

The Guy's Hospital Roman boat fifty years on

Bruce Watson, with contributions by Ian Blair and Nigel Jeffries

The discovery of the boat in 1958–60 and its context

There must be few London archaeologists who, fifty years after they last worked on a site, get to revisit it when further work takes place. One person who has achieved this distinction is Dr Peter Marsden, who in March 2010 visited the evaluation of the Guy's Hospital Roman boat (Fig. 1). In 1958, while Peter was carrying out a voluntary watching brief to monitor ground-works on the site of New Guy's House, part of an ancient boat was unexpectedly uncovered. It consisted of part of the eastern side of a wooden vessel (five parallel frames and keel planking).¹ In 1960 Peter persuaded the hospital and its contractor to assist him with the excavation of a small shaft trench close to the 1958 discovery to try to locate more of the vessel, determine its plan and to obtain some dating evidence for the wreck. This trench successfully located part of either the bow or stern and evidence of internal (ceiling) planking confirming that the wreck was aligned north-south (Fig. 2). Pottery recovered from the sediments sealing the wreck was dated to *c.* AD 190–225.² These discoveries were the start of Peter's long career in maritime archaeology, which led to a Doctoral thesis on the ships of the port of London.

Peter's work revealed that the boat had been abandoned in an in-filled tidal creek (which he named the Guy's Channel) – originally connected to the River Thames (Fig. 3).³ Peter realised that the presence of the high ground to the west of this channel would have helped determined the line of the Roman bridge approach road and therefore the position of the bridge, as well as being the focus of early settlement.⁴ During the early Roman period land to the east of the Guy's Channel was a low-lying area of wetland, which was later drained and

reclaimed.⁵ Fieldwork has since confirmed that the area to the west of the Guy's Channel was indeed the initial focus of Roman settlement, and that the topography of north Southwark during this period consisted of a series of low gravel islands separated by a maze of channels.⁶ These channels were used during the Roman period to provide sheltered moorings, while quays and revetments were constructed along the banks of some of the larger ones. The Guy's Channel flowed northwards across a wide flood plain, which during times of rising sea level effectively became part of the channel.⁷

Examination of the deposits within the Guy's Channel in 1958–60 revealed a sequence of fluvial silts and peats, and dumps of rubbish. One of these dumps lay just north of the boat and post-dated its abandonment. It contained pottery dated to *c.* AD 190–225, plus a coin of Marcus Aurelius

dated to AD 180.⁸ Within the dumping was an exceptionally fine Samian ware globular jar (Déch 72) with barbotine and appliqué designs in relief, dated to *c.* AD 200 (Fig. 4).⁹ The decorative scheme of this bowl divides into three distinct zones. The upper zone consists of rabbits and vine leaves; the central zone of cupids with a deer and a boar; and the lower one of vine leaves.

From these discoveries it was established that the Guy's boat was carvel built (edge-to-edge hull planking nailed to a series of parallel U-shaped frames), while the presence of keel-planks could only be postulated as none were actually identified. It is estimated that Guy's boat was at least 16m long and about 4.25m wide and is interpreted as a shallow-draught river barge or lighter.¹⁰ This vessel may have had an unladen draught of about 0.14m and laden draught of 0.4m, and it might have carried about seven tonnes of



Fig. 1: Peter Marsden viewing the remains of the boat after 50 years in 2010 (photo: Maggie Cox, MOLA)

