

JOHN EDWARDS' CLAY PIPE WORKS, BALLYMACARRETT, BELFAST (1789–1803)

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As part of a wider archaeological excavation at the Sirocco engineering works, Belfast, a late 18th-century clay pipe kiln and an early 19th-century vitriol bottle-stopper kiln were excavated. The clay pipe kiln was constructed by John Edwards in 1789 and fell out of use by 1803. A neighbouring building may have been the workshop for the pipe kiln. After 1803 a new kiln was constructed in the workshop for the manufacture of clay vitriol bottle-stoppers. The large numbers of clay pipes recovered during the excavation provide a typological record of the forms manufactured.

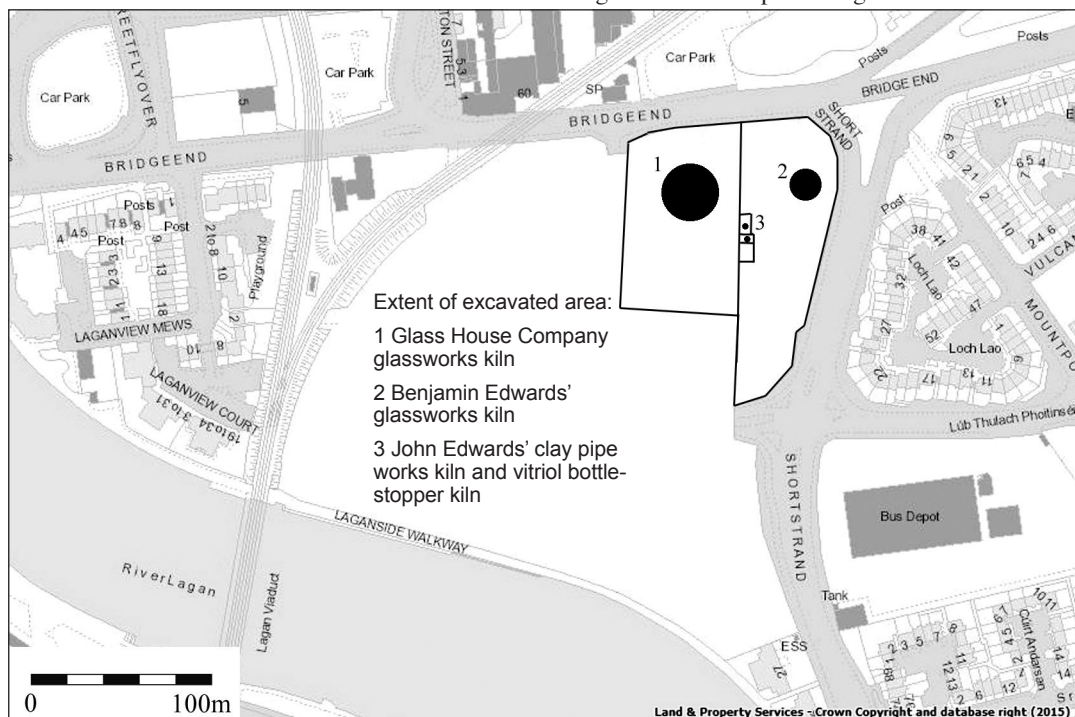
INTRODUCTION

The excavation at the former site of the Sirocco engineering works, Ballymacarrett, Belfast, provided evidence of the late 18th- and 19th-century industrial history of Belfast. The excavation was undertaken in several phases, with the initial site investigation carried out by Northern Archaeological Consultancy Ltd (NAC) in 2005 under archaeological licence AE/05/033. The main excavation works were undertaken by Gahan & Long Ltd in 2008–09 under archaeological licence AE/08/057. The NAC data structure report (Barkley

& Dunlop 2013) for the development was submitted to the Department of Communities: Historic Environment Division under archaeological licence AE/13/072. Keary (2009) has published a summary account of the excavation.

The area excavated was one of the first to be reclaimed along the River Lagan. The reclamation was undertaken to allow for the development of large-scale industrial operations on the east side of the river and immediately proved popular for this

Fig 1 Location map showing extent of excavation.



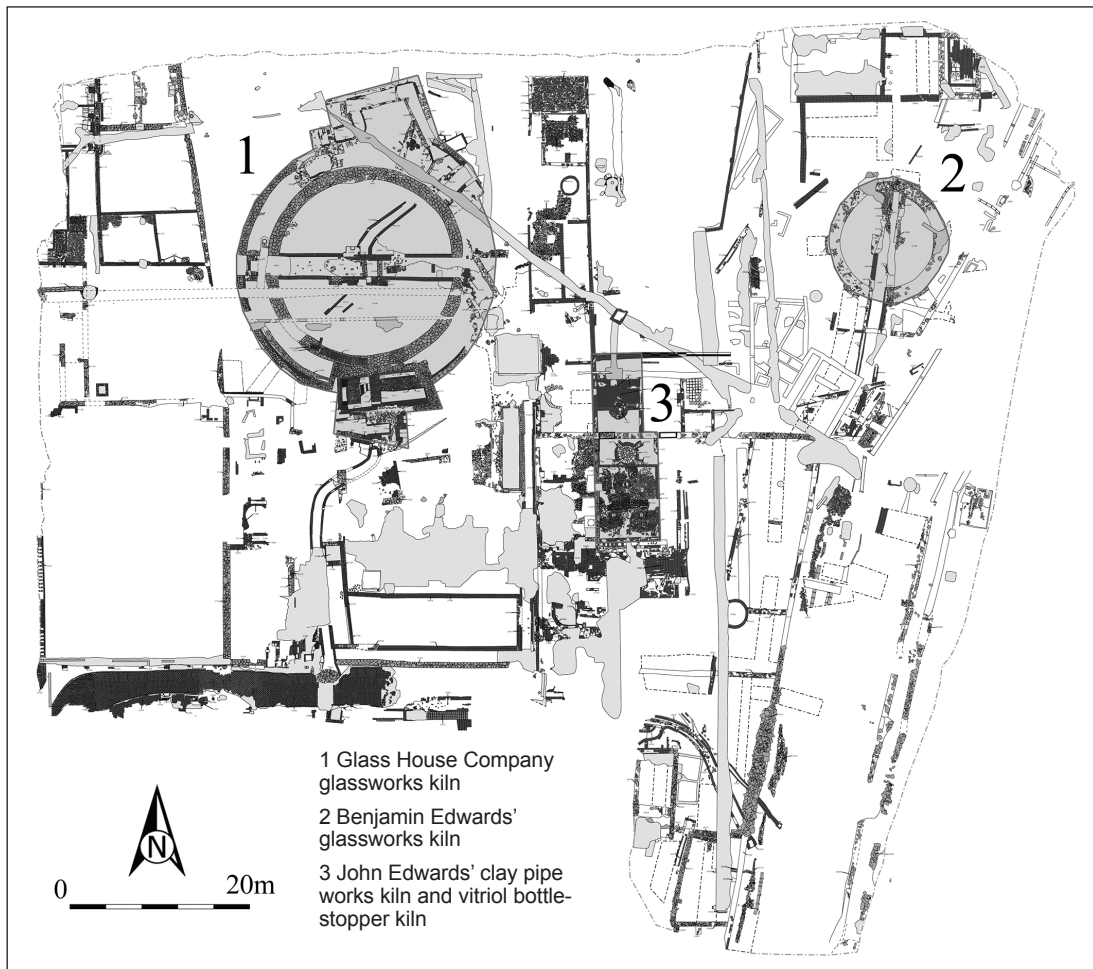


Fig 2 Location of clay pipe kiln within excavation area.

purpose. In 1780 Benjamin Edwards set up his glassworks, and five years later on the adjoining western plot John Smylie & Co set up the Glass House Company glassworks. In 1789 a clay pipe kiln was constructed by Benjamin Edwards' son John; this is the first recorded clay pipe works in Belfast. Industrial activities continued in this area through to the 20th century.

The four principal archaeological features recorded were mid-18th-century shore walls and land reclamation, the foundations of the glass cone of the Benjamin Edwards glassworks, and the larger glass cone of the Glass House Company glassworks.

This article provides a detailed report on the clay pipe kiln and the vitriol bottle-stopper kiln, and the artefacts recovered from it. The wider historical background to the archaeological information

recovered is briefly discussed to provide contextual information in relation to the clay pipe kiln, and includes reference to the history of the Edwards family drawn from the work of Barkley (Barkley & Dunlop 2013). It is anticipated that reports on the Benjamin Edwards glassworks and the Glass House Company glassworks will be published in future volumes of this journal.

SITE LOCATION

The Sirocco engineering works (IGR J 3485 7429) is in the townland of Ballymacarrett, Co Down (Fig 1), directly across the River Lagan from the historic core of Belfast. The area is bounded by the River Lagan to the south, a railway to the west, the Short Strand to the east and Bridge End to the north.

It is well known that much of Belfast stands on soft ground. What is less well understood is that this material has several distinct origins. Land was artificially reclaimed from the 17th to the 20th centuries, with material dredged from the Lagan

estuary deposited on the sides of the channel. This took place firstly in the wide estuary of the Blackstaff River (which included what is now Chichester Street) in the later 17th century and then, still on a modest scale, along the Lagan in the later 18th century, especially around Ballymacarrett. The excavated area is on land that was reclaimed in stages in the late 18th century, beginning in the north-east, on what would have been the shoreline of the Lagan at the time, the 'short strand' that survives today in the area's name.

