

# A previously unknown watercourse west of the City

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with Damian Goodburn, Chris Jarrett, Geoff Egan, Adrian Palmer and Nick Branch

## Introduction

An archaeological watching brief was undertaken by Pre-Construct Archaeology Ltd in two phases between December 1999 and April 2000 at 1 Plough Place, London EC4, during groundworks in advance of the erection of new office accommodation. The site comprised the properties formerly known as 48–54 Fetter Lane and 3–5 Plough Place and was bounded by Fetter Lane to the west, Plough Place to the south and a narrow alley, Bartlett Passage, to the north and east. The development area was roughly 'L'-shaped in plan and covered an area of approximately 870 sq m (Fig. 1). The National Grid Reference for the centre of the site is TQ 3135 8150.

During the first phase of the watching brief, the groundworks in preparation for the piling were monitored. In the location of the 32 piles, mechanical excavators removed all obstructions in a trench typically measuring 3m by 3m centred on each pile location to a depth of at least 2m (or deeper if concrete obstructions were encountered) (Fig. 2). The second phase of the watching brief consisted of monitoring the reduction of the ground over much of the site by between c. 1.8 and 2.3m, leaving a 7m wide strip along the southern boundary unreduced. In the location of the piles the ground was reduced by up to 5m for the construction of concrete pile caps. In the north-eastern part of the site underpinning of the northern party wall involved the excavation of trenches to a depth of c. 4.5m.

## Historical background

The site lies c. 60m to the south of one of the main Roman roads leading from the walled city of *Londinium*, which followed the course of present day Newgate Street, Holborn Viaduct and High Holborn. By the mid-13th century Fetter Lane was in existence and Holborn had become a

western suburb of the City of London. Fetter Lane was originally known as Faytor or Faiter Lane and afterwards as Fewterers Lane. It may have derived from the Old French *faitor*, meaning a lawyer, although it has been suggested that the name derives from the fetters or lance vests worn on cuirasses, since the armourers who worked for the Knights Templar had their workshops here.<sup>1</sup> In the 14th and 15th centuries the area around Holborn was further developed by the lawyers, who were organised into groups based upon prominent town houses or Inns. The earliest known was Thavies Inn, named after its owner in 1348, which was situated on the south side of Holborn just to the east of the development site.

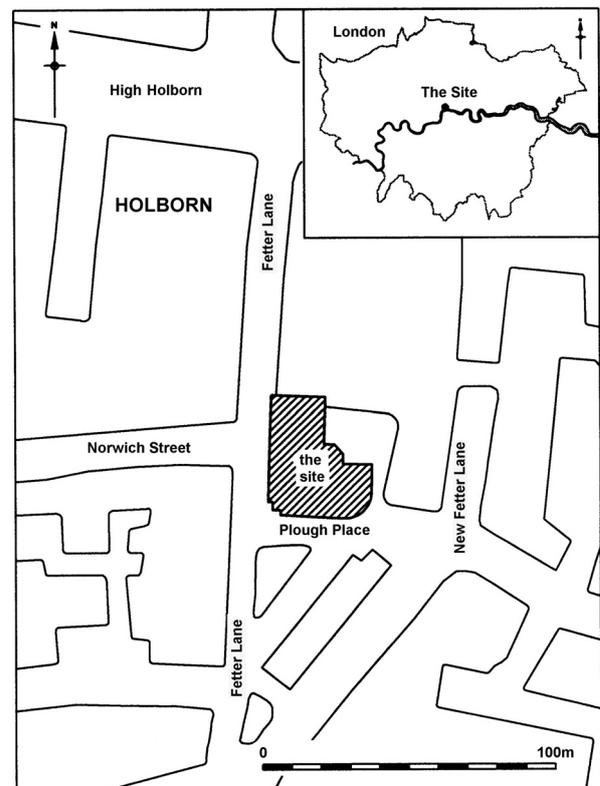


Fig. 1: site location

To the west was Barnard's Inn, named after its first principal Lionel Barnard in 1435.

By the time of the Agas map of c. 1562 (Fig. 3), buildings occupied the Holborn and Fetter Lane frontages with large gardens and yards to the rear.

The area escaped the destruction of the Great Fire in 1666, which was halted just to the south of the site. By 1676 the site was covered quite densely with buildings with small courtyards and gardens to the rear. The density of buildings increased over time until the area was transformed after severe wartime bombing, which resulted in Bartlett's Buildings being widened and extended to the south and west to create New Fetter Lane.

### Natural geology and topography

The earliest natural deposit encountered on site was mid-grey London Clay, which was observed across the site. The top of the deposit was weathered a light brown colour. Covering the London Clay were bands of mid-orange-brown sandy gravels and clayey gravels. These were revealed generally towards the west and south of the site, since the natural deposits were truncated to the north by a deep reinforced concrete slab