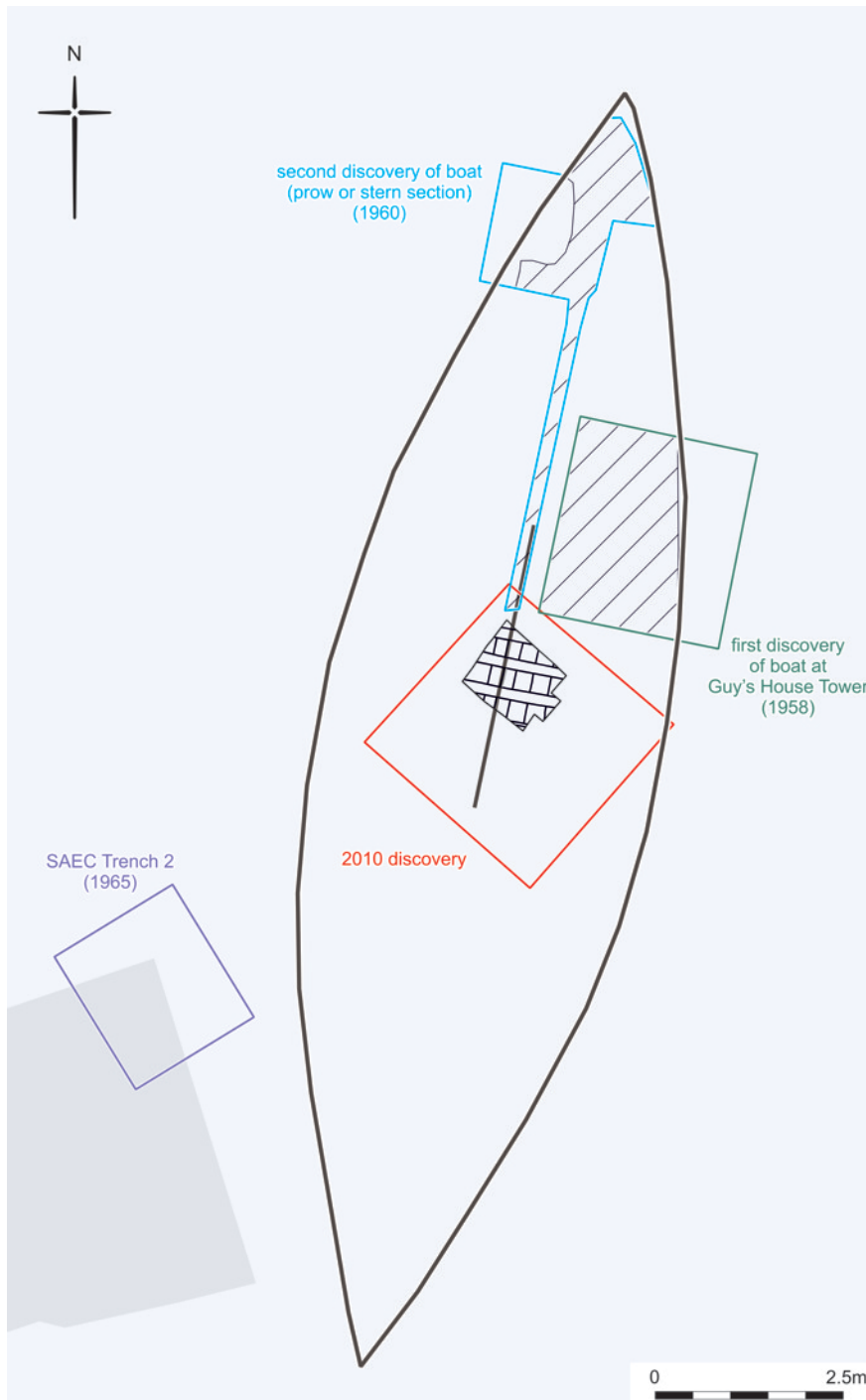


Fig. 2: postulated outline of the boat showing the four areas of archaeological investigation and the area of the boat uncovered in 2010

cargo. As the northern end of the vessel was pointed, it is likely that the southern end was of a similar design. It is quite possible that the Guy's boat is actually the second Roman vessel found buried within this channel. The only source of information about the enigmatic earlier discovery is a short article about Guy's Hospital College which states that some years earlier during the construction of an adjacent warehouse timber 'breakwaters'

(presumably waterfront revetments) and an 'old barge' were found 'embedded in the mud'.¹¹

The 1965 investigation

The discovery of this Roman vessel and the Guy's Channel inspired the Cuming Museum staff in 1965 to excavate two small shaft trenches as the annual Southwark Archaeological Excavation Committee (SAEC) training excavation (Fig. 2).¹² Trench one was situated close

to the site of Guy's Hospital College, where it was hoped to locate the waterfronts and the 'old barge' found in this locality in the 19th century. This trench revealed terrace gravel, which marks the base of the channel, at 5m below ground level (-1.0m OD), above which was a metre of silts sealed by an organic deposit containing late Roman pottery, which was sealed by a further build-up of undated fluvial sediments.