The clay pipe kiln and workshop lay centrally within this first area of reclaimed land, roughly equidistant between the two glassworks (Fig 2).

HISTORY OF THE EDWARDS FAMILY AT BALLYMACARRETT UP TO THE CLOSING OF THE CLAY PIPE WORKS IN 1803

In 1771, and prior to setting up the glassworks at Ballymacarrett, Benjamin Edwards was superintendent of the Tyrone Collieries glasshouse at Drumreagh, Co Tyrone (Westropp 1920, 99). Westropp (*ibid*) states that Edwards was a Bristol glassmaker brought over by Tyrone Collieries to fill the position. However, although A C Powell lists all of the known glassworks, producers and apprentices in Bristol to the end of the 19th century in his seminal work on glassmaking in that city, the name of Benjamin Edwards is not amongst them (Powell 1925). Who exactly Benjamin Edwards was and how he came to run a glasshouse in Co Tyrone is still uncertain. The author has contacted the Society for Clay Pipe Research and the Association for the History of Glass and searched the various English records, but to date no detailed evidence for Benjamin Edwards has come to light.

On 9 January 1781 Edwards ran an advertisement in the *Belfast News-Letter* informing the general public that the glassworks are now completed and in full production (Fig 3). This would suggest that he began to manufacture glass on the site in late 1780.

With the glassworks erected, Benjamin Edwards began to expand and diversify his business. In 1783 he took on a man by the name of Shaw as a business partner and set up an engineering works beside the glasshouse (Westropp 1920, 101). The purpose of the engineering works was to make machines to help with the cutting, forming and engraving of the glass and, by the following year, Edwards & Shaw were advertising the machines for sale (Westropp 1920, 101).

In 1785 John Smylie & Co set up a separate glassworks on the neighbouring plot under the name of the Glass House Company glassworks. They built a much larger kiln than Benjamin Edwards and

began to produce bottles in direct competition with him. However, this does not seem to have affected Edwards greatly, as in 1787 he started to advertise for apprentices in glass cutting and engraving, and in 1788 he opened a warehouse on Hanover Quay, Belfast (Westropp 1920, 101–03). From the advertisements it is clear that Edwards and Shaw had decided to further expand their business as they are now advertising pots and pans from their new foundry (Westropp 1920, 103).

For reasons unknown, the partnership with Shaw was dissolved in 1789 when Shaw retired from the engineering works (Westropp 1920, 101). It is clear that Shaw was brought in only as a partner to help Edwards establish the engineering works and foundry. It can only be presumed that by the time of his retirement the business was successful enough that Benjamin Edwards did not require another partner. In the year of Shaw's retirement Benjamin's son John erected a tobacco (clay) pipe manufacturing business adjacent to his father's glasshouse.

While Westropp (1920, 109) notes that this was the first clay pipe factory in Belfast, this does not seem to be an accurate statement, since the *Belfast News-Letter* of 17 November 1769 carries an advertisement from a Samuel Blair stating that he

Takes this Opportunity of informing his Friends and the Publick, that he

Belfast Glas Manufactory.



BENJAMIN EDWARDS, at his FLINT GLASSWORKS in Belfast, has now made, and is constantly making all Kinds of enamell'd, cut, and plain Wine Glasses; cut and plain Decanters with Flint Stoppers; Crofts; common, Dram, and Punch Glasses; Flint and green Phials; Flint and Green Guardebottles; Retorts; Receivers, and all Manner of Kinds of Chymical Ware; Cruets, Sales, and Goblets, &c. &c. &c.

The above FACTORY has been compleated at a very considerable Expence, and is equal to any in England; and as there are vast Quantities of Goods of all Sorts now on Hands, Customers cannot possibly be disappointed.

The Proprietor has brought a GLASS CUTTER from England, who is constantly employ'd, and humbly hopes for the Protection and Countenance of all the Friends of Ireland, to please whom, and to merit the Continuance of their Favours, which he has already received, shall be his constant Study—Country Dealers will be supplied on the most reasonable Terms.

Belfast Jan. 8th, 1781.

Fig 3 Advertisement for the Benjamin Edwards glassworks, *Belfast News-Letter* 9 January 1781.

carries on the Tobacco and Pipe making [sic] Business, which was carried on by (formerly Mary Sykes) [sic]. As he has laid in a large Quantity of Leaf from England and Scotland, and Pipe Clay, of the first Qualities, and having the best of Workmen from London and Dublin in both Branches of Business and a compleat Set of Carved Moulds for Pipes of the newest Fashions, he doubts not by his Care and Assiduity to serve his customer with the best of Tobacco and Pipes, equal if not superior to the English; together with Pig-tail, Snuff, and Snuff-Roll. As his Intentions is [sic] to furnish those who are pleased to favour him with their Customs with goods the best in their Kind, and on as reasonable Terms as possible, hopes to merit their Favour. If a certain John Armor, who came from the Colony of Virginia to Glasgow in 1767, and from thence came to Ireland, his native Country, be alive, and will inquire of the said Samuel Blair he will hear of something greatly to his advantage. Belfast, 10 November, 1769.

Unfortunately, no address is included for Samuel Blair, or details of where Mary Sykes' clay pipe making business was located, and a search of the 18th-century *Belfast News-Letter* archives provides no further information on Samuel Blair or Mary Sykes. The evidence from this record would suggest that Mary Sykes had a clay pipe making business in the years leading up to 1769 and that this was taken over by Samuel Blair around the date of the *News-Letter* advertisement. What is not clear is whether Samuel Blair continued this business after this date.

The next evidence for clay pipe manufacturing in Belfast comes from Lowry (1913), who records that 'among the early records of Belfast we find in the year 1782 there is a tobacco industry mentioned', but as Lowry provides no further details or references it is not clear where this record is from. These two pieces of evidence indicate that clay pipe manufacturing was being undertaken in Belfast from at least the middle of the 18th century, and it is likely that future development in Belfast will provide archaeological confirmation of this early industry.

The clay pipe works were located in the southwest of the area owned by Benjamin Edwards, with two buildings making up the works, one on either side of the southern boundary wall of his plot. The late 18th-century maps for this area show that the northernmost of these buildings was within Benjamin Edwards' property boundary before

1789, with the southern building being brought into his lands only after that date, presumably to accommodate the clay pipe works. The southern building remained within his property boundary in the valuation of 1834 (VAL 1/D/3/1).

In 1800 Benjamin Edwards took on his sons John, Hugh and Benjamin (junior) and son-in-law William Ankatell as partners in the business and changed the name to Benjamin Edwards & Sons (Westropp 1920, 103). It is possible that this was just making official a situation which to a certain extent already existed, as it is likely that as well as John running the clay pipe works Benjamin's other sons were already involved in the business, meaning their partnership was merely a formality.

With his new partners in place, the business continued to expand and Benjamin Edwards & Sons opened a warehouse at Canal Quay in Newry in 1800, followed by a foundry at the same site in 1801 (Westropp 1920, 103).

Following the partnership and the erection of the warehouse and foundry in Newry, the following years appear to have been a somewhat tumultuous time for the Edwards family and their business. In 1803 there appears to have been a falling out between John Edwards and his father Benjamin. This resulted in John leaving the business of Benjamin Edwards & Sons at Bridge End and establishing his own glassworks, the Belfast Glass Works, at Peter's Hill (Westropp 1920, 103). There is no record of the clay pipe factory he established beside his father's glasshouse remaining in use after he left and no indication that he developed a new pipe works at his own premises at Peter's Hill.

It would appear, therefore, that the John Edwards clay pipe works operated for only 14 years, between 1789 and 1803. When it shut down only one other clay pipe manufacturer is noted as operating in Belfast. The owner was Charles Dunbar, who is recorded at 114 North Street in July 1801 (*Belfast News-Letter*, 28 July 1801):

Tobacco pipe manufactory Charles Dunbar has now ready for sale at his manufactory 114 North Street Tobacco pipes in boxes from ten to forty gross each – orders from shop-keepers shall be attended to with care and punctuality, and he engages that if the quality and price are not found pleasing to those who purchase, he will return the money and pay return carriage. Belfast July 14, 1801.

The next recorded clay pipe makers in Belfast are Thomas Hamilton, who set up his operations in Winetavern Street in 1812 (O'Byrne 1946,

211), and James Hamilton, who is recorded in the *Belfast Street Directory* at 5 Winetavern Street in 1819. Appendix 1 is a short history of clay pipe manufacturing in Ireland; Appendix 2 is a table of all currently identified Belfast clay pipe makers.

THE EXCAVATION

The pipe works is associated with two buildings, one on the north side of the 18th-century southern boundary wall of Edwards' plot (designated building 1), which contained the clay pipe kiln, the other on the south side (building 2), which would appear to have been the clay pipe manufacturing rooms (Fig 4). Building 1 had a doorway on its north side and building 2 was divided into two rooms of unequal size, both of which had doorways on their east side. A doorway linked building 1 with building 2, room 1. It seems likely that building 1 was constructed prior to building 2, as it lay north of, and within, the original boundary wall of Benjamin Edwards' glassworks, while building 2 was an addition to his property constructed at the time of the clay pipe works becoming operational.

