same moulded stem mark as well as the later style of incuse stem stamp from Kington in Herefordshire, some 40 miles SW of Bridgnorth (Potts Collection). The sample of Southorn marks from each place is very small (four or five examples from each) but it may be significant that both types of mark have been found in Ludlow whereas the Kington finds only include the later incuse types. It may be that the 20 miles to Ludlow was within the market area that could be covered by horse and cart, whereas they were only able to expand the market area to Kington once the railway network had been connected to Bridgnorth in 1862.

The styles of mark used at Bridgnorth exactly reflect the contemporary trends at Broseley where relief stamps along the stem incorporating the maker's name and place of work were current during the first half of the century, being replaced by similar but incuse stem stamps from the 1840s onwards. From the physical proximity and family ties between the two production centres it is reasonable to assume that these changes took place at Bridgnorth at much the same time. Although the total number of known examples is still relatively small, it appears the Bridgnorth Southorns' just used their surname on their stamped marks, and not their individual initials. This makes it hard to separate the products of Thomas Parsons Southorn Jr., his wife Elizabeth or their son John. Excavated groups from the Pound Street kiln site, however, suggest that the relief stamps were

current during the period *c*. 1820-60. There may then have been a period where stamps were little used before the use of incuse stamps and moulded marks from *c*. 1875-1886. In broad terms, it can be suggested that relief marks were used by Thomas and Elizabeth, and then incuse marks by their son John. No marks attributable to the Philips family are known, but the lack of other study material, especially from their Foundry Yard production site, makes it hard to know whether they marked any of their pipes or not.

13.1 Appendix – List of Bridgnorth pipe-makers

This appendix documents all of the persons known to have been connected with the pipe trade in Bridgnorth. The list was originally based on material extracted from the 1841-81 census returns, which were searched by Peter Hammond during the 1980s for all families which included pipe-makers. These names have since been checked against the 1891-1911 census returns by the author and supplemented by some parish register and directory material, although it must be emphasised that these sources have not been dealt with systematically or exhaustively. Directory material is taken mainly from Oswald (1975, 190) who has clearly extracted information from several directories, although it is not known exactly which ones. A variety of additional references have kindly been provided by Peter Taylor from his family history and local history research. Particular thanks are also due to Rex Key for extracting a number of very useful articles from the 19th century newspapers. The low number of pre-1800 pipe-makers may be purely a product of the present state of research since no concerted attempt has been made to search earlier documents. As an important trade and market centre in a prolific pipe-making region it would be surprising if no seventeenth century makers chose to work there. It may be significant, however, that despite extensive documentary work on the earlier periods by Drs Barrie Trinder and Malcolm Wanklyn, they do not recall having come across any pipe-makers.

For each person a summary of the known references has been produced, arranged as a brief life history. The object has been to extract from the often numerous and complex references to each individual the salient points and to produce from these a considered synthesis of the individual's movements and activities. Particular attention has been paid to the likely working period and role of the individual in an attempt to reveal employment figures and structure for the 19th -century workshops. An attempt has also been made to distinguish between the master makers who would have run their own workshops and produced a recognisable range of pipes, and those who were simply journeymen or employees working for them. Unless otherwise referenced the information is taken from the Bridgnorth census returns (which have been searched from 1841-81 for anyone whose occupation is given as a pipe-maker, together with quite a number of references extracted from later ones from 1891-1911). Parish register material and other related material has been extracted from online sources available through Ancestry (http://home.ancestry.co.uk/) or FreeBMD (http://www.freebmd.org.uk/) but these are mainly transcriptions and the original documents have not been checked. Where more than one date (e.g., for a birth) can be calculated from later sources, the various options are in some cases given, with an asterisk marking the preferred (most likely) alternative. The names of other pipe-makers (*q.v.*) are highlighted by being set in bold.

Edward Bradley	Recorded as a pipe-maker 1861-1871
	Likely to have been pipe-making *c*1853-1878
Born	1839 at Bridgnorth, first quarter (Free BMD)

Bap	1840 at St Leonard's on 1 April, son of Joshua and Elizabeth (Ancestry)
Married	**Elizabeth** between 1861 and 1871 (census returns)
Children	*c.* 1878 Thomas, born Bridgnorth (1881 census)
Died	1878, buried 31 October at St Leonard's, Bridgnorth

Edward was the son of Joshua and Elizabeth Bradley, born in in the first quarter of 1839 and baptised on 1 April 1840 at St Leonard's. His father, Joshua, was the son of Edward and Elizabeth Bradley, and Elizabeth later remarried to **Thomas Parsons Southorn Jr**. This means that Edward Bradley was the grandson of Elizabeth Southorn, and nephew of **John Russell Southorn** and **Thomas Southorn**. In the 1841 census Edward's family were living in Friar Street, Bridgnorth, and Joshua was recorded as a carpet weaver. Joshua may have separated from his wife since in both 1851 and 1861 he was still described as married, but was not living with his wife. Furthermore, in 1851 and 1861 Edward was not living with his father but was with the Southorn family in Pound Street. His father later went on to marry Mary Anne Veale in 1874, the housekeeper who had been living with him in 1851 and 1861. The surname Bradley may indicate that there was a link between the Bridgnorth Southorns and the Bradley pipe-making families of Broseley and Bridgnorth, although at Edward's marriage in 1876 his father (Joshua) was given as a weaver and the census returns give Joshua's birth place as Bridgnorth. Edward must have trained and worked at the Southorn factory as he was growing up, most likely from around the age of 14 (1853) although he is first documented as a pipe-maker in the census of 1861 when he was 21 and still living with the Southorn family. He got into trouble with the law in 1869 when *The Wellington Journal* reported from the Borough Petty Sessions that "Thomas Bowen, ratcatcher, and Edward Bradley, pipe maker, were charged with drunkenness and riotous behaviour and fighting in a yard belonging to the Cross Keys Inn, on Saturday, the 17th ult. The bench adjourned the case for a fortnight for further evidence" (8th December 1869). At some point between 1861 (when he was unmarried) and 1871 (census) he married **Elizabeth**. Two possible marriages have been identified; either to Eliza Howells in the second quarter of 1861, or to an unindexed woman in the fourth quarter of 1864 (Free BMD). In 1871, both Edward and Elizabeth were recorded working as pipe-makers and living at 12 Listley Street. The head of the household at that date is given as Mary Bradley, age 65, a widow who kept a grocer's shop and was Edward's aunt (she had actually been sister-in-law of Elizabeth Southorn by her first marriage and only married into another branch of the Bradley family on her second marriage). Edward's previous appearance for drunkenness appears to have been overlooked when he appeared in the Petty Sessions again in 1872; "DRUNKENNESS – Police-constable Tomkins charged Edward Bradley, pipe-maker, with this offence. Fined 10s., including costs this being his first appearance" (*The Wellington Journal*, 9th March 1872, p7). It is clear that Edwards was only an employee rather than a pipe maker in his own right at this time from a court case in 1877 where he gave evidence for John Southern (*sic*) and was described as "a workman in the plaintiff's employ" (*The Wellington Journal*, May 12 1877, p6). Edward died in the last quarter of 1878, aged 39 (Free BMD) and was buried at St Leonard's, Bridgnorth on 31 October 1878. It would seem likely that Edward had always worked for the Southorn family and therefore independent products are not to be expected.

Elizabeth Bradley	Recorded as a pipe-maker in 1871 (Bridgnorth) and 1881 (Tewkesbury) Likely to have been pipe-making +1871-1881+
Born	*c.* 1838 at Benthall
Married	**Edward Bradley** between 1861 and 1871 (census returns)
Children	*c.* 1878 Thomas, born Bridgnorth (1881 census)

c. 1881 Minnie, born Tewkesbury (1881 census)

Elizabeth's maiden name is not known but she was born in Benthall (1871 census) and married **Edward** at some point between 1861 and 1871. Two possible Bridgnorth marriages to an Edward Bradley have been identified; Eliza Howells in the second quarter of 1861, or an unindexed woman in the fourth quarter of 1864 (Free BMD). By 1871, both Edward and Elizabeth were working as pipe-makers and living at 12 Listley Street (they were probably employees at the nearby Southorn works). In 1878 Elizabeth had a son, Thomas, but Edward also died in the same year. Elizabeth had moved to Tewkesbury by 1881, where she was listed in a common lodging house as a widow, aged 43, working as a pipe-maker. With her were son Thomas (3) and a two month old baby, Minnie.