The second trench was intended to locate the southern part of the Guy's boat. However, it failed to locate any portion of the boat *in situ*, almost certainly because it was situated a few metres to the west of the projected extent of the vessel. In the base of the trench, sterile sands were located at 4.3m below ground level (-0.25m OD); these deposits extended down at least 1m and appear to mark either the base of the channel or some natural feature within it like a sandbank (Fig. 5). At the top of the sands, a number of timbers were found, including one fragment of boat frame *ex situ*.¹³ The interpretation of this material is uncertain, but it may represent a scatter of collapsed boat timbers clustered around the wreck. Above the timbers was a 1.2m thick accumulation of undated 'grey clay', interpreted as a gradual build-up of standing water sediments. These clays contained abundant small bivalves and snail shells. Examination of a sample of molluscs obtained from the 1960 investigation revealed that these species indicated 'a habitat of permanent muddy streams or ditches flowing through marshy ground and supporting aquatic vegetation'.¹⁴ The upper portion of the sequence consisted of a 1.0m thick deposit of 'black stinking mud', containing finds of 16th- to 19th-century date. Part of this channel still survived in the mid-18th century as a series of ponds, hence the modern street name Great Maze Pond.¹⁵ By the end of 18th century, according to cartographic evidence, the ponds have been filled in.¹⁶ During the 19th century a series of hop warehouses, intended to supply the local breweries, were constructed on the site.¹⁷ They were destroyed during the Blitz and their basements subsequently in-filled. Part of one of these warehouse basements and a stanchion base were located in this trench.

The evaluation of the Roman boat in 2010

To date only three Roman boats (County Hall, Blackfriars I, and the example from Guy's Hospital) are known from Greater London.¹⁸ These vessels are rare discoveries of national and international importance because of their parallels and importance for the comparative study of other wrecks. As more of the Guy's boat remains *in situ*, its remains have been made a Scheduled Monument (SM No: L0157).

In 2009 Guy's and St Thomas' NHS Foundation Trust decided to replace the Newcomen and Bloomfield medical centres, which currently occupy the site of most of the boat, with a new regional cancer treatment centre, which may include a single-level basement to house six accelerator radiotherapy bunkers. It is believed that the proposed redevelopment will impact on the boat and its surrounding deposits, but until the design is finalised its archaeological impact cannot be fully assessed.

Therefore in January 2010 Scheduled Monument Consent was obtained to evaluate the remains of the boat (Fig. 2). Owing to the number of live services within the roadway it was only deemed practical to dig one three-metre-square trench within the projected footprint of the boat during February and March 2010.¹⁹ As the evaluation trench ended up somewhat deeper than anticipated, because of the discrepancy between the expected and actual depth of the boat, only a one-metre-square area of the vessel was uncovered (Fig. 6).²⁰

The wooden remains of boat seen during the evaluation were well preserved and appeared from visual inspection to be oak (*Quercus* sp). The remains of the boat consisted of four parallel sets of rectangular frames ([27] to [31]) and their attached hull planking (Fig. 7). These frames sloped noticeably from west to east, probably because they had been moulded over time by the pressure of the overlying deposits to follow the profile of the underlying deposits. It appears that part of the mid-ships section along the centre line of the vessel was exposed, and that the barge had two 'keel-planks', which is typical of the Romano-Celtic shipbuilding tradition.²¹ There are two reasons for this interpretation. First, the presence of three flat oval-headed iron