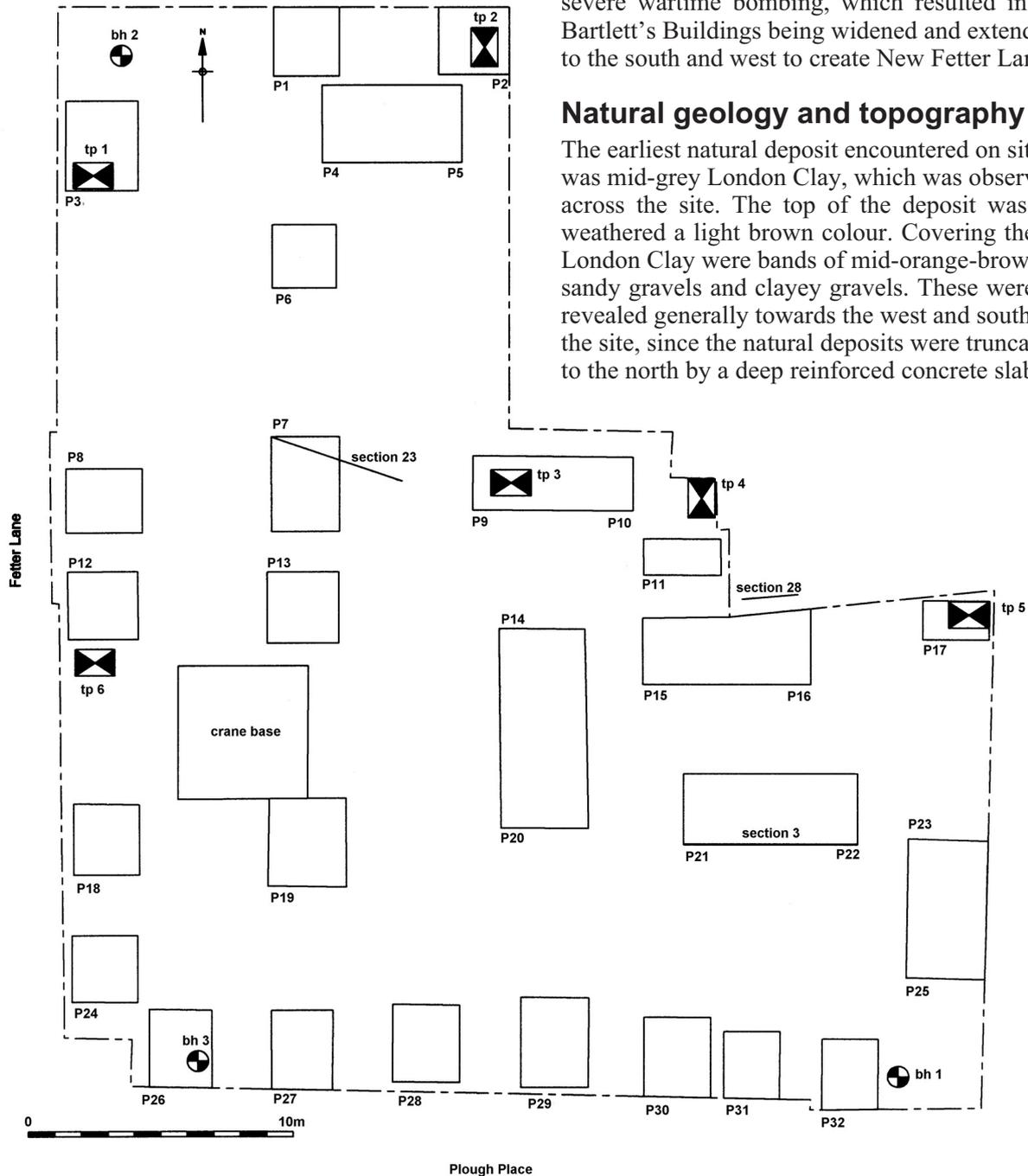


Fig. 2: archaeological investigation areas; pile locations, TPS, BHS, Sections.



Fig. 3: Agas map, c. 1562

and to the east of the site by a large waterlain feature. These sandy gravel deposits were part of the River Thames Terrace gravels, but because of the truncation no information about the natural topography of the site was forthcoming.

### Stream channel/pond and waterlain deposits (Fig. 4)

A large feature filled with waterlain and alluvial deposits was observed across the southern and eastern parts of the site extending to a depth of c. 5m below the existing basement concrete slab. The western edge of the feature, which was near vertical, was traced in two locations to the north and south of the site. The base was not encountered in either of these locations, but the feature was seen to extend to a depth of at least 1.6m. Unfortunately, the area in between was heavily truncated by concrete groundbeams and further to the north of the site in the area previously occupied by No. 54 Fetter Lane all archaeological deposits had been removed by the heavily reinforced thick concrete slab of the