Building 1 contained a simple kiln in its centre. Building 2, room 1, had a more complex kiln tightly squeezed within its walls. Building 2, room 2, had a line of large sandstone blocks with sockets in the centre that ran along the length of the room. These cannot have held structural supports for the roof as they were covered at a later date by a tiled floor; it

is therefore assumed that they supported tables or overhead racks required for clay pipe manufacture.

Building 1

This building lay within the original boundary of the Edwards' area, with its west wall being the boundary wall between the Edwards' lands and that belonging to the Glass House Company, and its south wall marking the original southern boundary of the Edwards' lands (Pl 1). The northern wall and the doorway along this wall had been partially destroyed by a modern concrete drain. The door between building 1 and building 2 appears to have been a later insertion, probably contemporary with the change of use of building 1 from a simple house to being the kiln room of the clay pipe works.

The first phase of use of this building would appear to have been as a small house. The boundary wall of the plot enclosed an area c 10 x 6m. The plot was divided by a brick wall into a c 6m-square house to the north, and an unpaved yard to the south. The house was floored with red bricks of various sizes, which were bonded with grey lime mortar. The bricks in the west side of the building were for the most part laid north/south and those in the east for the most part laid east/west, with an overlap in their orientation where they met. A wall overlay this floor, roughly at the junction of these two differently laid surfaces. This would indicate that the house had two rooms.

Pl 1 Building 1, looking south-east.



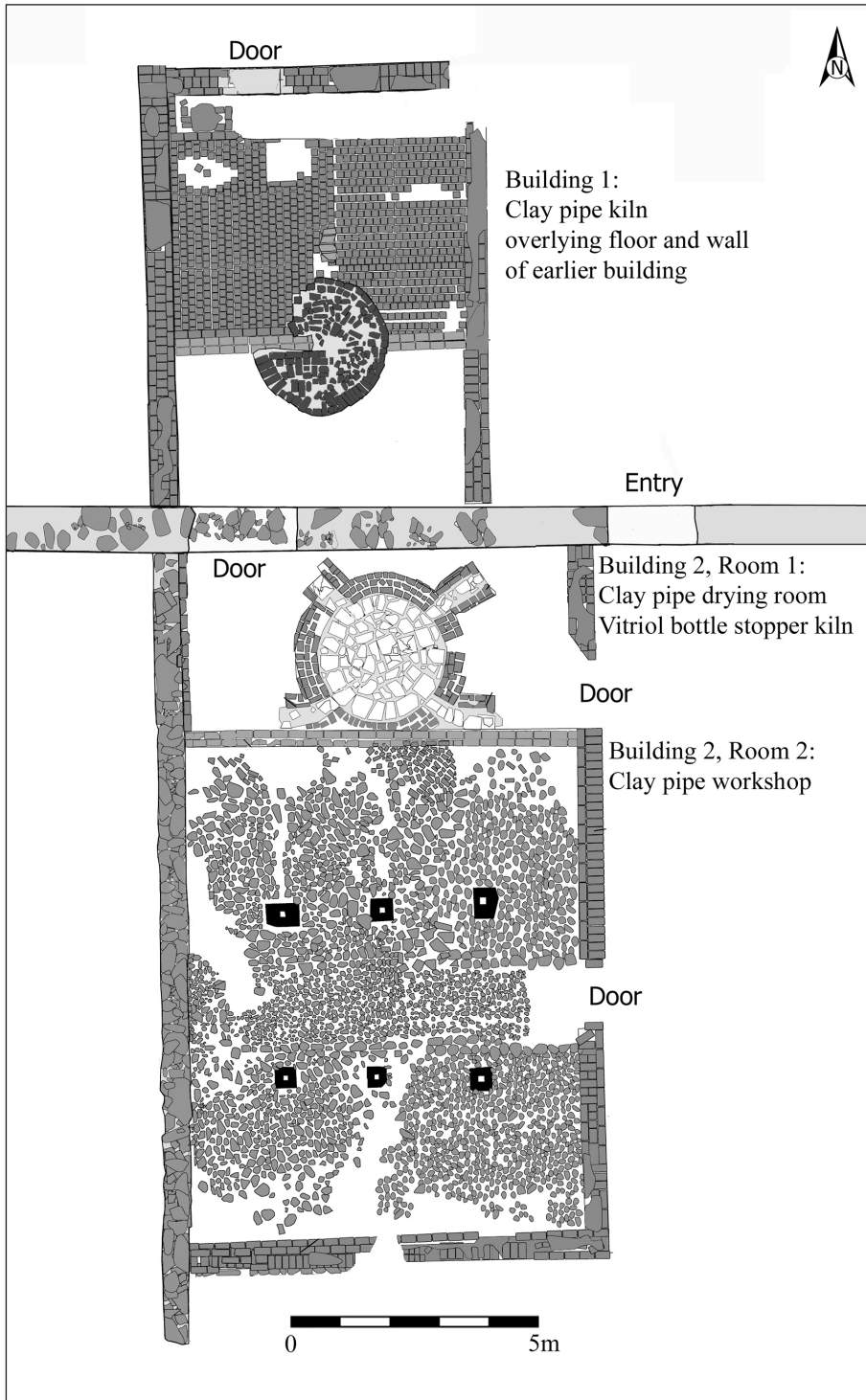


Fig 4 The Edwards clay pipe works, post-excitation plan.



Pl 2 Clay pipe kiln (note its construction over the original building's wall and floor).

The second phase of use of this building saw the construction of the clay pipe kiln, and the opening of a doorway into building 2. The kiln was built halfway over the back wall of the house and half in the yard (Pl 2). As there was no evidence for the fireplace of the first-phase house it must be assumed that the clay pipe kiln was constructed over the house's fireplace, and was connected into its chimney. The kiln was 2.2m in diameter and formed from red bricks bonded with grey lime mortar. Four courses survived, the first two laid as stepped headers and the upper two as a mix of stretchers and headers. A line of seven headers in the fourth tier at the south-east of this feature may have marked the entrance to the chimney. A total of 8,965 clay

pipe related artefacts were recovered from this area; these comprised 79 fragments of kiln muffle (Pl 3), 3,624 clay pipe spacers (Pl 4), 1,911 undiagnostic fragments of clay pipe bowl, 2,995 undiagnostic fragments of clay pipe stem and 365 diagnostic clay pipe bowls.

Building 2

Building 2 contained two rooms. Both were accessed through doorways in the east wall. These doorways were 1.1m wide, with the doorway into room 2 having sandstone door supports on both sides. Building 2, room 1, had an adjoining doorway to building 1 in its north-west corner; there was no evidence for an internal doorway between rooms 1 and 2.

The western wall of building 2 was stone-built and bonded with grey lime mortar. It extended beyond the southern extent of building 2 and thus was probably an earlier boundary wall that was incorporated into this building; it was, however, later than the southern boundary wall of Edwards' lands as it butted up to it. The south and east walls of building 2 were formed from red brick bonded with light grey lime mortar, on a stone and brick fragment foundation. The foundation was 0.6m deep and overlay a 0.1m-thick layer of dark gravel, which in turn lay over a 0.5m-thick 18th-century reclamation



Pl 3 Clay pipe kiln muffle.



Pl 4 Clay pipe-spacers and fired clay scrap piece.

space to allow for storage of clay pipes; however, radiated heat through the wall and doorway between building 1 and 2 would have provided ample heat to undertake this process. Unfortunately, the second-phase construction of the vitriol bottle-stopper kiln in this room removed any physical evidence to support this theory.

The second phase of use of building 2, room 1, saw the construction of the vitriol bottle-stopper kiln (Pl 5). It was a questionable decision by the builders to construct the kiln in this building as it was squeezed between the south wall of building 1, and the dividing wall

layer composed of mixed brick and stone rubble. The south wall was 6.5m long and 0.38m wide; the eastern wall was 8.6m long and 0.38m wide.

The dividing wall between rooms 1 and 2 was constructed of red handmade brick and occasional un-worked stone, bonded with light grey lime mortar, but unlike the surrounding wall it did not have a foundation. The vitriol bottle-stopper kiln used the north side of this wall as part of its flue system.

The first-phase flooring of building 2 (both rooms) was a cobbled stone floor bedded in a mix of sand and mortar, which in turn lay on a layer of sand overlying glass waste and reclamation layers. The presence of glass waste below the floor indicates that this building was constructed after Edwards' glassworks was operating. In room 2 the second phase of use saw the cobbled floor covered in a layer of red terracotta tiles. These tiles were also used in the floor of room 1 and in the flues and base of the vitriol bottle-stopper kiln; therefore the re-flooring of room 2 would appear to have been contemporary with the construction of the vitriol bottle-stopper kiln. In room 1 only a few cobbles were found. This would indicate that the cobbled floor was lifted in this room prior to the vitriol bottle-stopper kiln being constructed.

