

EXCAVATIONS AT TOWER HILL 1978

DAVID WHIPP

SUMMARY

Excavations were carried out on the Roman defences of London in the area of the Wakefield Gardens, immediately north of the Tower of London (Fig. 1). Small areas of rampart were found to survive together with a short stretch of city wall. It was demonstrated that the rampart and wall were contemporary and that a construction date of about AD 200 was indicated for both. The footings of a Roman turret were also investigated. This was erected at the same time as the wall and probably served as a staircase turret to a parapet walk.

INTRODUCTION

Excavations at Tower Hill (Grid Ref. TQ33608070) were carried out by the Inner London Archaeological Unit between March and December 1978 under the direction of the author. The Unit was acting as agent of the Department of the Environment's Ancient Monuments Inspectorate which had made the site the subject of an Interim Preservation Order.

The excavation was along the line of the Roman city defences and took place prior to the construction of a pedestrian subway from the Wakefield Gardens to the Tower Gardens (Fig. 2). It seemed inevitable that the excavation of this subway would involve the destruction of archaeological deposits. Adjacent to the site a stretch of Roman city wall survives to a considerable height though much remodelled in the Middle Ages.¹ To the south there is no standing wall but part of the area available for excavation lay across its projected line, and it was hoped to investigate the footings of the city wall and its relationship to any surviving rampart.

CITY WALL (Plate 1) (Fig. 3)

A 6.5m length of Roman city wall was discovered immediately under the make-up for the modern pavement. It had been cut through the middle by a sewer pipe and at each of its ends by basements. There was further modern disturbance beneath the wall, as a vault had been tunnelled underneath and incorporated the wall footings in its roof.

The wall survived to a maximum height of 0.80m above the Roman ground level and was 2.40m wide. On the external, eastern face of the wall, ground level was marked by a plinth course of large chamfered blocks of brown sandstone (Plate 1). The largest of these measured 0.50m in length, 0.44m in width and was 0.22m deep. Above the plinth the wall survived as four even courses of squared ragstone blocks mortared into position.

At ground level on the rear face of the wall was a triple course of red tiles. This was only one tile deep, and did not continue through the thickness of the

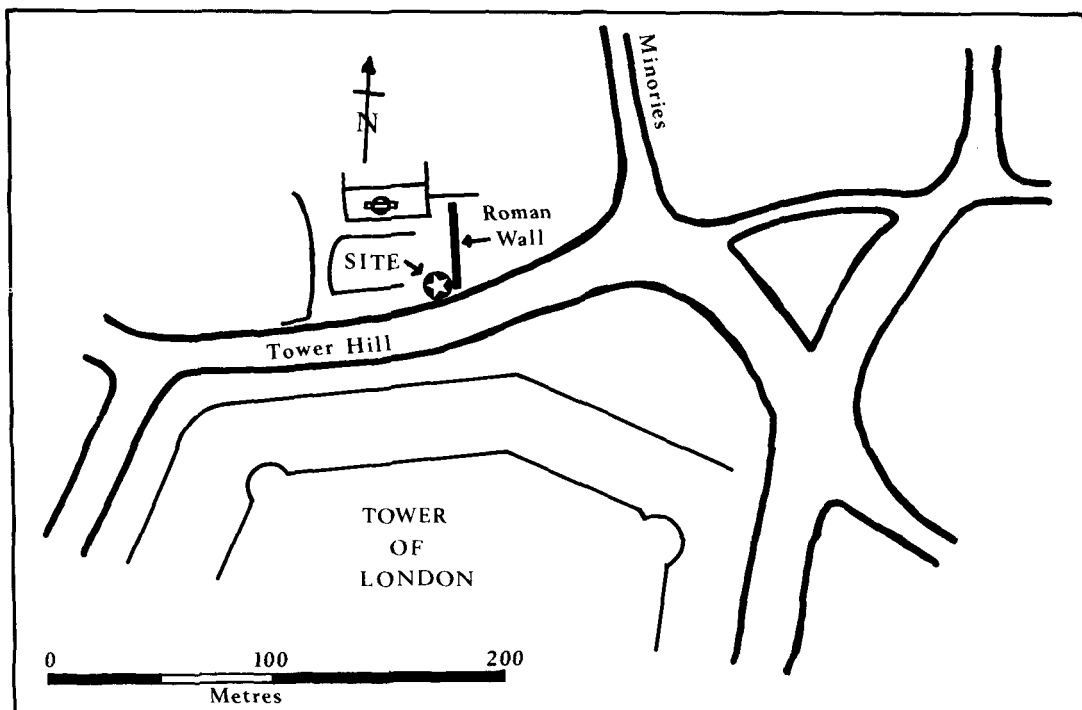


Fig. 1. Tower Hill 1978: Site location plan.

wall. Only two courses of walling survived above the tile course and these too were carefully shaped and mortared in position. The core of the wall between the two faces stood to a maximum height of five building courses. At this level we know from excavations and observations of the wall elsewhere in the City that there was a triple bonding course of tiles running through the thickness of the wall.² Only one tile from the bottom layer of this bonding course was found in the Tower Hill excavations and this stood at a height of 0.80m above Roman ground level.

The core of the wall was made from irregular ragstone lumps placed in roughly level courses separated by thick layers of mortar (Fig. 6). There was no indication that the stones had been placed with a deliberate pitch to north or south—a feature observed at the Dukes Place site near Aldgate in 1978.³

The wall foundations had been badly disturbed by basements and nowhere was it possible to excavate a complete cross section through them. The foundation trench was found to be flat bottomed and 1.10m deep. The west side was vertical and the foundations were built flush against it, but the east side did not survive. At the bottom of the foundation trench was a very thin layer of dark, orange, sandy gravel and over this was 0.70m of stiff grey-brown clay containing many large flint nodules. This was the main foundation for the wall. On top was another thin lens of dark orange sand and gravel varying between 0.04m and 0.08m in depth. Above this were the upper foundations which consisted of two courses of large irregular lumps of ragstone bonded together by a great deal of hard mortar, and the plinth course.

The excavated stretch of wall showed a change of alignment north and south of the modern sewer trench (Fig. 3). This could well have been the result of movement caused by the post-medieval tunnelling beneath the wall and need not imply a deliberate change of alignment on the part of the builders.

ROMAN GROUND SURFACE (Figs. 6 and 7)

The Roman topsoil surface was discovered in several places on the site, at *c.* 10m+O.D., varying within a range of a few centimetres over the site. It was 0.30m deep and consisted of a dark brown fine sandy clay containing numerous charcoal flecks, flint pebbles and a few potsherds. It overlay a subsoil of natural brickearth and sand.

MORTAR AND STONE SPREADS (Fig. 4)

Above the Roman topsoil was a layer of mortar. It began at the internal face of the city wall into which it bonded and was found up to 11 metres away to the west. Away from the wall the layer was often wafer thin but where it bonded into the city wall it was *c.* 0.10m thick. So liberal was the use of mortar at the bond, that the tile course on the rear face of the wall was completely obscured in places (Fig. 6). Although later features had destroyed a great deal, it appeared that there was once a continuous spread of mortar behind the wall, on its western side. All archaeological deposits to the east of the wall had been destroyed and so its existence on that side could not be ascertained. It is worth noting, however, that on the Dukes Place site mentioned above a similar spread was discovered on both sides of the city wall. The excavator of this site seems to suggest that the mortar spread resulted from accidental spillage of mortar whilst the wall was being built.⁴ The mortar spread at Tower Hill, however, was so extensive as to make this explanation unlikely. Additional evidence to suggest that the layer was deliberately laid comes from rough stone surfaces which were laid down at points where the mortar spread

was particularly thin or worn away altogether. These stone surfaces (Fig. 4, Plate 3) have every appearance of being repairs to the mortar spread. Such repairs would not be necessary unless the mortar spread had a particular function. What this was is impossible to know unless it was an attempt to consolidate the otherwise soft and sandy ground surface in order to facilitate the work of the masons.

THE RAMPART (Figs. 3, 6, 7)

The excavation revealed that a rampart had been built immediately behind the wall and lay on top of the mortar spread. The surface of the latter was quite clean and there was no discoloration or accumulation of deposits to suggest that any significant period of time had elapsed between the laying of the mortar spread and the construction of the rampart. Modern disturbance prevented the original dimensions of the rampart from being estimated, but it was found surviving to a maximum height of 1.0m and up to 9.5m away from the internal face of the city wall. This is a remarkable width in comparison with the few published records made of sections elsewhere in the city. At Dukes Place the rampart was only 4.0m³ wide and at Central Criminal Court 5.0m wide.⁶ The reason for the greater width at Tower Hill is not understood but it may be related to the presence of a wall turret discovered at the south end of the excavation (see below).

The rampart material consisted of yellow brown sandy clay and this probably came from the wall construction trench and the external defensive ditch. A cross section excavated through the ramparts clearly showed tip lines sloping down from east to west. For the most part the bank was archaeologically sterile but fragments of ragstone, tile and mortar (i.e. building material from the wall), were found together with pieces of charcoal, oyster shell and occasional potsherds.

Where the rampart met the city wall there were slight indications that it had been built in more than one stage (Fig. 6). The evidence consisted of two tips of bank material; these layers (168, 169) were separated by a lens of loose mortar, ragstone chip and pebbles (161). At its base this layer did not join up with the mortar spread, but ran parallel to and separated from it by 0.02m of rampart material. The layer was 0.10m thick on average and seems to represent the accidental spillage of building debris from the wall on top of an incomplete rampart. A possible interpretation is that the rampart was built up in stages as the masons gradually increased the height of the wall—each successive stage of the rampart giving the masons easier access to the next course of wall to be built. During such a process accumulations of building rubbish would inevitably become incorporated as thin layers within the rampart. Insufficient rampart survived to test this theory over a significant area.