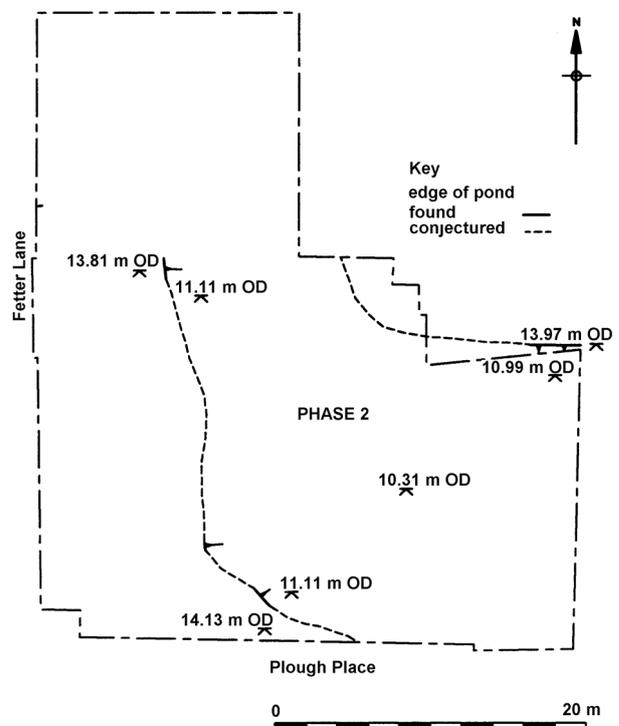
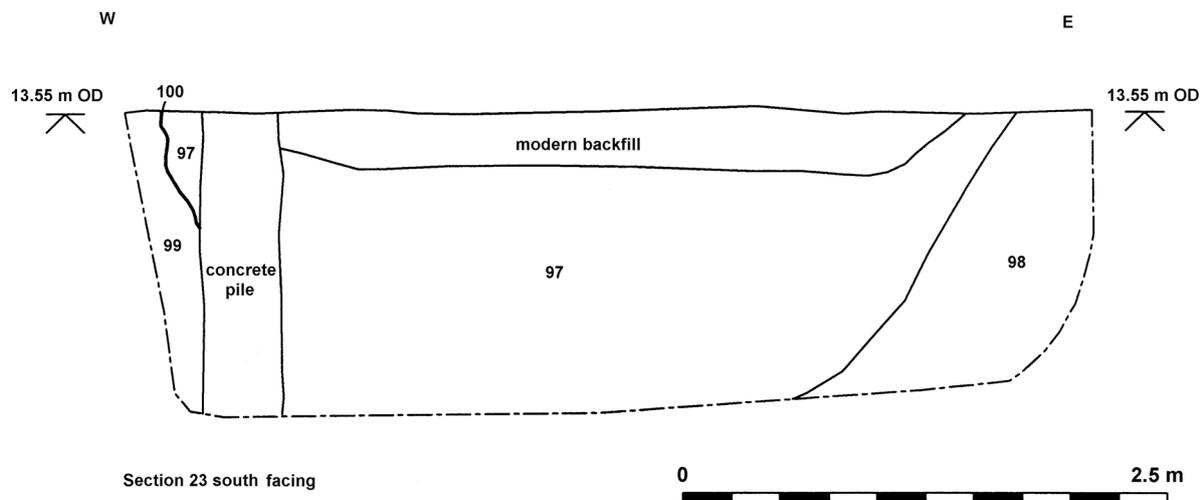


Fig. 4: pond/stream



**Fig. 5: section 23 of probable stream channel leading into pond**

basement. An edge was also traced in an underpinning hole to the north and extreme east of the site, where it appeared that the edge of the feature continued gradually up to the north-west just beyond the northern limit of excavation.

The feature was seen to extend at least 24m to the east from its western edge and measured at least 25m N-S. Although the base of the feature was only observed in two locations in the north-east part of the site during the watching brief and in a borehole (BH1) in the south-east corner of the site, observations of the revealed depth of the waterlain and alluvial fills across the site suggest a consistent depth of at least 3m.

The fills consisted of light grey alluvial clays with more gravelly deposits towards the base of the feature. This was covered by bands of waterlain dark grey sandy silts with frequent organic material such as twigs. Towards the centre of the feature large quantities of roofing peg tiles had been dumped into it. Pottery recovered from the various waterlain fills of this large feature are consistently dated from the mid 14th to 15th century. One sherd recovered from the base of the feature was dated slightly earlier to the 13th or 14th century.<sup>2</sup> This suggests that it was in use possibly for some 200 years between the 13th and 15th centuries. Of comparable date were the 24 pieces of leather which were recovered. The assemblage contained at least three shoes of turnshoe construction, two interconnecting straps and a small quantity of secondary waste from leatherworking.<sup>3</sup>

To the extreme north of the feature there was evidence of a channel [100] (Fig. 5), apparently aligned N-S, measuring 4.4m wide by at least 1.6m deep with steeply sloping sides, cutting through the natural London Clay to the west and apparently redeposited sandy clay gravel deposits to the east. This may be the last phase of the channel before it silted up and may be the remains of the stream which filled the large feature from the north. At a lower level to the south-west the feature would appear not to be uniform, with a stream having scoured a channel through the London clay apparently aligned E-W. Along the southern part of the site all the waterlain deposits were seen to tip down towards the west, suggesting that the deepest part of the feature was to the centre of the site and may have contained a stream channel within it. These observations suggest that the original stream channel ran along the western and southern margin and may have contributed to the very steep side observed in the south-west part of the feature.

## Geoarchaeological and pollen-stratigraphical analysis

*Adrian Palmer and Nick Branch*

Three sets of column samples were obtained to capture the spatial and temporal variations in the sedimentary sequence of the alluvial and waterlain material. The sedimentary fill was probably derived from four sources: (1) Materials

discarded into the pond by human groups living in close proximity to the site between the 13th and 15th centuries; (2) Natural fluvial sediments transported to the pond as part of the suspended sediment load of small channels (e.g. streams). This interpretation is supported by the presence of predominantly fine-grained mineral sediments indicating deposition within a virtually stationary ('low-energy') water body; (3) Sediments eroded from the edges; (4) Deposition of wood and organic detritus, representing either long-distance transportation of organic matter or deposition *in situ* of detritus from plants growing within, or on the margins of, the pond.