Room 1

The first phase of use of building 2, room 1, was likely to have been for drying clay pipes after they had been manufactured in room 2. To prevent warp clay pipes must be slowly dried prior to firing and, since there was no evidence for fireplaces in either building 1 or 2, it must be assumed that this heat came from the clay pipe kiln. The kiln room itself (building 1) would have been too restricted in

between building 2, rooms 1 and 2. The dividing wall must have been upstanding when the kiln was constructed, as the southern flues of the kiln were curved to the east and west to run inside the existing brick wall; this would certainly have decreased their effectiveness as flues. In addition, there was a gap of only 0.25m between the kiln and the northern wall, making it a tight squeeze to get around in normal circumstances and dangerous to move around when it was being fired. It is assumed that this design flaw resulted in the kiln being accessed from building 1, as well as the doorway in the east of this room. As the dividing wall was retained it must be assumed that it was structural, as common sense would have dictated that this wall should have been lowered to foundation level and the vitriol bottle-stopper kiln constructed in a more regular form.

The kiln was formed from a circle of red bricks bonded with light grey lime mortar (they were not laid in a particular bond), which had been interrupted by flues at the north-west, north-east, south-east and south-west. It had a 2.65m external diameter and 2.1m internal diameter and survived to a height of four partial courses of brick, giving a maximum height of 0.35m.

The flues were also constructed with red brick bonded with light grey lime mortar and extended out from the interior of the flue. The walls of the flues varied from one to two bricks in width. The south-east flue had no southern wall but instead had used the southern wall of this building. Clockwise from the north-east the gap between the flue walls was 0.16m, 0.2m, 0.14m and 0.28m, flaring out to 0.3m, 0.22m, 0.22m and 0.32m respectively at the outer edge of the flues. Though the flues varied in shape, it is clear that this was unlikely to be a specific design function, rather a continuation of the



poor workmanship evident in the decision to insert the kiln into this room in the first place. It is in the author's opinion that all of the flues were intended to be as the north-east flue, but due to the necessity to bend the flues within the narrow confines of the room and the general poor build quality they eventually varied in size.

The floor of the flues and the interior of the kiln were covered in both broken and intact square red tiles, the unbroken tiles were 30cm square and 5cm thick. There were a total of five layers of these tiles. A small area of the floor outside the kiln was also covered in tiles, which suggests that after the kiln was constructed the remaining floor area in the room was also tiled. The kiln floor and surrounding area contained 36 fired red clay bottle-stoppers (Pls 6, 7).

Pl 5 (top) Vitriol bottle-stopper kiln, looking west.

Pl 6 (middle) Three of the bottle-stoppers.

Pl 7 (bottom) Necks of Edwards vitriol bottles with inserted stoppers.



Pl 8 Building 2, room 2, looking north.

Pl 9 Building 2, room 2 tiled floor overlying
cobbled floor, looking north-east.





Pl 10 Corridor with building 2, room 2 showing sandstone blocks on either side, looking west.

Room 2

This room had two phases of use, the first phase had a cobbled floor (Pl 8), the second a tiled floor (Pl 9).

The original floor of this room was formed from cobbles laid in a distinct pattern with a 1.4m-wide band of small cobbles running across the room from the doorway and defining a central corridor (Pl 10). This corridor was repaired with red brick fragments at its eastern end. On either side of these small cobbles were much larger cobbles that covered the

remainder of the room.

Laid into this floor and on both sides of the corridor were six sandstone blocks with square slots in their centres (Pl 10). The blocks were evenly spaced across the room, were laid out in a parallel line on either side of the corridor and were at a remove of 2.3m from each other and across it. The blocks were roughly hewn and of varying sub-rectangular dimensions; the square slot in each was, however, consistently 8cm square. The sandstone

blocks were of the same material as the doorjamb, which would indicate that they were contemporary with the first use of the building. These blocks may have held structural roof supports, or posts supporting an overhead structure (eg storage racks) in the room. The sandstone blocks were not required in the second phase of use as a tiled floor covered them. This means either that the roof was removed at this stage, or that the blocks did not hold structural roof supports.

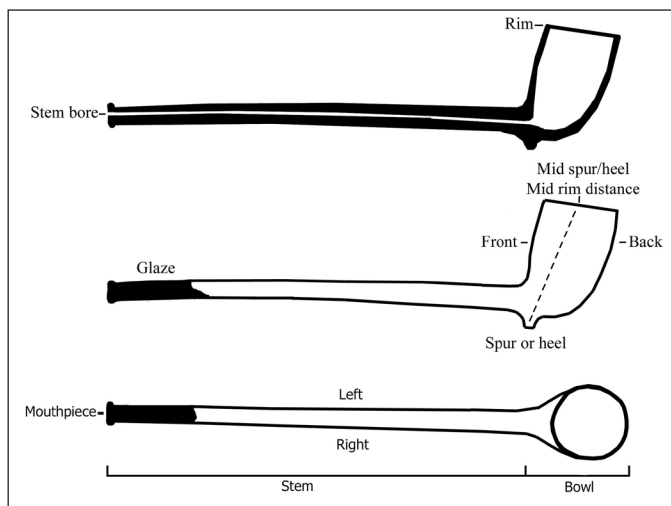


Fig 5 Clay pipe terminology showing the main features referenced in the text (after Gojak & Stuart 1999, 40).

| Type | No | Bowl length | Bowl Diameter | Bowl shape | Markings |
|--------|----|-------------|---------------|-----------------------|--|
| Type 1 | 1 | 37mm | 16mm | Thin bowl, Short Heel | Line around top of bowl |
| Type 2 | 3 | 42mm | 19mm | Thin bowl, Spur | Raised dots on right and left of bowl |
| Type A | 22 | 39mm | 20mm | Thin bowl, Spur | None |
| Type B | 9 | 35mm | 18.5mm | Thin bowl, Heel | None |
| Type C | 20 | 37mm | 19mm | Thin bowl, Heel | None |
| Type D | 12 | 39mm | 19mm | Thin bowl, Heel | None |
| Type E | 90 | 39mm | 19mm | Thin bowl, Heel | Cross on right hand side of bowl |
| Type F | 66 | 40mm | 20mm | Thin bowl, Heel | T on both sides of heel |
| Type G | 3 | 40mm | 20mm | Thin bowl, Heel | T on right of pedestal, J on left |
| Type H | 98 | 41mm | 20mm | Thin bowl, Heel | T on right of pedestal, cross on left |
| Type I | 76 | 42mm | 19mm | Thin bowl, Heel | None |
| Type J | 62 | 42mm | 19mm | Thin bowl, Heel | Raised dot on both sides of pedestal |
| Type K | 7 | 42mm | 20.5mm | Thin bowl, Heel | Raised dots on right and left of pedestal, crosses on right and left of bowl |
| Type L | 3 | 47mm | 22mm | Thin bowl, Heel | None |

Table 1 Clay pipe types.

CLAY PIPES AND KILN FURNITURE

The excavations at Sirocco engineering works produced an assemblage of 9,542 fired clay artefacts, of which 8,965 came from building 1. The remaining fired-clay artefacts were recovered principally from two small waste dumps; these were immediately west of building 1 and immediately north of the Benjamin Edwards glassworks kiln. A small number of artefacts were also recovered from unstratified overburden across the site. In total 4,500 undiagnostic bowl or stem fragments, 79 fragments of muffle from the kiln, 4,490 pipe-clay spacers and one piece of fired rolled white clay were recovered. There were 472 diagnostic clay pipe bowls, of which 468 (in twelve types) can be directly associated with production at Edwards' clay pipe works.

Terminology

The terminology used in describing the clay pipes is illustrated in Fig 5. *Heel* refers to a flat-based extension protruding from the base of the *bowl*, while a *spur* is a pointed extension. *Moulded* refers to designs which were incised into the clay pipe mould, while *stamped* refers to designs added after the clay pipe was removed from the mould and prior to its being fired. In line with the guidelines produced by Oswald (1975) measurements are taken from mid-rim to mid-spur or heel. The bowl diameter provided is an average from the pipes collected as most had minor variations in bowl shape due to the clay warping prior to firing. The pipes that were produced at the Edwards clay pipe works have been given a Type letter and these types have been sequenced by presence of spur, then by size. Those pipes that were not manufactured at the Edwards clay pipe works, but were found within the works have been numbered as Type 1 and 2 (Table 1). This methodology has been used as it will allow future clay pipe reports to refer to the typological sequence of Edwards pipes – Types A–K – without confusing the sequence with pipes which were not manufactured on site. The Type 1 clay pipe predates the clay pipe works and was likely to have been deposited during earlier land reclamation. The Type 2 clay pipe was of contemporary date to the Edwards-manufactured pipes.

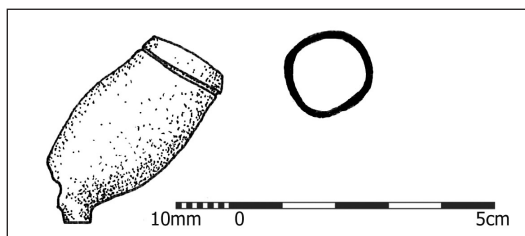


Fig 6 Type 1 clay pipe.

Only clay pipes found within the two buildings which comprised Edwards' clay pipe works, or those clay pipes which lay outside of the clay pipe works and can be directly associated with its production are discussed. The remaining small assemblage of pipes found during the wider excavations post-date Edwards' clay pipe works and accordingly are not detailed.

