

SITEWATCHING AT GARDINER'S CORNER, ALDGATE, E1

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SUMMARY

A sitewatching exercise at Gardiners Corner, Aldgate, E1, showed that the entire site had been quarried for gravel in the early 14th century. Traces of Tudor and later occupation were recorded.

INTRODUCTION

The aim of the sitewatching exercise on the site of Gardiners Corner, Aldgate, E1 (TQ 33808125) (Fig. 1) was to seek evidence of the Roman cemetery known to have existed on the east side of the City of London (RCHM 1928, p. 157). The nature and speed of the development severely limited opportunities for controlled excavation. It became clear however that the site had been almost entirely quarried for gravel in the medieval period and only residual evidence for the cemetery survived.

GEOLOGY

The natural deposits on site consisted of London Clay overlain by sand and gravel. Although most of the sand and gravel had been removed in the medieval period traces of brickearth were observed overlying the gravels in two places along the north side of the site surviving up to 0.30m in depth (Figs 2, 3). The surface of the gravels was in these places between 10.70m OD and 11.05m OD. The brickearth comprised slightly orange light brown sandy clay. The extent of later disturbance made it impossible to establish the level of the Roman ground surface.

GRAVEL PITS

Almost the entire area had been excavated between the late 13th and mid 14th centuries in order to extract natural sand and gravel deposits. The full depth of these gravels only survived along the northern edge of the site, up to 2.0m south of the southern boundary for properties facing onto Whitechapel High Street, (Wall 80, below).

The gravel had been extracted in a series of small

pits, on average 2.0 × 3.0m in plan, dug side by side to an average depth bottoming out at c. 8.50m OD and a maximum depth at 7.50m OD. Some of the pits appeared to have cut through the backfill of neighbouring ones (Fig. 3, Section 1), others were cut and backfilled in groups of two or three at a time. These groups appeared to have homogenous fills of grey or greenish grey clay loam interspersed with tip lines of gravel. The pits were probably not left open for long. There was no evidence of silting up but there were some signs of trample and of the soft sandy sides slumping in. The backfill of the pits contained only scattered pottery and bone, and did not appear to have been used for rubbish disposal. The finds did, however, include a sizeable proportion of Roman pottery, fragments of human bone, and in one layer, 245, in pit 251, cremated bone associated with fragments of Roman pot and redeposited brickearth. The association of this material suggests that Roman burials were made in the vicinity in the early topsoil and brickearth and that those levels were used to backfill the gravel pits. In addition pit 251 contained fragments of a bell or cauldron mould, waste from an industry known to have been established in Aldgate in the late 13th century (Stahlschmidt 1884, 2-3).

Further evidence from trial trenches dug by the Inner London Archaeological Unit on the sites of 9-25 Camperdown Street and 9-15 Great Alie Street, (Ref 1: by kind permission of Central and City Properties Ltd) as well as by the Department of Urban Archaeology on the east side of Mansell Street to the south of Braham Street (Fig. 1), suggest that almost the entire block bounded by Lemman Street, Great Alie Street, Mansell Street, lying south of the properties facing onto Whitechapel High Street, was excavated for its gravels. These deep and extensive workings must have been a major feature of the topography of East London in the late medieval period.

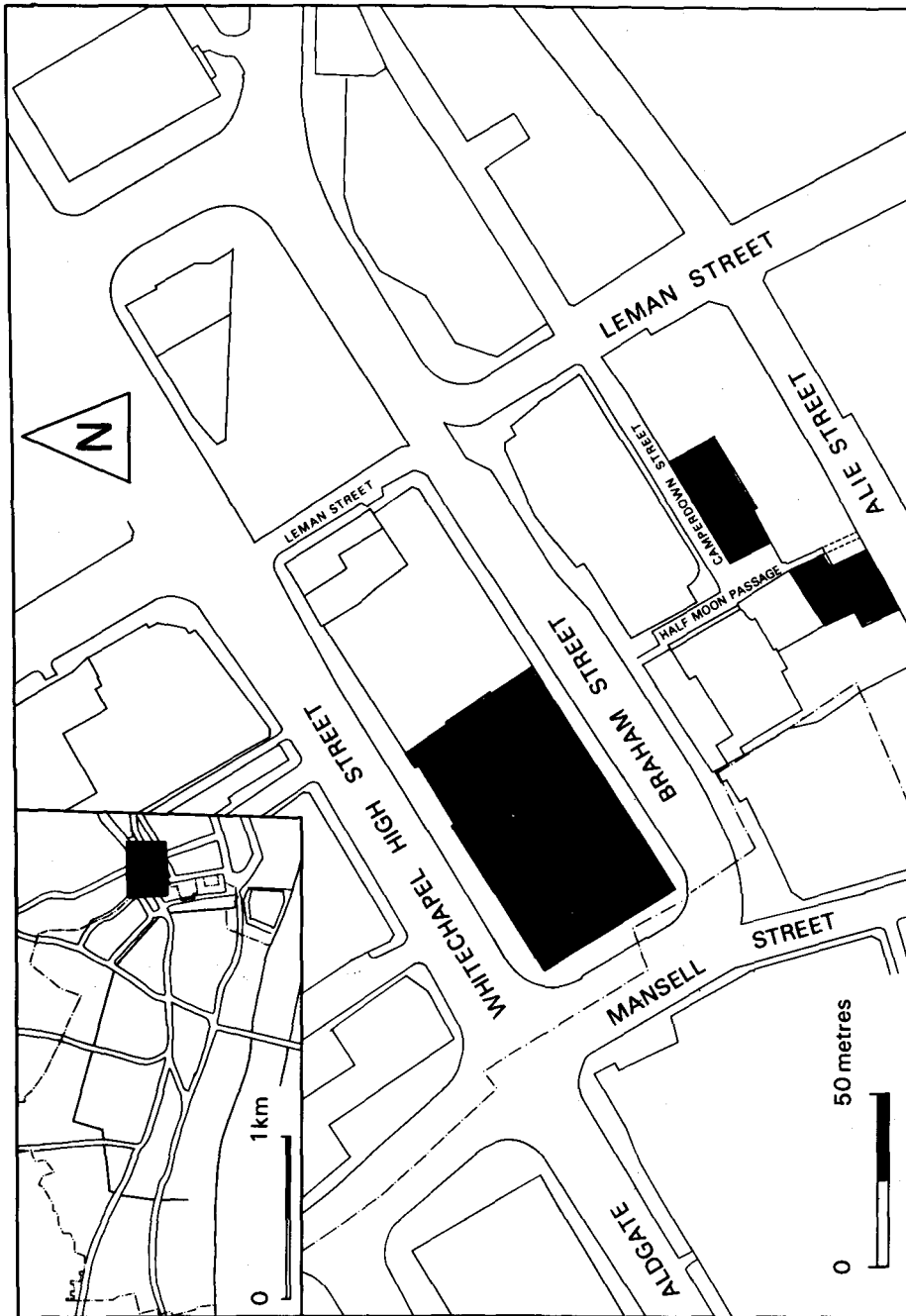


Fig. 1 Gardiners Corner: Site Location Plan.