William Bradley	Recorded as a pipe-maker 1838-71
	Likely to have been pipe-making *c*1831-71+
Born	*c.* 1817 at Bridgnorth
Baptised	23 April 1817, son of William and Elizabeth Bradley
Married	1837 **Mary Dawson** (born c1812 at Norton, Shropshire (census); married 11 August 1837 at Bridgnorth, daughter of William Dawson (Free BMD))
Children	*c.* 1842*/1844 Alice
	c. 1850/1851* Rosa
	c. 1856 William
Died	1876, fourth quarter, age 65 (1811); Free BMD

Nothing is known of William's parents, or whether he is related to the Broseley pipe-making family of Bradley. The first reference to him as a pipe-maker is in 1838 when he was made a burgess of Bridgnorth (Burgess Books). He is next recorded in the 1841 census living with his wife at the 'Bottom part of Cartway' and working as a pipe-maker. By 1851, they had moved to Listley Street, by 1861 to 23 Pound Street and finally by 1871 to 44 St Mary's Street. William is consistently given as a pipe-maker, although his wife is only listed as such in 1871. Their children never appear to have been involved in the pipe trade and had all either left home or died by 1871. Alice appears to have had an illegitimate daughter in about 1859/60 who was still living with them in 1871. The family disappears as pipe-makers in Bridgnorth by 1881. They may were almost certainly employees of Southorn's, especially as they were recorded living at their factory address in 1861. No marked pipes are known.

Mary Bradley	Recorded as a pipe-maker 1871
	Likely to have been pipe-making +1871+
Born	*c.* 1811/12/13 at Norton*/Bridgnorth/Linley
Married	**William Bradley**
Children	*c.* 1842*/1844 Alice
	c. 1850/1851* Rosa
	c. 1856 William
Died	1893, third quarter, age 83 (1815); Free BMD

Mary is first recorded in 1841 living with her husband at the 'Bottom part of Cartway'. By 1851 they had moved to Listley Street, by 1861 to 23 Pound Street and finally by 1871 to 44 St Mary's Street. William is consistently given as a pipe-maker, although Mary is only listed as such in 1871. It therefore seems unlikely that they had their own workshop both because of the frequent movement, and because Mary is only once listed as a pipe-maker. In addition, their children never appear to have been involved in the pipe trade, and had all either left home or died by 1871. Alice appears to have had an illegitimate daughter Dinah in about 1859/60 who was still unmarried and living with her grandmother in 1871 and 1881. William died in 1876 and Mary is listed as a charwoman in 1881 and in Palmer's Hospital in 1891. She died in the third quarter of 1893 (Free BMD).

Michael Bradley	Recorded as a pipe-maker 1857
	Likely to have been pipe-making +1857+
Born	*c.* 1822 – Bap 10 March at St Mary Magdalene, Bridgnorth
Married	1875 in Thurles, Ireland, to either Julia Kate Dwyer or Julia Kate Rowe
Died	1881, Q2 at Bridgnorth, age 56 (1825); Free BMD

Michael was baptised on 10 March 1822 at St Mary Magdalene, Bridgnorth, son of Edward and Elizabeth Bradley. **Elizabeth** later remarried to **Thomas Parsons Southorn Jr**, and so Michael was also half-brother to **John Russell Southorn** and **Thomas Southorn**. In 1841 Michael was 18 and living with his uncle, Michael Rutter, an innkeeper in St John Street, Bridgnorth (no occupation given). By 1851 he had clearly fallen foul of the law since he was recorded in the Shropshire County Gaol and Borough House of Correction as a unmarried 'misdemeanant' labourer, age 26 (1825), born in Bridgnorth. The spell in gaol does not appear to have improved his behaviour, as is made clear by a reference on page 3 of *The Wellington Journal* for 16 May 1857; "DRUNKENNESS. Thomas Southorn and Michael Bradley, pipe burners, and half-brothers, well known to the bench, were brought up charged by P.C. Cole with being drunk and disorderly on the evening of the 25th of April last. The case being fully proved, the Mayor fined them 10s each including expenses, or in default 21 days' imprisonment. After a little lapse the money was paid, and they were discharged from custody." This is the only time Michael is actually recorded in the pipe trade, and he would almost certainly have been working as a burner for the Southorn family business. He has not been traced in the 1861 census, but may have been abroad in the army since, in 1871, he was recorded as a 49-year-old private in the 53rd Regiment of Foot, stationed at Aldershot. He was still single in 1871 but appears to have married an Irish girl at Thurles in 1875 before returning to Bridgnorth, where he appears in the 1881 census. At that date he was a coal heaver living at 31 Underhill St with his wife, Julia K. Bradley, from Ireland. His uncle's family had been coal dealers in that part of Bridgnorth during the 1850s and 1860s and may still have been connected with the trade to find him work. Michael died in the second quarter of 1881, when he would have been about 58.

Richard Cope	Recorded as a pipe-maker 1732
	Likely to have been pipe-making +1732+

Richard Cope of Wolverhampton, pipe-maker, son of William, was made a burgess of Bridgnorth on 16 January 1732 (Taylor, email dated 1.10.2011). It is not clear if this meant he actually moved to Bridgnorth around this date or whether he became a burgess so as to be able to trade in the town.

Francis Deacon	Recorded as a pipe-maker 1727
	Likely to have been pipe-making +1727+
Baptised	1698 son of John and Margery on 21 August (St Leonards, Bridgnorth)
Married	1742 possible marriage to Anne Hill of Benthall on 4 May at Much Wenlock

Francis Deacon of Wolverhampton, pipe-maker, "another son of John", was made a burgess of Bridgnorth on 17 July 1727 (Bridgnorth Burgess Books; Taylor email of 3.11.14). Two references to an individual of this name have been found in the parish registers (Taylor; email of 2.11.14). No occupation is given in either reference, so it's not certain that this is the same person, but the father's name being John in 1698 and the collection with Benthall (an important pipe-making centre) in 1742 are both worth noting. The first reference is from 1698 when Francis, son of John and Margery Deacon was baptised on 21 August at St Leonards. The second is from 1742 when Francis Deacon, sojourner in Benthal (*sic*) and Anne Hill of Benthal (*sic*) parish were married at Much Wenlock by banns on 4 May.

Joseph Drinkeld	Recorded as a pipe-maker in 1861.
	Likely to have been pipe-making +1861+
Born	*c.* 1812 in England

Joseph only appears once in the Bridgnorth census returns (1861), when he was living in a lodging house at 58 Listley Street. He was unmarried, aged 49, born in England and presumably an itinerant pipe-maker who stopped for a period as a journeyman in Bridgnorth. Living in Listley Street, he may well have been working for the Southorns. Gault & Alvey (1979, 372) list a pipe-maker called Joseph Drinkeld in Loughborough, Leicestershire, in 1834, who seems likely to be the same person.

Thomas Hughes	Recorded as a pipe-maker 1709
	Likely to have been pipe-making +1709+

Thomas Hughes of Broseley, pipe-maker (*q.v.*), was made a burgess of Bridgnorth on 31 May 1709. It is not clear if this meant he actually moved to work in Bridgnorth around this date or whether he simply became a burgess so as to be able to trade and vote in the town.

Richard Jewkes	Recorded as a pipe-maker 1757
	Likely to have been pipe-making +1757+

Richard Jewkes of Astley, pipe-maker, son of William, was made a burgess of Bridgnorth on 14 February 1757 (Taylor, email dated 1.10.2011). It is not clear if this meant he actually moved to Bridgnorth around this date or whether he became a burgess so as to be able to trade and vote in the town. There are various places named Astley in the Midlands but most are quite a distance from Bridgnorth. It is perhaps more likely that this reference is to Astley Abbots, which is just a few miles north of Bridgnorth. There may also be a family connection with the Jewkes family of Ludlow, who were also pipe-makers.

Thomas Lewis	Recorded as a pipe-maker 1851

	Likely to have been pipe-making +1851+
Born	*c.* 1787 in Llanidloes, Montgomeryshire (1851 CR)

Only one reference to Thomas has been located as a pipe-maker, and that is in the 1851 census when he was recorded as an in-patient in the Listley Street Infirmary, Bridgnorth. He was listed as being (1787) and born in Llanidloes, Montgomeryshire. In 1841 there was a Thomas Lewis, 55 (1786), listed as an agricultural labourer in Llanidloes with his wife, Margaret (50), who is possibly the same person.