The pollen stratigraphic assessment provided broad support for this interpretation, although the preservation and concentration of pollen grains and spores was rather poor.<sup>4</sup> The presence of alder (*Alnus*) and grass (Poaceae) pollen suggested that the pond may have been fringed by isolated trees and tall grasses, and the occasional cereal pollen grain provided confirmation of human activity in close proximity to the pond. The remaining taxa found in the pollen assessment indicated the presence of weeds of disturbed ground (e.g. species in the goosefoot

and daisy families – *Chenopodium* type and Lactuceae).

In conclusion, the sedimentary sequence at Plough Place indicates the presence of an artificial pond fringed by open vegetation. In close proximity to the pond there is unequivocal evidence for human activity.

## Discussion

But what was this large waterlain feature? Its great size of the feature, measuring at least 24m by 24m by *c.* 3m deep, suggests that it was something more than a small tributary of the Fleet. The western edge seemed to be nearly vertical in places and there was evidence of smaller channels within it. Fishponds were dug into the subsoil and where necessary lined with puddled clay for waterproofing.<sup>5</sup> The London Clay would have provided a natural waterproofing of the base and sides. Fishponds of similar depth have been recorded at Silverstone in Northamptonshire<sup>6</sup> and St Neots in Huntingdonshire.<sup>7</sup> This might suggest that it was either a fishpond or possibly a mill pond fed by a stream to the north-west, which may have exited from the south-east and continued south-eastwards to join with the river Fleet. Either could have been associated with one of the great Inns of Chancery, Barnard's Inn or more likely Thavies Inn, both of which were nearby. There is no sign of such a water-filled feature on the Agas map of *c.* 1562 (Fig. 3), the Braun and Hogenberg map of 1572 or the Ogilby and Morgan map of 1676. However, this is not surprising as the archaeological evidence suggests that the pond had been backfilled by the late 15th century and built upon by the 16th century.

The analysis of the column samples provided unequivocal sedimentological evidence for the presence of an open body of water. It is probable that the water entered from the north-west, where evidence of the silting up of a channel within the large feature was observed. There is tentative evidence to suggest that the stream exited the pond to the south-east and continued to the south-eastwards towards the river Fleet. To the north-west of the site, a watercourse is mentioned in a document of 1422 as a boundary between London and Middlesex near Holborn bars, and it has been suggested that a small stream formed the original