GULLIES (Figs. 5, 7, Plate 4)

Cut into the Roman ground surface were the remains of two parallel gullies (129/154 and 137). They ran parallel to the city wall and were 9.00m and 10.60m away from it respectively. Both were badly affected by later disturbance but 4m survived of the western gully and two lengths of 2m and 0.7m remained of that to the east. Their widths varied between 0.30–0.40m and averaged 0.15m in depth with sides sloping gently to a curved base. The fill of both gullies consisted of grey clayey sand with bits of charcoal, brick and gravel. The eastern gully (129), was sealed entirely by rampart material but not by the mortar spread described above. Instead it seemed to have cut through the spread—unless it coincided exactly with the western edge of the mortar which seems unlikely. Post-Roman disturbance meant that it could not be determined if the mortar continued on the other side of the eastern gully. Only one patch of mortar was found between the two gullies and this terminated along the eastern edge of the western gully. No mortar was found beyond this gully.

There is insufficient evidence for a full interpretation of these gullies to be attempted but the suggestion has been made that they were cart wheel ruts worn through the mortar spreads. If this were the case, however, one might expect the ruts to have been more numerous and somewhat narrower. Another equally conjectural interpretation is that the gullies were marking out lines to define the lateral extent of each of the stages of the rampart construction suggested above.

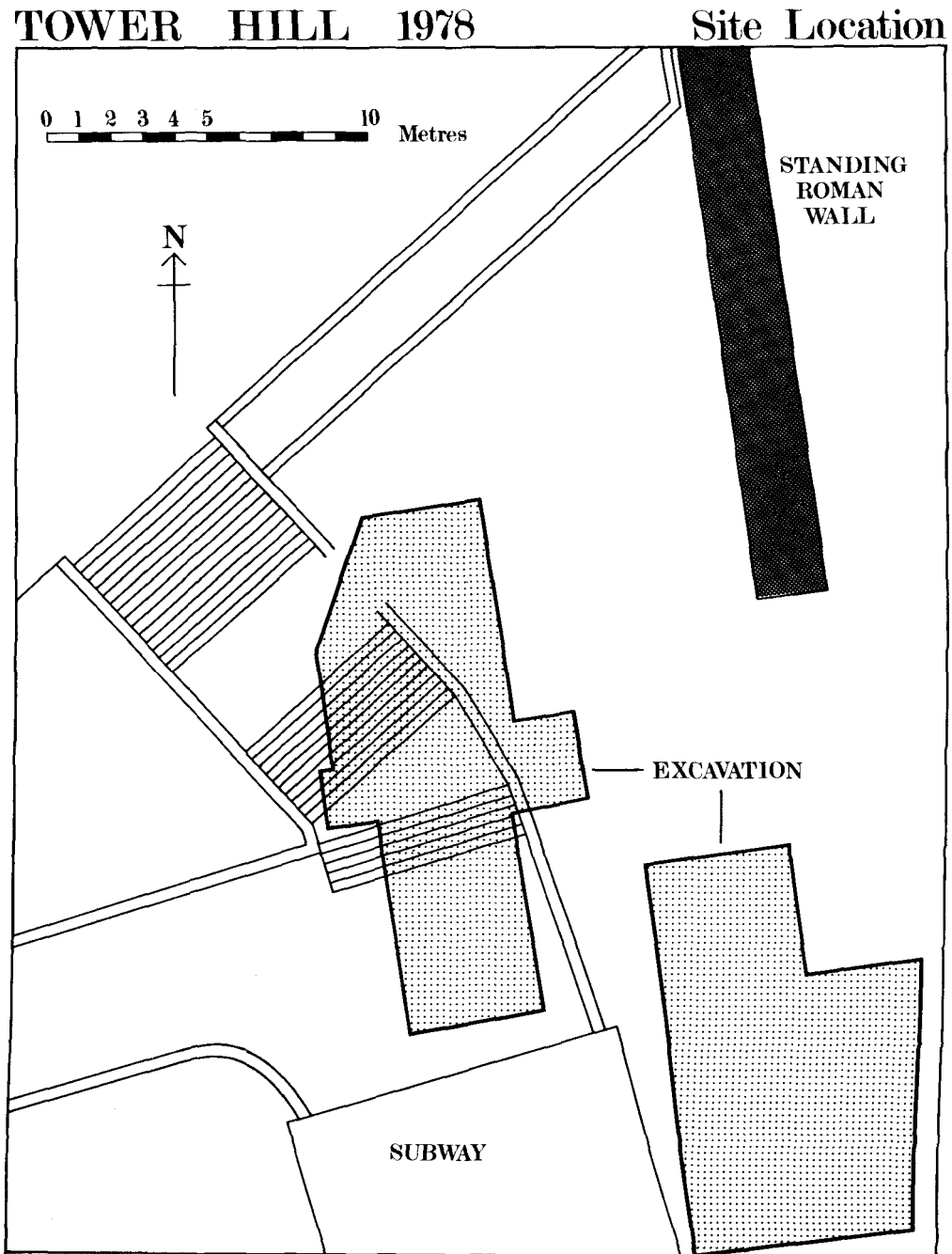


Fig. 2. Tower Hill 1978: Plan of excavation trenches.

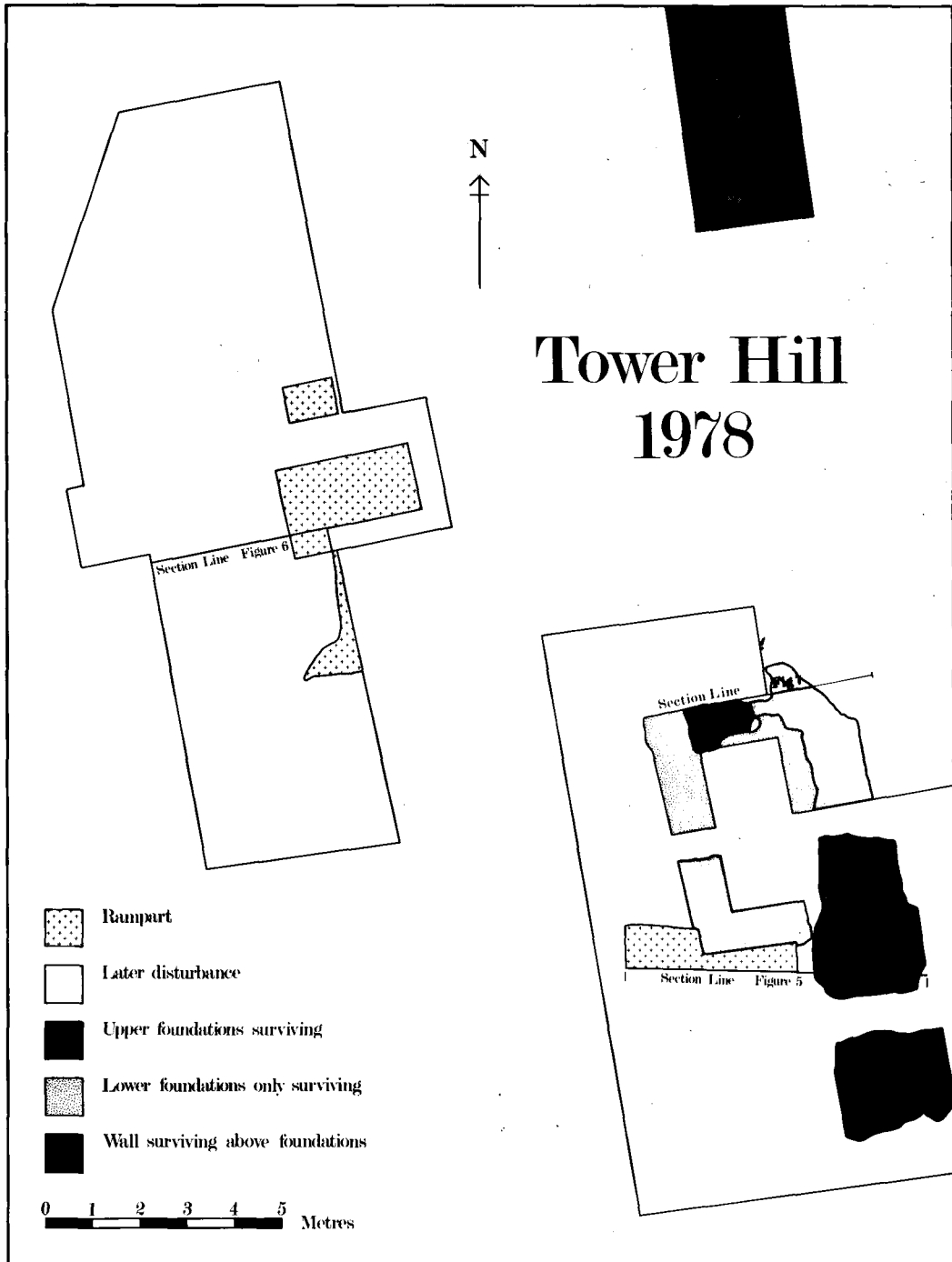


Fig. 3. Tower Hill 1978: Plan of surviving Roman city wall, turret and rampart.

Along the western edge of the site was found part of another Roman feature (152), most of which lay beyond the excavated area (Fig. 5). It ran north-south, cutting through the Roman ground surface. The north end was cut by later disturbance and the south end was beyond the edge of the excavation. The eastern side of the feature sloped gently to a depth of 0.55m before running beyond the edge of the site. The western edge and the base could not be excavated. It appears to have been a pit or a gully but so little could be excavated that its function is not known. The mortar spread did not extend as far as 152 but one or two of the stones from the metalled surface did overlie the backfill of the feature, which contained orange-brown clayey sand.