John Pearce	Recorded as a pipe-maker 1874
	Likely to have been pipe-making +1855-1874+
Partner	1855 Louisa Pearce (when her illegitimate daughter was conceived)
Children	1856 Jemima, baptised 25 May at St Mary Magdalene, Bridgnorth

John Pearce is only recorded as a pipe-maker in 1874 when his daughter, Jemima, married at Quatford, a small parish about 2 miles SE of Bridgnorth. Jemima had been born and raised in Bridgnorth and so this is where John is likely to have worked. There is, however, a problem with his surname in that Jemima (baptised at St Mary Magdalene, Bridgnorth on 25 May 1856) was the illegitimate daughter of Louisa Pearce and so Pearce is unlikely to have been John's real surname. Louisa herself was baptised at St Mary Magdalene, Bridgnorth on 29 July 1829, the daughter of Mary and Thomas Pearce, a shoemaker. No occupation is listed for her in the 1851 census, when she was 21, but she was a charwoman in 1861 (32) and a washerwoman in 1871 (42), as was her 16 year old daughter Jemima, who was living with her at the time. So there is no obvious background of pipe-making in the family (although a William and Mary Pearce were witnesses at Elizabeth Southorn's first marriage in 1814). The marriage of Louisa's daughter took place on 13 July 1874 when the details were given as Jemima Pearce, spinster, 20 (in reality she was probably only just 18) of Quatford, son of John Pearce, pipe maker, married Edward Evans, widower, 36, a labourer from Sandyberry, son of Thomas Evans, labourer. The witnesses were John Baker and Sarah Greatbridge. Both Jemima and Edward signed the register. The only pipe-maker called John known to have been working in Bridgnorth in 1855 and of the right age to conceive a child is John Southorn (*q.v.*). He would have been about 23 at the time and, given his drunken and unruly lifestyle, it would not be surprising to find that he fathered Jemima and so is actually the 'John Pearce' referred to in the marriage record.

John Perry	Recorded as a pipe-maker in 1851
	Likely to have been pipe-making *c*1810-1859
Born	*c.* 1796 in Broseley
Baptised	2 March 1799 at Broseley (PR)
Married (?)	1822 on 12 December to Rebecca Jones at Benthall (Rebecca Perry died at Bridgnorth in 1847)
Children (?)	*c.* 1825 Richard
	c. 1826 Sarah
	c. 1828 Edwin
	c. 1830 Hannah

	c. 1836 Mary
Died	1859 at Bridgnorth, first quarter (Free BMB)

John Perry has only once been found documented as a pipe-maker in Bridgnorth, which was in the 1851 census when he is given as being 55, born in Broseley and a widower. He was lodging in Foundry Yard with Sarah Jones, a 70 year old widow born in Bridgnorth. The rest of his life has proved hard to document, which is particularly frustrating since he appears to have been an independent maker to whom marks can be attributed. The problem of identification is exacerbated by the fact that John Perry was a very common name locally, resulting in lots of possible alternatives unless occupation is actually stated. There is, however, a John, the son of John and Sarah Perry, who was baptised at Broseley in 1799 and could be the individual in question. His father may well have been a pipe-maker since Atkinson (1975, 73) dates two types of 'JOHN PERRY / BROSLEY' mark to *c.* 1780-1820, which would tie in well with someone baptising a child in 1799. If so, John Jr. would have learnt the trade from his father and could have gone on to take over the workshop, perhaps being responsible for the later 'PERRY / BROSELEY' mark. Unfortunately, neither maker appears in the census returns or any trade directories that have been located during the course of this study, although Atkinson (*op cit*) says a John Perry is recorded at Broseley in 1842 and 1853 (no source given, but presumably directory references). The latter date is particularly odd given the 1851 reference to a pipe-maker of this name in Bridgnorth. The situation is further complicated by the fact that a John Perry married a Rebecca Jones at Benthall on 12 December 1822 (witnesses being Richard Perry and Mary Bates). A Rebecca Perry died in Bridgnorth in 1847 and John was widowed and living with a widow called Jones in 1851, all of which would tie in with this being the same family. If so, then it seems possible that they are the same John and Rebecca (both given as 40) who are recorded at Stoke Upton Tern, Shropshire, in the 1841 census. John was a brick-maker at the time and they had five children (Richard 16, Sarah 15, Edwin 13, Hannah 11 and Mary 5). If all these references relate to the same family then the most likely explanation would be that, having lived and worked as a pipe-maker in the Broseley area for much of his life, he went to work as a brick-maker briefly before returning to his old trade and finally moving to Bridgnorth. Foundry Yard where John is definitely recorded as a pipe-maker was occupied by several pipe-making families between 1851 and 1881, which almost certainly indicates the presence of a kiln nearby. It is not known, however, whether John was still a master marking his own pipes by this date. No pipes are known marked Perry Bridgnorth, but only a proper archaeological examination of kiln waste from Foundry Yard is likely to resolve exactly what was being made there. A search of local records shows that several individuals named John Perry lived in Bridgnorth during the 19th century. One individual of this name was buried there in the first quarter of 1859 (Free BMD), who could possibly be the pipe-maker of this name. Having said that, the family details assembled above remain rather tentative and checking original sources for occupation and other details would be useful in the future.

Charles Jeffrey Phillips	Recorded as a pipe-maker in 1881-1900
	Likely to have been pipe-making +1881-1900
Born	1853 in Bridgnorth (Free BMD; Q1)
Married	1877 Selina Emily Haynes (b *c*1858) at Bridgnorth (Apr-Jun quarter; Free BMD)
Children	*c.* 1877 Kate
	c. 1879 George
	c. 1883 Mary
	c. 1886 Charles Jeffrey

	1890 Thirza (registered in July-Sept quarter; Free BMD)
Died	1935 last quarter, age 82 (1853) in Bridgnorth (Free BMD)

Jeffrey was born to a pipe-making family in Foundry Yard with whom he was living in 1861 (see his father **Daniel (I)** for family details). He is just named as 'Jeffry' (*sic*), age 7, in the 1861 census, even though his birth seems to have been registered in the first quarter of 1853 as 'Charles Jeffry' (Free BMD). This alternative use of Christian names recurs throughout his life, the census returns listing him as Geffrey C. in 1881, Charles J. in 1891, Jeffrey in 1901 and Charles Jeffrey in 1911. He appears to have left home by 1871 and may have moved away from Bridgnorth for a period, since he has not been located in the census for that year. It is possible that he could have been away acting as a commercial traveller for the family business. He is first recorded as a pipe-maker in 1881 when he reappears in the census returns, living near his parents at 7 Old Foundry. By this date he is listed as being married to Eliza (23), a native of Bridgnorth, who was working as a mill hand and they had two children, Kate (4) and George (2). His wife's name, however, appears to have been incorrectly entered, since he married Selina Emily Haynes in the second quarter of 1877 and her distinctive name appears in all the later census returns. Furthermore, the age of his wife given in 1881 is correct: it is just the name that is wrong. He is likely to have been helping his father and brother at the nearby family pipe-works in 1881 (16 Foundry Yard). By 1891 his parents had retired and moved to live with their son Benjamin in Birmingham and Charles had clearly taken over the running of the works, being listed as a pipe-maker in the Bridgnorth trade directories between 1891 and 1900 (Oswald 1975, 190). In the 1891 census he was listed at 16 Old Foundry Yard (the address where his father had been in 1871 and 1881) and he had had a further three children. Kelly's Shropshire Directories for 1891 and 1895 both list Charles Jeffry Phillips as a clay tobacco pipe manufacturer, Foundry Yard, Bridgnorth (pages 276 and 42, respectively). In the 1901 census the family were still given at living at 16 Foundry Yard, but Charles was now listed as a dyer's labourer, showing that he must have sold or closed the pipe-works in about 1900, the last year that it was listed in a trade directory. By 1911, the family had moved to 39 Cartway and he was a general labourer at a carpet works and recorded as having had six children (five then living and one dead). None of his children were ever listed as pipe-makers and Charles appears to have been the last pipe-maker in Bridgnorth, bringing the trade to a close at this particular production centre.

Daniel Phillips (I)	Recorded as a pipe-maker 1834-1885
	Likely to have been pipe-making *c*1830-1885+
Born	*c.* 1813 in Bridgnorth
Baptised	17 Feb 1813, son of Sarah Phillips
Married	1832 **Mary Ann Rutter** at Broseley on 29 January
Children	*c.* 1833 Clara (bap 11.3.1838 at St Leonard's; later married a Briggs)
	c. 1836 Harriet (bap 5.10.1835 at St Mary's)
	c. 1838 Thirza/Theirza (bap 11.3.1838 at St Leonard's)
	c. 1841 **Daniel (II)** (bap 7.3.1841 at St Leonard's)
	c. 1847 Susan (bap 25.8.1847 at St Leonard's)
	c. 1848 Henry
	c. 1849 George
	c. 1852 Isabella
	1853 **Charles Jeffrey** (Q1; Free BMD)

	c. 1856 Benniah (baptised 7 April 1857 at St Mary Magdalene, Bridgnorth)
Died	1906 last quarter, in Wirral, age 93 (Free BMD)