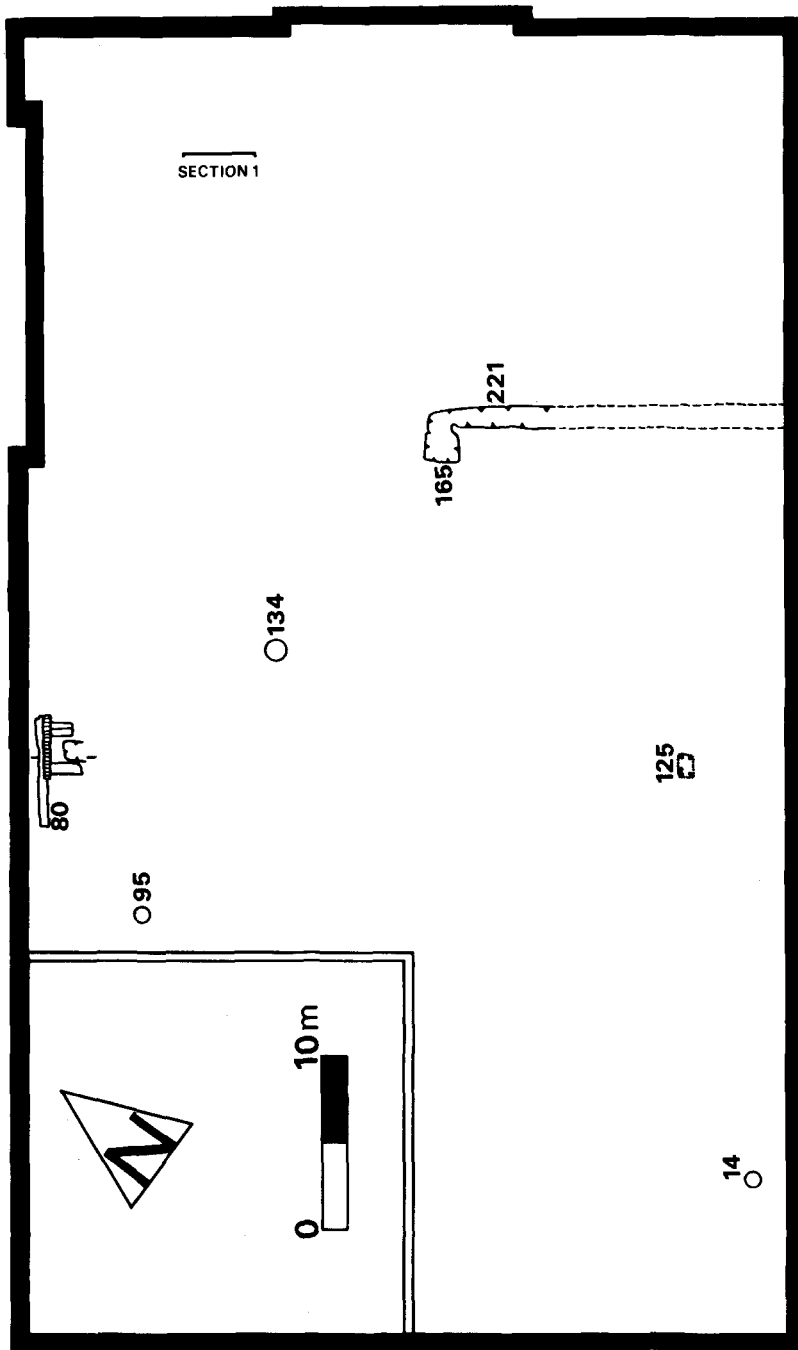


Fig. 2 Gardiner's Corner: Site Plan.

PITS

A number of wood-lined features were found cutting through the gravel pit backfill. Machining removed their upper levels and it was not possible to establish from what heights they had been cut.

Three barrel-lined pits (Fig. 2) cut through the gravel pit fills to bottom on natural sand and gravel. One barrel, 134, diameter 0.75m, was bound with withies in bands of two or three and its staves were studded with iron nails. It was filled with grey clay, iron slag, leather scraps, and a large amount of animal bone including sheep and ox skulls, articulated pig vertebrae, primary and secondary butchery waste and non-food bone (see below p 40). This backfilling is dated to the late 14th to mid 15th centuries. The second barrel, 95, diameter *c.* 0.90m, was filled with very dark grey clay, containing leather shoe scraps, and iron slag and can be dated to the 15th century. The third barrel, 14, diameter 0.57m, was bound with willow or poplar withies down the entire side and was filled with light grey clay containing tile fragments, horn cores, oyster shell and iron slag probably dating from the mid seventeenth century.

A rectangular wattle-lined pit, 125, was cut through the gravel pit backfill to bottom on natural sand and gravel. It was constructed with five elm retaining posts, 0.13m in diameter, positioned within the feature at its corners, two in its north west corner. It measured externally 1.00m × 1.20m, and survived up to 0.50m in depth. The fill included dark grey clay sand and silt, shell, bone, some building material fragments and traces of burnt material. It probably dated to the early 15th century. One pit, 165, (Fig. 4) measuring 0.80 × 0.90m, was lined with oak planks, two of which survived in a reasonably well preserved condition. The planks had been held in place by stakes placed in the corners of, and along the sides of, the pit. The function of the pit was unclear and although it contained bone and leather there was no ceramic or other dating evidence. A ditch, 221, ran southwards from the east edge of the pit (165), it had steep sides and a flat bottom, measuring 1.00m broad and at least 0.50m deep. It was lined with dark red and black clay with numerous pebbles along its base. The ditch was filled with brown organic material, leather scraps, twigs, straw, animal waste, pot, tile and bone, only a small proportion of which appeared to be butchered. This included three partial piglet skeletons. The ditch backfill is dated to the first half of the 15th century.

The function of these lined pits is not clear. Those that were dug through the redeposited soils and bottomed on the natural sand and gravels probably functioned as soakaways, and were not

deep enough to be wells. They could have been used both as domestic cesspits and industrial effluent soakaways. The different waste materials backfilling these pits are evidence of the varied commercial and industrial usage of the site. The insect fauna from them reflect the nature of these fills with rubbish fauna being by far the commonest group, consisting of beetles which live in decaying matter of plant and animal origin. In addition pests associated with food stores and timber were present, as well as those from cultivated soils and reed litter—possibly from flooring or bedding material. Parallels for the wicker-lined pit were found at Billingsgate Buildings (Jones, 1980, 2–3) and by W. F. Grimes (Grimes, 1968, 146, 160–1, Plates 70, 71). Barrel lined pits of 14th century date have been recorded in Southwark (Ferretti & Graham, 1978, 72, 76) and Angel Court, Walbrook (Blurton, 1977, 18, 21).

A chalk wall, 80, 5.0m long, apparently lay on the alignment which delimited the extent of the gravel working and may have been the rear boundary of a medieval property which faced onto the south side of Whitechapel High Street. The wall (Fig. 5) was constructed of chalk blocks, roughly squared, and laid in regular courses. Its north face was removed by machining. A spread of mortar, 115, extended southwards from the base of the wall. This marked the construction floor for the wall which must postdate the gravel pits and thus date to the late 14th century or later.

A gravel pit, 99 (Fig. 5), was dug from the same depth as the construction level for the wall (80) and only 0.7m to the south of the wall. The pit was backfilled nearly to the ground level from which it had been cut (layers 94, 93). An accumulation of soil, 110, 142, against the wall (80) also spread over the gravel pit. Part of the south face of the wall was subsequently refaced with Reigate stone (105), and a thin layer of mortar stretching to the south of it showed the construction level for this.

Two north-south walls, 88 and 101, abutted the south side of the wall (80). The western wall (88) was constructed with brick, tile and chalk, and the eastern wall (101) was made of chalk which had been refaced in brick probably in the Victorian period. Although not firmly dated these walls do demonstrate the continuity of property boundaries in this early suburb.

Some 17th-century and later features, including horn-core lined pits were observed and notes on these are in the site archives, which are held at the Museum of London.

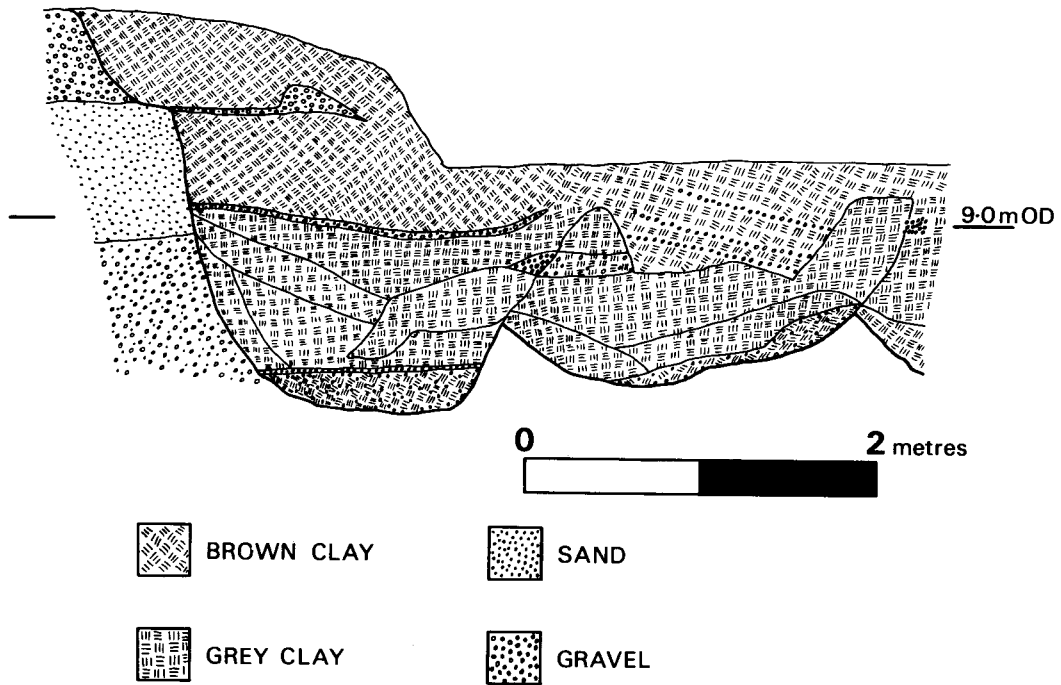


Fig. 3 Gardiner's Corner: Section 1, Backfilled Medieval Gravel Pits.

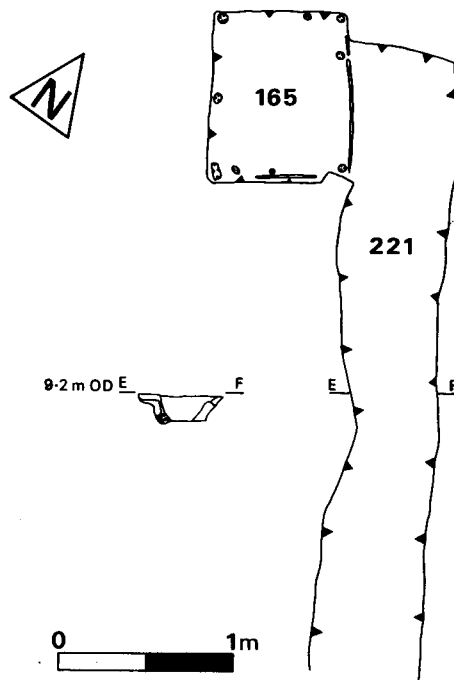


Fig. 4 Gardiner's Corner: Plan of Features 165 and 221, Section across 221.