ROMAN TURRET (Figs. 3, 8, Plate 2)

The redevelopment at Tower Hill involved the destruction of part of a Roman wall turret which had been examined in 1935 by Mr. F. Cottrill, then archaeological Investigator into Roman London for the Society of Antiquaries. The area excavated in 1935 was taken into guardianship by what is now the Department of Environment and is on public display. The unexcavated portion of the turret, however, lay beneath a pavement and was not afforded legal protection. This area was destroyed in the 1978 development although time was made available for excavation. The opportunity was also taken to re-examine the guardianship area as there was concern that some of the reconstruction work carried out for display purposes was not in accord with the findings of the 1935 excavation.

The turret was rectangular, its eastern wall being the Roman city wall. During the 1978 excavation the foundations of the north, south and west walls were exposed and all the modern reconstruction removed. (Fig. 3, Plate 2). The north and south walls were found to be parallel to each other but of unequal length. As a consequence the west wall was not at right angles to them, nor parallel to the city wall. Externally the south wall was 2.40m long, the west wall 5.28m and the north wall 2.64m. Each wall was 0.95m thick. The foundations of the south wall were 0.85m deep, the lowest 0.42m consisting of brown-grey clay packed with flints with a lens of orange gravel running through the middle of the clay. Over this were a few centimetres of soft yellow mortar. These deposits filled the bottom half of the vertical sided flat bottomed construction trench and the top half was filled with two courses of ragstone rubble embedded in a mass of hard white mortar. Overlaying this at ground level was found the bottom layer of what was once a triple tile bonding course. Nothing survived above this level but the impressions left by the second layer of tiles could be clearly seen on the mortar covering the first.

Only the north wall of the turret survived above ground level and here only for a short length where it stood 0.50m high (Fig. 8). Elsewhere even the foundations had been badly disturbed (Fig. 3). From what did survive it could be seen that the foundations of the turret were very similar in construction to those of the city wall. Interestingly, the foundations for the north wall of the turret were 0.40m deeper than those of the south wall and were as deep as the city wall foundations. To compensate for this the west wall foundations were deeper at their northern end than the south.

The interior of the turret had unfortunately been completely destroyed by a post-medieval pit the fill of which contained evidence of metal smelting on the site. As the pit occupied the whole interior there is a strong suggestion that the turret walls stood to a considerable height even after the medieval period and that advantage was taken of the shelter they provided for the purpose of metal smelting. Modern disturbance prevented the precise relationship between the rampart and the turret from being determined. The rampart certainly overlay the foundation trench of the south wall of the turret which was, therefore, stratigraphically earlier but it would have been very interesting to know the relationship between the standing walls of the turret and the bank. If access into the turret was at ground level then an entrance way through the width of the rampart would have been necessary. Alternatively the door could have been on the top of the rampart, in which case no modifications would be required other than a flight of steps up the bank.

Insufficient evidence remained for the function of the turret to be satisfactorily determined. It was not large enough or strong enough to act as an internal bastion and for the same reasons

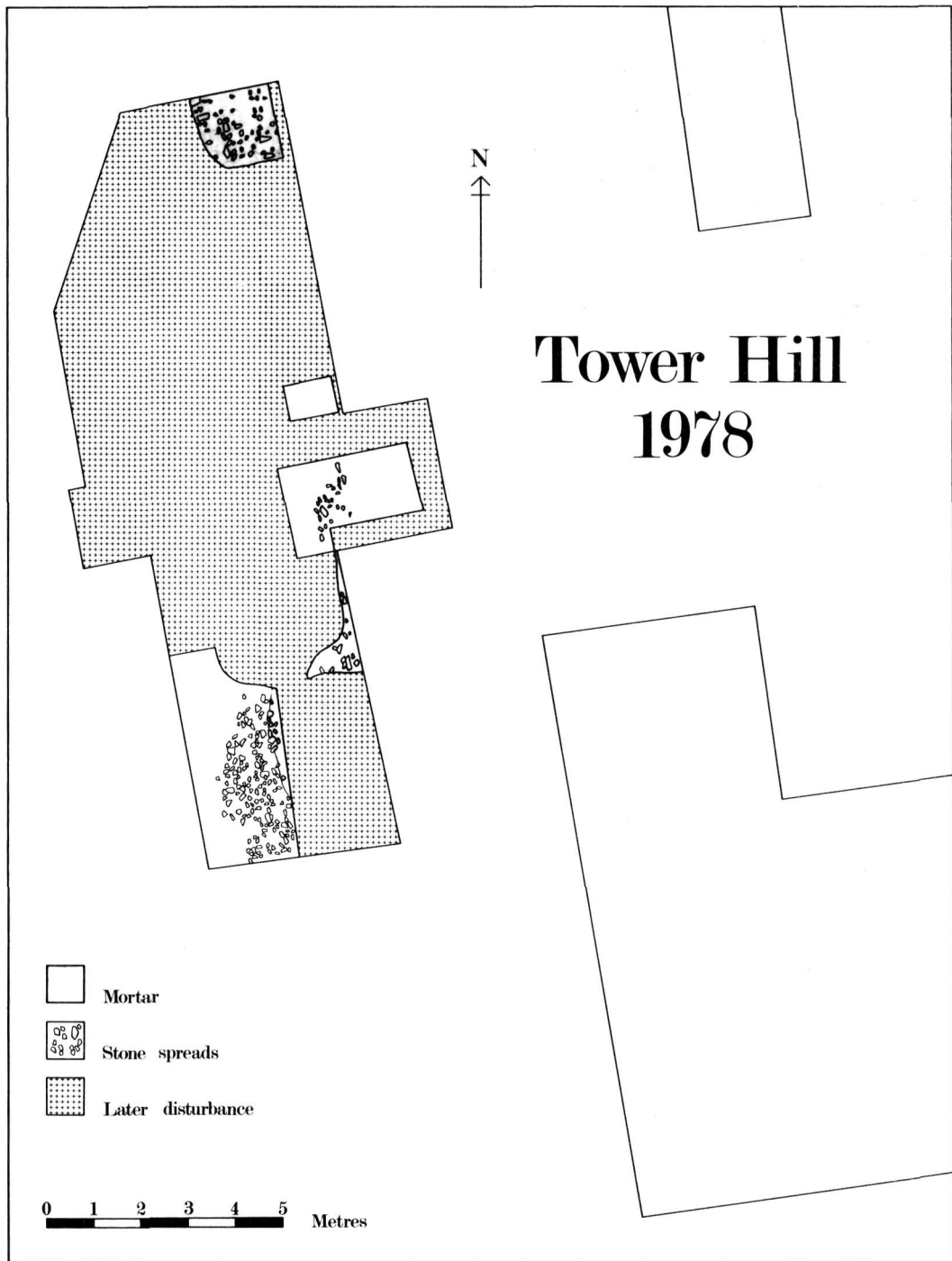


Fig. 4. Tower Hill 1978: Plan of stone and mortar spreads.

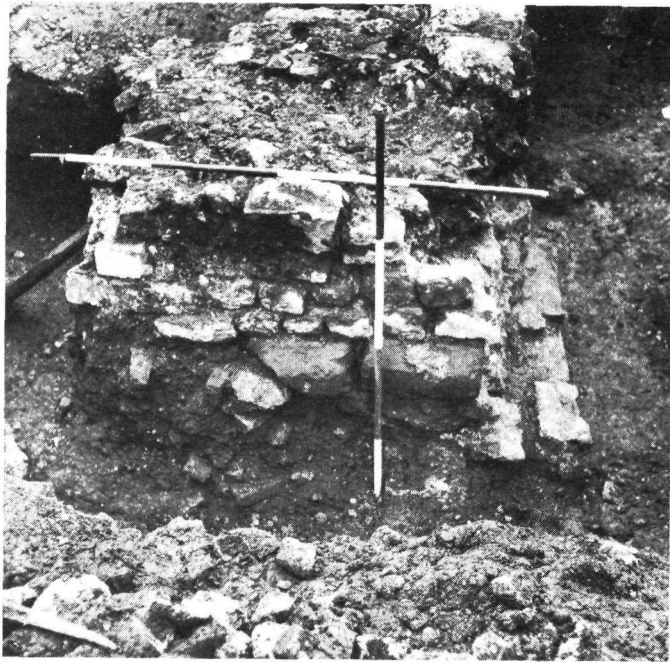


Plate 1. Tower Hill 1978: Eastern face of Roman wall (2m scale).

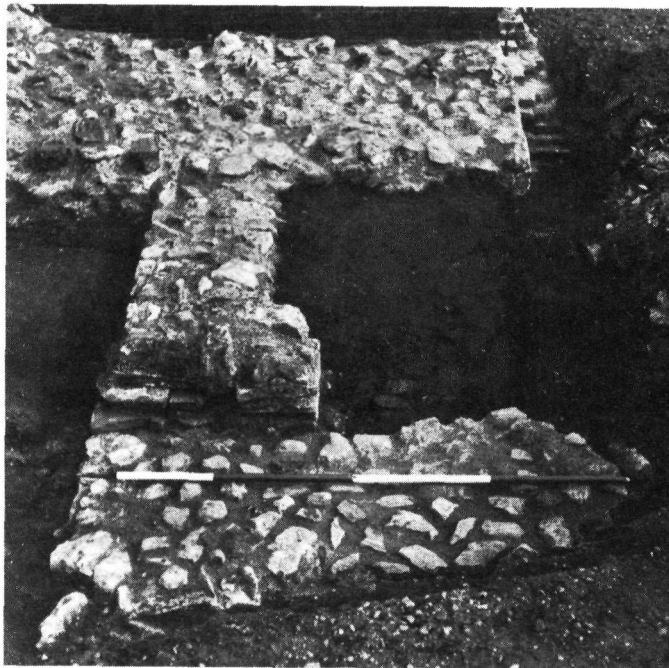


Plate 2. Tower Hill 1978: Roman turret as displayed in 1978. Reconstructed west wall of turret is in foreground and reconstructed city wall in background (2m scale).