Type 1

The Type 1 pipe predated the construction of Edwards' pipe works (Fig 6). The single example of this pipe was recovered from within the floor of building 1 and thus was probably deposited during reclamation of this area. It dates to the mid- to late 17th century and is similar to Oswald's simplified general typology Type 6 and 7, which are dated to the period 1660–1680 (Oswald 1975, 37). Though the pipe is probably from London or Chester (Peter Davey, pers comm) it is possible that it was produced in Ireland. Dublin, Limerick and Waterford are the only three locations in Ireland where clay pipe manufacturers are recorded in this period (Norton 2013, 32). However, by the mid-17th century distinctive 'local' pipes, that are certainly not English or Scottish, were being produced in Carrickfergus, as well as in Dublin and other centres (Norton 2013, 32; Ó Baoill 2008, 68–9).

The remaining pipes were consistent in shape with the period 1780–1820 (Figs 7, 8). Types A–K used the same white clay and show a consistent development form and manufacturing style; ten of these have heels, while the Type A pipe has a spur. These pipes were found in multiples and were mainly located in association either with the pipe kiln, or as part of a dump from the pipe kiln (located beside Edwards' glasshouse), and thus must be considered to have been the pipes manufactured by John Edwards. The Type 2 pipe is unlikely to have been manufactured on site as it was a much better-formed pipe, and found only in small numbers.

Type 2

Three Type 2 pipes were recovered, one from the floor of building 1 of the clay pipe works and two from cleanup in the area surrounding the kiln. The Type 2 pipe was not manufactured at Edwards' clay pipe works as it was a much better quality pipe than the others; it has a spur and a finer stem and the clay used is of a slightly different and smoother nature. It bears a moulded design made up of five raised dots around a central dot on the right-hand side of the bowl and seven raised dots surrounding a central dot on the left. A search of pipe makers' marks does not reveal a maker using this particular

symbol; however, isolated examples of pipes with the same moulded design were also recovered from Talbot Street (Dunlop 2005; 2008) and St Anne's Square, Belfast (Dunlop 2007; 2010; 2011). Peter Davey (pers comm) states that the earliest examples of this design are on mid-17th-century Dutch pipes; however, Irish makers made use of Dutch symbols (such as the Gouda arms side-of-heel mark, and the crowned L heel mark) as there was a belief that the Dutch pipes were of a superior quality.

It is the author's opinion that the Type 2 clay pipe was the template used for the clay pipes manufactured on site.

The eleven different forms which were manufactured at Edwards' clay pipe works were manufactured using good quality white ball clay, probably from the same Carrickfergus quarry that provided the clay for the Downshire pottery (Francis 1994). The clay pipes had thin bowls which ranged in size from 37mm (mid-rim to mid-heel/spur) up to 42mm. The variation in size, from smaller to larger, may also indicate a date progression. However, this may also simply represent variations in the pipe moulds used. A number of the pipes had makers' marks, and it is clear that some of the moulds used to create the unmarked pipes had been subsequently re-etched with the makers' marks and were not evidence for new clay pipe moulds.

The clay pipes described below are in sequential order; based on variations in form, size (from mid-rim to mid-heel/spur) and makers' marks.

Type A

The Type A pipe was the only one to have a spur, rather than a heel. It measures 39mm from mid-rim to mid-spur. Twenty-two of these pipes were recovered; of these one was found on the floor of building 1 of the clay pipe works, 17 were found in a dump of clay pipes immediately west of building 1 and three in un-stratified overburden.

Type B

The Type I pipe was smaller than the other pipes, measuring 35mm from mid-rim to mid-heel. Four examples of Type B were found in a dump of clay pipes and waste beside the Edwards glasshouse, four from the floor of building 1 of the clay pipe works and one from unstratified overburden.

Type C

This was the second-smallest clay pipe type found (excluding the earlier Type 1 pipe). It is 37mm from mid-rim to mid-heel, and is noticeably fuller in the bowl than the other pipes. The pipe was plain. A total of 20 of these pipes were recovered, 12 from

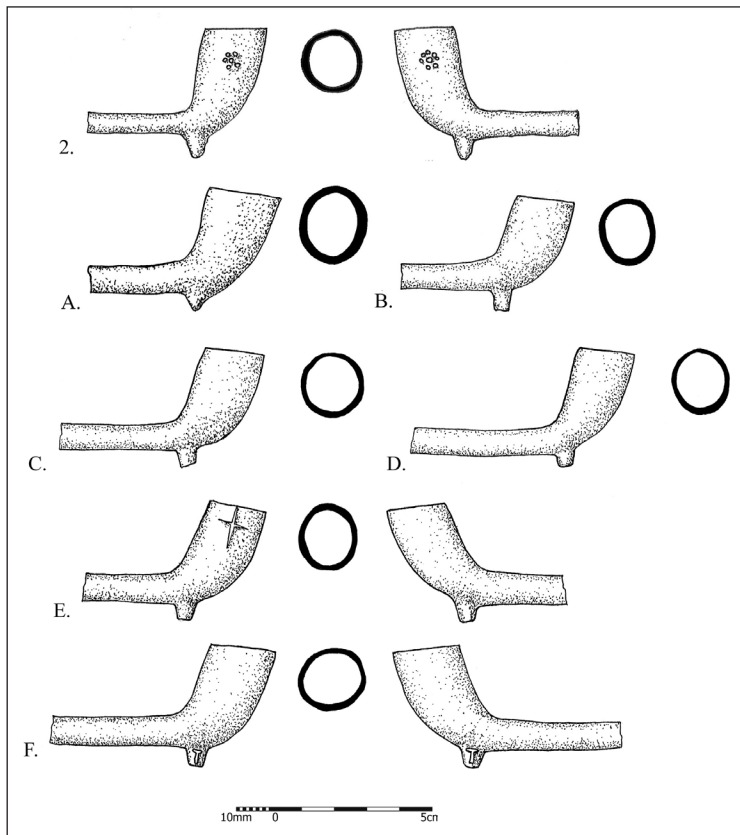


Fig 7 Type 2 (template for the Edwards types) and Types A–F.

the base of the clay pipe kiln, one from the floor of building 1 and seven from the clay pipe dump beside the Edwards glasshouse.

Type D

The next gradation in pipe was that categorised as Type D. It is 39mm from mid-rim to mid-heel and was of plain design. Its bowl was slightly smaller than the Type C pipe. A total of 11 of these pipes were recovered, two from the base of the clay pipe kiln, five from the floor of building 1, one from the clay pipe dump beside the Edwards glasshouse and two from unstratified overburden.

Type E

The Type E pipe is identical in shape to Type D except for a cross which appeared on the right-hand side of the bowl. This cross was presumably the maker's mark and, as the shape was identical to the Type D pipe, it follows that the Type D mould was simply etched to include this new mark, rather than a new clay pipe mould having been used. A total of 90 of these pipes were recovered, 77 from the floor of building 1 of the clay pipe works, nine from the clay pipe dump beside the Edwards glasshouse and four

from un-stratified overburden. Oswald (1975, 71) states that the usual practice in marking was for the Christian name initial to be on the left-hand side of the pipe, but that there are rare cases of the opposite arrangement. Symbols also occur frequently, with crowns, harps, rosettes and crosses, either over the initials or by themselves. The Christian name initial refers to the physical maker of the pipe and not the pipeworks owner.

Type F

The Type F pipe represents the next gradation in size. It was 40mm from mid-rim to mid-heel and had a slightly larger bowl diameter than the Type C and D pipes. The letter T was embossed on both sides of the heel. A total of 66 of these pipes were recovered, eight from the base of the clay pipe kiln, 44 from the floor of building 1, 13 from the clay pipe dump beside the Edwards glasshouse and one from unstratified overburden. If this pipe follows the trend noted by Oswald (1975), we can assume that this pipe was manufactured by someone whose first initial was T. Very little census information is available for this period due to the records having been largely destroyed in the Public Record Office

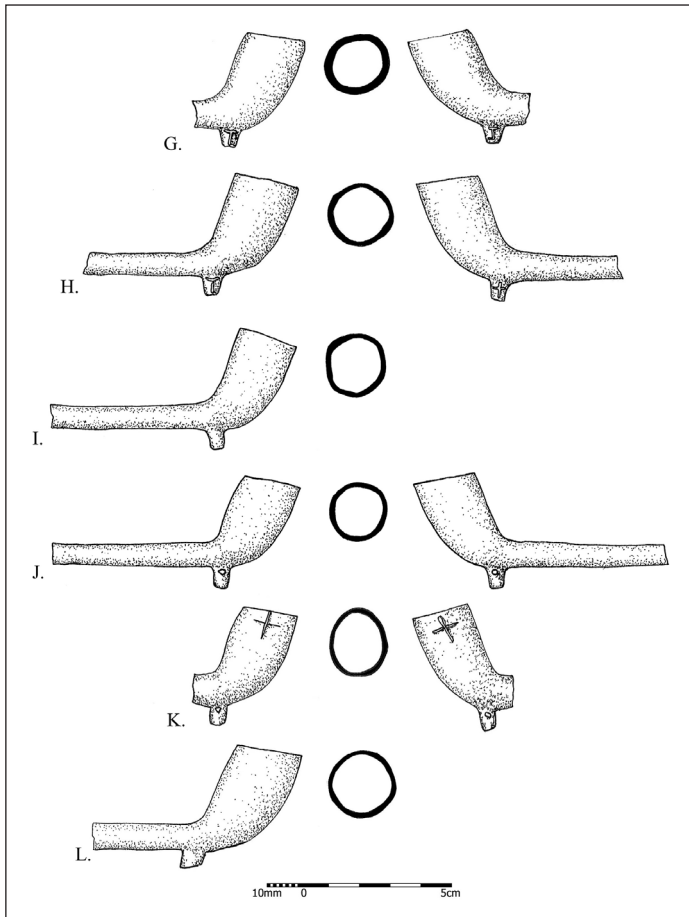


Fig 8 Types G-L.

fire in Dublin in 1922. However, as Thomas is by far the most common name beginning with T at this time (Dunkling 1983, 41–51), and is the most frequently occurring T forename in the 1819 *Belfast Street Directory*, it seems likely that the T stands for Thomas.