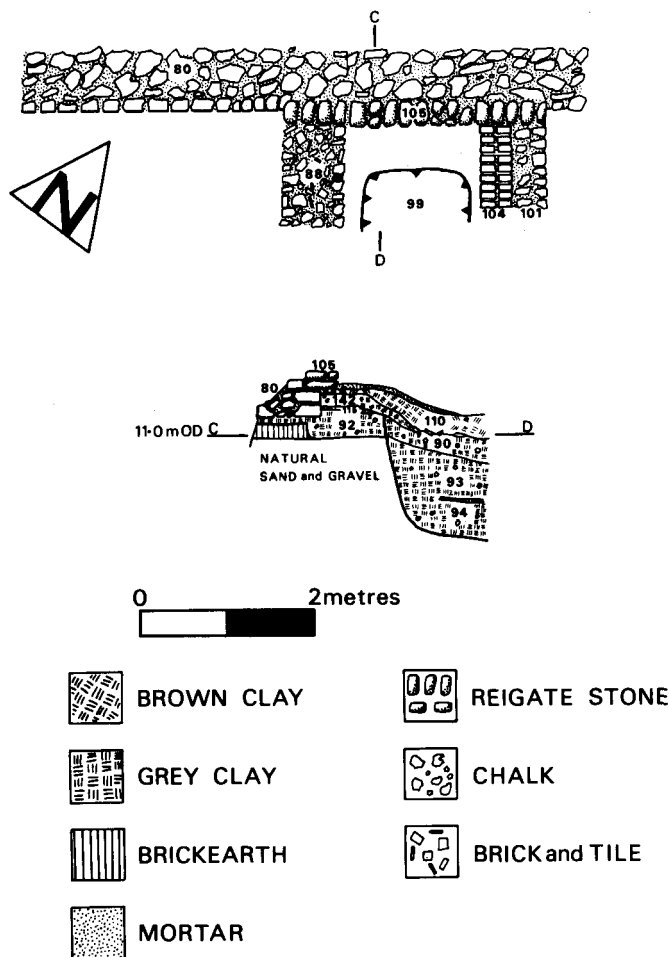


Fig. 5 Gardiners Corner: Plan and Section of Chalk Wall 80.

ROMAN POTTERY

by Wendy McIsaac

Although no features of earlier date than the 13th century survived on the site, about 500 sherds of Roman pottery were found, mostly from the fills of medieval gravel pits. They do not seem to be distributed evenly among these pits, but are concentrated in a few of them (see Fig. 6): pits 49 (172 sherds, nearly 3kg), 59 (34 sherds, 1/2kg, against only 9 later sherds), 251 (82 sherds), 258 (41 sherds) and 262 (66 sherds). A summary of the most significant groups is given below: details can be found in the site archive.

Pit 49 *samian* (about 8% of the group by weight)
 Drag. 38, CG, AD 150–180,
 Drag. 18/31, CG,

Drag 37, CG, stamped ALBVCI (Albucius of Lezoux), AD 150–180 (illustrated, no. 2).

flagons (about 25% of the group by weight)

These are represented mainly by rims of ring-necked type. They are in a red fabric, some with grey core, and with a white, cream or orange slip. A close examination of the fabrics suggests that they come from a variety of sources. Most compare with Southwark types IB8 or 9 (Marsh and Tyers, 1978, 550).

BB2 (about 35% of the group by weight)

Sherds from jars, bowls and dishes are present. In the last two categories most are similar to Southwark types IVH1 and IVJ2 (*ibid.*, 577).

The rest of the group comprises relatively small amounts of amphorae (12% by weight), Verulamium region wares (including mortaria), poppy beakers and lids, and one rim of Mayen ware.

Pit 59 *samian* (about 35% of the group by weight)

Drag. 31, CG, Antonine, probably post-AD 160,
 Drag. 18/31 or 31, CG, stamped ICIO, probably Felicio (report awaited).

Again, *flagons* (5%), *BB2* jars and bowls (30%) and amphorae (20%) were the main coarse wares present.

Common Name	39	40	42	49	54	59	66	72	76	77	99	121	139	140	146	188	240	242	251	258	262	266	267	all gravel pits
LSS				2	1					1										2	2			8
EMW		1		1							1	1	2						5	3	4			15
EMSH																				13	4			17
SSW	3	4	1	15	1					1									1	28		1		55
SHER	2	11	9	113	4	2		6	6	3	3	4						1	8	37	71	1	6	278
LOND C	1								1										1		6			9
LOND	20	14	9	34	6	6	3	6	2	6	1	8	1	1	4		4	13	60	59	20	16		293
MG	6	4	2	22	1	1	1	3	2	23	28	3			2	2	4	34	19	6	2			170
KING	11	17	3	49			1	1	1	10	7	6			2	2	3	86	30	5	7			240
CBW							1				19									13				33
Other	1	3		3						2	2	3					1	1	4	13	11	9	5	47
unident.			2	6						1							1	1	1	3	7	2		26
all medieval	44	53	27	244	14	9	1	9	16	3	46	56	26	1	3	14	1	8	40	264	239	34	39	1191
Roman	5	6	9	172	6	34	12		8	5	1	2	5		3	1		82	41	66	1	6		465
all	49	59	36	416	20	43	13	9	24	8	47	58	31	1	6	15	1	8	122	305	305	35	45	1656

Note: the numbers of sherds listed as 'other' are as follows:

Feature 40: one sherd each of red-painted ware (?Beauvais), possible N. French polychrome ware, possible Cheam white ware.

Feature 49: one sherd each of developed Stamford ware, possible Low Countries grey ware, post-medieval red ware.

Feature 72: one sherd of early fine Surrey ware.

Feature 99: one sherd each of early fine Surrey ware and possible Scarborough ware.

Feature 139: one sherd of Mayen ware and two of Tudor green ware.

Feature 251: one sherd of Saxon chaff-tempered ware and three of possible Saintonge monochrome ware.

Feature 258: six sherds of Hertfordshire glazed ware, five of Cheam white ware and one each of early fine Surrey ware and Tudor green ware.

Feature 262: one sherd each of St. Neot's ware, Andenne ware and N. French monochrome ware, two sherds each of early fine Surrey ware and Cheam white ware, four of Tudor brown ware.

Feature 266: One sherd each of N. French monochrome ware and possible Scarborough ware.

Feature 267: as Feature 266 plus one sherd each of post-medieval fine red ware, tin-glazed ware and industrial white ware.

Fig. 6 Number of sherds from the gravel pits, by Common Name and feature number.

Pit 251

Most of the Roman pottery from this pit derived from a single vessel: a narrow-necked jar (illustrated, no. 1). It has a grey fabric with narrow brown margins, and abundant inclusions of clear, translucent or pinkish quartz, mostly 0.2–0.4mm in size. The vessel is likely to have been made in the Essex area and to date from the late 2nd century or later, most likely the 3rd century. Fragments of cremated bone were recovered/observed from this pit and it is likely that the vessel is a cremation urn.

COINS

by M. J. Hammerson

Possibly a badly formed cast copy, in which case could be c. AD 270–285. Rev probably MERCURIO CONS AVG, hippocamp, mint mark N in exegue (RIC242). From gravel pit 54.

Copy of Claudius II posthumous issue (c. AD 270). Produced AD 270–285. Rev eagle + CONSECRATIO. Good copy for such a small coin. From feature 122.

OTHER SMALL FINDS

by Wendy McIsaac

Two bone pins, broken, with no decorative features (not illustrated). From gravel pit 49.

Bone pin, broken (not illustrated). From gravel pit 59.

Fragment of shale bracelet (not illustrated). From gravel pit 49.

Discussion

The bulk of the Roman material from pit 49 was not scattered throughout the feature but was recovered as a group. The samian and coarsewares from pits 49 and 59 are of Antonine date except for a few small later sherds. The close agreement in date of the vessels, the generally good condition of the sherds and their recovery as distinct groups suggests they are from the fills of Roman features which have been redeposited with relatively little internal disturbance.

The two samian vessels from pit 59 are of types often found in graves of the Antonine period, although samian is generally uncommon in London graves (G. Marsh, *pers comm*). Samian of the forms found in pit 49 is less often found associated with burials, and decorated vessels are uncommon in graves. Two bone pins and part of a plain shale bracelet were found in pit 49, and a further bone pin in pit 59 (see below). The types of vessel found and the location of the site in relation to Londinium suggest that the finds from pits 49, 59 and 251 could have been derived from a Roman cemetery. If so, it was presumably destroyed by gravel-digging in the 13th century (see medieval pottery below).

SAXON, MEDIEVAL AND POST-MEDIEVAL POTTERY

by Clive Orton and Elizabeth Platts

Method

The pottery was catalogued according to its

Common Name, as defined in the Museum of London (Orton, 1977; Tyers and Vince, 1983) and, wherever possible, its general form. Because of the nature of the site and the relatively small amount of pottery, the catalogue was not fully quantified. As far as possible, reference is made to standard fabric or form descriptions, and only vessels which are of special interest, or which form significant associated groups, are illustrated and/or described. Detailed descriptions are available in the site archive.