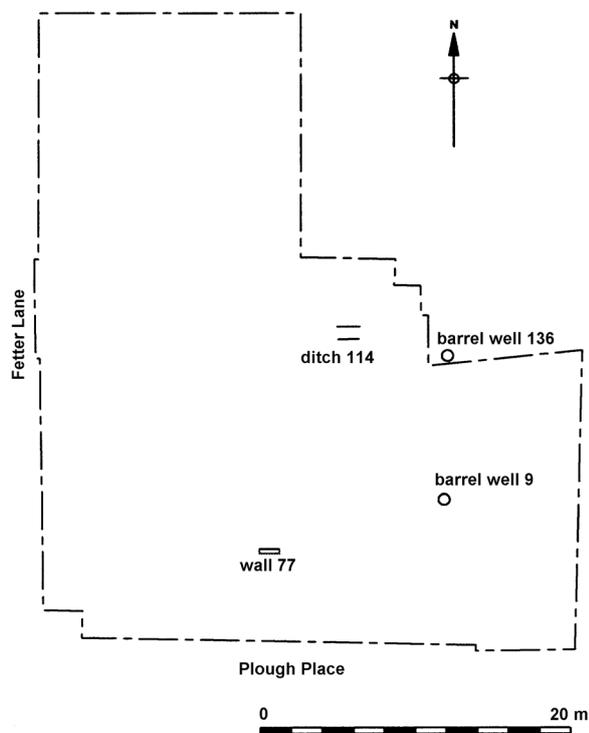


Fig. 6: late post-medieval features

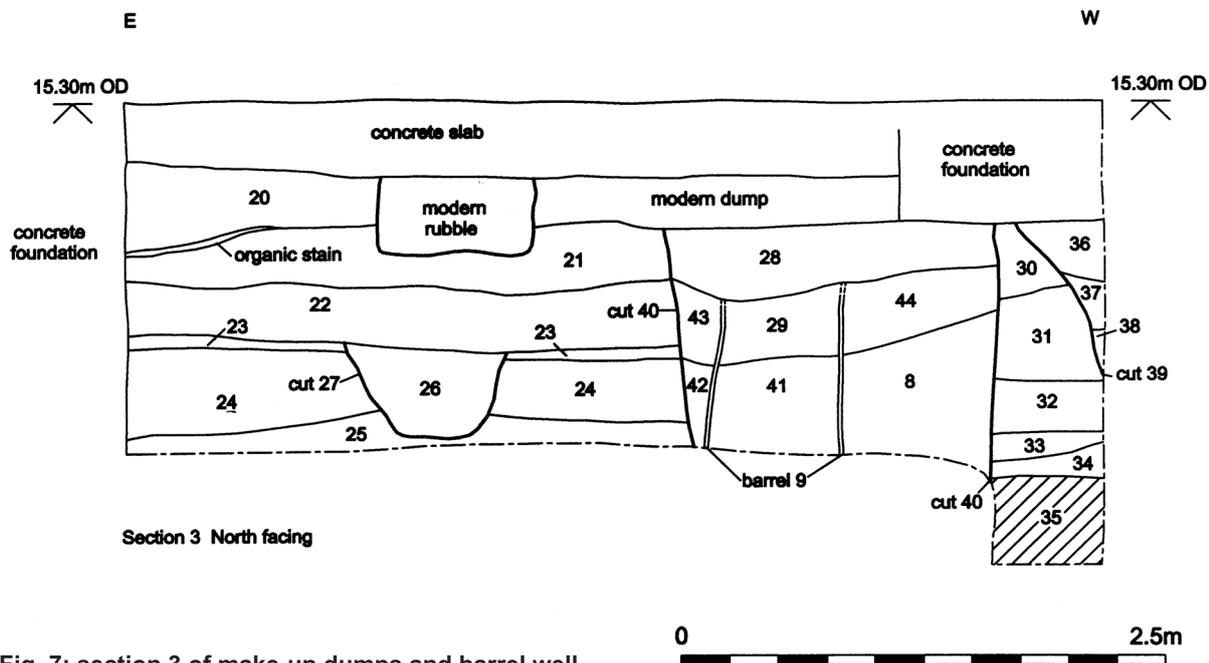


Fig. 7: section 3 of make-up dumps and barrel well

boundary.<sup>8</sup> John Stow in his *Survey of London* had the following description of the area:

‘Oldbourne, or Hilbourne, was the like water, breaking out about the place where now the bars do stand, and it ran down the whole street till Oldbourne Bridge, and into the river of the Wells, or Turnmill Brook. This bourn was likewise long since stopped up at the head, and in other places where the same hath broken out, but yet till this day the said street is there called High Oldbourne Hill, and both the sides thereof, together with all the grounds adjoining that lie betwixt it and the river of Thames, remain full of springs, so that water is there found at hand, and hard to be stopped in every house.’<sup>9</sup>

However, it has been suggested that Stow was mistaken and that ‘it is very doubtful that there was a watercourse running eastwards down Holborn Hill and into the Fleet: at best it was a runnel which existed only in very wet conditions.’<sup>10</sup>

The area around High Holborn was even at the end of the 16th century still full of springs.<sup>11</sup> A watercourse was mentioned in a deed of 1281, running from west to east through a plot of land towards the Bishop of Bangor’s Inn in Shoe Lane<sup>12</sup> to the south of St Andrew’s Church. A possible derivation of the name Shoe Lane is the dialect O.E. ‘sol’ meaning a muddy or miry

pool.<sup>13</sup> An excavation by the Museum of London at 75–82 Farringdon Street/20–30 Shoe Lane (FAO90) to the south-east of the site revealed extensive alluvial sediments associated with the River Fleet. Within this alluvial sequence was evidence of infilled channels one of which ran eastwards to the Fleet.<sup>14</sup> A later NW-SE aligned vaulted brick drain which predated 16th-century buildings on the site<sup>15</sup> may have the later culverted descendant of this stream. These may be evidence of the continuation of the stream after it exited the pond.

### Deliberate infilling of stream/pond

The waterlain fills of the stream channel/pond were covered by several dumps in an attempt to consolidate and level the soft wet land and provide a firm dry base to build on. These dumps were extensive and covered much of the area of the waterlain feature. A sticky light beige brown clayey brickearth was observed in several locations to the north and east of the site. To the north and east it was up to 0.6m thick, becoming gradually less extensive to the south and west, where it petered out some 5.50m from the postulated western edge of the feature. A well compacted mid orange brown sandy clayey gravel was also recorded to the north and east of

the site; to the north it was *c.* 0.5 to 0.6m thick, to the east 0.40m thick and to the south petering out to some 0.10m thick. These brickearth and gravel deposits were often intermixed, with the brickearth covered by the gravel to the east and south and *vice versa* to the north and north-west. It would suggest that these deposits were dumped at the same time on top of the soft waterlain fills, again in order to consolidate the ground.

Cut through the brickearth and gravel layer was an apparent N–S aligned linear ditch [27] 0.80m wide by 0.47m deep, which may be the remains of a drain to clear the surplus water while consolidation of the wet ground was attempted.

Covering the ditch and brickearth and gravel consolidation layers were various make-up dumps of mid grey brown sandy silt. A mid-brown sandy silt deposit, remarkably consistent in its colour and inclusions was observed across the site. It would appear that the pond was backfilled and the level of the ground was raised in one large scale effort and not piecemeal. Pottery recovered from the consolidation and make-up dumps suggest a late 15th-century date for the infilling.

### Structures and features on the infilled feature (Fig. 6)

A Kentish ragstone and chalk wall [77] with tile bonding courses was observed to the south of the site. It was aligned E–W and measured at least 1.30m long by 0.28m wide by at least 1.10m high. The southern side of the wall was faced. This masonry was the northern wall of a cellar of a building fronting onto the forerunner of Plough Place. Tiles recovered from the wall were dated to 1480/1520 – *c.* 1900, and the cellar was cut through a dump layer [76] dated to the late 15th/early 16th century. This would suggest a 16th-century date at the earliest for the building erected partially over the infilled stream/pond.