Oswald lists Daniel Phillips as a Bridgnorth pipe-maker from 1834-1885 and gives directories as his source for this (Oswald 1975, 190). A recent review of Bridgnorth directories, however, has failed to find any mention of Daniel working on his own account before 1856 and it may be that Oswald's directory dates have been compounded with an earlier parish register entry listing him as a pipe-maker (but not necessarily trading on his own account). What is certain is that Daniel was baptised in Bridgnorth in 1813 and that he was said to be a bachelor 'of this parish' when he married at Broseley in 1832 (witnesses Elizabeth Bradley and John Geary). By 1841 (census), he was living in Pound Street, next door but one to Thomas Southorn, the founder of the Bridgnorth pipeworks. By this date they already had four young children, the eldest of whom was eight (see above for full family details). Given where they were living, it seems likely that Daniel was working for the Southorn family in 1841 and they may well have been related to them as well, since Thomas Southorn had married an Elizabeth Bradley (née Rutter) at some point between 1826 and 1829. By 1851 Daniel had moved to Foundry Yard, the address being given as number 8 in 1861 and number 16 in 1871 and 1881, by which time it was known as Old Foundry Yard. The census data ties in with the trade directory references, which first list Daniel in Foundry yard in 1856 and it seems likely that he had established his own works there shortly before 1851. The business he founded there was run by the family for the next half century: -

Directory	Date	Pipe-maker	Bridgnorth Address
Post Office	1856	Daniel Phillips	Old Foundry
Slater	1859	Daniel Phillips	Foundry Yard
Kelly	1863	Daniel Phillips	Foundry Yard
Slater	1868	Daniel Phillips	Foundry Yard
Kelly	1870	Daniel Phillips	Foundry Yard, Mill Street
Mercer & Crocker	1877	Daniel Phillips	Foundry Yard, Mill Street
Kelly	1879	Daniel Phillips	Foundry Yard, Mill Street
Kelly	1885	Daniel Phillips	Foundry Yard, Mill Street
Kelly	1891	Charles Jeffrey Phillips	Foundry Yard, Mill Street
Kelly	1895	Charles Jeffrey Phillips	Foundry Yard, Mill Street
Kelly	1900	Charles Jeffrey Phillips	Foundry Yard, Mill Street

Trade directory references to the Phillips family, extracted by local researchers for the Bridgnorth History Week in 2013, with additions for 1891 and 1895 by the author

Daniel is recorded as a pipe manufacturer rather than a maker in 1871 and in 1881 as a pipe maker artisan. Another pipe-maker **Elizabeth Taylor** was living in Foundry Yard in 1871, so it may be that, at least in his later life, Daniel employed additional labour from outside the family, a suggestion supported by the overall census figures (see text on Bridgnorth above). The last reference to Daniel in the trade directories is in 1885. By 1891, both he and his wife had retired and were living with son Benniah (given in the 1891 census as Benjamin), a plumber, in Birmingham. By 1901, he was widowed (87) and living with his eldest daughter Clara Briggs, a 67

year old widow and shop keeper in Park Street, Neston cum Parkgate, Cheshire. He died in the last quarter of 1906, aged 93 (Free BMD; Wirral). No marked pipes of Daniel's are known.

Daniel Phillips (II)	Recorded as a pipe-maker 1861-71 (Bridgnorth) and 1881(Manchester) Likely to have been pipe-making *c.* 1855-1881+
Born	*c.* 1841 at Bridgnorth
Baptised	1841 - 7 March (St Leonard's PR)
Married	1 – Probably Emma Miles (married in the second quarter of 1861; died in the first quarter of 1868, age 25 (born *c*1843); Free BMD) 2 - **Ellen Wakeham** (born Q1 1854 in Truro, Cornwall; Free BMD), 13 November 1871 (Bordersley, Warwickshire; St Andrew PR)
Children	1862 **Daniel Richard** (Free BMD, Q1) *c.* 1874 Mary Ann (born Manchester) *c.* 1876 Ellen (born Birmingham)

Daniel (II) was born to a pipe-making family in Foundry Yard (see **Daniel (I)** for details). He is first recorded as a pipe-maker in 1861 when he was probably helping his father at his pipeworks. He must have married soon after this, almost certainly in the second quarter of 1861 at Bridgnorth to Emma Miles, who died in the first quarter of 1868, aged 25 (Free BMD). They had a son, **Daniel Richard**, who was born at Bridgnorth in the first quarter of 1861 (Free BMD) and went on to become a pipe-maker himself, being listed as such in the 1881 census at Station Road, Highbury, London (age 20, unmarried). At the time of the 1871 census Daniel (II) was living with his parents, brother and son at 16 Foundry Yard, where he was listed as a tobacco pipe maker and presumably helping with his father's business. However, later that year he was recorded living in Lawley Street, Bordersley, Warwickshire, when he married Ellen Wakeham at St Andrew's on 13 November. Ellen was given as a 20 year old spinster in the marriage register (*i.e.*, born *c.* 1851), and daughter of the pipe-maker Andrew Wakeham. However, in the 1871 census earlier that year she was only given as being 17 years old (born *c.* 1854) and she was still living with her family in Gloucester (St John the Baptist), where her father was working as a pipe-maker. The census returns give her pace of birth as Truro, and that of her father as Stonehouse in Devon (her father's father was also called Andrew and was a pipe-maker in Stonehouse and Devonport). The Free BMD index confirms that she was born in the first quarter of 1854 and so she was only just 18 when she got married.

By 1881, the family had moved to Manchester, where Daniel was recorded as a clay pipe maker and Ellen (then given as 27) as a pipe finisher. The family were living at 57 Sycamore Street, close to McLardy's factory where they may have been working. The fact that his first daughter, Mary Ann, had been born in Manchester *c*1874 while his second, Ellen, had been born in Birmingham *c*1876 suggests that Daniel was moving round as a journeyman pipe-maker during the 1870s. By 1881 his son, then 19, had left home to work as a pipe-maker in London. It is not known what happened to Daniel after 1881 and no pipes attributable to him are known.

Jeffrey Phillips – see Charles Jeffrey Phillips

Mary Phillips	Recorded as a pipe-maker 1861, 1881 Likely to have been part-time pipe-making *c*1830-1881+

Born	1812 on 3 September, daughter of William and Elizabeth Rutter
Baptised	1812 at St Mary Magdalene, Bridgnorth, on 4 October
Married	1832 **Daniel Phillips (I)** at Broseley, on 29 January
Children	*c.* 1833 Clara
	c. 1836 Harriet
	c. 1838 Theirza
	c. 1841 **Daniel (II)**
	c. 1847 Susan
	c. 1848 Henry
	c. 1849 George
	c. 1852 Isabella
	1853 **Charles Jeffrey** (Q1; Free BMD)
	c. 1856 Benniah (baptised 7 April 1857 at St Mary Magdalene, Bridgnorth)
Died	1894 in Birmingham, third quarter, age 81 (1813; Free BMD)

Mary Ann Rutter was the daughter of William and Elizabeth Rutter, born on 3 September 1812 and baptised at St Mary Magdalene, Bridgnorth on 4 October 1812. She married the pipe-maker **Daniel Phillips (I)** at Broseley in 1832, when she was recorded as a spinster 'of this parish' (witnesses Elizabeth Bradley (presumably her mother) and John Geary). By the 1841 census, they were back in Brisgnorth and recorded living in Pound Street, with four young children, the eldest of whom was eight (see family details above). They were probably working for the Southorn's at this date and may well have been related to them as well, since Thomas Southorn had married an Elizabeth Bradley (née Rutter) at some point between 1826 and 1829. By 1851 the Phillips family had moved to Foundry Yard, being given at number 8 in 1861 and number 16 in 1871 & 1881, by which time it was known as Old Foundry Yard. **Daniel (I)** (*q.v.*) appears to have established his own business in Foundry Yard at around this time since he is not listed in a trade directory of 1850, but appears in directories from 1856 onwards. Daniel is recorded in later census returns as a pipe manufacturer rather than a maker in 1871, and in 1881 as a pipe maker artisan. Mary presumably would have helped her husband throughout this period, even though she is only specifically listed as a pipe-maker in 1861 and 1881. By 1891, she had retired and was living with son Benniah/Benjamin in Birmingham. She is presumably the Mary Phillips, age 81 (1813), whose death is recorded at Birmingham in the third quarter of 1894 (Free BMD). It is most unlikely that Mary would ever have marked any pipes that she made with her own name.

Samuel Pinner	Recorded as a pipe-maker 1826
	Likely to have been pipe-making +1826+

Samuel Pinner of Broseley, pipe-maker, was made a burgess of Bridgnorth on 13 June 1826. His father, also Samuel Pinner of Broseley, collier, had been made a burgess of Bridgnorth in 1784 (Taylor, emails of 1.10.2011 and 3.10.2011). It is not clear if this meant Samuel Jr. actually moved to Bridgnorth around 1826 or whether he simply became a burgess so as to be able to trade and vote in the town.