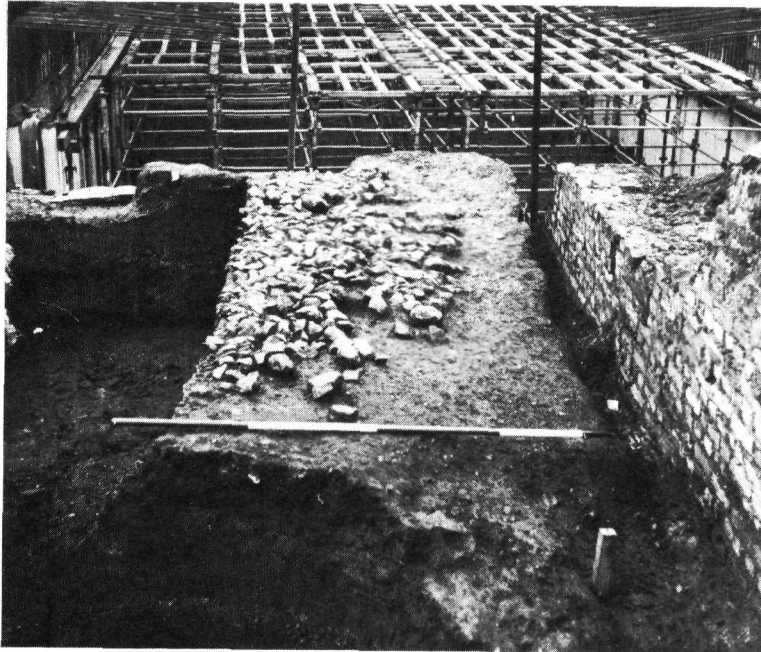


Plate 3. Tower Hill 1978: Metallised surface (2m scale).

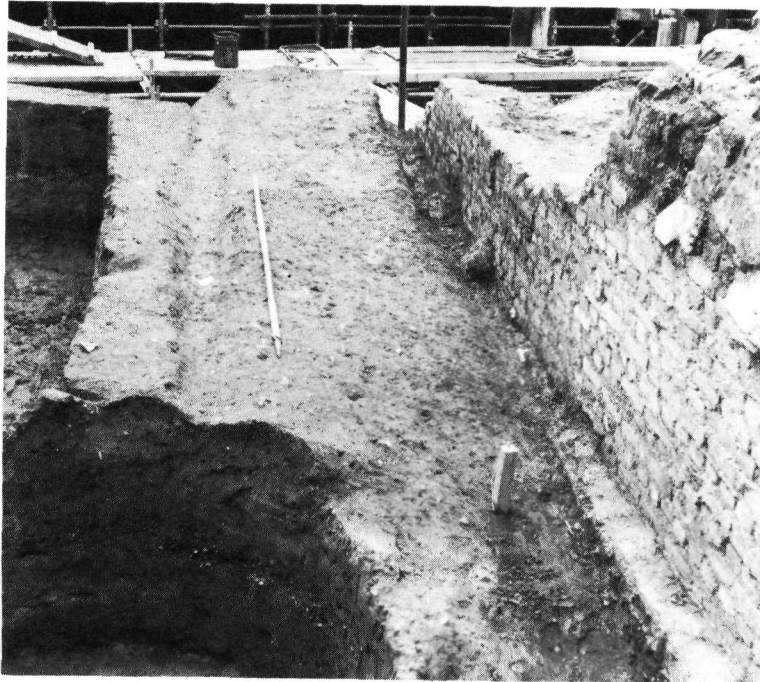


Plate 4. Tower Hill 1978: Roman gully (137) (2m scale).

was unlikely to be a guard-house. In addition no evidence was found in the excavation that there was ever a breach in the Roman wall at this point which would require a guard. The most likely use that it can have been put to is a stairway up to a parapet walk on the city wall. The turret is not unique in London and three other examples have been found on the city wall, one in the west and two in the east. A fourth example at Noble Street is associated with the Cripplegate fort rather than the city wall and is not, therefore, strictly comparable. The city wall turrets were discovered at the Tower of London,⁸ at Coopers Row, to the north of Tower Hill,⁹ and to the west of the city at the Central Criminal Court.¹⁰ Each turret was rectangular although they varied in size. The internal area of the turrets were respectively; Tower of London 5.26 sq. metres, Tower Hill 5.45 sq. metres, Coopers Row 3.97 sq. metres, and Central Criminal Court 9.37 sq. metres. Both at Tower Hill and Central Criminal Court the rampart was recorded as overlying the foundations of the turrets which demonstrates that on these sites at least the turrets were original features of the city defences. Assuming that there was a parapet walk along the city wall and that the turrets gave access to it, then many more such turrets must have once existed and may indeed still survive.

DATING AND CONCLUSIONS

Perhaps the main contribution of the excavation under discussion was that it proved beyond doubt that the foundations of the city wall were stratigraphically earlier than the rampart, and consequently the city wall was an original feature of the defences and not a later addition to an already existing rampart. The turret was also stratigraphically earlier than the rampart. Dating evidence from the excavated features was not particularly plentiful. No dateable artifacts were found in the city wall, the turret or their respective foundation trenches. The majority of finds came from the rampart and the soil sealed beneath it. The presence of East Gaulish samian sherds and black burnished ware of the late Antonine period suggest that the rampart and, therefore, the wall was not built before the mid-2nd century. Similarly, the absence of very late second-century samian forms such as Walters 79 and 80 and Dr. 45 suggest that it was completed very soon after AD 200 if not earlier. No coins were found in the excavation and a few fragments of glass vessels provide the only other dating evidence. These appear to be mid-late 2nd century in date.

In conclusion, then, the excavation at Tower Hill provided valuable stratigraphical evidence concerning the relationship of the rampart to the city wall and turret and provided dating evidence for the defences similar to that discovered on other sites in the city. The best *terminus ante quem* for the city defences is provided by the evidence from the Central Criminal Court site discussed above. These consisted of two double coin-moulds discarded by a forger. These were in extremely good condition and were discovered in a layer of refuse dumped inside the internal wall turret. This event must have taken place after the turret, and therefore the city wall, was constructed. The moulds contained impressions of denarii of Septimus Severus, Geta, and Caracalla dated to AD 201–10, AD 210–212, and AD 215 respectively. If one assumes that a forger would only copy coins in general circulation then it is unlikely the moulds were manufactured much later than AD 215. If one also assumes that the mint state of the moulds indicates that they were still fairly new when discarded then the layer, in which they were deposited and which itself was laid

down after the wall had been in existence for some little time, can hardly be later than AD 225 in date. The construction of the wall itself therefore is not likely to have been after *c.* AD 210¹².

NOTES

1. R. Merrifield *Roman City of London* (London 1965) 300.
2. Merrifield *ibid* 104.
3. J. Maloney (Personal communication).
4. J. Maloney 'Excavations at Dukes Place: The Roman Defences' *London Archaeologist* 3 No. 11 (Summer 1979) 204.
5. Maloney *ibid* 295
6. P. Marsden 'Archaeological finds in the City of London 1966-9' *Trans. London and Middlesex Archaeol. Soc.* 22 Pt. 3 (1970) 2-6.
7. W. G. Bell, F. Cottrill, C. Spon *London Wall through Eighteen Centuries* (London 1937).
8. 'Roman Britain in 1957' *J.Rom.Stud.* 48 (1958) 142
9. 'Roman Britain in 1962' *J.Rom.Stud.* 53 (1963) 139
10. Marsden *op. cit.* in note 6.
11. 'Roman Britain in 1956' *J.Rom.Stud.* 47 (1957) 220
12. Marsden *op. cit.* in note 6; and R. Merrifield *Roman London* (London 1969) 119, and *A Handbook to Roman London* (Museum of London 1978) 19.

ROMAN FEATURES

Roman Topsoil.

Feature: 159
Layers: 6,30, 34, 80, 116, 118, 120, 122, 128, 133, 134, 140

Subsoil.

Feature: 44
Layers: 12, 31, 33, 37, 38, 39, 131, 132, 145.

Mortar Spreads.

Feature: 77	Feature: 150
Layers: 78, 79	Layers: 151
Feature: 114	Feature: 158
Layers: 115	Layers: 5, 29, 90, 111, 112, 117, 198.
Feature: 126	Feature: 193
Layers: 127	Layers: 197, 209

Ramparts.

Feature: 65/69
Layers: 1, 2, 3, 4, 7, 8, 9, 10, 11, 25, 32, 57, 70, 74, 75, 76, 96, 98, 107, 108, 109, 113, 147, 148, 149, 161, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 204, 205, 207.

Metalled Surface.

Feature: 55	Feature: 97
Layer: 56	Layer: 110
Feature: 92	Feature: 135
Layer: 93	Layer: 136

Gullies.

Feature: 121	Feature: 152
Layer: 119	Layer: 153
Feature: 129	Feature: 154
Layer: 130	Layer: 155
Feature: 137	
Layers: 138, 139	

City Wall.

Feature: 156
Layers: 160, 188, 189

City Wall Foundations

Feature: 200
Layers: 201, 202, 203, 206.

Turret.

South Wall: Feature: 191
Layer: 194

West Wall: Feature: 192
Layer: 194

Foundations: Feature: 210
Layers: 195, 196.

Pits.

Feature: 84 Feature: 143
Layers: 82, 89, 91 Layer: 144

Feature: 102
Layers: 83, 100, 103, 104.