Two barrel wells were recorded on the western part of the site (Figs. 7 and 8). The one to the north [136] measured 0.63m in diameter at the base of the barrel. It was constructed with wooden staves up to 900mm long and varying in width 160–250mm by 20–30mm thick. The staves were bound together on the outside of the barrel with split wooden rods [137] 20–40mm wide. The top of the barrel was truncated by the

modern concrete foundation of the northern boundary wall. The barrel was placed in a sub-rectangular construction cut [139], measuring 1.60m E–W by 1.00m deep, with a vertical side to the west and a steeply sloping side to the east with a flat base. The area around the barrel was packed with orange brown and grey silty clay deposits [140], [143] and [148]. The barrel was backfilled with a dark bluish grey waterlain silt deposit [149] with a cussy appearance. Pottery recovered from this backfill suggests that the well had gone out of use by the late 16th century and had been re-used as a cesspit.

To the south was another barrel well [9] of similar construction. The barrel was made from wooden staves varying in width from 90 to 170mm and measured 1.12m high by a maximum internal width of 0.68m, by 9 to 15mm thick. The staves were bound together externally with similar split rods. The barrel was placed within a rectangular cut with rounded corners, vertical sides and a flat base [40]. The area around the barrel was packed with dark grey waterlain silts [42], [43] and [158] and mid-brown clay silts [43] and [44]. Pottery recovered from these deposits suggest a 15th-century construction date. The barrel was backfilled with a mid-orange brown grey slightly waterlain sandy clay silt with frequent tile fragments [29] and [154] and a mid

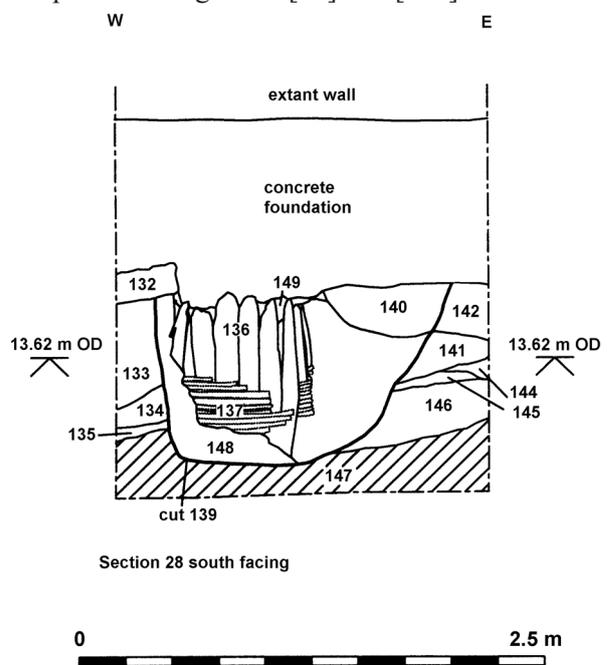


Fig. 8: section 28 barrel well

grey waterlain sandy silt [41] and [155]. These deposits were dated to the late 16th century, which is consistent with barrel well [136]'s date of going out of use.

An E–W aligned ditch [114] was recorded to the north-east of the site. It measured at least 2.2m long E–W by 1.6m wide at the top, steeply sloping to a form a rounded base some 0.6m wide. It survived to a depth of 0.9m. It was filled with dark grey waterlain sandy silt [105] and a mid-brown organic clay silt [108], both of which were filled with organic material consisting of decayed vegetation and fragments of wood. Two timber stakes driven vertically into the base of the ditch and measuring 450mm by 90mm by 70mm [117] and 210mm by 50mm by 50mm [118] may be the remains of revetting along the ditch. The dark grey waterlain fill [105] continued beyond the western end of the ditch and appeared to fill a shallow hollow or perhaps a shallow N–S channel. This would suggest that this is a drainage ditch leading into a small stream, which may be the remnant of the silted up and infilled large earlier waterlain feature. Pottery recovered from these fills indicates a late 14th to 15th-century date for the silting up of the ditch.

## The timber casks

*Damian Goodburn*

A small but interesting assemblage of later medieval worked wood was found on site. A representative selection of the material was lifted for further detailed recording and study. The most important items were the remains of two stave-built or 'coopered' vessels. Both casks had been reused as well linings and had had their ends truncated such that around half of each cask survived with associated fragile hoops and bindings that once held the staves together. The 'heading' boards of the cask ends were taken out prior to reuse.