William Pullett	Recorded as a pipe-maker in 1856
	Likely to have been pipe-making +1856+

Born	*c.* 1830
Married	1856 - Oct 6 to Susanna Walker (BG PR)

William is recorded as a pipe-maker at his marriage in 1856. He was the son of a gardener and lived in Cartway. He married Susanna Walker, the daughter of a weaver. There does not seem to be any other link with the pipe-making trade and, since he is not recorded as a pipe-maker in either 1851 or 1861, it seems unlikely that he worked in Bridgnorth for long. Either he had moved, or was only a casual employee for a brief period. No marked pipes are to be expected.

John Rhoden - see John Roden

Elizabeth Richardson I	Recorded as a pipe-maker in 1851 (Eton) and 1861 (Bridgnorth)
	Likely to have been pipe-making +1851-1870
Born	*c.* 1813 in Leicester or Manchester
Married	**James Richardson**
Children	**Elizabeth**, *c.* 1843
Died	1870 – Buried at St Leonard's, Bridgnorth on 16 October (Ancestry)

In 1851 Elizabeth, aged 38, was listed in the census with her husband **James Richardson** and daughter **Elizabeth** at Eton, Buckinghamshire, where she and her husband were both working as pipe-makers, almost certainly for the Norwood family. By 1861, she and her husband had moved to Bridgnorth and were lodging at 33 Cartway where they probably worked as journeymen for the Southorns. In 1861, Elizabeth said she was born in Leicester but in 1851 had given her birth place as Manchester. Their daughter was not with them in the 1861 census but, by 1871, was living with the Southnorn family for whom she worked as a servant and pipe maker's assistant. Elizabeth herself died in 1870 and was buried at St Leonard's, Bridgnorth.

Elizabeth Richardson II	Recorded as a pipe-maker in 1871
	Likely to have been pipe-making *c*1857-71+
Born	*c.* 1843, most likely in Staffordshire

Elizabeth II was daughter of **Elizabeth I** and **James Richardson** and was born in about 1843, although her birthplace is uncertain being given variously as Staffordshire (1851), St Albans (1871), Darlaston (1891) and Stafford (1901). In 1851 she was living with her parents in Eton, Buckinghamshire, both of whom were working as pipe-makers and whom she is likely to have helped in the trade from the age of about 14 (*c.* 1857). She has not been traced in 1861 but, by 1871, she was living with the Southorn family at 24 Pound Street, for whom she worked as a servant and pipe maker's assistant. She has not been traced in 1881 but, in 1891, she was boarding with Thomas Southorn at 11 Moat Street, Bridgnorth and working as a charwoman. She was still given as a charwoman in 1901 but, by this time was a pauper inmate at Bridgnorth Workhouse. She died aged 61 in the first quarter of 1903, never having married.

James Richardson	Recorded as a pipe-maker 1861-1871
	Likely to have been pipe-making +1861-1871+

Born	*c.* 1807/1811 at St Albans/London (both given as Middlesex)
Married	**Elizabeth**
Children	**Elizabeth**, *c*1843
Died	1877 at Bridgnorth, age 70 (Q2; Free BMD)

In 1851, James, aged 42, was listed in the census with his wife **Elizabeth** (38) and daughter **Elizabeth** (10) at Eton, Buckinghamshire, where he and his wife were both working as pipe-makers, almost certainly for the Norwood family. By 1861 he and his wife had moved to Bridgnorth and were lodging at 33 Cartway where they both probably worked as journeymen for the Southorns. His wife died in 1870 and, in 1871 James is recorded at 23 Pound Street, next door to the Southorns, with whom his daughter was living and working as a pipe-maker's assistant. He died in the second quarter of 1877, aged 70. James clearly moved about during his life and was almost certainly a journeyman pipe-maker.

John Roden	Recorded as a pipe-maker in 1807 (Bridgnorth) and 1812-1835 (Broseley) Likely to have been pipe-making +1807-1835+

On 24 November 1807 an Indenture was made between the overseers of the poor of Much Wenlock and John Rhoden (*sic*) of the parish of St Mary Magdalen in the town of Bridgnorth, pipe-maker, to take Elizabeth Corns, age nine, until 21 or married, whichever was the sooner, to be apprenticed in Housewifery (Much Wenlock Borough Archives, Pauper Apprenticeship Indentures 1735-1817, Q1/7/25). Elizabeth, daughter of Anne Corns (no father listed) was baptised at Much Wenlock on 6 May 1798. She later went on to marry John Taylor, a pipe-maker from Broseley at St Martin's, Birmingham on 2 June 1823 (Taylor, email of 9.1.2009). The 1807 apprenticeship is the only known reference to John at Bridgnorth, although no other sources there have been searched for his name. It is not certain what happened to Elizabeth during the course of her apprenticeship since, five years later, John was in court for the non-payment of debt (court date 5 June 1812; Taylor email of 6.11.14). John subsequently ended up in Shrewsbury Gaol, being listed there three times in the London Gazette during the August of 1812 (No 16632, 11 August, p1605; No 16636, 18 August, p1695 and No 16637, 22 August, p1726). In each of these entries he is described as, "John Roden, late of Broseley, in the country of Salop, formerly of Bridgnorth, in the same county, pipe-maker." This makes it clear that he had moved from Bridgnorth to Broseley at some point before 1812 and it also makes it likely that he was somehow related to the prolific Roden family of Broseley, several of whom were pipe-makers. Unfortunately there are several people of this name recorded in the Broseley parish registers but, if he was from there originally, the most likely individual found so far appears to be John, son of Samuel Roden II (*q.v.*). A John Roden was marking pipes in Broseley *c*1820-40 (Atkinson 1975, 76), probably the same person, and he was certainly still working at Broseley in 1835, since he appears in a directory of that date. He has not been found in the 1841 census and may have died between 1835 and 1841. There is an early 19th -century mark reading 'I.RODEN/B.NORTH' in relief along the stem in Bridgnorth Museum which must belong to this maker's early career (Higgins 1987, *fig*. 74.12) and which can be dated to before 1812 by the court case.

Mary Ann Rogers	Recorded as a pipe-maker in 1851 Likely to have been pipe-making +1851+
Born	*c.* 1830 in Broseley

Children	1851 Mary, born in Bridgnorth

There is just a single reference to Mary Ann Rogers as a pipe-maker in Bridgnorth, which was in 1851 when she was lodging with Richard Cookson (59, carpet weaver) and his family in Friar's Street. Mary Ann was 21, unmarried and born in Broseley but living with her was her three-week-old daughter, Mary. Mary Ann was presumably just an employee working for one of the local pipe-makers.

John Scale	Recorded as an apprentice pipe-maker at Much Wenlock in 1660
	Likely to have been pipe-making 1660+

John Scale of Bridgnorth was apprenticed as a pipe-maker to William Savage the elder of Much Wenlock on 24 August 1660 for a term of nine years (SRRC BB/G/1/3/10). John's father was apparently given as a labourer at the time of the apprenticeship (Taylor, email of 17.11.14). This is the only known reference to John as a pipe-maker, but Bridgnorth parish register entries show that there was a family of this name (alias Duffe) in the town during the 1650s and that a John Scale was buried there on 25 April 1660. It is possible that this was John's father and that, as a result of his death, John was apprenticed at a young age for the unusually long term of nine years (apprenticeships were usually for seven years from the ages of about 14 to 21, but perhaps John was only 12 (*i.e.*, born *c.* 1648) and so apprenticed until he was 21 in *c.* 1669). This suggestion fits perfectly with the recorded baptism of a John Duffe in March 1648/9, which must be the same family since the mother is given with the unusual name Thomasin, which is the same as the baptism of Francis Scale in 1657/8. If this scenario is correct, it is possible that John returned to Bridgnorth to work in the town having completed his apprenticeship and that he is the John who buried his own son John there in 1676. The Bridgnorth registers do not record occupation at this date and so these suggestions can only be speculative. The relevant Bridgnorth parish register entries, however, are as follows (with the wife's name, and any alias, where given in the originals): -

1648/9 – John, son of John and Thomasin (*sic*) Duffe, born 14 March and baptised 20 March.
1654 – Richard, son of John Scale alias Duffe, baptised 21 August.
1654 – Jane, daughter of John Scale, buried 22 December.
1657/8 – Francis, son of John and Thomasin (*sic*) Scale, baptised 7 March.
1660 – John Scale buried 25 April.
1676 – John, son of John Scale, buried 22 July.