Results

About 2100 sherds, ranging from 9th/11th to 19th century in date, were recorded from features. Because of extensive gravel digging, no feature that could be dated earlier than the late 13th century survived. Late Saxon and early medieval activity is therefore represented only by residual finds.

The amounts of pottery found, divided by Common Name and feature, are shown in Figs 6 and 7. These figures should not be used for (eg.) calculating percentages. Much of the pottery was found to be residual, and a smaller amount appeared to be intrusive, as could be expected from the circumstances of the excavation. Dating and phasing the features is therefore difficult, especially as the stratigraphic evidence is limited.

The following Common Names are represented frequently and are listed individually in the tables: other Common Names are listed as 'other' and identified in footnotes.

Late Saxon shelly ware: code LSS, date 9th–early 11th century (type examples in DUA pottery fabric type series). Both bowls and cooking pots are present.

Early medieval ware: coded here as EMW, includes early medieval sandy ware and early medieval sandy plus shell, date late 10th–early 12th century. First identified at Northolt by Hurst (1961, 259–61) but identified here in relation to type examples in the DUA pottery fabric type series. Forms present appear to be cooking pots.

Early medieval shelly ware: code EMSH, first recognised at New Fresh Wharf (type examples in DUA pottery fabric type series), date late 11th–early 12th century. Forms present appear to be cooking pots.

Sandy-shelly ware: code SSW, date late 12th–early 13th century (type examples in DUA pottery fabric type series). Forms present are cooking pots and bowls.

South Hertfordshire grey ware: code SHER, includes possible Limpsfield ware, date late 12th or 13th century (Hurst, 1961, 254–76; Sheppard, 1977). Forms present are mainly cooking pots, with possibly some unglazed jugs.

London ware: general code LOND, divided into (i) LOND C—'early' coarse fabric of late 12th century date (ii) LOND—the usual London fabric, date 13th or early 14th century (iii) LLON—the 'late' London fabric, date late 14th or 15th century. These fabrics have been extensively discussed by Pearce *et al* (1985). The forms present in LOND C and LOND are jugs of various shapes: because of the small size of the sherds it is not usually

all	code	ditch	pits	22	125	128	22	25	268	269	271	272	14	95	97	134	162	165	wood pits	4	156	18	133	270	148	150	257	?	box	cellar		
18	SHER			1			4	1						10								1										
39	LOND	1	3	1	2		9	2				1		5	4		5	1				2		1	1							
55	LLOD								52	2																						
57	MG	1					1			4				46	1		1	1				2			1							
131	KING	12	8	5	11	9	1		1	6	55						2	11				11		2		3						
15	LMU	1					1																									
37	CHEA	3	1	4						11	1	9										5		1	1							
182	CBW	49	18	14			2	3	4	51	5	24										8		2	1	1						
7	TUDG	2	1						1									3														
73	DUTR	30	1							40							2															
56	TUDB						1						10	2	1	15		1			1	19		5					1			
97	PMFR																14	14				1	63	2			1	2				
51	BORD									1												6	4		31	1		8				
15	TGW																						1	12	1							
11	FREC																					3	2		6							
95	other	2	2				4				1	1	2	1				3	3		3	3	3	7		1	50	11				
11	unident.	1	1															1				4		3								
900	all medieval	95	40	18	12		26	15	13	1	18	118	67	183	1	8	27	28	63	4	133	7	7	10	53	11						
28	Roman	3	1				1	1	2	1	1			1	7		3					3		2	1	1						
928	all	98	41	18	13	1	28	16	14	1	18	118	67	190	1	11	27	28	66	4	135	8	8	10	53	11						

Note: numbers of sherds listed as 'other' are as follows:

- Feature 221: two sherds of Siegburg stoneware.
- Feature 125: one sherd each of Sainctonge monochrome ware and Spanish tin-glazed ware.
- Feature 268: one sherd of late Saxon shelly ware and three of shelly-sandy ware.
- Feature 271: one sherd of Siegburg stoneware.
- Feature 14: one sherd of tin-glazed ware with glaze missing.
- Feature 95: one sherd of Siegburg stoneware.
- Feature 97: one sherd each of Sainctonge ware and Raeren stoneware.
- Feature 134: one sherd of Siegburg stoneware.
- Feature 4: two sherds of post-medieval red ware and one of Siegburg stoneware.
- Feature 156: one sherd each of Guys ware, Monte Lupio tin-glazed ware and 18th century stoneware.
- Feature 18: one sherd of possible Scarborough ware, Guys ware and Raeren stoneware.
- Feature 133: one sherd of post-medieval red ware and two of Metropolitan slipware.
- Feature 270: six sherds of Sainctonge ware and one of Raeren stoneware.
- Feature 257: one sherd of Metropolitan slipware.
- Feature 230: thirty-two sherds of porcelain, twelve of industrial white ware, two of London stoneware, one each of Cistercian ware, Staffordshire slipware, 19th century earthenware and Mocha ware.
- Feature 241: eleven sherds of industrial white ware.

Fig. 7 Numbers of sherds from other features, by Common Name and feature.

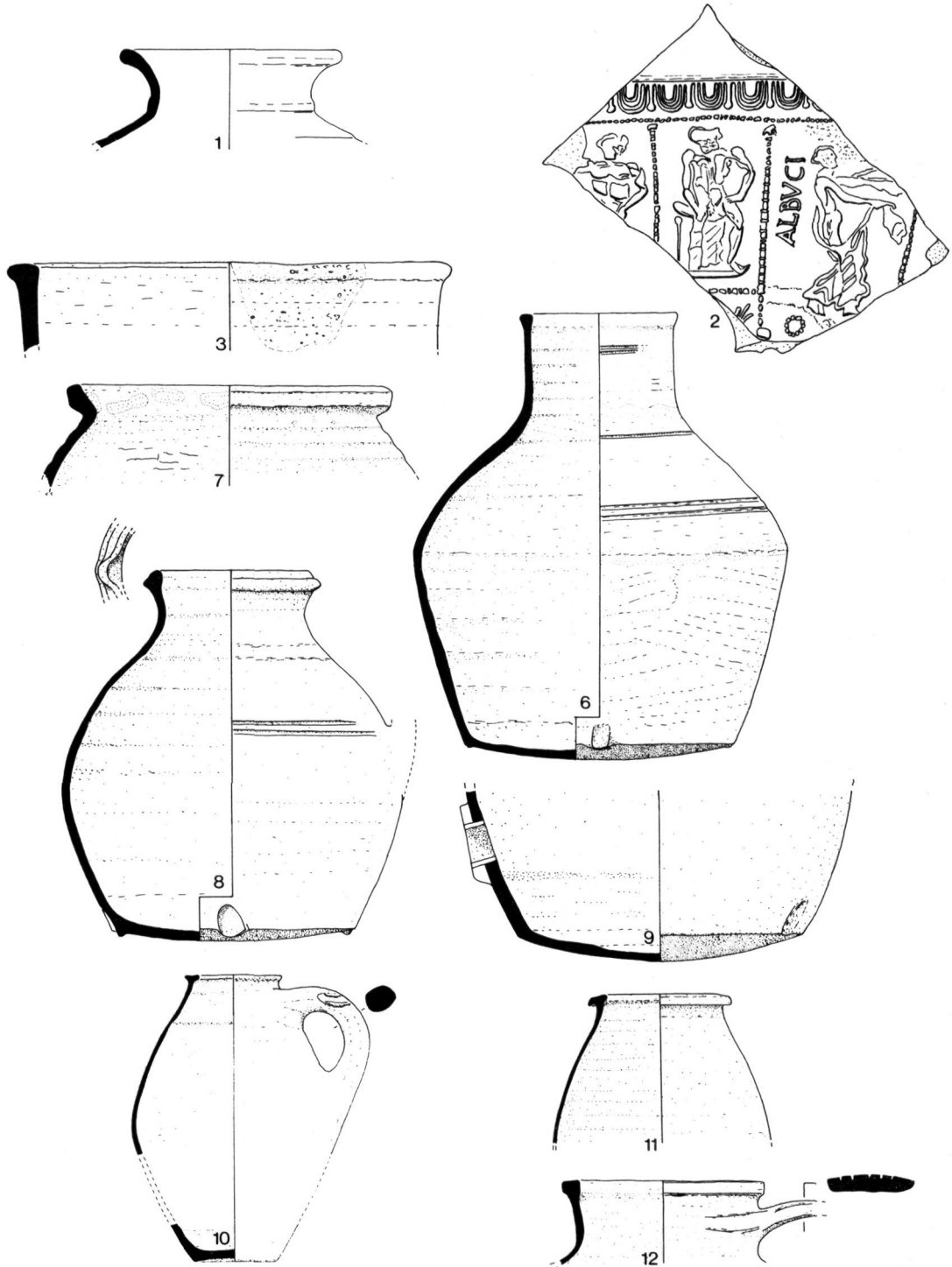


Fig. 8 Gardiners Corner: Pottery, No. 1, Roman cremation from Pit 251; No. 2, samian from Pit 49; No. 3, Saxon pot from Pit 258; Nos 6-12, medieval pottery, of which Nos. 8-12 from barrel lined pit 95. (1/4), except No. 2 (1/2).

possible to ascertain the exact vessel form. LLON is distinguished by a different range of forms—globular jugs, pitchers, cooking pots and dripping pans are recognised here.