*Cask [9]*

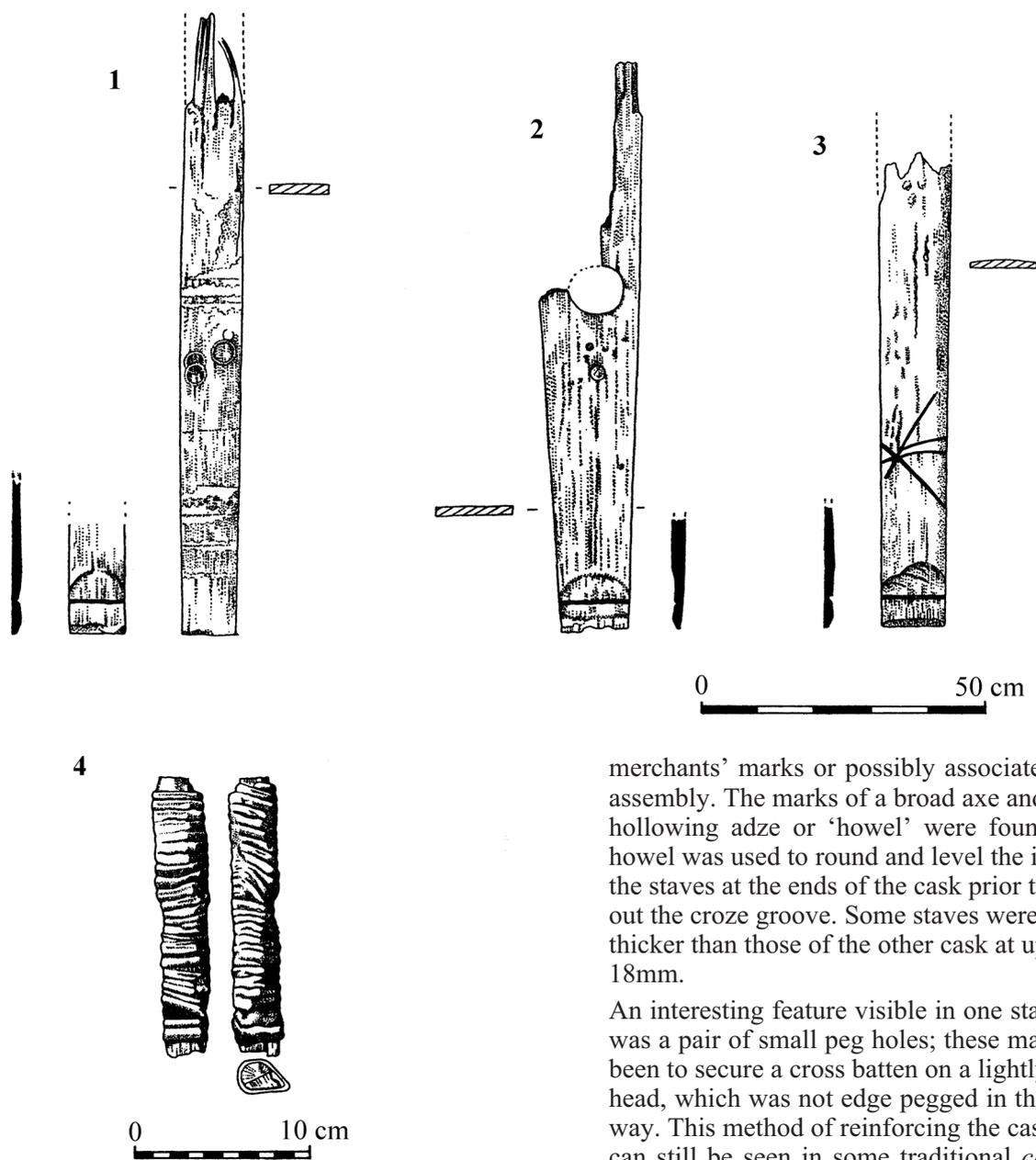
A sample of six staves was lifted from this vessel. The best preserved survived to about 2/3 of its original height past the bulge or 'booge' of the parent cask at about 1.12m. All the staves were made of radially split oak trimmed with axes, with wide straight blades. No complete axe marks survived, but they appear to have been made with

a tool similar to the recent English coopers broad axe which was only used to trim the edges of staves in recent times.<sup>16</sup> In some places the surfaces of the oak showed striations left by some form of shaving or scraping tool. No attempt was made to hollow the insides of the staves. The stave ends had the typical groove (*croze*) to hold in the removed end pieces (Fig. 9). In addition to these typical features, several staves had extra small wooden plugs, which must have been used to fill sampling holes. Illegal sampling went by the name 'sucking the monkey',<sup>17</sup> but legal sampling would also have been carried out during the life of the cask.

The staves were relatively thin at around 15mm thick as found, suggesting that the cask may have been a lightly built 'one journey' vessel. Stave [157] had both a 70mm diameter bung and smaller breather holes in, confirming that it had been used for liquids, possibly wine. When the lifted staves were carefully washed a series of marks cut with a hooked knife were clearly seen (Fig. 9). The marks could be found on internal and external faces and their function is not well understood. Some would have been invisible from outside the cask and may relate to building marks, whilst others are external and designed to be seen. Marks are also known to have been used by London's medieval master coopers to identify their wares for the purposes of quality control.<sup>18</sup> Some records of these marks for the 15th and 16th centuries are held in the manuscript section of the Guildhall Library, and City Corporation Records office.<sup>19</sup> The earlier identifying marks are symbols suitable to be cut with a scribe, whilst the later examples tend towards symbols based on the coopers initials and were all iron brands. Unfortunately, despite a thorough search, no clear matches with the marks found on the staves from Plough Place could be found. Of course it may well be that the casks were made outside the City of London or possibly even abroad.

*Hoops*

Fragments of the hooping that bound together the staves of cask [9] were lifted and examined. The hoops were of carefully split and shaved half roundwood rods. They were shaved to tapered overlaps and bound with a fine split woody material which is probably willow (Fig. 9).