THE FINDS

SAMIAN

By Geoff Marsh

*(Fig. 9)**Top soil*

- Layers 6. 1. Dr. 37 SG Part of festoon design with wreath decoration below c. AD 85-110
2. Dr. 18/31 3 sherds CG Early-mid-2nd century
3. Dr. 27 Martres Early 2nd century
4. At least 2 x Dr. 27 SG 1st century
5. Several SG sherds 1st century
6. Several CG sherds 2nd century. Including rim fragment possibly from enclosed form
30. 7. SG sherd 1st century
8. Dn18 or 18/31 SG/CG Flavian/Hadrianic
116. 9. Dr.33 CG 2nd century
10. Dr.18/31 CG Hadrianic/Early Antonine
11. Dr.37 CG Antonine
12. Very micaceous sherd—possibly 1st century Lezoux ware
118. 13. Dr.29 Martres? Early 2nd century
14. Dr.18/31 Martres? Early 2nd century
122. 15. Dr.29 SG Early Flavian (2 sherds)

Mortar spread

- Layers 111. 16. Dr.30 SC (Montans ware). Badly moulded design with single bordered ovolo with straight tongue above a beaded border. Probably Trajanic-Hadrianic (Illustrated).

Metalled surface

- Layers 93. 17. SG sherd 1st century
136. 18. Dr.18/31 Martres Early 2nd century

Gullies

- Layers 130. 19. Dr.27 SG Flavian
20. Dr.35 SG Flavian
138. 21. CG sherd Early 2nd century

Rampart

- Layers 32. 22. Dr.18 SG Flavian
23. Dr.31? CG/EG Antonine
74. 24. Dr.31? Antonine
76. 25. SG sherd 1st century
96. 26. SG? sherd 1st century
98. 27. Dr.27 SG 1st century
28. SG 2 sherds 1st century
29. Dr.18 or 18/31. Highly overfired, perhaps SG, if so Flavian/Trajanic
- Layers 107. 30. Dr.36 Martres Early 2nd century
31. Dr.18/31 Martres? Early 2nd century. Burnt black, nearly melted.
32. Dr.37x CG Antonine
37. Dr.37 Lezoux Figure of Victory (0.812) in a double medallion c. AD 140-180 (Illustrated)
34. SG 2 sherds 1st century
35. CG 2 sherds 2nd century
36. SG/CG 2 sherds
108. 37. Dr.27 SG 1st century
38. SG 2 sherds

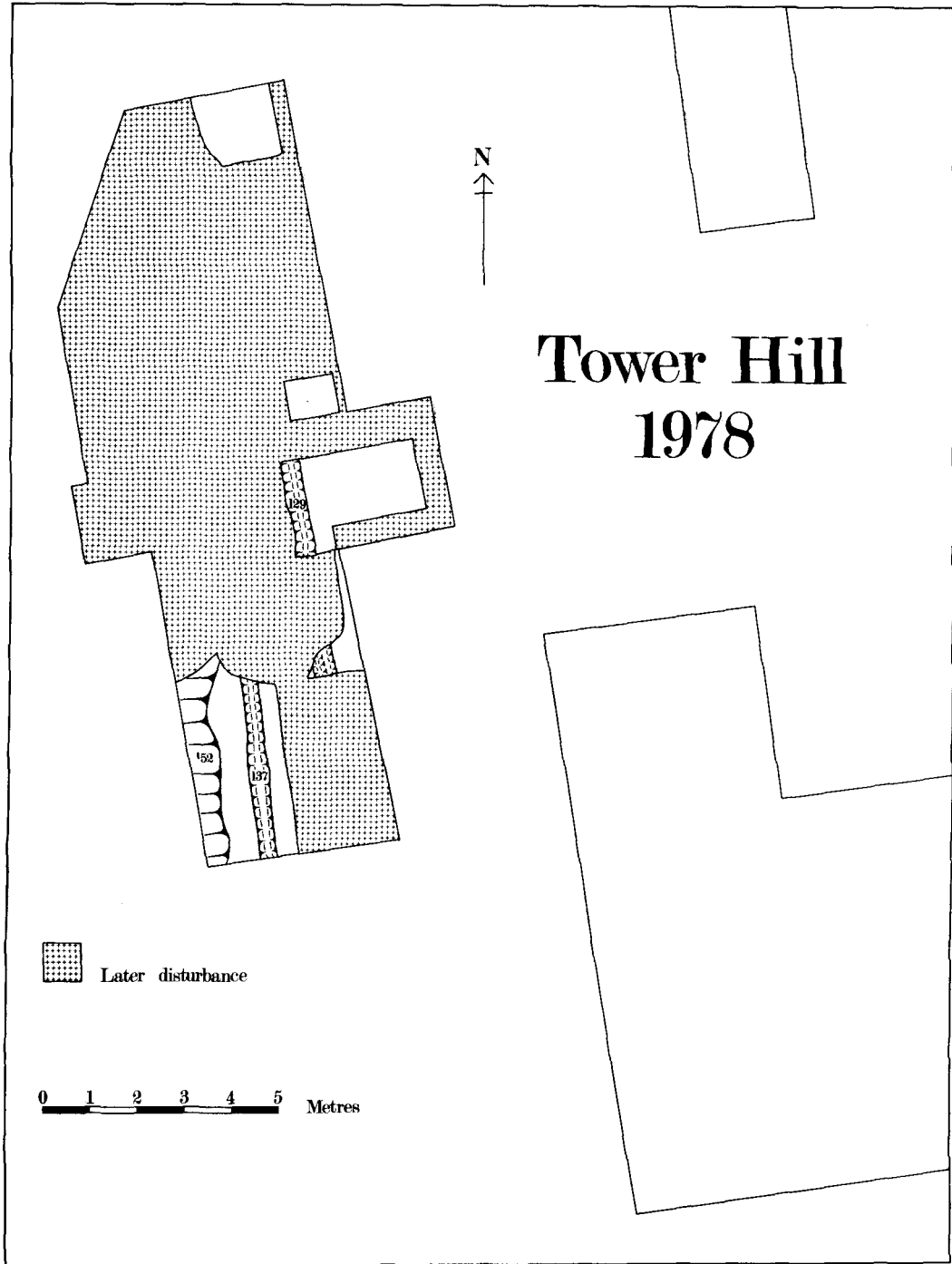


Fig. 5. Tower Hill 1978: Plan of Roman gullies under rampart.

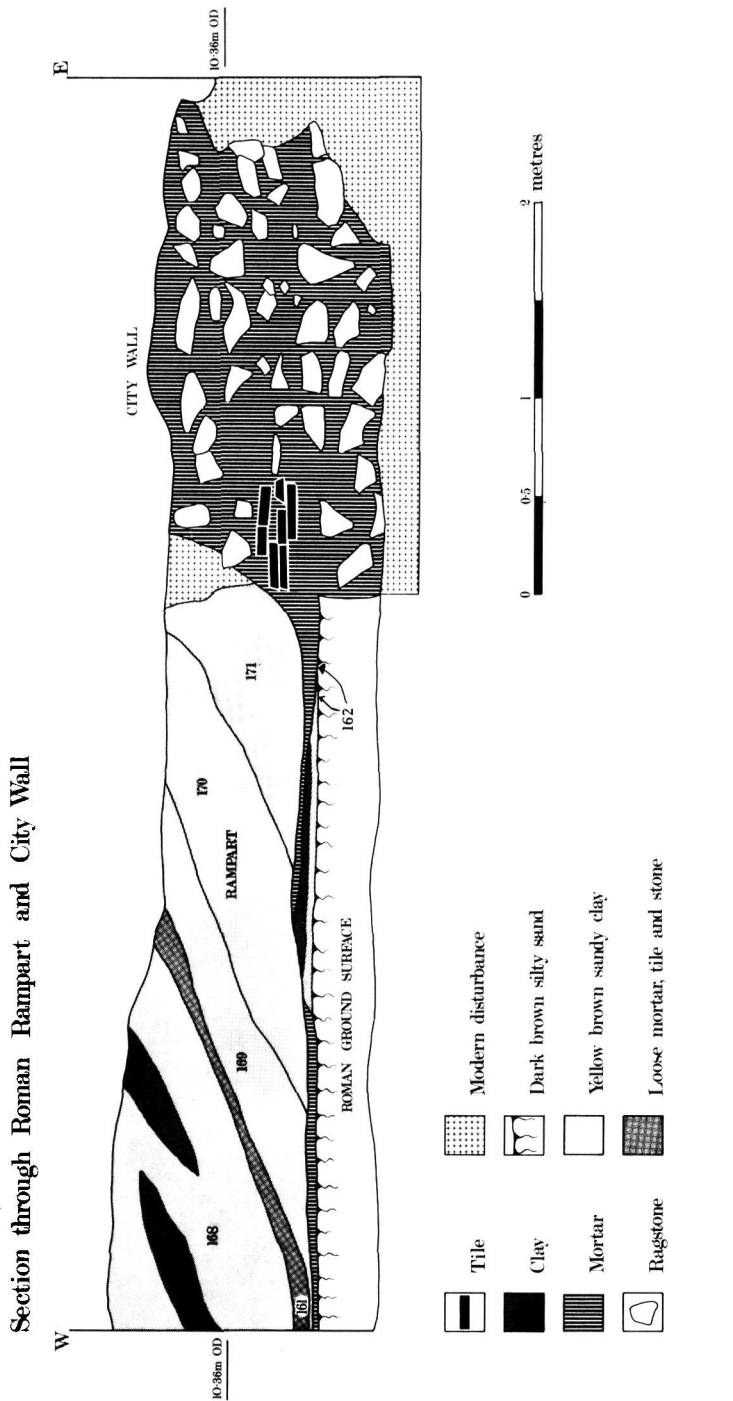


Fig. 6. Tower Hill 1978: Section through Roman rampart and city wall.