Type G

The type G pipe was identical in shape to Type F except for the change from a T to a J on the right-hand side of the heel. It appears that this was a re-working of the mould from the Type G pipe, indicating a change in maker. The J, probably a John, James or Joseph, as these would have been the most commonly occurring J-initial names in Belfast at this time (Dunkling 1983, 41–51; *Belfast Street Directory* 1819). Three of these pipes were recovered, one from the clay pipe dump beside the Edwards glasshouse and two from unstratified overburden.

Type H

Following on from the Type F and Type G pipe was the Type H pipe. It was 41mm from mid-rim to mid-heel and its bowl was the same diameter as the Type F and G pipe. The letter T was embossed on the right hand side of the heel and a cross on the left. A total of 98 of these pipes were recovered, 29 from the base of the clay pipe kiln, 57 from the floor of building 1 of the clay pipe works, ten from the clay pipe dump beside the Edwards glasshouse, and two from unstratified overburden. T is assumed to be the maker's initial (Oswald 1975). The very slight difference between the Type F and G and the Type H pipes would suggest that they are simply minor variations in two contemporary clay pipe moulds.

Type I

The next gradation in pipe was that categorised as Type I. It was 42mm from mid-rim to mid-heel and was of plain design. Its bowl was smaller than the Type F, G and H pipes, being more akin to the dimensions of the Type D and Type E pipes. A

Pl 11 Clay pipe kiln of John Hamilton, Bathurst Court, Belfast, 1912 (after Deane 1914).



total of 76 of these pipes were recovered, 27 from the base of the clay pipe kiln, 41 from the floor of building 1, seven from the clay pipe dump beside the Edwards glasshouse and one from a modern disturbance layer.

Type J

The Type J pipe was identical in shape to the Type I pipe except for a do raised dot which appeared on the both sides of the heel. This dot was presumably the maker's mark and, as the shape was identical to the Type I pipe, it shows that the Type I mould was simply etched to include this new mark, rather than a new clay pipe mould having been used. A total of

62 of these pipes were recovered, two from the base of the clay pipe kiln, 37 from the floor of building 1, 20 from the clay pipe dump beside the Edwards glasshouse and three from unstratified overburden.

Type K

The Type K pipe was the same shape as the Type I and Type J pipes and had a raised dot on both sides of the heel and a cross on both sides of the bowl. The shape of the raised dot was slightly different to that of the Type J pipe, and therefore it is likely that this pipe was not created by additional etching on the Type J pipe mould. A single cross was previously noted on the Type E pipe, while the dots were also present on the Type J pipe. A total of seven of these pipes were recovered, three from the floor of building 1 and four from un-stratified overburden.

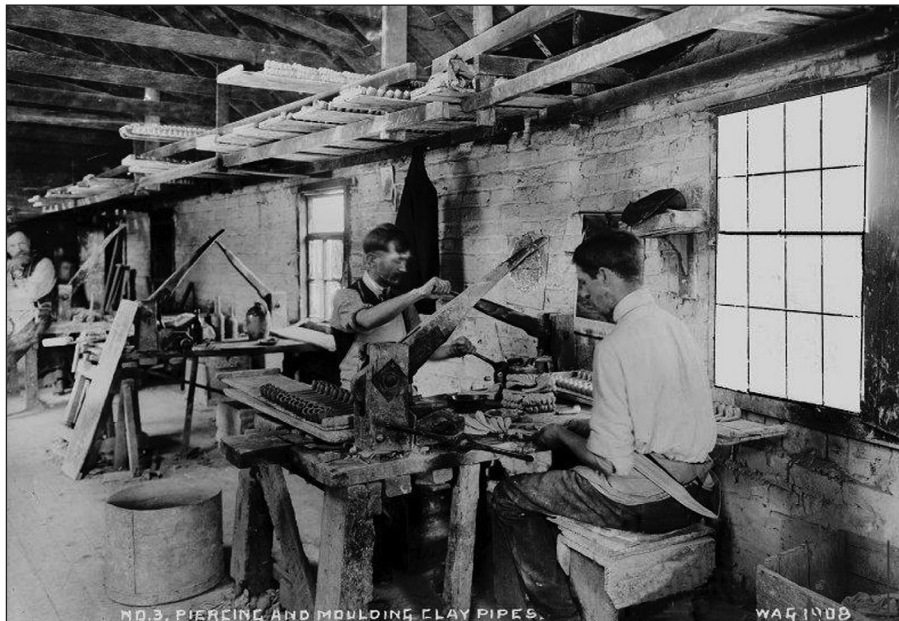
Type L

The final clay pipe type, Type L, was the largest; measuring 47mm from mid-rim to mid-heel. Three of these pipes were recovered from the clay pipe kiln dump.

Kiln furniture

The kiln furniture recorded was principally formed from pipe-clay spacers with a total of 4,490 spacer fragments recovered. A total of 79 pieces of kiln muffle and a single piece of rolled fired clay were also recovered. The majority of this material was from the clay pipe kiln area and is therefore directly

Pl 12 The John Hamilton clay pipe works in Bathurst Court 1912; note drying racks over the heads of the workers (NMNI picture library).



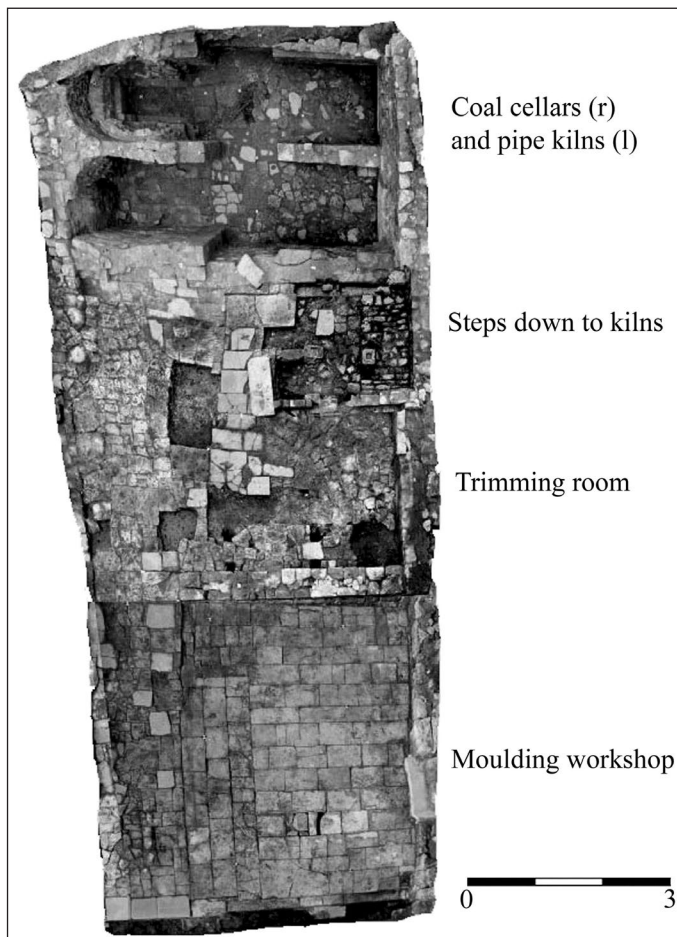


Fig 9 The Smith clay pipe works (after Weavill 2016).

attributable to the Edwards clay pipe works. The spacers were used to prop up the clay pipes as they were fired and stop them rolling into each other; those found here were of Peacey's serpentine type roll (Peacey 1996, 7.1; Wells 1970, 24–5). The rolled clay conforms to Peacey's straight strap (Peacey 1996, 7.1) and may have been used as part of a prop within the kiln; however, this particular piece contains no pipe or bowl impressions on its surface.

Once the clay pipes were in place within the kiln, the muffle was built around the outside and subsequently broken away once firing had been completed. The muffle was created using the same clay used in the clay pipes with additional reinforcement put in place by inserting broken clay pipe stems into its matrix (Peacey 1996, 5.2). As only a small quantity of fragmentary kiln muffle was recovered reconstruction of the kiln muffle form is impossible. Oswald (1975, 20) states that 'The muffle is a pot or crucible ... constructed from pipe stems bedded in clay with interior supports and stands, and a central column of clay' into which the

clay pipes are stacked prior to firing. The recovered spacers were used to balance the clay pipes within the muffle.