Mill Green ware: code MG, date late 13th–mid 14th century (Pearce *et al.*, 1982). The most common form is the conical jug (*ibid.*, nos 1–6); also present are globular jugs (*ibid.*, nos 30–44) and a cooking pot (*ibid.*, nos 53–62).

Kingston ware: code KING, date mid 13th–end of 14th century (Hinton, 1980). One aspect of Surrey white ware, represented here by jugs (too fragmentary to ascertain exact form), large cooking pots with T-section or flanged rims (*ibid.*, nos 13–18) and possibly bowls.

Hertfordshire glazed ware: code LMU, late 14th century (Tyers and Vince, 1982; Jenner and Vince 1983). The only forms present here are large glazed jugs.

Cheam white ware: code CHEA, late 14th to mid or late 15th century (Orton, 1982a). Forms represented appear to be relatively small jugs, of both biconical and barrel shape (*ibid.*, nos 24–30 and 1–13).

Farnborough Hill ware: code CBW, mid 14th to mid or late 15th century (Holling, 1977, 61; see also Orton, 1982b, for a discussion of dating evidence).

Tudor Green ware: code TUDG, most common in the late 15th and 16th centuries, but probably starting in the late 14th century. For a type series see Brears (1971); for discussion see Holling (1977) and Moorhouse (1979). The pottery, which is very fragmentary, probably comes from small cups or mugs.

Dutch red ware: code DUTR, probably most common in the late 15th–early 16th century, but also imported throughout the 14th and 15th centuries (Verhaege, 1983). The forms present are mainly culinary vessels, either tripod globular cooking pots or shallow dripping pans, with rare examples of decorated table ware.

Tudor brown ware: code TUDB. An umbrella term covering a wide range of fabrics produced from the late 15th to the early 17th century, and including Cheam red ware (Orton, 1982a) and Kingston red ware (Nelson, 1981). Forms present here are pitchers and cooking pots.

Post-medieval fine red ware: code PMFR. A finer red sandy ware which appears to replace Tudor brown ware in the early–mid 17th century, and is itself superceded by coarser red wares later in the century. The fabric is probably also that of Metropolitan slipware (see Vince, 1981 and Orton and Pearce, 1984). Forms present include cooking pots, cups and chamber pots.

Border ware: code BORD, date late 16th to early 18th century (Holling, 1971). Plates, cups, dishes, pipkin-type cooking pots and a money box are all represented.

Tin-glazed ware: code TGW. All sherds given this code are thought to be of local (ie London area) manufacture, and thus of late 16th (or more likely early 17th) century to mid 18th century date. For a discussion of production of Aldgate see Noel Hume (1977, 107–114), for documentary evidence see Edwards (1974).

Frechen stoneware: code FREC. Late 16th to 17th century (von Bock, 1976, 41–2). Represented here by sherds of 'bellarmine' bottles, some with applied medallions.

The following vessels are mentioned because of their intrinsic interest, either individually or as groups. Illustrated vessels appear in Figs 8–9.

3. Rim of bowl in Late Saxon shelly ware from gravel pit 258 (illustrated).

4. Base and body of conical jug in Mill Green ware. The underside of the base, but no other part of the vessel, has been burnt, suggesting that the burning occurred while the vessel was in use. Use for heating liquids seems the most likely explanation. Not illustrated. From gravel pit 99.

5. Base and body sherds of baluster jug in London ware. A white deposit on the inside of the vessel closely resembles 'kettle fur' of hard water areas. The lack of evidence of burning suggests that this deposit was produced by repeated evaporation, rather than by boiling, of liquids. Not illustrated. From gravel pit 266.

6. Profile of large 'standard' jug in Hertfordshire glazed ware. There are two points of interest: (i) the entire exterior below the girth appears to have been knife-trimmed and then smoothed. Knife-trimming near the base is known on Cheam red ware (Orton, 1982a, 77–8), but not to this extent. There is no evidence for knife-trimming on the interior, as is often found on Cheam red ware (*ibid.*), (ii) there is evidence of heavy wear on the interior of the rim, suggesting abrasion. The use of (eg) a spoon to stir the contents of the jug seems the most plausible explanation. From the barrel-lined pit 134 (illustrated).

7. Rim of cooking pot in late London ware. The shoulder is ribbed and there are traces of a handle. The form belongs to the Tudor brown tradition but the fabric is 'London', with thick grey core and distinct red margins. From build-up deposit 18 (illustrated).

Nos 8–12 form a coherent group from the barrel-lined pit 95, and can be dated to the 15th century, probably the middle of the century. This group is illustrated in Fig. 8.

8. Profile of globular jug in late London ware. This form, and especially the detail of the rim, are characteristic of Cheam red ware, but the fabric is definitely 'London'. The incised groove and a small bib of greenish glaze below the lip are not characteristic of Cheam.

9. Base of 'bunghole' pitcher in late London ware. Again, the form is characteristic of Cheam red ware, although the lining of the bunghole with a cylinder of clay was not noted in the Cheam pottery.

10. Rim, handle and base of barrel-shaped jug in Cheam white ware. Unusually, the lower end of the handle is attached by the 'skewer' method (Marshall, 1924, 88), which is standard on biconical jugs from Cheam but has not been observed on barrel shaped jugs.

11. Rim of barrel-shaped jug in Cheam white ware.

12. Rim and handle of pitcher in Farnborough Hill ware. Several base and body sherds, which may belong to this vessel, could not be reconstructed.

There are also sherds of other vessels in Cheam white ware and Farnborough Hill ware from this pit, and single sherds of Kingston ware and Siegburg stoneware. The group demonstrates the continuation of a London pottery industry at a time well after its medieval peak, producing forms which appear to be precursors of the Tudor brown ware innovations of the late 15th century.

13. Profile of a dish in Dutch red ware. The vessel has been slip-dipped (*cf* Vince, 1983, 330), the pattern incised through the slip into the body of the vessel, and part of the slip has been carefully removed up to the incisions. The whole decoration has been covered with a clear glaze. The form and general decorative technique can be matched by Dutch examples (eg Renaud, 1959, Fig. 5), but the closest parallels are on Cheam red ware (Orton, 1982a, nos 121, 130) and Kingston red ware (Nelson, 1981, no. 17). From wood-lined pit 165 (illustrated).

Nos 14–19 form a coherent group from pit 156, of early 17th century date. All of these vessels are illustrated in Fig. 9.

14. Profile of cup with horizontal handle in post-medieval fine red ware, with greenish patches to the glaze. This general form is common in Border ware (Holling, 1971, types B2 and 3), but usually has a more angular profile.

15. Profile of deep handled bowl in post-medieval fine red ware, with clear glaze.

16. Profile of large plate in Border ware with speckled brown glaze.

17. Profile of small dish in Border ware with bright yellow glaze, and 'notched' decoration on rim.

18. Base and body of large jar ('albarellio') in London tin-glazed ware with early 17th century design (*cf* Jennings, 1981, no. 1481). The glaze has 'crawled' off the surface of the vessel in several places, so this is at least a 'second' and possibly a waster.

19. Body sherd of large bowl in Monte Lupo tin-glazed ware (Brown, 1979, 41–2 and no. 211). Both surfaces have an apparently floral decoration in vivid colours—brown, yellow, purple, blue and green.