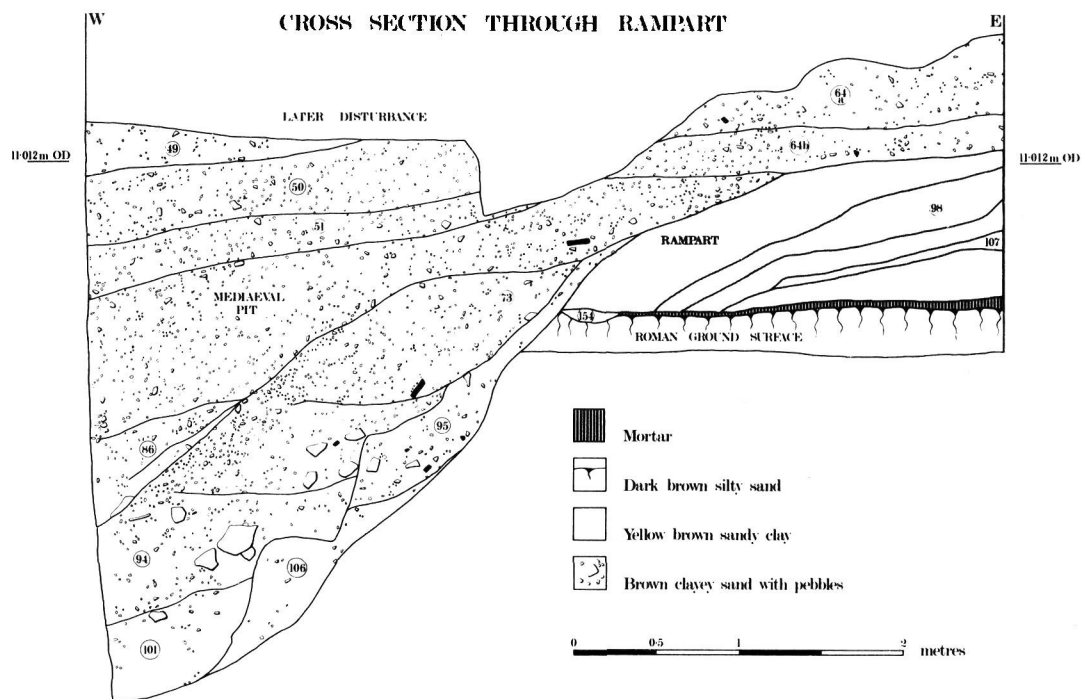


Fig. 7. Tower Hill 1978: Section through Roman rampart and medieval pit.

- | | |
|--|--|
| 147. 39. SG? sherd 1st century | 49. Enclosed form CG/EG Antonine |
| 149. 40. Dr.27 SG Flavian/Trajanic
SG sherd 1st century | 50. Dr.30 (rouletted) CG/EG
Antonine |
| 164. 41. Dr.27 SG 1st century | 51. Dr.37 EG Fragment of double
bordered ovolo. Late 2nd century
(Illustrated) |
| 167. 42. Footring. Martres Early 2nd cen-
tury | 52. CG 3 sherds 2nd century. |
| 170. 43. Dr.36 SG Flavian | 171. 53. Enclosed form SG Flavian |
| 44. Enclosed form SG Flavian | 54. Dr.18/31 probably Martres Early
2nd century |
| 45. At least 2 sherds Dr.18 SG
Flavian | 55. CG sherd 2nd century |
| 46. Dr.27 SG 1st century | 207. 56. Dr.38? CG Antonine |
| 47. Dr.31 CG Antonine | |
| 48. Enclosed form CG Antonine | |

The presence of a couple of East Gaulish sherds from the rampart taken with the other samian finds indicates a date of up to *c.* AD180 for their deposition. The absence of very late 2nd-century forms such as Walters 79 and 80 and Dr. 45 suggests that the assemblage is unlikely to have been deposited after this date.

THE OTHER ROMAN POTTERY

By Wendy McIsaac

Introduction

One of the purposes of the excavation was to date the construction of the city wall and its rampart. The dateable material recovered from Roman contexts on the site consisted primarily

Section through the Foundations of North Wall of Turret and of City Wall

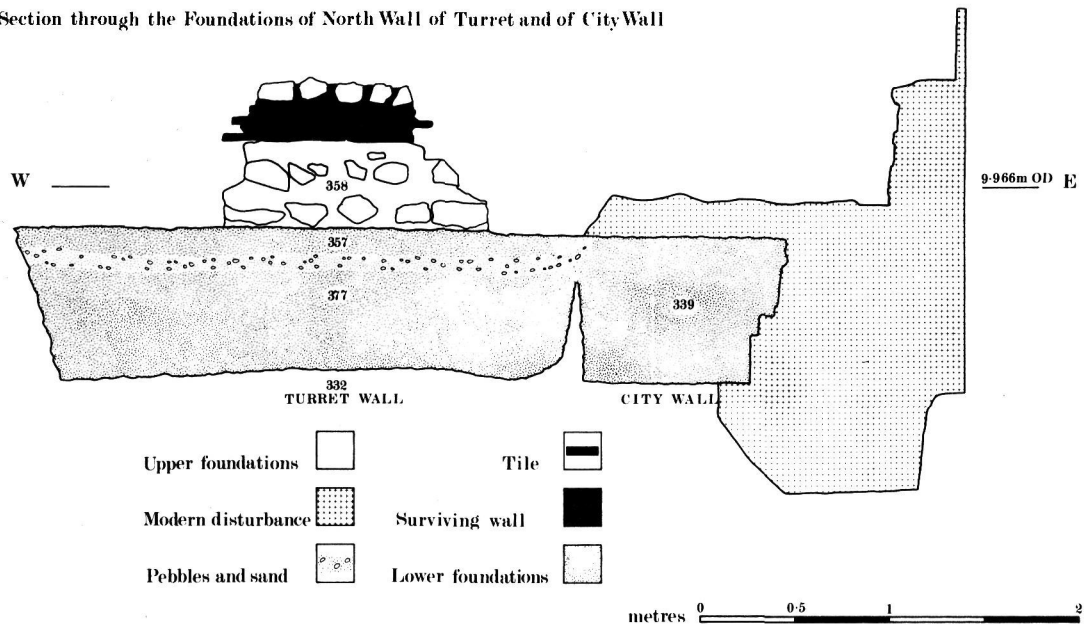


Fig. 8. Tower Hill 1978: Section through north wall of Roman turret and city wall.

of a small quantity of pottery. Rims from two groups of pottery have been illustrated. These were from (1) the topsoil predating the building of the wall, and (2) the rampart. No sherds large enough to be drawn were recovered from the mortar spread, metalling or gullies. The pottery from all contexts was fragmentary and in an abraded condition. Sherds which might be considered 'residual' have been included. The term 'BB2' has been used to refer to Black Burnished Ware, category 2. Descriptions were done using a 20x magnification and frequency of inclusions is indicated as rare, occasional, frequent and very frequent.

I am grateful to G. Marsh for his views on the pottery and to S. Castle for his comments on the Verulamium region products.

(Fig. 10)

Topsoil (Layers 6, 30, 80, 116, 118, 122, 133)

Jars and Beakers

1. Hard dark grey, burnished rim. Frequent clear and white quartz, 0.27–0.45mm. (6)
2. Hard black, burnished surfaces. Handmade. Vegetable and possibly some grog tempering. Occasional quartz grains up to 0.91mm. Rare black iron up to 0.91mm, smaller and less frequent red iron particles. (6)
3. Hard reddish brown with black surfaces. Rim and exterior slipped and burnished. Frequent clear and white quartz, 0.27–0.45mm and red iron 0.27–0.45mm. (6)
4. Hard dark grey or black with brown interior margin and surface. Slipped and burnished rim and exterior. Frequent clear, white and rose quartz, 0.27–0.45mm. Rare black iron 0.27–0.45mm. (133)
5. Hard dark grey with slightly lighter core. Burnished rim and exterior. Frequent clear and white quartz, 0.27–0.45mm. Some black iron 0.27. BB2. (6)
6. Hard grey with slightly darker surfaces. Rim and exterior slipped black. As for 5.
7. Hard dark grey or black. Rim and exterior burnished. As for 4.
8. Fairly hard red with brown surfaces. White slip and burnishing on exterior and upper part of interior. Very frequent clear and white quartz < 0.09mm, very occasional quartz grains up to 0.55mm. Fairly frequent black iron 0.09mm, and some red iron c. 0.45mm. (6)
9. Hard brown with reddish brown core. As for 8, iron is rare. (30)
10. Fairly hard grey. Surfaces slipped lighter grey and burnished. Very frequent clear and white quartz, ≤ 0.09 mm. (122) (cf Highgate (Brown and Sheldon 1974, No. 94) 140–60).
11. Hard dark grey with brown interior. Rim and exterior slipped light grey and burnished. Barbotine dot decoration. As for 10. (116)
12. Fairly hard brown with grey exterior margin and surface. Light grey slip burnished black on rim and exterior. Barbotine dot decoration. As for 10. (6). (cf Southwark (Marsh and Tyers 1978, form III E.1) Flavian–Antonine; Verulamium (Wilson 1972, Nos. 599, 839) 130–50 and 150–60 respectively.)
13. Hard dark grey with lighter core. Light grey slip and burnishing. As for 10. Also occasional quartz 0.27–0.45mm, rare black iron.

Flagon

14. Hard reddish. Frequent clear and white quartz, 0.18–0.45mm. Occasional-frequent red iron 0.18mm. Verulamium region. (6) (*cf.* Southwark (Marsh and Tyers 1978, form 1 H.1) although in Southwark this form is in a buff fabric; Brockley Hill 80+, Southwark 120–60.)

Mortarium

15. Hard buff-pink, slightly burnt. Frequent clear and white quartz 0.18–0.45mm. Some red iron. Red-brown trituration grits. Stamped *Valentinus* (118) Concerning the stamp K. Hartley writes: The potter's stamp is from the single die of Valentinus. His stamps are now known from Caerleon; Canterbury (2); Corbridge; Dover (2); Highstead near Canterbury; London (5); Slayshill, Upchurch; Verulamium, and Wroxeter. Part of Valentinus' activity was undoubtedly in Kent but he probably spent part of his working life in the Verulamium region (i.e. near Watling Street between Verulamium and Brockley Hill). This London example is likely to have been made in the latter area. His rim profiles indicate activity within the period AD 110–160.