Elizabeth Southorn	Recorded as a pipe-maker 1831-1875
	Likely to have been pipe-making +1831-1875
Born	*c.* 1788 at Bridgnorth, daughter of William and Caterina/Catherine Rutter
Baptised	1788 at St Mary Magdalene, Bridgnorth (6 December)
Married	(1) Edward Bradley at St Mary Magdalene on 17 July 1814
	(2) **Thomas Parsons Southorn Jr (**between 1826 and 1829 – not traced)
Children	*c.* 1815 Joshua Bradley (bap 8 May at St Mary Magdalene)
	c. 1822 **Michael Bradley** (bap 10 March at St Mary Magdalene)
	c. 1828/1829 Isabella (CR)

	1832 **John Russell Southorn**, born 23 March 1832, bap 11 March 1838 at St Leonard's, Bridgnorth
	c. 1833 **Thomas Southorn**, baptised 31 March 1833 at St Leonard's, Bridgnorth
Died	1875 died on the 13th October, aged 86 (*Wellington Journal*, 16 Oct 1875, 8); buried at St Leonard's, Bridgnorth, on 15 October (Ancestry)

Elizabeth was the daughter of William and Catherina (Catherine) Rutter and was born in about 1788, being baptised at St Mary Magdalene, Bridgnorth, on 6 December of that year. She married Edward Bradley at St Mary Magdalene, Bridgnorth, on 17 July 1814, the witnesses being William and Mary Pearce. Nothing else is known about the marriage other than they had at least two children together (Joshua and **Michael Bradley**) before Edward died at some point during the 1820s. There were various Bradleys working as pipe-makers in the Broseley area and so it's possible that Edward was also connected with the pipe trade. Elizabeth then became the second wife of **Thomas Parsons Southorn Jr** at some date between 1826, when Thomas's first wife died, and 1828/29, when their daughter Isabella was born. If Elizabeth was not already familiar with the business, she presumably learnt it from her new husband. Oswald (1975, 190) lists two Mrs E Southorn's from the trade directories, but the dates he gives (1831-56 and 1868-75) all appear to relate to this one person and to start too early. It seems likely that the 1831 reference is in error and that Elizabeth simply took over the running of the works following his Thomas's death in 1845 (see entry for Thomas Parsons Southorn Jr. below). Elizabeth carried on running business until her death in 1875, aged about 86 or 87. During this time various members of the extended family helped with the business, including **Michael Bradley** (a son from her first marriage), her grandson **Edward Bradley**, who is recorded living with her in the 1851 and 1861 census returns, and Edward's wife, **Elizabeth Bradley**. In 1871, at about 83, she is recorded as the employer of three men and two women. She was thus responsible for running the business for some thirty years of its existence, which was no mean feat, particularly given the unruly behaviour of her two sons, **John** and **Thomas** (*q.v.*). Elizabeth's death was reported in *The Wellington Journal*, on 16 October 1875, "SOUTHORN – 13th inst., aged 86, Elizabeth, relict of the late Thomas Parsons Southorn, tobacco-pipe manufacturer, Bridgnorth."

John Russell Southorn	Recorded as a pipe-maker 1851-85
	Likely to have been pipe-making *c.* 1845-85+
Born	1832 - March 23 at Bridgnorth (St Leonard's PR, 1838)
Baptised	1838 - March 11 at St Leonard's (PR)
Died	1890 – Q1 in Coventry, age 61 (1829); Free BMD

John was the eldest son of **Thomas Parsons Southorn Jr** who established the Bridgnorth pipeworks in Pound Street by 1822/3. He was probably born there, and appears in Pound Street in every census from 1841-81. It is likely that he helped with the family business from a very young age and would almost certainly have been employed there full time following the death of his father in 1845. He does not appear to have married and, from the trade directory references, appears to have worked under his mother until her death in 1875, although he may well have been increasingly responsible for the running of the firm in her later years. In 1877 a lengthy court case report sheds some light on John's running of the firm after his mother's death (*The Wellington Journal*, 12th May 1877, p6). The case concerned alleged breach of horse warranty after John (pipe manufacturer) had purchased a horse for £29 from John Ingram, a cattle dealer from Ditton Priors on the 16th

December previously. John stated that he did not want the horse to ride but "to draw a cart with his tobacco pipes to his customers about the country", and claimed that Ingram warranted that the horse had been broken to harness and saddle-back and that it was quiet and steady in harness. But when the horse was taken to Wenlock with a cart it went very badly and eventually bolted, upsetting the cart, throwing John out and dislocating his shoulder. As a result he was unable to work for six weeks and only partially able to work for the six weeks following that. Ingram had refused to take the horse back and claimed that he did not warrant the horse, which was subsequently auctioned for £20. John was claiming £50 for his losses but, after much deliberation the judgement went in favour of the defendant, but without costs. The census of 1881 records John as a master pipe-maker, employing one man and one woman. He is last recorded as a pipe-maker in a trade directory of 1885 (Oswald 1975, 190), and it is likely that he ceased pipe production at about that time, particularly in light of the fact that on 7 April 1886 a horse, waggon, furniture, etc., at Pound Street, the property of Mr John Southorn, were sold under a distress for rent (Shropshire Archives 4752/48/27). He is likely to be the John Southorn who died in the first quarter of 1890 in Coventry, aged 61 (1829; Free BMD). As an individual, John appears to have been as drunken and violent as his brother Thomas and frequently fell foul of the law, as is shown by the following articles: -

The Wellington Journal, 21 November 1857, p3; "DRUNKENNESS. John Southern (*sic*), charged with being drunk on the 30th ult, and using gross abuse to the constable on duty, was fined 8s 6d, including costs."

Eddowe's Shrewsbury Journal, 28 February 1866; "*Assault*. John Southern (*sic*), a pipe-maker, of this town [Bridgnorth], who has often appeared before the bench as an offender, was charged with a violent assault upon James Davies, a constable for this borough, on the night of the 14th inst. James Davies deposed that between eleven and twelve o'clock on the night in question he was informed that cries of murder proceeded from Southern's house, and on his going there Southern came out and asked what he wanted ; his mother then came out and pushed Southern in and locked the door ; he heard him cursing and swearing to someone to open the door ; shortly afterwards he burst the door open and came and knocked him down, saying he would give him something for listening at his door ; he was held down and kicked, and was unable to walk for some time ; his staff was taken from him, and prisoner threw it at his head. Several witnesses corroborated prosecutor's evidence, and Southern was sentenced to seven days' imprisonment, without choice of a fine. Mr Batte appeared for Southern."

The Wellington Journal, 8 December 1869, reporting the Borough Petty Sessions; "*Fighting*. – William Walford, labourer, and John Southern (*sic*), pipe-maker, were charged by Chief-officer Cole with fighting, on the 17th ult., at the Cross Keys Inn."

The Wellington Journal, 9 March 1872, p7; "FIGHTING. George Baker, Thomas Baker, John Southern and Thomas Southern were charged by Sergeant Davies and Police-constable Tomkins with fighting in the New Town. During the *melée* the leg of Thomas Southern was broken, but whether by accident or design there was not sufficient evidence to show. Mr. W. D. Batte appeared for the defendants. George Baker and John Southern 10s and 7s. 2d costs; Thomas Baker 10s. and 8s. 2d. costs, or 14 days; Thomas Southern 21s, including costs, or 21 days. Nine former convictions for drunkenness and assault were proved against Thomas Southern, one of the defendants in the case. DRUNK AND INDECENT. – John Southern, one of the defendants in the former case, was

charged by Police-constable Purchase with the above offence. Twelve former convictions for drunkenness and assault, with fines amounting to £10 2s 3d, were put in. The Bench, taking into consideration the number of summonses against defendant in connection with the fighting case, imposed mitigated penalty of 10s., including costs. The cross-summonses issued, Southern against Baker and Baker against Southern, stand adjourned until the 18th inst."

The Wellington Journal, 14 June 1873, p8; "DRUNK AND REFUSING TO QUIT. John Southern, pipe-maker, an old offender, was charged by Mr. Samuel Piper, landlord of the Bricklayers' Arms, with being drunk and refusing to quit his house, when requested to do so, on the 27th ult. Defendant admitted the charge, and was fined 10s. and 7s 6d costs. The same defendant was further charged by Mr. Charles Deighton, wine and spirit merchant, with refusing to quit his vaults, on the 6th inst., when requested by him to do so. Mr. Batte appeared for the defendant, who admitted the charge. Fined £1 and 7s 6d costs."

The Borough of Wenlock Express, 22 July 1876 (noted by Iris Payne of Shrewsbury); "**Interfering with Police** John Southorn of Pound Street, tobacco pipe maker, was charged by Police Sergeant Davies for unlawfully interfering with him in the execution of his duty in Whitburn Street on the 14th inst., when his brother, Thomas Southorn, was being taken to the police station for being drunk. John was fined 20/-, plus 14/- costs, or three weeks hard labour. Thomas was fined (and former convictions noted) £2, plus 7/- costs. (The Judge said language and conduct was most disgraceful and violent)."

The Wellington Journal, 14 July 1883, p7; "DRUNKENNESS. John Southern (*sic*), pipe manufacturer, Bridgnorth, was charged with being drunk at Madeley, on the 24th ult. Fined 10s. and costs."