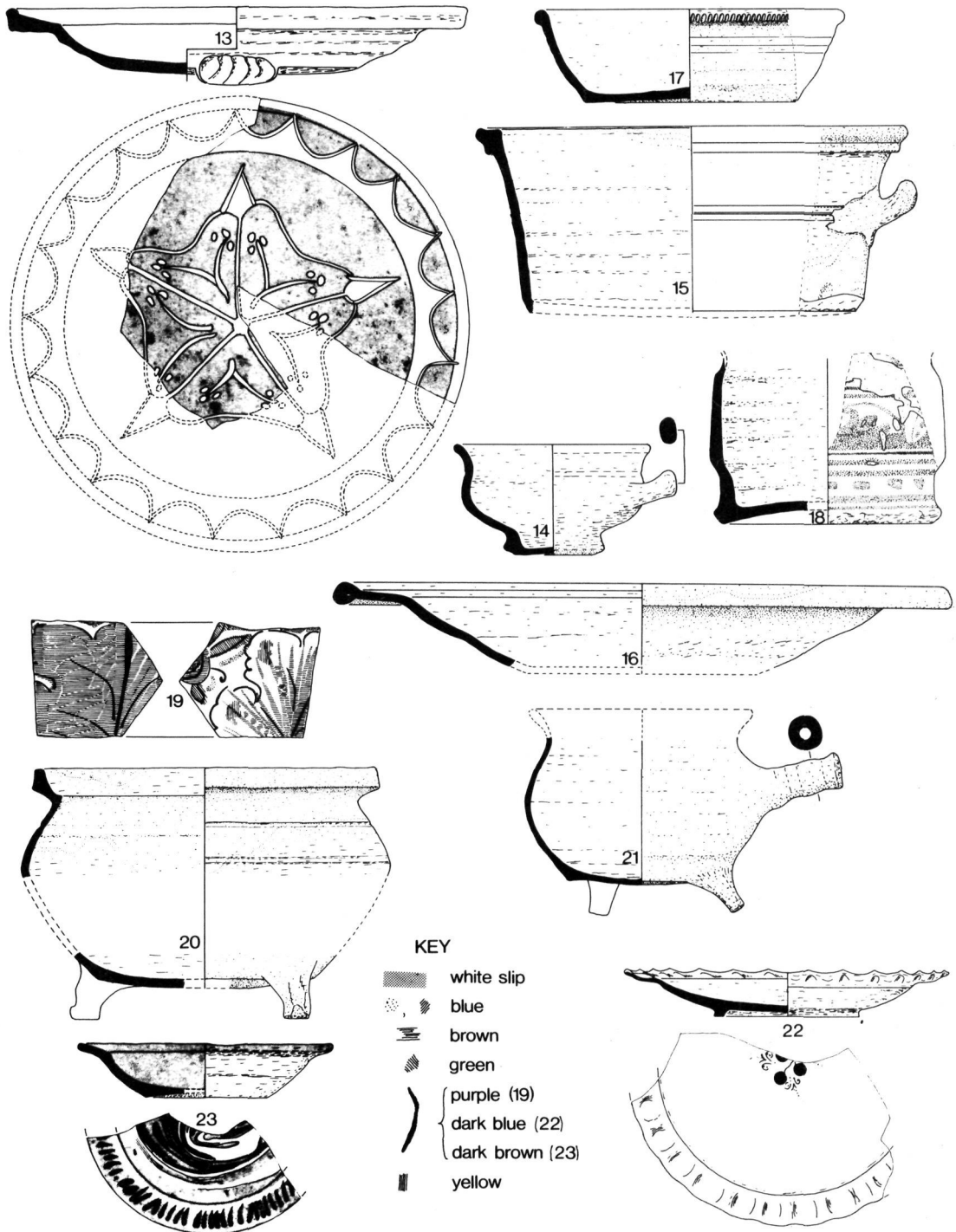


Fig. 9 Gardiners Corner: Pottery No. 13, from wood-lined pit 165; Nos 14–19 from Pit 156, Nos 20–22 from Feature 270 (1/4).

Also from this pit are several sherds of fine post-medieval red ware, and part of a Frechen stoneware bellarmine.

Nos 20–22 are a group from the build-up deposit 270 and are illustrated in Fig. 9.

20. Rim and part of body of cooking pot in a heavily burnt red fabric, possibly fine post-medieval red ware.

21. Base, body and handle of small pipkin in Border ware, Holling (1971) form Elb, with speckled green glaze.

22. Profile of tin-glazed ware plate with wavy rim and pressed-up bosses on the marly. The upper surface has a thick white tin glaze with small central decoration in dark blue, while the underside is mainly lead-glazed. Pressed-up bosses are known on early 17th century examples from Southwark (Noel Hume, 1977, 39), but the wavy rim is usually a much later feature (*cf* Orton and Pearce, 1984, 128–9), as is the restrained decoration.

Also from this group are sherds of probably two more very burnt vessels in red ware (again, probably fine post-medieval red ware) and a sherd of a money box in Border ware.

Nos 20 and 21 together suggest an early 17th century date, but the tin-glazed plate would be very unusual for this date.

23. Profile of small dish in North Italian marbled slipware (Jennings, 1981, 94–5). Unusual in including green in the decoration, and in having blue 'dashes' on the rim. Unstratified.

BUILDING MATERIAL

by Clive Orton

About 20kg was recovered from the gravel pits and 21kg from later features. The bulk (83%) of that from the gravel pits consists of roof tile (mostly medieval but with some Roman, which was not weighed separately), with lesser proportions of daub (10%) and stone (5%). There is 1% or less each of brick, slate and mortar. The amounts in the pits correlate well with the amounts of pottery, the greatest quantities being in pits 49 (5.1kg), 251 (4.7kg), 262 (3.0kg) and 258 (1.8kg), suggesting a common origin.

The later features have proportionally less roof tile (60%, almost all medieval or later), but more brick (14%), stone (13%) and plaster/mortar (3%), as well as medieval floor tiles (10%). The latter includes a whole tile, *c.* 4¼" (108mm) square decorated with a rosette pattern, from the ditch 221. The main concentrations are in the barrel-lined pit 134 (4.6kg) and the ditch 221 (3.2kg).

Because of the nature of the deposits and the lack of structural associations, this material has not been studied further, but it has been catalogued and stored and may be examined on request.

POST-MEDIEVAL GLASS

by Clive Orton

Two complete wine bottles (not illustrated) were recovered from the fill of the brick-lined well 148. They have capacities of about ¾ and 2 pints, and their 'mallet' shape suggests an early 18th century date (see Morgan, 1976, 24–5).

MEDIEVAL COIN

by Peter Stott

Cut farthing of Stephen, type II. Mint: London; moneyer: Adelard. 1141–53 AD. This moneyer has apparently not previously been recorded working on this type. From fill of gravel pit 262.

MEDIEVAL LEATHER

by Natalie Tobert

Groups of leather artefacts were recovered from the wood-lined pit F165 and associated ditch F221, and from the barrel-lined pits F95 and F134. The finds consist mainly of shoes and pieces of waste leather, there are also several belts, one with an iron buckle still attached ((117), Fig. 12 no. 10), and one large fragment from an unidentifiable object. The largest group, found in the ditch, F221 is in reasonable condition, but that from the wood lined pit (F165) is in a very poor state. The assemblage all comes from contemporary levels on the site which have been dated by the pottery, to between the late fourteenth and the mid fifteenth centuries (see Fig. 10).

Feature	context	date
95 barrel lined pit	96	15th C
134 barrel lined pit	135, 157, 161	late 14th–mid 15th C
165 wood lined pit	229	mid 15th C
221 ditch	220, 222	early–mid 15th C

Fig. 10 Features containing the main groups of leather.

Of the shoe leather, only examples of the following have been accessioned: a) matching sole and upper, b) matching sole and repair, c) upper with evidence of fastening, and d) any other item with a feature of interest. The remaining leather, unmatched soles and uppers, offcuts and discards have been classified as bulk and have been described according to context number in the archive. All leather items have been freeze-dried and are now stored with the Department of Greater London Archaeology (North London) at 3–7, Ray Street, London EC1. Each of the accessioned items has been described here and a selection has been illustrated.

CATALOGUE OF ACCESSIONED LEATHER

Feature 95, barrel lined pit, context 96.

(116) left ankle shoe:

upper and sole with matching tread repair

sole: one piece, 250mm long, oval toe, narrow waist, wide tread, slashed and laminated. Both sole and repair piece are