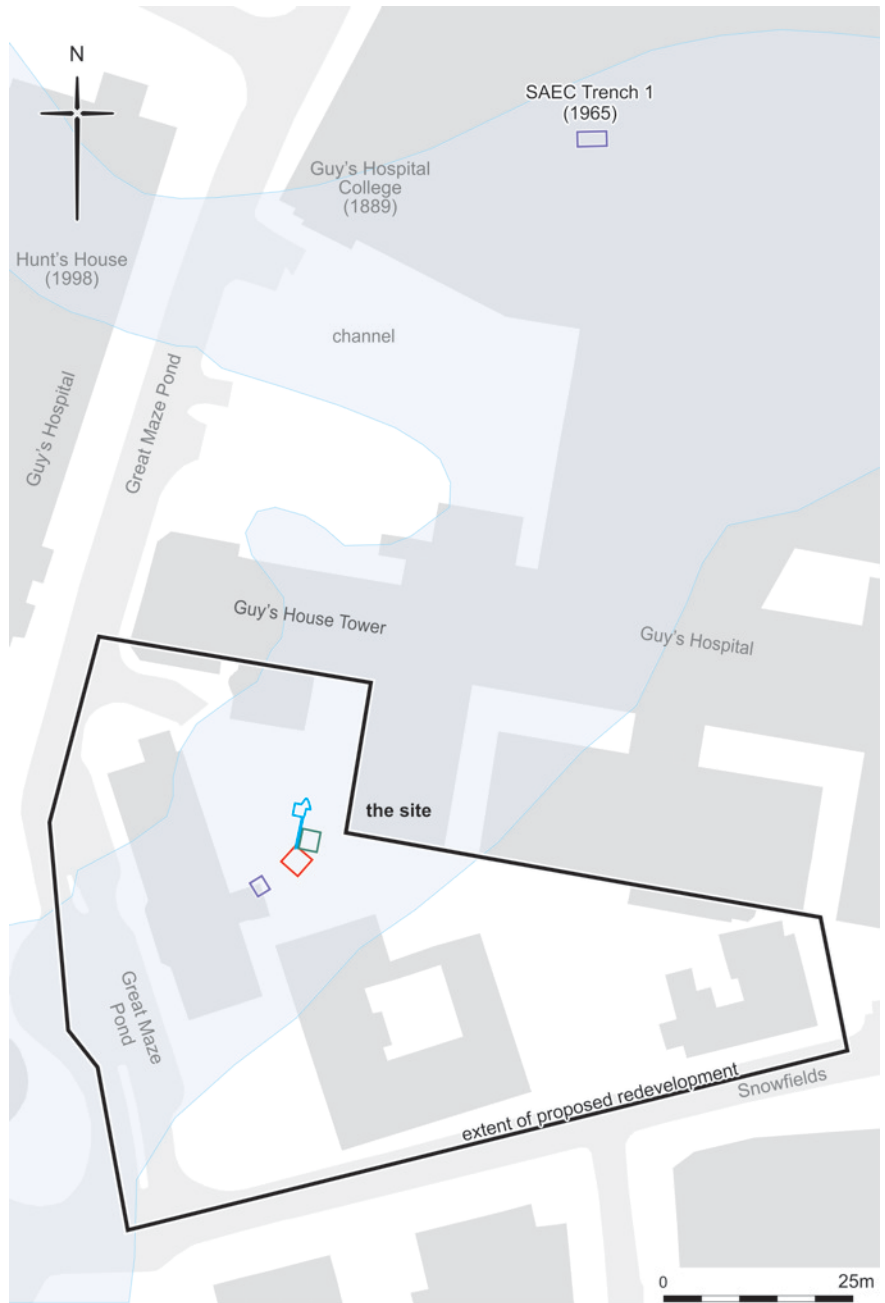


Fig. 3: postulated extent of the Guy's Channel and location of the sites discussed

nails, which were hammered in the opposite direction to all the other nails; their presence implies the existence of two keel planks on either side of the centre line of the vessel to prevent damage to the hull when the vessel was beached, and to allow the vessel to sit upright while it was beached and being loaded or unloaded. It had been speculated that like other examples of this type of vessel the Guy's boat possessed keel planks, but their existence is now confirmed.²² Second, it was noticed in both the 1958 and 1960 discoveries that the points of the clenched iron nails that fixed the hull

planks to the frames were hammered over in a herring-bone pattern with their ends all pointing down towards the centre line of the keel.²³ The same pattern of nail tip direction was also recorded on the frames of the Blackfriars I Roman ship.²⁴ As the nail tips in the newly recorded section of boat are arranged in a herring bone pattern and all point downwards in both directions, the position of the centre line of the vessel can be calculated with a high degree of certainty. The internal spacing of the frames varied from 22.5 to 27.0cm. This frame spacing is much closer than the

c. 60cm recorded in the 1958 discovery, which implies that towards the centre of the vessel the frames were significantly closer together.²⁵ All the frames were single timbers with a rectangular cross-section about 14cm wide and 6 to 8cm thick, except the southernmost one, which consisted of two superimposed timbers both 6.5cm thick ([30] and [31]). As the full width of these two timbers was not exposed, the reason for this change of design is not certain, but one possibility is that it might be part of a mast-step (a socket for a sailing or towing mast). None of the exposed frames possessed limber holes on their undersides to allow bilge water to flow, which is surprising, because limber holes were seen in two of the frames recovered in 1958.²⁶

Short lengths of six hull planks (21mm thick) were exposed. All the planks were tangentially faced, straight-grained oak, and fitted very closely together carvel-wise (butt joints), which

made identifying the joints difficult. Also no caulking material was visible along the joints, although the 1960 work had revealed that hazel shavings and pine resin or tar were used.²⁷ The width of these planks varied from 19.0 to 23.5cm. It is likely that there is a further undefined plank to the west of [38] (otherwise it would be over 30cm wide), but due to the brown staining obscuring the top surface of the wood no joint could be defined. This substance was not sampled, but it was probably pine tar, which was found on the exterior of some planking in 1960. The hull planks recorded in 1958 varied in width from c. 23 to 30cm.²⁸ Along the western edge of plank [33] was a thin band of sapwood showing that in the event of further work these timbers have a high potential for tree-ring dating. There was no sign of any ceiling planks or even any trace of the fixings for securing such timbers.²⁹ Evidence of ceiling planking was seen in the 1960

investigation, so they might have been expected here too.³⁰ Perhaps any ceiling planking here had been robbed out in antiquity.