The Wellington Journal, 22 December 1883, p8; "DRUNK AND REFUSING TO QUIT. John Southern (*sic*), pipe manufacturer, failed to appear to a summons charging him with the above offence, on the 8th inst. Police-constable Davies stated that he found defendant at the George Hotel trying to force an entrance, the door having been locked against him. He had also thrown a stone through one of the windows, which hit a man who was seated in the bar. On being requested to leave the premises, defendant used threatening language to witness, who had to use force to get him away. A fine of £1 10s, including costs, was inflicted."

Given John's long record of drunken and disorderly behaviour it is at least possible that he is the individual who fathered an illegitimate daughter, Jemima Pearce, in 1856. Jemima's father 'John Pearce' (*q.v.*) was recorded as a pipe maker at the time of her marriage in 1874, but cannot be traced elsewhere in the records. Furthermore, Jemima had taken her unmarried mother's surname and so Pearce is unlikely to have been her father's real surname as well. John Southorn is the only known pipe-maker in Bridgnorth with a matching Christian name at this period and so could be the father referred to.

Thomas Parsons Southorn Jr	Recorded as a pipe-maker 1799-1845
	Likely to have been pipe-making *c.* 1785-1845
Born	Probably 1771 (age at death given as 73)
Baptised	1771 - May 19, son of Thomas Parsons Southern Sr. and Lydia at St Leonard's, Broseley.

Married	(1) 1790 - October 3 to Susanna Gethen (*c*1755-1826) at Dawley Magna (PR)
	(2) *c*1826-29 **Elizabeth Bradley (née Rutter)**; born in Bridgnorth *c.* 1788
Children	*c.* 1828/1829 Isabella (CR)
	1832 **John Russell**, born 23 March, bap 11.3.38 at St Leonard's (BG PR)
	c. 1833 **Thomas**, bap 31.3.33 at St Leonard's (BG PR)
Died.	1845 - February 28

Although his parents were married at Much Wenlock, Thomas appears to have been brought up in Broseley. It was there that he was baptised and, following the death of his father, Thomas Parsons Southern Sr., that his mother re-married in 1776, when Thomas was five. His mother, Lydia Legg, and his step-father, Richard Russell, may both have been associated with pipe-making families, so it is possible that Thomas learnt the art through them. Given his subsequent career and the fact that he was raised in Broseley it seems likely that he would have always works as a pipe-maker, most likely from *c*1785, when he would have been 14. He also had a number of younger cousins from Cardington, who later moved to Broseley where they worked as pipe-makers (and, in particular, William Southorn I (*q.v.*), who founded a substantial business there in 1823). Thomas married Susanna Gethen at nearby Dawley Magna in 1790, a woman nearly twice his age (he was then about 19 while she was about 35) who may also have been from a pipe-making family. By 1799 it appears that they had moved to Bridgnorth, where Thomas was recorded as a pipe maker when he was a founding member of the Freemason's Lodge of Industry (Graham 1892, 73). He was also a member of the Agenorian Chapter, probably from about 1801, showing that he was an active member of the Freemason's movement (Graham 1892, 76). On 14 September 1815 he was made a burgess of Bridgnorth (Bridgnorth Burgess Books; Taylor email of 1.10.2011).

It may well be that Thomas had initially established his business in St Mary's Street (then known as 'Hungary Street') and he was certainly living there prior to the sale of this site in 1822; "LOT III, A Messuage tenement or DWELLING HOUSE shop, buildings, garden and premises locate in the Hungary Street, in Bridgnorth, late in the occupation of Thomas Southern, pipe-maker, but now void. These premises are well adapted for any Wholesale trade, being about the Middle of Hungary Street, through which there is a constant throughfare" (*The Salopian Journal*, No 1,500, 30 October 1822). The 1824 Poor Rate records that he was by then living in Pound Street (SRO 3662/P/2) and an unsourced reference in the Bridgnorth Journal (1968) gives his address in 1824 as No 1 Pound Street. A few years later (1826) his wife died, apparently childless. She was buried on 14 April, age 71, when she was described as of Pound Street (St Leonard's PR). Pigot's Directory of 1828 gives his address as Raven Street (another name for Whitburn Street, *cf* Gregory 1824) and, in 1832, as it is given as Whitburn Street. The factory that was run by the family until *c.* 1886 was situated on the corner of Pound Street and Whitburn Street and it is clear that all these references refer to the same site, which was being used by the family from *c*1822 onwards. The trade directory references to the family at this site are as follows: -

Directory	Date	Pipe-maker	Bridgnorth Address
Pigot	1822-23	Thomas Southorn	High Town
Tibnard	1828	Thomas Southorn	High Town
Pigot	1828-29	Thomas Southorn	Raven Street [alias Whitburn Street]
Pigot	1835	Thomas Southorn	Whitburn Street
Pigot	1842	Thomas Southorn	Whitburn Street

Slater	1844	Thomas Southorn	Whitburn Street
Slater	1849	Elizabeth Southorn	Whitburn Street
Slater	1850	Elizabeth Southorn	Whitburn Street
Post Office	1856	Elizabeth Southorn	Whitburn Street
Slater	1859	Elizabeth Southorn	Whitburn Street
Kelly	1863	Elizabeth Southorn	Pound Street
Slater	1868	Elizabeth Southorn	Whitburn Street
Kelly	1870	Elizabeth Southorn	Pound Street
Cassey	1871	Elizabeth Southorn	Pound Street
Cassey	1874	Elizabeth Southorn	Pound Street
Mercer & Crocker	1877	John Southorn	Pound Street
Kelly	1879	John Southorn	Pound Street
Kelly	1885	John Southorn	Pound Street

Trade directory references to the Southorn family, extracted by local researchers for the Bridgnorth History Week in 2013

Between 1826 and 1829 Thomas remarried to a younger widow Elizabeth Bradley (*née* Rutter) from Bridgnorth. Oswald (1975, 190) lists **Elizabeth Southorn** as a pipe-maker in her own right from 1831-56 and 1868-75 and cites trade directories as his source. A recent review of the Bridgnorth directories, however (see above), first records her in 1849, which suggests that she simply took over the running of the business following Thomas's death in 1845. Elizabeth bore him three children, a daughter and two sons. The sons never married and continued to help her run the pipe-works in Pound Street, following Thomas's death in 1845. The elder son, John, took over control of the business following Elizabeth's death in 1875. The business itself appears to have principally employed family members, since **Daniel Phillips I** (*q.v.*) seems to have been working there in 1841 and his wife's maiden name was Rutter, the same as Elizabeth's. Likewise, Elizabeth had previously been married to Edward Bradley and so **Michael**, **Edward** and **Elizabeth Bradley** (*q.v.*), who appear to have worked for the Southorns , were all members of the extended family.

It is unfortunate that no more is known of Thomas's early life and connections to Broseley, since he appears to be an important link between the Southorns and pipe-making. He is the earliest Southorn known to have been a pipe-maker and could well be related to two of the 18th century pipe-making families of Broseley. It is likely that he learnt the trade in Broseley and may well have worked there as a pipe-maker during the later 1780s and early 1790s. He introduced direct Broseley influence into Bridgnorth and founded a branch of the family that was to run an important works in the town for at least 86 years (1799-1885).

Thomas Southorn	Recorded as a pipe-maker 1851-1891
	Likely to have been pipe-making *c*1847-1891+
Born	Probably 1833 at Bridgnorth
Baptised	1833 - March 31 (St Leonard's PR)

Died 1906 – Possibly the Thomas Southern (*sic*) who died at Atcham, near Shrewsbury, in Q1 1906, age 71 (1835); Free BMD

Thomas was the younger son of **Thomas Parsons Southorn Jr** who established the Bridgnorth pipe-works in Pound Street by 1822/3. He was probably born in Pound St and appears at that address with his family in every census from 1841-81 (the number being given as 24 from 1861 onwards). It is likely that he helped with the family business from a very young age, and probably full time from about the age of 14 (i.e., *c.* 1847) – and possibly even earlier, since his father died in 1845, when he was about 12. He is described as a pipe maker in the census returns from 1851 onwards, and, in 1871 and 1881 specifically as an assistant, showing that he was working for his mother (who died in 1875) and then older brother, who must have actually been in charge of the works. Despite this, he had become a burgess of Bridgnorth in 1854, "Thomas SOUTHORN, of Pound St. Son of Thomas Southern, Pipe maker of Pound St made 14 Sept 1815. Made 28 July 1854" (Taylor email, 3.11.14). His brother seems to have given up pipe-making around 1885 and probably died in Coventry in 1890. In 1891 Thomas was living alone at 1 Moat Street, Bridgnorth, but still recorded as a pipe maker. He had clearly moved from the Pound Street site where he had lived the whole of his life previously but it is not clear whether he was still able to carry on in some way there, whether he briefly ran his own business or whether he was simply working for **Charles Phillips** in Foundry Yard (*q.v.*). The latter is perhaps more likely, since the Southorn and Phillips families seem likely to have been related and **Daniel Phillips I** was living by (and presumably working at) the Pound Street factory in 1841. Thomas is not listed Kelly's Shropshire Directories for either 1891 or 1895. He was living alone in Moat Street in 1901, but no occupation is listed, and it seems likely that he is the Thomas Southern (*sic*) who died at Atcham in the first quarter of 1906, age 71 (Free BMD). Thomas, like his older brother John, appears to have been a somewhat drunken and argumentative individual, as is attested by his numerous appearances in the local court: -

The Wellington Journal, 16 May 1857, page 3; "DRUNKENNESS. Thomas Southern and Michael Bradley, pipe burners, and half-brothers, well known to the bench, were brought up charged by P.C. Cole with being drunk and disorderly on the evening of the 25th of April last. The case being fully proved, the Mayor fined them 10s each including expenses, or in default 21 days' imprisonment. After a little lapse the money was paid, and they were discharged from custody."