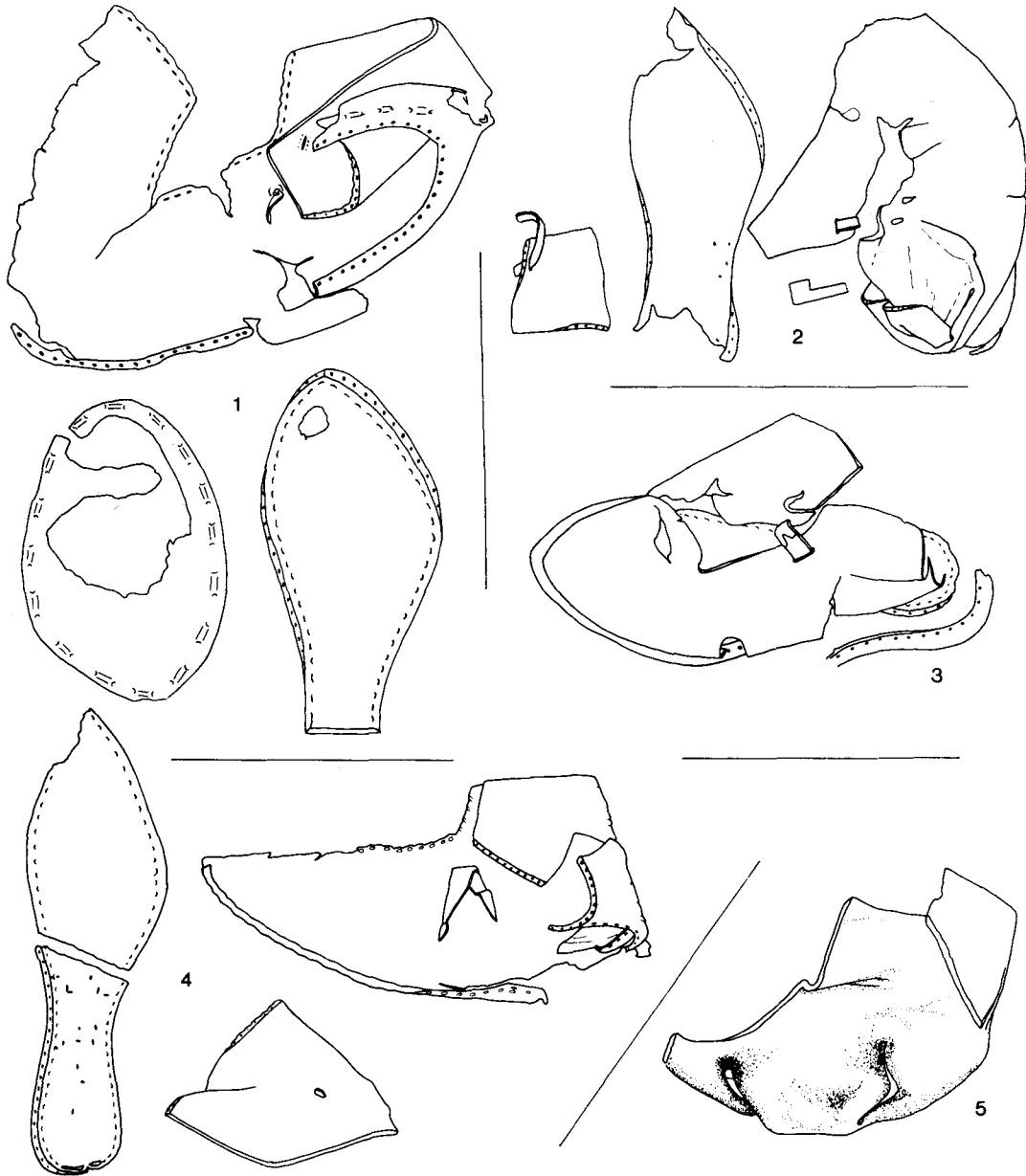


Fig. 11 Gardiners Corner: Medieval leather, Nos 1, 3, 4, ankle boots; No. 2, child's ankle boot; No. 5, discard (bull's nose), all from Feature 221.

completely worn through at ball of foot. Two lengths of welt present with repair stitching.

upper: side fragment with angle seam on inside quarter, fragile, possibly goatskin.

(111) *textile wool*

Fragment of cloth, possibly a shoe lining found with shoe (116) but not inside it. The cloth is woven from wool using 'S' spun yarn in one system and alternate 'S' and 'Z' spun yarn in the other (probably the welt). The weave is tabby, and the cloth has become heavily felted through wear. This fragment is possibly from an item of reused clothing. (Description F. Pritchard).

(115) *belt*:

240mm long, 20mm wide, no stitch marks or other distinctive features.

Feature 134, barrel lined pit, context 135.

(103) *strap*:

14mm wide, 60mm long, possibly from a shoe fastening.

(104) *adult shoe*:

one piece quarter with diagonal seams, two lace holes (6mm apart) on right side.

(105) *child's ankle shoe*: Fig. 12 No. 8

upper left foot, single piece construction, butt seam on inside, front laced with six holes present (5mm apart), slashed at instep with stitched edges, trapezoidal shaped stiffener in place.

(107) *adult shoe*:

vamp: from right foot, possibly a slip-on, seam stitching only occurs for a 20mm width along both lasting edges, could have been for a strap attachment. The leather rises to a point at the instep and is deeply slashed at the front.

(108) *Belt*:

24mm wide, 430mm long, no evidence of holes, cut narrow at one end where it was possibly re-used to make a strap.

(118) *adult shoe*: Fig. 12 No. 9

upper, pointed vamp, cut out at the throat with a small strap, 50mm long pierced by two lace holes at the end, vertical side seams.

Feature 134, barrel lined pit, context 157

(106) *Adult shoe*:

sole, left foot, pointed, worn at big toe and heel, rand.

vamp, quarters missing, very worn, cut at throat, with stitches at the side by the lasting edge indicating a possible strap fastening, perhaps goatskin.

Feature 134, barrel lined pit, context 161

(117) *belt with iron buckle*: Fig. 12 No. 10

Two fragments of badly deteriorated leather (lengths 160 and 140mm, 38mm wide) with a heavily encrusted iron buckle still attached. The buckle is joined to the belt by means of two iron studs (3mm diameter). The illustration is drawn from the X-ray plate (MOL Acc. No. X0708).

Feature 165, wood lined pit, context 229.

(124) *adult shoe*:

sole, double layered, from the left foot with a mildly pointed toe. No evidence of tunnel stitching on either example. Construction method uncertain, very poor condition.

Feature 221, ditch, context 222.

(109) *Adult sole and upper of right boot*: Fig. 11 No. 1

sole: part of a multipiece sole with the heel missing, worn through at the big toe, oval shaped, with tunnel stitching at the waist, and on the turn welt.

repair, a matching tread repair piece has been found, completely worn through at the toes and on the ball of the foot. The remains of stitching thread can be seen.

upper: one piece turnshoe construction with a diagonal seam on the inner side. A triangular heel stiffener is still in place, but the area above the heel is quite worn away. The instep is cut and has a sewn edge, and there is evidence for a top band, with the thread still visible. On the outside, two small cuts

(8mm) indicate the presence inside of a strip of tied leather thonging. This was presumably used to fasten the boot internally across the instep, although, near the top on the opposite side, there is a single slit (10mm) which has been stitched open. This was possibly intended to take a strap and was stitched to prevent any tearing from frequent use.

Feature 221, ditch, context 220.

(101) *child's ankle boot*: Fig. 11 No. 2

sole: right foot, slashed, pointed, and worn away at the toe and heel, tunnel stitch on the back, probably had a two piece repair.

upper: one piece construction, square insert on the inner side with a strap 45mm long, a triangular heel stiffener still in place. Cut at the instep with two slits (6mm) for straps on the outer side. Opposite, one strap (30mm) is still in position, and this has a square end piece to prevent it being pulled through the slit. Wear cracks have developed by the little toe.

(110) *adult ankle boot*: Fig. 11 No. 3

sole, repair and upper of left foot.

sole: still adhering at the toe to the tread repair piece, oval toe, rand present.

upper: possibly a one piece construction with an angled seam on the inside quarter, a top band. Cut at the instep and fastened with a strap (40mm long) that had a deliberate split (15mm) at the centre probably to take a buckle fastening. On the opposite side there is evidence (a double layer of leather) that a second strap was attached.

(112) *discard*: Fig. 11, no. 5

tanned bull's nose, with just the nostrils remaining, the leather from the rest of the head has been cut out probably to be used for vamps.

(119) *left shoe and repair, adult size*: Fig. 12 no. 7

vamp, oval toe, with continuous butt seam from inner to outer side lasting margin, a semi circular cut-out at the throat, with straps possibly for a strap and buckle fastening. The vamp has been worn through by the big toe.

(120) *adult ankle shoe, right foot*: Fig. 11 No. 4

sole: right foot, pointed toe, worn at the toe and the heel, with stitch marks indicating a repair to the heel.

upper: probably a one piece construction joined at the inside foot with an angled butt seam. The vamp is cut at the front with a sewn edge. On the interior is a strap threaded through parallel slits from the outside.

The tongue is a kite-shaped piece with seams on two sides, two 5mm slits and a single hole for thonging.

(121) *adult shoe, right foot*:

vamp, rand present, possibly a slip-on shoe, fragment of the vamp cut low, with evidence for a strap stitched on the inner side.

(122) *child's ankle boot*: Fig. 12 No. 6

sole: oval toe, no evidence of a rand used, right foot.

upper: one piece plus insert, joined on the inner side with an angle seam. Both the upper and the triangular heel stiffener have a circular hole cut out just below the ankle area at the heel, presumably for orthopaedic reasons. At the back of the heel, is a stitched slit (12mm), and also present are a pair of 14mm stitched slots, which were possibly for a strap or buckle fastening. The insert has a strap (40mm) with a pointed end and which was actually stitched onto the flesh layer of the leather to keep it in position. In places the thread is still *in situ* (possibly flax). The vamp itself is cut away to within 20mm of the tip of the toe and the entire inner side is missing. Stitches indicate the presence of a top band on the cut at the instep. The four pairs of fine slits on the outside edge of the shoe could have been for silk ribbon lacing (suggestion of F. Pritchard).

(123) *adult shoe*:

sole, pointed toe, left foot, worn at heel, rand, tread repair still attached with stitches going right through it.