**Fig. 9: timber staves and binding**

*Cask [136]*

A sub-sample of four staves and some hoop fragments were lifted from this reused cask. In general the staves were very similar to the material from cask [9] and were of similar thinness, and also of radially split oak. A few points of difference are briefly noted below. On this cask scribed lines were also found but on the inside faces, and may thus have been timber

merchants' marks or possibly associated with assembly. The marks of a broad axe and also a hollowing adze or 'howel' were found. The howel was used to round and level the insides of the staves at the ends of the cask prior to cutting out the croze groove. Some staves were a little thicker than those of the other cask at up to 17–18mm.

An interesting feature visible in one staff end was a pair of small peg holes; these may have been to secure a cross batten on a lightly-made head, which was not edge pegged in the usual way. This method of reinforcing the cask heading can still be seen in some traditional *caves* in France today. Perhaps this cask was also originally an imported wine cask.

### **Watering can/pot (Fig. 10)**

*Chris Jarrett*

The fill of the barrel well [136] produced the rim of an early post-medieval redware (PMRE) watering can dating from the late 16th century. Early post-medieval redware wasters have been found in the London area at such locations as

Woolwich, Lambeth<sup>20</sup> and Moorgate,<sup>21</sup> but documentary evidence also suggests that Greenwich was involved in production of this pottery from *c.* 1540.<sup>22</sup> The ware was manufactured from the end of the 15th and throughout the 16th century and developed into the more liberally glazed and better-fired post-medieval redware (PMR). The watering can survives as a collared rim with the addition of a guard opposite the handle and has a cordoned neck. The guard has been decorated with five thumb impressions around the rim as well as five-finger impressions on the top of the guard and the vessel has been coarsely clear glazed. The original vessel would probably have been of a rounded jug-shape with the addition of a sprinkler or rose. This form is also known in watering pots which were not only used for horticultural purposes but could have been used in the house for damping down earthen floors.

### Copper cooking vessel [136]

*Geoff Egan*

Fragments comprising the greater part of a bowl-shaped copper sheet cooking vessel (kettle) of a type that would have been suspended above the fire when in use were recovered from the backfill of barrel well [136]: height *c.* 120mm, diameter at top *c.* 205mm, diameter at base *c.* 200mm. Hammering marks from production are evident at several points; a folded sheet staple repairing a split survives at one point (Fig. 11). Rims from these fragile vessels are occasionally found but it is rare for much more that is still recognisable to be encountered, though a virtually complete example was excavated at the London Bridge City site, (TYT98) in Southwark (acc. no. 73 MoLAS). Examples of folded-sheet staple have been found previously in London at Swan Lane

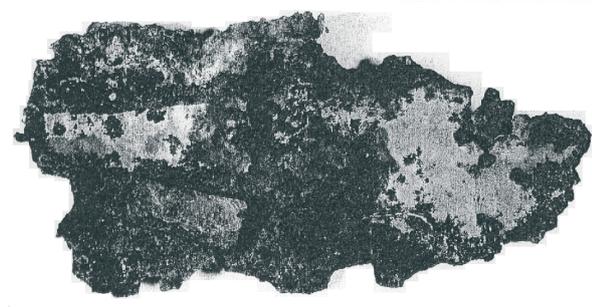


Fig. 11: staple repair to copper kettle

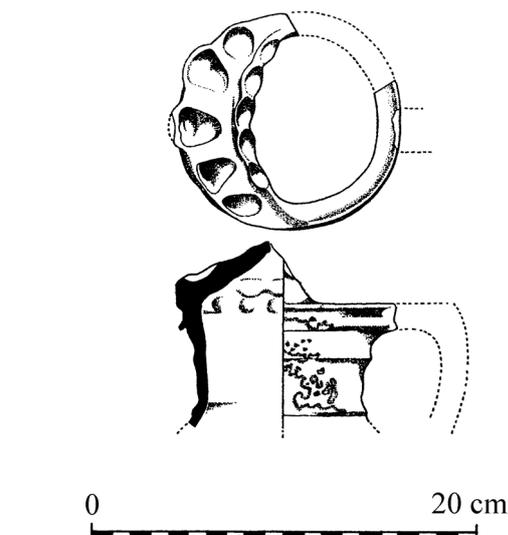
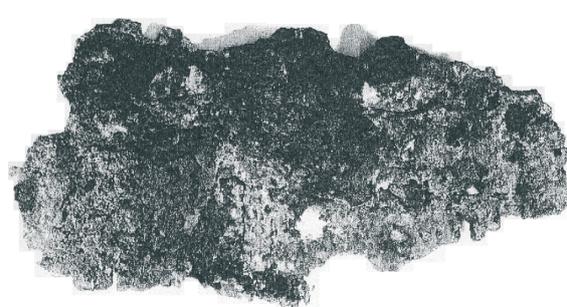


Fig. 10: watering can

car park, 95–103 Upper Thames Street and Billingsgate Market lorry park, Lower Thames Street.<sup>23</sup> Some of the vessels of this type made on the Continent had makers' stamps; this practice was not certainly used for locally manufactured ones in London. The lightness and shininess of these cheap easily stacked cooking pots meant that they were attractive trade items for native Americans in the early Colonial period.<sup>24</sup> They are found quite frequently on North American sites.

### Conclusions

The large feature on site, whether it was a fishpond, a mill pond or perhaps served some other function, is an interesting and rare survival so close to the historic City of London. But perhaps more significant is the discovery of the stream which fed the feature, a probable previously unknown tributary of the Fleet which is a major addition to the topography of London.



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