The evaluation has shown that the potential for survival of more of the Roman boat is very good and that the remains of the boat form part of a sequence of stratified fluvial channel deposits. Previous archaeological work in the locality has largely focused on the boat, so that information about the earlier and later history of the channel and the nature of its changing environment is patchy.

New information on the Guy's Roman boat

Uncovering a small previously unexamined portion of the mid-ships of the boat has revealed much new information about the vessel. This is important as the records of the 1958 discovery are not as detailed as subsequent investigations. The important new discoveries concerning the context, design and nature of the Roman boat are:

- The realisation that a significant part of the mid-ships sections of the vessel is intact and well preserved.
- The presence of sapwood on the hull planking that would allow the date of the construction of the vessel to be determined, which in turn would allow the working life of the vessel to also be established.
- Confirmation of the presence of keel-planks.
- The identification of the probable centre line of the keel by means of the arrangement of the nail heads and tips.
- Determining that the spacing of the frames within the various portions of the vessel may have varied.
- The presence of one anomalous frame in the mid-ships, which might possibly be evidence of a mast-step. The identification of a mast-step would allow the positions of the bow and stern to be determined.
- The absence of any evidence of cargo in a sediment sample from the bilge.
- Reappraisal of the nearby 1965 investigation reveals that it produced one frame apparently *ex situ*, indicating that this area probably lay beyond the vessel.



Fig. 4: Samian ware globular jar (D'èch 72) from the channel fill (height 194mm) (photo: Museum of London)