The Wellington Journal, 9 March 1872, p7; "FIGHTING. George Baker, Thomas Baker, John Southern and Thomas Southern were charged by Sergeant Davies and Police-constable Tomkins with fighting in the New Town. During the *melée* the leg of Thomas Southern was broken, but whether by accident or design there was not sufficient evidence to show. Mr. W. D. Batte appeared for the defendants. George Baker and John Southern 10s, and 7s 2d costs; Thomas Baker 10s and 8s 2d costs, or 14 days; Thomas Southern 21s, including costs, or 21 days. Nine former convictions for drunkenness and assault were proved against Thomas Southern, one of the defendants in the case. The cross-summonses issued, Southern against Baker and Baker against Southern, stand adjourned until the 18th inst." This case is particularly interesting because it makes clear that Southorn's leg was broken in a fight. Thomas later tried to claim sick pay as a result of this injury, as the following case shows: -

Eddowe's Shrewsbury Journal, 18 September 1872; "COUNTY COURT, Monday, before Mr. J. W. Smith, Q.C., Judge. *A Club Dispute*. Mr. Thomas Southorn, pipe manufacturer, brought an action against Mr. Richard Head, Grand Master to the Loyal Reformed Order of Oddfellows, on the ground that he had illegally refused to pay the sum of £4 4s., the amount of ten and a half weeks' sick pay from the club, as he has sustained an accident by the breaking of a small bone of his leg. Mr. Batte was for the plaintiff ; and Mr. E. W. Haslewood, jun., for the defendant, who was nominal defendant for the club. Mr. E. W. Haslewood, Jun., on behalf of the club, submitted to the judge that plaintiff was not entitled to any compensation – 1st, that he was not entitled under the rules of the club ; and 2nd, if entitled, it was only a few shillings, as he (the plaintiff) had not made his claim in proper time. Mr. Batte said plaintiff had been a member for nearly 20 years, and it appeared very hard that on this, his first application for sick pay, litigation should ensue. Mr. Haslewood said: Under rule 55 the plaintiff was not entitled to sick pay, as the accident was caused by his own negligence, and also that the plaintiff could only claim from the time he sent in a medical certificate. Mr. Haslewood, having been directed by the judge to proceed with the case, called three witnesses to prove that the accident was caused by the plaintiff pushing a man named Baker, who was sitting on a door step ; that a fight took place, in which plaintiff was knocked down and dislocated his ankle. The evidence, except as regards one witness, was of the most doubtful character, and the learned judge told Mr. Haslewood he should consider it as such. Mr. Haslewood then proceeded to close his case, and submitted that the club was not liable. Mr. Batte, on behalf of the plaintiff, said that although plaintiff might have pushed Baker, if he did so, it was in self-defence, and as plaintiff had been a member of the club for so many years they should have met the claim. After a long argument between the attorneys on both sides, in which it was proposed the case should be adjourned till next court day for the hearing of the evidence on the plaintiff's behalf, the case was compromised by the club paying £2 2s., and each party to pay their own costs."

The Borough of Wenlock Express, 22 July 1876 (noted by Iris Payne of Shrewsbury); "**Interfering with Police** John Southorn of Pound Street, tobacco pipe maker, was charged by Police Sergeant Davies for unlawfully interfering with him in the execution of his duty in Whitburn Street on the 14th inst, when his brother, Thomas Southorn, was being taken to the police station for being drunk. John was fined 20/-, plus 14/- costs, or three weeks hard labour. Thomas was fined (and former convictions noted) £2, plus 7/- costs. (The Judge said language and conduct was most disgraceful and violent)."

Elizabeth Taylor;	Recorded as a pipe-maker in 1871 (Bridgnorth) and 1881 (West Bromwich) Likely to have been pipe-making +1871-1881+
Born	*c.* 1820 at Plymouth
Married	Edward Taylor (born Dudley, *c*1811)
Children	*c.* 1859 Emma (born East Stonehouse) *c.* 1863 Benjamin (born Plymouth)

Elizabeth is only recorded in Bridgnorth in 1871 when she was aged 50 and living with her family at 9 Old Foundry Yard. Her husband was a labourer (60), and was born in Dudley (Staffordshire), about 14 miles east of Bridgnorth, but must have moved to Plymouth, the home town of Elizabeth and the birthplace of their children, by at least 1859. The fact that both Elizabeth and her children were born there may indicate that the family was in fact based in Plymouth, only moving back north in older age, after 1863, when Edward would have been in his 50s. A census entry for 1861 seems to locate the family in East Stonehouse, Plymouth (Edward, 50, labourer,

born Birmingham; Elizabeth, 40, born East Stonehouse, labourer; Emma, 2, born East Stonehouse). It is worth noting that they were living next door to two pipe-makers named Mary Whitelock (mother and daughter) in Rowe's Court, a known pipe-making location. Perhaps they were already engaged in the trade, but simply listed as labourers. Elizabeth is unlikely to have ever been anything other than an employee, perhaps working for the Phillips' in Foundry Yard, Bridgnorth, in 1871. In 1881 she was still listed as a tobacco pipe maker, but was by this date was a pauper, aged 62, in the District Union Workhouse in Hallam Street, West Bromwich.

Joseph Thomas:	Recorded as a pipe-maker in 1851 (Bridgnorth) and 1871 (Merthyr Tydfil)
	Likely to have been pipe-making +1851-1871+
Born	*c.* 1827 at Manchester
Married	**Elizabeth Reynolds** (born Liverpool, *c*1833)
Children	*c.* 1852 - **George** (born Bridgnorth)
	c. 1855 - **Sarah** (born Bridgnorth)
	c. 1865 – Albert (born Worcester)
	c. 1868 – Ann (born Broseley)
	c. 1870 – Harriet (born Birmingham)

Joseph is only recorded in Bridgnorth in 1851 when he was living in New Town. In that year, at the age of only 24, he was apparently responsible for his 18-year-old wife, together with her three younger brothers and sister. She had been born about 1833 in Liverpool, but must have moved to Leeds by about 1837 when one brother (Anthony Reynolds) was born, then on to Bridgnorth by about 1838 where the rest of the family was born (John Reynolds *c*1838; Richard Reynolds *c*1842 and Ann Reynolds *c*1846). In the 1841 census Elizabeth had been living in Listley St with her father Anthony (a labourer), mother Sarah, elder sister Mary and three brothers, and all seven of them were given as having been born in Ireland. Joseph was born in Manchester, but must have moved to Bridgnorth before 1851 where he would have met Elizabeth. He seems to have been an itinerant worker, presumably working as a journeyman. The family has not been found in 1861, although the birth places given for the children would suggest that they were still in Bridgnorth until at least 1855 and then Worcester by 1865, Broseley in 1868 and Birmingham in 1870. In 1871 the family were living in Merthyr Tydfil where Joseph was a pipe maker (45) and Elizabeth a finisher in a pipe factory (39). With them were five unmarried children; George (labourer, 19, born Bridgnorth); Sarah (pipe maker, 16, born Bridgnorth); Albert (6, scholar, born Worcester); Ann (3, scholar, born Broseley) and Harriet (1, born Birmingham). The family has not been traced after 1871 but it has been noted that son George Thomas went on to become a pipe-maker too, being recorded as such in 1901 in Rochdale (age 47).

William Whitton	Recorded as a pipe-maker in 1877
	Likely to have been pipe-making +1877+

Very little is known about William Whitton, since he cannot be identified in any of the census returns. He may well have been an itinerant pipe-maker and is only once recorded in Bridgnorth; "DRUNK. William Whitton pipe maker, was charged by Police-constable Tomkins with being drunk in St. Mary's Street, on Saturday night last. The prisoner, who admitted the case, was fined 10s. including costs", *The Wellington Journal*, 14 April 1877, p6.

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