Bowls and Dishes

16. Hard reddish brown with grey core. Slipped and burnished, lattice decoration. Slightly burnt. As for 5. Rare red as well as black iron. BB2. (6) (*cf.* Southwark (Marsh and Tyers 1978, form IV.H.4) 140+, more common in late Antonine.)
17. Hard black with narrow brown margins. Surfaces slipped and burnished. As for 4. BB2. (80) (*cf.* Southwark (Marsh and Tyers 1978, form IV.H.2) 130/140+.)
18. Hard brownish red with grey core. Mica dusted. Frequent clear, white and rose quartz, 0.18–0.36mm. Occasional black iron, 0.27mm and lesser amounts of red 0.27mm. London. (6) (*cf.* Marsh 1978, Nos. 24, 26 & 24.33 (1st half of 2nd century).)
19. Hard brownish red with a buff core. Mica dusted. Very frequent quartz < 0.05mm. Occasional red and black iron up to 0.09mm, and frequent mica, 0.27mm. London. (6) (*cf.* Marsh 1978, Nos. 24.23 (1st half of 2nd century).)

Lid

20. Hard grey with red surfaces. As for 5. Occasional black iron and fairly frequent mica. (6)

Rampart (Layers 11, 74, 76, 121, 149, 164, 166, 169, 170)

Jars and Beakers

21. Hard dark grey with red core. Slipped. Occasional clear and white quartz 0.36–0.55mm. Rare red iron. (170)

22. Hard red with grey to buff surfaces. Very frequent clear and white quartz \leq 0.09mm, occasional quartz 0.27–0.45mm. Some red and black iron 0.09mm. (76)
23. Hard buff with grey core. Occasional-frequent mainly white quartz 0.18–0.45mm and red iron up to 0.45mm. Verulamium region. (164)
24. Hard orange with buff-brown surfaces. Very frequent clear quartz, \leq 0.09mm with occasional grains up to 0.18mm. Red iron. (170) (form as for Southwark (Marsh and Tyers 1978, form IJ) but Tower Hill example not in Verulamium fabric, 2nd century)
25. Hard red with grey core and buff surfaces. Mica dusted. Very frequent quartz, \leq 0.05mm. Frequent mica and black iron <0.09mm. London. (170) (*cf.* Marsh 1978, No. 22)

Bowls and Dishes

26. Hard brownish grey. Surface slipped dark grey to black and burnished. Lattice decoration. As for 5. (149) (*cf.* Southwark (Marsh and Tyers 1978, form IV.H.2) 130/140+, most examples to mid Antonine.)
27. Hard black, slipped and well burnished surfaces. Lattice decoration. As for 5. BB2. (*cf.* Southwark (Marsh and Tyers 1978, form IV.H.4) 140+, more common late Antonine.)
28. Fairly hard black, burnished rim and narrow band just below rim on exterior. As for 3. BB2. (169) (*cf.* Southwark (Marsh and Tyers 1978, form IV.H5) later 2nd century.)
29. Hard grey to buff; exterior discoloured black. Frequent clear and white quartz, 0.18–0.36mm. rare red iron. Verulamium region. (170) (*cf.* Southwark (Hammerson and Murray 1978, No. 1568) Hadrianic; Verulamium (Wilson 1972, Nos. 683 & 685) 130–150.)
30. Hard grey with off-white surfaces and red margins. As for 29, but more red iron. Verulamium region. (149) (*cf.* Verulamium (Wilson 1972, No. 924) 105–60)
31. Fairly hard grey with darker surfaces. Interior and upper part of exterior slipped. Both surfaces burnished. As for 10.
32. Hard reddish buff with grey core. Mica dusted. As for 25, with occasional clear quartz up to 0.36mm. Probably London. (170) (*cf.* Marsh, 1978, No. 24 (1st half of 2nd century).)

Lids

33. Hard grey with darker surfaces. Very frequent quartz \leq 0.05mm, occasional clear quartz up to 0.27mm. (121)
34. Hard reddish brown with grey core. As for 33, with frequent iron. (74)

Discussion

The sherds illustrated range from the late 1st/early 2nd century to the late Antonine period. Taken as a whole however, the material from both the rampart and the Roman topsoil appears to date to the second half of the 2nd century—probably *c.* 160–180. This date is based primarily on the BB2 forms.

The flagons from the soil layer and the rampart included a sizeable proportion from the Verulamium region in smooth red fabric with a cream slip. This was used spordically as Brockley Hill (AD 125/130) But its main circulation began in the early Antonine period (AD



Fig. 9. Tower Hill 1978: Decorated samian (1/2).

140/150) (Marsh and Tyers 1978, 550). No rims were found so this type is not represented in the illustrations.

Most of the fine ware was extremely fragmentary. A sherd from a mica dusted beaker in a buff Verulamium region fabric came from the topsoil (6). Several pieces of London Ware (topsoil: 6, rampart: 169) and roughcast beaker (topsoil: 6, 80, 116; rampart: 98, 170, 204) were also found. A fragment from a barbotine decorated beaker was recovered from the topsoil (130) (these, it is suggested, began to appear on British sites in the AD 150s (Greene 1978, 18).)

The small quantity and fragmentary nature of the pottery recovered from the excavation makes it difficult to provide a secure date. There do not appear to be any forms present which suggest these assemblages are 3rd century and a date in the latter half of the 2nd century fits well with other available evidence. The samian from the site also indicates a date in the second half of the 2nd century with a number of sherds belonging to the Antonine period and one to the late 2nd century. Excavation on the city wall at Dukes Place revealed the wall foundations cut through a deposit containing pottery with a proposed date of *c.* 180 (Maloney 1979, 294) and sherds from the bank were of similar date (Maloney 1979, 295).

THE GLASS

By John D. Shepherd

Twenty-eight fragments of glass were recovered from this site of which fourteen can not, with any certainty, be assigned to a particular form or date. However, all the fragments are included in the following catalogue which has been arranged according to vessel colour and not to form or date.

(Fig. 11)

Monochrome glass

1. Fragment from the rim of a pillar-moulded bowl (Isings 1957 18, form 3a). Cast; rim ground and polished. Deep blue glass. Mid 1st century. (Pit/Gully 121)
2. Small fragment of blown amber coloured glass from a vessel of indeterminate form, probably 2nd century. (Rampart 171)

Colourless glass

3. Fragment from the rim and side of a shallow bowl. Cast; ground and polished. Broad outplayed rim with overhang at edge. Colourless glass. 2nd century. (*cf* Fishbourne (Harden and Price 1971, 332, No. 26) from period 2 occupation, 75–100. Tongeren, Belgium (Vanderhoeven 1962, 70, No. 194) 2nd century.) Illustrated. (Subsoil 145)
4. Fragment from the rim of a small shallow bowl. Cast; ground and polished. Flat rim with two

horizontal wheel-cut grooves immediately below. Colourless glass. (*cf* Shakenoak (Harden 1973, 102, Nos. 210 & 211) dated to the late 3rd and 4th centuries). Illustrated. (Rampart 171)

5. Fragment from the centre of the base of a bowl of 'Airlie' type (Isings *op. cit.* 102f, form 85b). Brown; thick applied marvered ring on underside. None of base-ring surviving. Colourless glass. Late 2nd or 3rd century. Illustrated. (Rampart 98)
- 6–11 Six fragments of blown colourless glass of indeterminate forms and date. (Topsoil 6 (×3), 134; Rampart 170, 171)

Naturally coloured glass (Bluish-green etc.)

12. Small fragment from the rim of a small bottle, flask or unguentarium. Blown; tubular rim folded inwards, outplayed and flattened with an irregular lip. Greenish-blue glass. Illustrated. (Rampart 166)
13. Fragment from the neck of a bottle or flask. Blown; greenish-blue glass with many air bubbles. Late 1st or 2nd century. (Rampart 166)