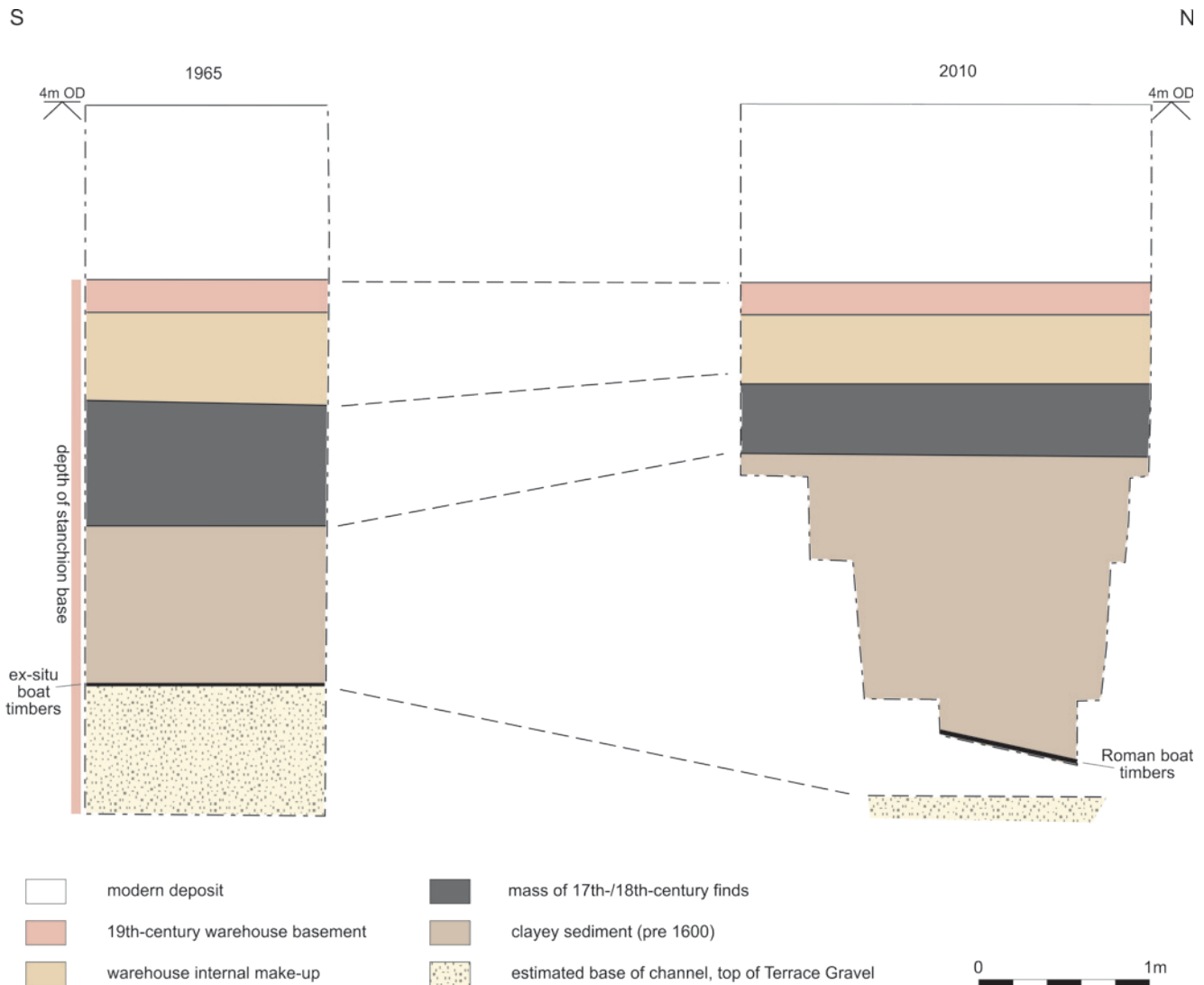


Fig. 5: the sequence of deposits found in the 1965 and 2010 trenches

- Nearby 19th-century discoveries include another ‘barge’ which was apparently found further north buried within the Guy’s Channel. While the age of this vessel is unknown, it is likely to have been Roman. This suggests that there may be more undiscovered Roman wrecks lying within the creek.

The later history of the channel

By Nigel Jeffries and Bruce Watson
 Above the boat was a build-up of still and standing water sediments which contained very few datable finds. These sediments were superseded by a build-up (top 1.46m OD) of sticky, plastic, light grey silty clays with fine laminations containing thin horizontal bands of black organic matter, dated to 1550–1700 by a large fragment of a Surrey-Hampshire border ware tripod

pipkin. These deposits, which are typical of standing water sediments that accumulate in ponds and similar situations, contained abundant small bivalves plus a wide variety of land snail shells.

The silts found above this level contained large quantities of animal bone, building materials (including fragments of ceramic pan and peg tiles, 2-inch-thick red bricks, earthenware floor tiles and Welsh roof slates), clay tobacco pipes, glassware and pottery dating to the last quarter of the 17th century. It appears that during the late 17th century large amounts of domestic rubbish were being systematically dumped here to infill this part of the channel.³¹ The pottery is dominated by decorated London-made tin-glazed tablewares with Essex-made ‘fine’ red earthenwares;³² and Surrey-Hampshire

border red and whitewares.³³ The pottery represents a range of utilitarian cooking and food preparation vessels. Most frequent are London-made tin-glazed wares – their glazes frequently discoloured by the soil conditions they were deposited in – with the forms (charger and jars) and decoration applied more akin to the second and third quarters of the 17th century. A small quantity of plates and bowls decorated with Chinese style landscapes and ‘Chinaman in grasses’,³⁴ provides evidence that at least some vessels date to c. 1670–90.

Much of the utilitarian pottery is Essex-made ‘fine’ red earthenwares (so called for the fine red fabric and glossy glaze) in handled bowls and dishes, supplemented by a few jugs and storage jars. Surrey-Hampshire border redwares feature as pipkins, porringers and



Fig. 6: the fully exposed boat timber view looking west ((photo: Maggie Cox, MOLA)

dishes, while the whiteware products of this industry were also common. The remaining pottery is characterised by small quantities of London-made stoneware jugs and *gorges* (mugs), retrieved alongside a few imported Rhenish stonewares – ubiquitous Frechen *Bartmann* jugs and Westerwald mugs and chamber pots. There were also a few sherds of Chinese blue and white porcelain. The presence of London-made stoneware is chronologically significant, as the first pothouse to make stoneware in London

(indeed in Britain) was John Dwight's Fulham pottery, which began production in 1671.³⁵ These artefact-rich deposits correspond with the 'black stinking mud' observed nearby in 1965. The infill of the channel here had been truncated by the construction of the basement of the 19th-century Hop Warehouses (described earlier).³⁶