DISCUSSION

While two small kilns were excavated at the Sirocco engineering works, only one was clearly associated with clay pipe manufacture; this was the kiln in building 1, from which 8,965 clay pipe-related artefacts were recovered. This kiln was of similar design to that photographed in a clay pipe works in Bathurst Court, Belfast in 1912 (Pl 11) (Deane, 1914). However, this kiln did not contain saggars (as seen in the base of the kiln in the photograph); rather it was sealed with, and contained, a muffle.

The muffle was constructed from pipe stems bedded in clay with interior supports and stands, and a central column of clay. Pipes were carefully packed inside this muffle with a variety of packing and stands (Oswald 1975, 20).

Unfortunately the few fragmentary pieces of muffle recovered from the excavation did not allow for reconstruction of its form.

The kiln in building 2, room 1, was similar, though not identical, to the early 19th-century clay pipe kiln found at Broad Street in Limerick (Peacey 1996, 375-379). It is not clear what internal supports would have been present within this type of kiln, though it is probable that a muffle was also used, as there 'seems to have been no employment of saggars proper before some time in the 19th century' (Oswald 1975, 20). However, while this kiln could have been used for clay pipe manufacture, the complete absence of any clay pipe debris, combined with the presence of vitriol bottle-stoppers, would strongly support the hypothesis that this kiln was never used for clay pipe firing and was indeed constructed with the purpose of firing vitriol bottle-stoppers. This would then indicate a post-1803 date for this kiln.

The first phase in building 2, room 2, is likely to have been its use as the manufacturing site for the clay pipes that were fired in building 1. The sandstone blocks in this room may have held wooden or metal uprights that would have supported overhead racks for stacking the finished pipes. The area beneath the racks would have been the working area, with tables laid out below for production on the clay pipes. A similar layout can be seen at the Hamilton pipe works from 1912 (Pl 12). At this stage room 1 may have been a clay pipe drying room as the heat from the kiln in building 1 would have transferred through the wall into this room.

The second phase of building 2, room 2, would appear to have been contemporary to the kiln in building 2, room 1, as the floor of this room was laid with the same tiles as the kiln was constructed from. It is therefore likely that during this phase of use room 2 was where the clay vitriol bottle-stoppers were manufactured prior to firing.

In layout Edwards' clay pipe works were very similar to the slightly smaller (14 x 6m) Smith's clay pipe works (1782-1851) at 10 Bridewell Lane, Bath (Fig 9) (Weavill 2016, 26-7). Smith's pipe works was divided in the same way as Edwards' pipe works, with three distinct rooms. The rooms at Smith's works were identified by Weavill (2016) as the manufacturing room, the trimming room and the kiln room. However, as with Edward's pipe works, it is likely that the trimming room was also the drying room.

Though no records survive of the makeup of the staff at Edwards' pipe works the 11 different makers' marks would indicate 11 different individuals manufacturing the pipes. However, it is not clear if all would have been working on the site at the same time. This would be similar to the number of workers recorded at Thomas Hamilton's workshop, which was set up in 1812. Here O'Byrne (1946, 211) records that 'At the beginning his factory employed about twelve men, with four girls employed under them as finishers'.

In total, 12 clay pipe types have been identified as being manufactured by John Edwards at his clay pipe works. This assemblage shows six undecorated forms, and six which have marks which may represent the specific makers. The T on the Type F pipe may have been from a Thomas Cunningham who is recorded as having left the employment of John Edwards on the 26 February 1790 due to criminal activity:

That Tho Cunningham having left the employment of John Edwards, with whom he was engaged for 6 years from June last in the pipemaking business. Said Edwards is determined to take steps against the said Thomas Cunningham, and also against such as employ him, therefore gives this notice to all whom it may concern, Belfast 26 Feb 1790 (*Belfast News-Letter*, 2 March 1790).

This would explain the changing of the 'T' to a 'J' on the Type G pipe, as someone else would have taken over Thomas Cunningham's mould. The maker of the Type H pipes with the letter T and Type G pipe with the letter J is unidentified. It is possible to speculate that the T refers to Thomas Hamilton (O'Byrne 1946, 211), who founded his own clay pipe kiln on Winetavern Street a decade after the John Edwards clay pipe works closed, and that the J is his relation James, who had replaced him as owner by 1819 (*Belfast Street Directory* 1819). However, as stated above, Thomas, John, James and Joseph were among the most common names in Belfast during this period so that the T and J could just as easily refer to unrelated individuals. The Type 2 pipe found in the base of the kiln was from a different manufacturer and may have been the template for the later pipes manufactured by Edwards, as it was very close in shape to the Type A spurred pipe manufactured on the site.

APPENDIX 1

A SHORT HISTORY OF IRISH CLAY PIPE MANUFACTURING

TOBACCO AND SMOKING TECHNOLOGY

Tobacco was first imported into Europe in the middle of the 16th century, with the earliest documentation suggesting that it was brought to France by André Thevet around 1557 (Cantacuzène 2003, 33). Initially it was used medicinally in the form of snuff (Oswald 1975, 3). The first evidence for Europeans smoking appears in William Harrison's *Great Chronologie* in which he states in the entry of 1573 that

in these daies the taking-in of the smoke from the Indian herb called tobacco by an instrument formed by a little ladell, whereby it passeth from the mouth into the hed and stomach, is gretlie taken-up and used in England (Oswald 1975, 3).

From this passage we can assume that the habit of smoking had appeared some years previously. It did not, however, achieve widespread popularity until the later 1580s when references to smoking increase greatly. By 1580 the 'ladell' had been replaced by the clay pipe as the preferred method of imbibing the smoke. London has been identified as the earliest manufacturing location for clay pipes in Britain and Ireland, followed by Bristol (Atkinson & Oswald 1969, 12). While it cannot be certain that the very first clay pipes were made in London, the uptake of smoking in England was vastly greater than in the rest of Europe, and it seems likely that production did originate here.

By 1601 the industry had expanded to such a degree that there was a debate in the House of Commons concerning the potential for a monopoly on tobacco pipes (Walker 1971, 80). However, it was not until 1619 that a formal charter of incorporation giving the sole monopoly in England and Wales to the Tobacco Pipe Makers of Westminster was granted. Thirty-six pipe makers signed this charter; however, a further 26 London pipe makers are known from documentary and archaeological sources and it is likely that several more unknown manufacturers were also producing pipes in London. Outside London the fledgling industry was also growing and, though there is some evidence that the monopoly was sporadically enforced by the Tobacco Pipe Makers of Westminster, a large number of independent pipe makers were springing up around the country. Pipe production increased exponentially throughout England and by 1643 in London alone there were one thousand people

directly employed in pipe making.

Up until 1640 the style and shape of clay pipes were consistent throughout the country, all similar to designs from the Tobacco Pipe makers of Westminster in London. However, after 1640 a regionalisation in styles can be discerned, with the major production centres such as York, Broseley (Shropshire) and Bristol beginning to produce pipes in different styles to those of the London manufacturers. This regionalisation indicates that from 1640 the clay pipe monopoly was no longer enforced outside London or its immediate environs. From 1640 clay pipe production continued to increase, with pipe makers established in most major towns and cities, and pipes gradually became larger as the price of tobacco decreased. The application of low-temperature ceramic green to yellow glazes to the tips of pipe stems, to stop the highly absorbent fired ball clay sticking to the smoker's lips, was introduced early in the 19th century (Walker 1977, 148). With the advent of the briar pipe around 1859 (Apperson 1914, 154) the use of clay pipes greatly decreased and clay pipe production finally ended in the early 20th century with the introduction of the rolled cigarette.

IRISH CLAY PIPE MANUFACTURING

'From the surviving Bristol Port Books, it is known that as early as 1597 clay pipes were being imported into Cork from Bristol' (Ó Baoill & Logue 2005, 134; Jackson *et al* 1983, 3), with imports continuing through to the end of the 19th century. Domestic clay pipe production did not begin until the mid-17th century with the first clay pipe manufacturers in Ireland based in Waterford and Dublin in the 1640s (Norton & Lane 2007, 436). The earliest known named manufacturers were from Waterford, Edward Abbott in c 1640 and Thomas Dyer in 1656 (Norton 2013 32). These manufacturers were English immigrants and their style of pipe-making was indistinguishable from the English styles and reflected the makers' origins.

In the latter part of the 17th and the early 18th century the manufacturing of pipes was still largely focused in Dublin, with 16 pipe makers of 13 different families recorded. Outside Dublin a single pipe maker is noted in Limerick, one in Galway and two in Waterford (Norton 2013, 32).

In the middle of the 18th century there are few historical records for the manufacturing of clay pipes in Ireland, with only Samuel Blair and Mary Sykes being named (*Belfast News-Letter*, 17 November

1769). However, there are distinctive pipes, for example in Dublin (Peter Davey, pers comm), and thus a small number of other manufacturers must have been operating. Any reduction may have been due to an increase in export trade from Bristol and other British centres. The 1662 Act of Parliament (repealed in 1852), which prohibited export of the white ball clay used to manufacture pipes (Bristow *et al* 2002), did not include Ireland. However, as clay transported to Ireland would have been on ships which would have potentially been continuing on to countries covered by the act, ship owners may have limited their carriage of this material.