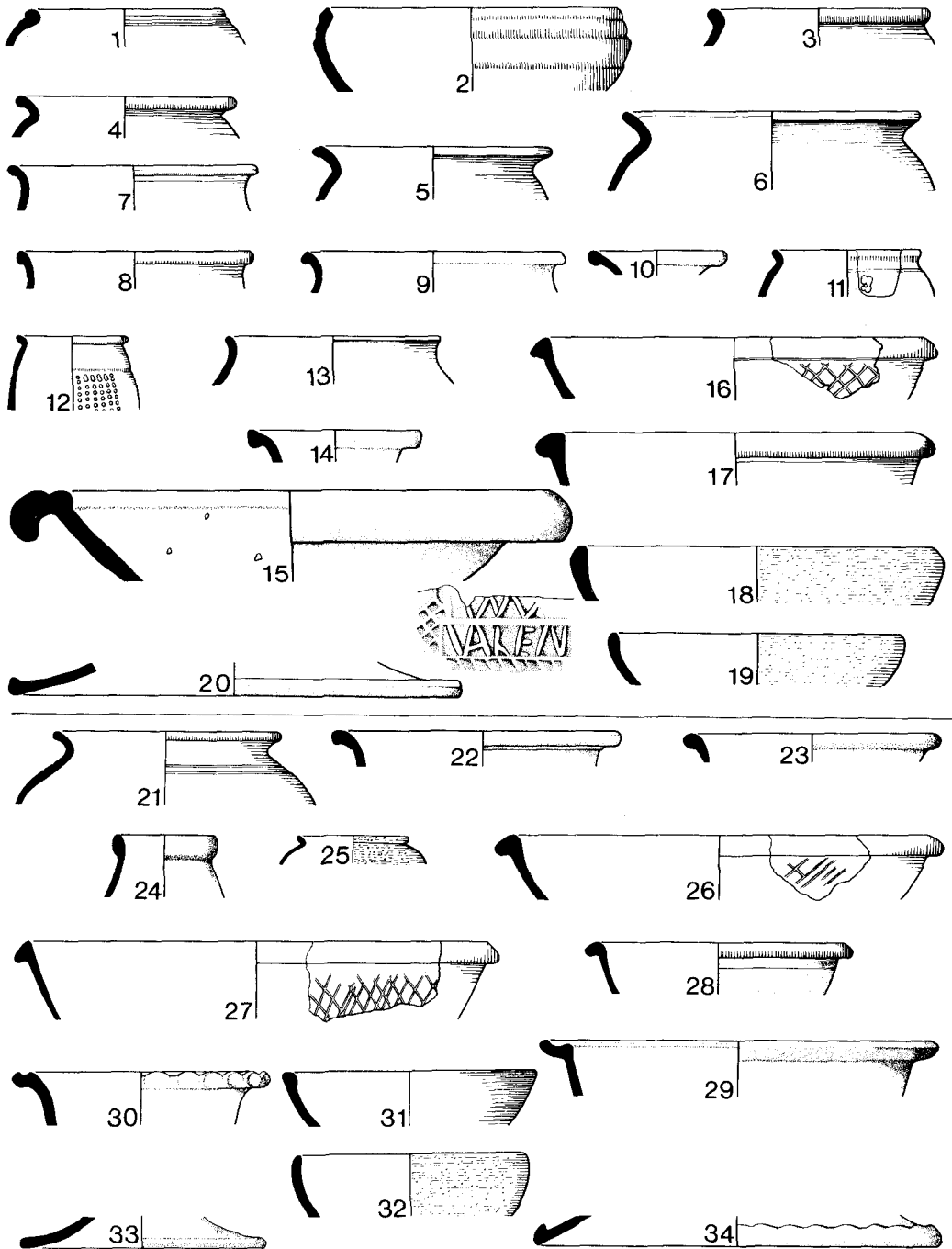


Fig. 10. Tower Hill 1978: Roman pottery Nos. 1-20 Topsoil; Nos. 21-34 Rampart. All (1/4) except mortarium stamp (1/2).

14. Small fragment from the handle of a bottle or flask. Applied and drawn; plain handle. Thick bluish-green glass. Late 1st or 2nd century. (Topsoil 6)
15. Fragment from the handle of a small flask. Applied and drawn; narrow plain handle. Greenish-blue glass. Date as for No. 14. (Rampart 207)
16. Fragment from the side of a prismatic bottle (Isings *op. cit.*, 63f, form 50). Mould-blown. Greenish-blue glass. Late 1st or 2nd century. (Topsoil 118)
17. As No. 16. Greenish-blue glass. (Rampart 32)
18. Fragment from the side of a cylindrical bottle. (Isings *op. cit.*, 67f, form 51). Blown; bluish-green glass. Date as for No. 16. (Topsoil 122)
- 19-20 Two fragments from the rim and neck of a wide-mouthed jar. Blown; tubular rim folded inwards, outplayed and pushed downwards. Greenish-blue glass. 2nd century. (*cf* Verulamium (Charlesworth 1972, 205, x No. 5).) Illustrated. (Topsoil 6)
- 21-27 Seven fragments of blown greenish-blue glass of indeterminate forms and dates (most probably of the late 1st or 2nd century). (Topsoil 6, 116; Metalled surface 93; Rampart 74, 168 (×2), 171)
28. Small fragment of greenish colourless glass of indeterminate form and date. (City Wall Foundations 202).

Although this group of glass is perhaps too small to make any positive conclusions, it is possible to make a few observations. It is noticeable that distinctive 1st-century vessel types are absent from this group, except for the small rim fragment from a pillar-moulded bowl (No. 1) which in its present association is almost certainly residual, and only one fragment (No. 4) appears to be of late Roman date. This is probably intrusive. The remaining identifiable fragments are all of well attested greenish-blue vessel forms of late 1st- or, more probably, 2nd-century date and the presence of the 'Airlie' type beaker fragment (No. 5), a vessel type more associated with late 2nd- and 3rd-century assemblages, suggests a mid to late 2nd-century date in general for this group.

SMALL FINDS

(Fig. 11)

Bronze

1. Tweezers. Heavily corroded. (Subsoil 33)
2. Finger ring. Broken and heavily corroded. (Rampart 96)

THE ANIMAL BONES

By Alison Locker

A total of 334 bones were recovered from Roman contexts on the site. The following species were identified; horse (*Equus* sp.), ox (*Bos* sp.) sheep (*Ovis* sp.), pig (*Sus* sp.), red deer (*Cervus elaphus*), dog (*Canis* sp.), hare (*Lepus* sp.), domestic fowl (*Gallus* sp.), and frog (*Rana* sp.).

The table below indicates the proportion of species in the pre-rampart and rampart contexts.

HORSE	OX	SHEEP	PIG	RED DEER	DOG	HARE	UNIDENT	DOM. FOWL	FROG	
1	41	19	17	1	2	1	85	4	15	Pre-rampart
1	13	16	15	—	2	1	92	7	1	Rampart

Measurements were taken whenever possible according to von den Driesch (1976) and Jones (1976). None of the bones were complete enough for any estimation of stature to be made. The categories ox and sheep include ox and sheep sized fragments respectively. Loose teeth and rib fragments were also included in the count.

Chop marks were observed on ox, sheep and pig as evidence of butchery. Knifecuts around the proximal area of an immature sheep metatarsal may be evidence of skinning.

The 15 frog bones in the pre-rampart phase probably belonged to a single individual.

The small size of the sample dictates that this report should only outline the species present. No valid interpretations on the presence or absence of particular species or bones could be made.

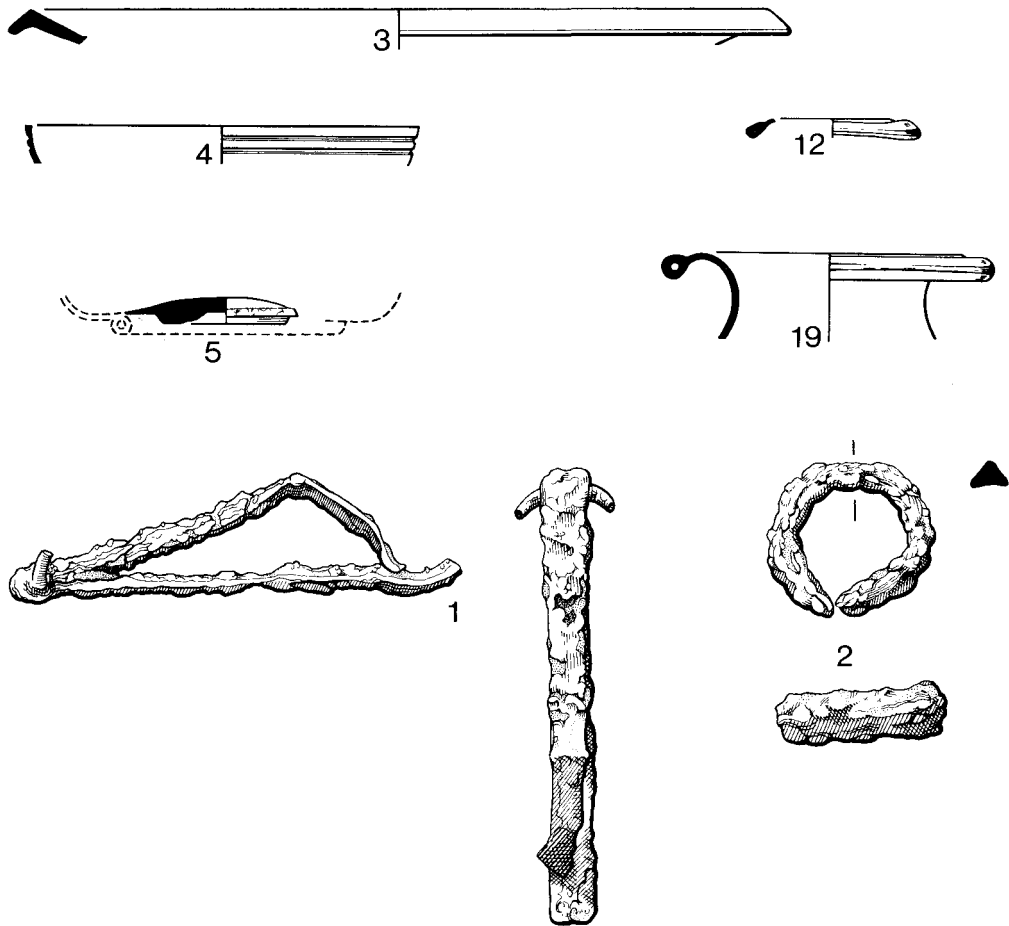


Fig. 11. Tower Hill 1978: Roman glass Nos. 3, 4, 15, 17, 19 (1/2); Roman small finds, bronze Nos. 1 and 2 (1/1).

THE SHELLFISH

A total of 259 fragments of shellfish were recovered. The species identified include: oyster (*Ostrea edulis*), whelk (*Buccinum undatum*), mussel (*Mytilis* sp.), cockle (*Cardium edule*), carpet shell (*Venerupis decussata*) and *Cepaea*.

OYSTER	WHELK	MUSSEL	COCKLE	CARPET SHELL	CEPAEA	
139	1	3	2	1	6	Pre-rampart
102	1	—	—	—	4	Rampart

All these save *Cepaea* are edible marine shellfish, and could have been collected from the shoreline to (in the case of oyster) possibly a depth of 45 fathoms on suitable coasts.

Cepaea may have been eaten or alternatively may have been part of the local land fauna which became incorporated in the deposit.

Several fragments of crustacean shell were present. These probably originally were in one piece; it was not possible to make a more specific identification, but they may be the remains of a crab or lobster.

Bone measurements are available on request.

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