The 2011 evaluation

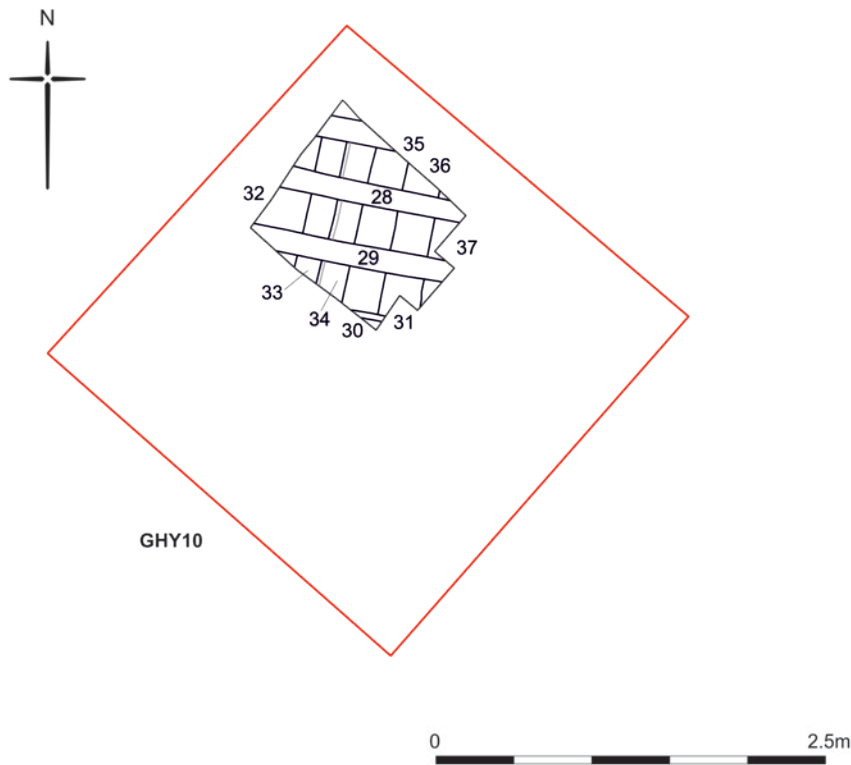
By Ian Blair

During 2011 two further evaluation trenches (not illustrated) were

excavated to the east and west of the site of the Roman boat.³⁷ The western trench unexpectedly revealed, at between -0.85m OD and -0.20m OD, the upper portion of an in-filled early Holocene palaeochannel. This relict feature had been eroded by a sequence of undated standing water channel fills, possibly contemporary with the abandonment of the Roman boat. In the base of the eastern trench, gravelly sands encountered at -0.64m OD (4.46m below present ground level) are interpreted as part of the terrace gravels below the Guy's Channel. In both trenches there was a similar sequence of fluvial channel deposits showing a gradual transformation from a standing water environment to wetland covered with vegetation, which probably flooded on a seasonal basis. By the 17th century the area was being systematically drained by the digging of ditches. This further evaluation work raises the possibility that the course of the Guy's Channel might have been partly determined by the presence an earlier watercourse. It also indicates that this portion of the Guy's Channel was at least 60m wide at some stage in its history, assuming that it was not a braided water course. The environment of the gently sloping eastern side of the channel appears to have changed repeatedly from standing water to marshy floodplain as the water-level fluctuated over time.

Acknowledgements

MOLA wishes to thank the Guy's and St Thomas' NHS Foundation Trust for funding the fieldwork and post-excavation, which was managed by Derek Seeley. Thanks to Deirdre Conn and Bob Corcoran of Guy's and St Thomas' NHS Foundation Trust for assisting with the arrangements on site. Thanks to Dr Jane Sidell, English Heritage Ancient Monuments Inspector (London Region), Chris Constable, Senior Archaeology Officer, Southwark Borough Council, and Dr Peter Marsden, for their advice and guidance. Artwork was produced by Judit Peresztegi, MOLA, and Fig. 4 was kindly provided by the Museum of London. The research on the 1965 fieldwork was funded by a grant from the Southwark and Lambeth Archaeological Excavation Committee.



Bruce Watson formerly worked for Museum of London Archaeology, and excavating the Guy's boat was his last but one piece of fieldwork. Currently Bruce is researching some Cuming Museum finds, and he also edits the archaeological section of the LAMAS Transactions.