Lowry (1913) records that in 1782 there is a tobacco pipe making industry in Belfast but the manufacturers are not named. In the 1790s three clay pipe makers began production: Emmanuel Quinn (1792–1795) and Michael Dunbar (1793–1796) in Newry (Westropp & Delamain 1914, 25; Westropp 1920, 130) and John Edwards (1789–1802) at Bridge End, Belfast (Westropp 1920, 109). Quinn and Edwards were producing pipes alongside glass houses. Dunbar was producing pipes alongside his own pottery prior to taking over the glassworks of Emmanuel Quinn.

In 1802 when John Edwards stopped producing pipes the only contemporary manufacturer in Belfast was Charles Dunbar, who operated from 114 North Street from 1801 (*Belfast News-Letter*, 28 July

1801). He was probably related to Michael Dunbar, who produced clay pipes in Newry at the end of the 18th century. The next noted operator in Belfast was Thomas Hamilton, who operated from Winetavern Street in Belfast from 1812 (O’Byrne 1946, 211). This marks the start of a boom in clay pipe making in Ireland and makers appear in all parts of the country. This boom reached its peak in the latter half of the 19th century, when over 60 clay pipe manufacturers are known (Norton 2013, 32–5).

IRISH MAKERS’ MARKS

As the early clay pipe makers were of English origin their pipes were often stamped or moulded, either on the bowl or the heel, with their makers’ mark. This could be a letter or a symbol, and one positive aspect of this is that early pipes tend to have a greater quantity of makers’ marks than the later pipes, and are thus often easier to identify in the archaeological record. For locally manufactured pipes the period from the turn of the 19th century to the latter half of the 19th century is the leanest for pipes being stamped with maker’s marks. This indicates that the vast majority of the local manufacturers appeared not to believe that it was worth their while to mark their wares. By the end of the 19th century names began to reappear, either marked on the stems or the bowls.

APPENDIX 2
COLLATED LIST OF ALL CURRENTLY KNOWN
BELFAST CLAY PIPE MAKERS

The following table (Table 2) has been compiled from Lowry 1913, Norton 2013, Westropp 1920, O'Byrne 1957, successive editions of the *Belfast*

Street Directory (BSD) (1805–1951) and the *Belfast News-Letter* (BNL) archive.

| Surname | Forename | Site | Known dates | Reference |
|------------|----------|-----------------------------------|-------------|------------------|
| Black | Daniel | 17 William St | 1854 | Norton 2013 |
| Black | Daniel | 30 John St & 21 William St | 1856-1865 | BSD |
| Black | Rose | 18 Frederick Lane | 1868 | BSD |
| Black | Daniel | 14 Kent St | 1870 | BSD |
| Blair | Samuel | Unknown | 1769 | BNL 17 Nov 1769 |
| Connor | James | 60 Carrick Hill | 1852-1855 | BSD |
| Connor | John | 136 Cromac St | 1870-1890 | BSD |
| Connor | John | 11 & 13 Raphael St | 1892 | BSD |
| Connor | John | 136 Cromac St, 11 & 13 Raphael St | 1894-1915 | BSD |
| Connor | M | 28 Trinity St | 1913-1949 | Norton 2013 |
| Connor | Michael | 1 Mitchell St | 1854-1855 | BSD |
| Connor | Owen | 100 Cromac St | 1856-1859 | BSD |
| Connor | Owen | 110 Cromac St | 1856-1865 | BSD |
| Culbert | John | 15 West St | 1854-1855 | BSD |
| Cunningham | E | 12 Garfield St | 1900-1914 | BSD |
| Cunningham | E | 15 Winetavern St | 1918-1939 | BSD |
| Cunningham | John | 43 Winetavern St | 1868 | BSD |
| Devlin | James | 3a Lynn's court, 20 London St | 1900 | BSD |
| Devlin | Thomas | 29 Shankill Road | 1895 | BSD |
| Devlin | Thomas | 29 Sydney St | 1900 | BSD |
| Doherty | E | 33 Winetavern St | 1887 | BSD |
| Duffy | Thomas | 13 Charles St | 1868 | Norton 2013 |
| Dunbar | Charles | 114 North St | 1801 | BNL 28 July 1801 |
| Edwards | John | Long Bridge | 1789-1803 | Westropp 1920 |
| Grainger | John | 37 Kent St | 1877 | BSD |
| Hamilton | Edward | 24 Samuel St | 1890-1895 | BSD |
| Hamilton | Francis | 14 Winetavern St | 1884-1890 | BSD |
| Hamilton | Francis | 26 Winetavern St | 1890 | BSD |
| Hamilton | Francis | 77 & 81 Union St | 1892 | BSD |
| Hamilton | Francis | 77 & 86 Union St | 1900 | BSD |
| Hamilton | Francis | 77 Union St | 1894-1907 | BSD |
| Hamilton | James | 5 Winetavern St | 1819 | BSD |
| Hamilton | James | North St | 1820 | Norton 2013 |
| Hamilton | James | 39 Winetavern St | 1831-1841 | BSD |
| Hamilton | James | 63 Great Patrick St | 1854-1855 | BSD |
| Hamilton | James | 22 Charles St | 1868 | BSD |
| Hamilton | James | 25 Winetavern St | 1877-1878 | BSD |
| Hamilton | James | 14 or 25 Winetavern St | 1880 | BSD |

| | | | | |
|----------------|--------------|---|-----------|-----------------|
| Hamilton | James | 16 Winetavern St | 1890-1892 | BSD |
| Hamilton | James | 16 & 43 Winetavern St | 1902 | BSD |
| Hamilton | James | 16 Winetavern St Ulster Pipe Works, 19 Samuel St | 1907-1912 | BSD |
| Hamilton | John | 16 Winetavern St | 1890 | BSD |
| Hamilton | John | 13 Linden St | 1892-1895 | BSD |
| Hamilton | John | 43 Winetavern St | 1900-1908 | BSD |
| Hamilton | John | 43 Winetavern St, 9 & 11 Bathurst Court (Res 13 Linden St) | 1909-1910 | BSD |
| Hamilton | John | 43 Winetavern St, 9 & 11 Bathurst Court (Res 12 Getty St) | 1911-1932 | BSD |
| Hamilton | Mrs Jane | 41 & 43 Winetavern St | 1877-1892 | BSD |
| Hamilton | Mrs Jane | 8 Winetavern St | 1894-1895 | BSD |
| Hamilton | Thomas | Winetavern St | 1812 | O'Byrne 1957 |
| Hamilton | Thomas | 39 Winetavern St | 1854-1857 | BSD |
| Hamilton | Thomas | 41 Winetavern St | 1858-1865 | BSD |
| Hamilton | Thomas | 47 Winetavern St | 1866-1870 | BSD |
| Hamilton | Thomas | 43 Winetavern St | 1900 | BSD |
| Hamilton | Thomas | 50 Frederick St | 1902 | BSD |
| Kavanagh | J | 17 Coates St | 1901-1939 | BSD |
| Kavanagh | James | 7 Nail St | 1902-1905 | Norton 2013 |
| Lennerly | Jos | 19 Samuel St | 1894 | BSD |
| Lyons | Michael | 15 Kent St | 1870 | BSD |
| Maginnes | L | 83 Market St | 1902-1915 | BSD |
| M'Anally | Richard | 11 Charles St | 1870 | BSD |
| McAvoy | Patrick | 152 North St | 1835 | BSD |
| McAvoy | Patrick | 142 North St | 1839-1841 | BSD |
| McAvoy | Michael | 142 North St | 1842-1852 | BSD |
| McAvoy | Mrs Rose Ann | 142 North St | 1854-1868 | BSD |
| McAvoy | Patrick | 21 Charles Street | 1870 | BSD |
| McCreedy & Co | | | | |
| Mackle, Joseph | | 87 North Queen St | 1922-1932 | BSD |
| McCreedy & Co | | 87 North Queen St | 1933-1939 | BSD |
| McDowell | Charles | 25 Sidney St | 1894-1896 | BSD |
| McDowell | Charles | 37 & 39 Carrick Hill | 1890-1895 | BSD |
| McDowell | Charles | 48 Upton St | 1905-1907 | BSD |
| McDowell | Charles | 29 Upton St | 1908-1913 | BSD |
| O'Connor | M | 45 Alton St | 1890-1894 | BSD |
| O'Connor | M | 28 Trinity St | 1907-1946 | BSD |
| Rea | John | 15 Daly's Pl | 1870 | BSD |
| Ryan | Andrew | 35 & 37 John St | 1868-1870 | BSD |
| Sykes | Mary | Unknown | 1769 | BNL 17 Nov 1769 |
| Templeton | J | 2 & 4 Coates St | 1868 | BSD |
| Unknown | Unknown | Unknown | 1782 | Lowry 1913 |
| Webb | James | 116 Peter's Hill | 1877-1878 | BSD |

Table 2 Alphabetical list of known pipe makers in Belfast.

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