Fig. 7: detailed plan of the boat timbers recorded in 2010

1. P. Marsden *Ships of the Port of London: first to eleventh centuries AD* English Heritage Archaeol Rep (1994) 97–104.
2. P.R.V. Marsden 'A boat of the Roman period discovered on the site of New Guy's House, Bermondsey, 1958' *Trans London Middlesex Archaeol Soc* 21, part 2 (1965) 118–31. A date of c. AD 200 is often cited for the abandonment of the vessel.
3. P.R.V. Marsden 'Why Roman London stood where it did: light on London Bridge from excavations in Southwark' (Archaeology section No 2083) *The Illustrated London News* 10 March 1962, 374–5.
4. *Op cit* fn 3, fig. 3.
5. Peter Marsden *pers comm.* 2010; details of the unpublished 1958–60 watching brief are in his personal archive. According to Marsden *op cit* fn 3, the top of this wetland stood at +0.75m OD, it was sealed by external dumping and bisected by Roman drainage ditches.
6. J. Drummond-Murray and P. Thompson with C. Cowan *Settlement in Roman Southwark: archaeological excavations (1991-8) for London Underground Limited Jubilee Line Extension Project*, MoLAS Monograph 12 (2002) 9–24.
7. C. Cowan, F. Seeley, A. Wardle, A. Westman and L. Wheeler *Roman Southwark settlement and economy: excavations in Southwark 1973-91*, MOLA Monograph 42 (2009) fig. 5, 73–6.
8. *Op cit* fn 2, 123–9.
9. A.P. Detsicas 'Some Samian Ware of Form 72' *Antiquaries Journal* 40 (1960) 195–9, see fig. 1. This vessel context Dii (a) is in the Museum of London, Acc No 21764.
10. *Op cit* fn 1, 97–104.
11. Guy's Hospital College (completed 1889) was situated at the junction of Great Maze Pond and Sparrick's Row (TQ 3283/8001). Its construction revealed fluvial sediments and 'old breakwaters',

- presumably Roman revetments along the western side of Guy's Channel, *Guy's Hospital Gazette* (1889) 3, new series, 11.
12. This fieldwork was directed by the late M.R. Maitland Muller of the Cuming Museum. The only surviving record of it is a short typescript report presented by Maitland Muller (1965) to the Southwark Archaeological Excavation Committee, which is included in B. Watson *The Roman Boat adjoining New Guy's House, London SE1: an evaluation report, GYH10* (2010) MOLA. Currently these two trenches are not included in the Southwark SMR.
13. The hooked nails which occur on these boat frames are very distinctive, see *op cit* fn 1, fig 91.
14. Unpublished report by C.P. Castell of Natural History Museum, copy in Marsden site archive.
15. R. Hyde (ed.) *The A-Z of Georgian London*, London Topographical Soc Pub 126 (1982) 13.
16. P. Laxton (ed.) *The A-Z of Regency London*, London Topographical Soc Pub 131 (1985) 25.
17. London OS sheet VII 86 1:1056 (1875) shows the warehouses.
18. *Op cit* fn 1, 33, 97, 109.
19. According to previous discoveries the remains of the boat occurred at between c + 0.65 and -0.15m OD; *op cit* fn 2, fig. 4.
20. Evaluation revealed that the OD levels assigned to the previous discoveries were incorrect (see *op cit* fn 2, fig. 4) and portion of the wreck which was located lay at between -0.6m and -0.9m OD, which means the base of the channel here probably occurs at c. -1.1m OD or lower, Watson *op cit* fn 12, 6.
21. Defined as the longitudinal basal structure of the hull on which the framework of the vessel was constructed.
22. *Op cit* fn 1, 102.
23. *Op cit* fn 1, 100.

24. *Op cit*, fn 1, 52.
25. Peter Marsden says (2011) that in 1958 he only had 10 minutes to record the boat timbers *in situ* before they were removed, so the level of detail concerning this discovery is limited.
26. Notches cut in the underside of the timbers for bilge drainage. *Op cit* fn 1, 23.
27. *Op cit* fn 1, 99.
28. *Op cit* fn 2, 121.
29. Ceiling planking is the term used to describe the timber-work lining the inside of the hull, which in this case would have served as the walkway or deck of the vessel.
30. *Op cit* fn 1, 100.
31. E. Hatton *New View of London* (1708 i 247; ii 450), states that St George's parish then employed four scavengers (rubbish collectors) and St Olave's only one scavenger, showing that there was organised civic clearance of rubbish locally by 1708.
32. W. Davey and H. Walker *The Harlow pottery industries, Medieval Pottery Research Group Occas Pap 3* (2009).
33. J. Pearce *Pots and potters in Tudor Hampshire: excavations at Farnborough Hill Convent, 1968–72*, (2007) Guildford Museum and MoLAS.
34. F. Britton *London Delftware* (1987) 135; F.H. Garner, *English delftware* (1948), plate 26b; C. Orton, 'Post-Roman pottery' in P. Hinton (ed.) *Excavations in Southwark 1973-76 Lambeth 1973-79* Joint Pub London Middlesex Archaeol Soc/Surrey Archaeol Soc (1988) 3, Style F, 327.
35. C. Green *John Dwight's Fulham Pottery: Excavations 1971-79*, English Heritage Archaeol Rep (1999).
36. *Op cit* fn 12, 21–8.
37. I. Blair *Cancer Centre, Guy's Hospital Great Maze Pond, London SE1, an evaluation report, GYH10* (2011) MOLA.