(125) *adult ankle shoe*:

left and right sole, plus repair and quarters

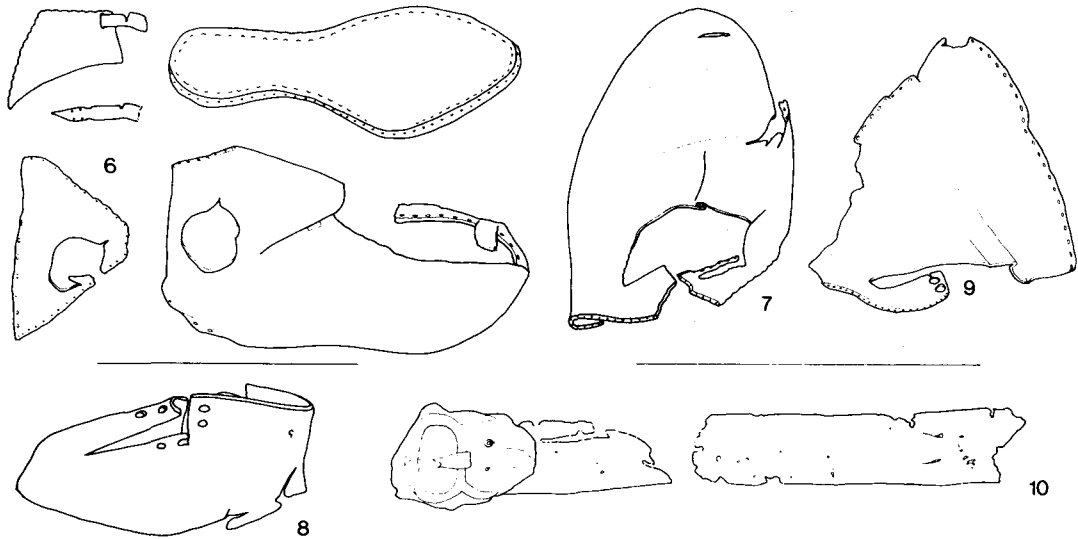


Fig. 12 Gardiners Corner: Medieval leather No. 6, child's ankle boot; No. 7, shoe, both from Feature 221. No. 8, child's ankle shoe; No. 9, shoe; No. 10, belt with iron buckle, all from Feature 134.

sole: oval toe, stitches still visible (flax?), worn at heel, left sole is also present and is worn at the ball of the foot, rand.

repair: tread only, but other stitch holes indicate the presence of a heel repair,

upper: quarters only, going up to a rounded point at the heel, stitches in situ (flax?), joined to vamp with vertical butt seams. (102) ankle shoe:

upper, right foot, possibly part of a one piece upper but it is in very fragmentary condition, triangular insert on the inner side, and a triangular heel stiffener, front laced with three holes present.

DISCUSSION

Construction: All the shoes are made out of what have been termed "one piece economy uppers" (Thomas, 1980:12). Nearly all are of turnshoe construction, and are side seamed with the triangular or square inserts used to make up the shape (eg Fig. 11 No. 2). Many have evidence of some kind of strap fastening. Only two examples are fastened by lacing (104), (105) while a third has a strap and lace (118). The style and method of construction used here seem to be usual for the fourteenth and fifteenth centuries and are similar to shoes published from Custom House (Jones, 1974: Fig. 27, 28), and Coventry (Thomas, 1980). An earlier, thirteenth century example of a one piece upper was excavated in Durham City (Thornton, 1979; Fig. 17).

In a number of cases the stitching thread has survived and it appears to be that of a bast fibre such as flax (F. Pritchard *pers. comm.*). In one example (Fig. 11 No. 3, (110)) the upper is still attached to the sole.

Style: The principal styles present in this assem-

blage (described in detail in Fig. 13) are the ankleshoe and ankleboot; both are typical of fifteenth century footwear. The soles have a narrow waist with a pointed or oval toe, and the shoes seem to be of a practical or working nature; those soles which are pointed are only mildly so and would still be suitable for everyday use. According to Swann (1973), pointed and oval toed shoes were contemporary fashions in the 1430's and 40's, and in her opinion these differences in style "reflect the confusion in the political situation" (Swann, 73: 19). Under the reign of Edward IV in the 1460's, the pointed shoe became more common, and the popularity of the ankle shoe increased from the mid fifteenth century.

One child's ankle boot (122) is of especial interest; this has a one-piece upper, with a square insert on the inside, and is fastened with a strap across the instep. A roughly circular hole has been crudely cut through both the upper and the heel stiffener, at the outside of the shoe below the ankle. This deliberately cut hole is likely to be an orthopaedic feature, presumably intended to prevent the leather rubbing on and aggravating a sore or callous on the child's foot. Such cuts are not unusual (Swallow, 1973: 30), and in fact Thomas gives several examples on mediaeval shoes of this period from Coventry (Thomas, 1980, 51, 62, 77). This boot is also of interest because it is the only one in the assemblage that has any indication of having been threaded with decorative ribbon (see catalogue).

Evidence of cobbling and manufacture: There is much evidence for shoe repair (both tread and heel) and

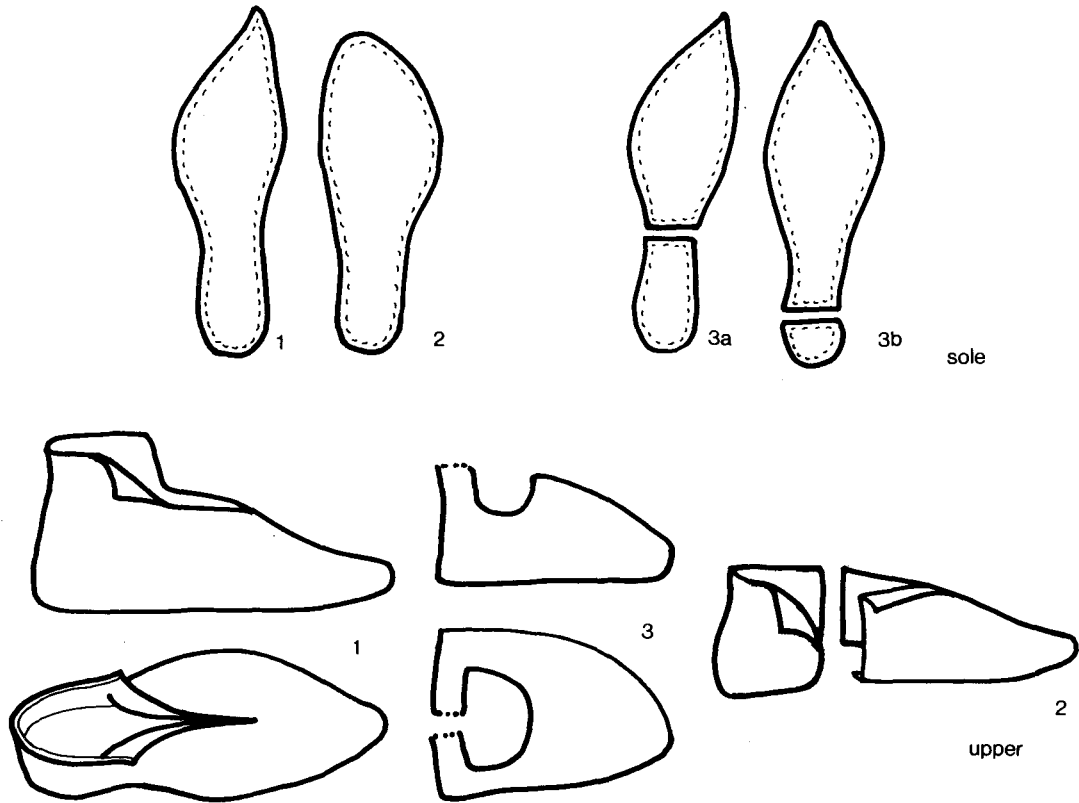


Fig. 13 Gardiners Corner: Medieval leather Principal type of shoe present in the assemblage.

Sole

1. Pointed, with a narrow waist.
2. Oval toe, with a narrow waist.
3. Multi-piece sole, (a) cut at waist (b) cut at mid-heel

Upper

1. Ankle boot. One-piece turnshoe construction, usually with square or triangular inserts on the inner side. There is a slashed opening at the instep, fastened by either lacing, buckle or button and strap.
2. Ankle shoe. Turnshoe construction, separate vamp slashed at the instep with attached one-piece quarters.
3. Shoe. Separate vamp and quarters, cut out at throat with a strap fastening (lace, button or buckle) across the instep.

on some shoes even the repair is worn through before the item was discarded. However, there is little indication for actual on-site manufacture, the exception being from context 135 of the barrel lined pit, where several fragments of upper show signs of being cut up. In context 96 there is an oval shaped piece of leather with no stitching on it, which may have been cut out from a sole for it has slash marks on it. One of the more unusual pieces of waste leather is a tanned bull's nose from context

220. A similar article is known from Leicester, where a tanned dog's nose was recovered from excavations at the Austin Friars (Allin, 1981: 167), and a third century example of a fragment of calf's head has been recovered from the excavation at New Fresh Wharf (Rhodes, forthcoming). In the Roman period however, an animal was skinned by cutting across the muzzle below the eyes so that the nostrils would not have been tanned.

THE ANIMAL BONES

by Alison Locker

The excavation produced animal bones mainly from the context groups: medieval gravel pits (13th–14th century), a late 14th–mid 15th century barrel-lined pit (134), and a 16th century ditch and associated wood-lined pit (165, 221). All fused bones were measured using the method of Jones *et al.* 1976.

The Gravel Pits

Thirty-six contexts from the gravel pit fills contained 480 animal bones (see Fig. 14). The following species were identified: ox (*Bos* sp.), sheep/goat (*Ovis* sp./*Capra* sp.), pig (*Sus* sp.), horse (*Equus* sp.), cat (*Felis* sp.), dog (*Canis* sp.), fallow deer (*Dama Dama*), swan (*Cygnus* sp.), goose (*Anser* sp.),

two contexts (135 and 136). Evidence for butchery included the removal of the horn cores and axial chopping through the parietals and frontals as primary butchery waste. However in 136 five complete sheep skulls were found, mature with no sign of butchery. Using the method of Hatting (1975), these skulls were sexed as one male, one ?male, two castrates and one female. These skulls are important evidence in the development of livestock and they will be discussed more fully (Armitage, forthcoming).

Ox skulls were butchered, as were upper limb bones of both ox and sheep. Most examples of both these species were mature. No cut marks were noted on the horse bones and red deer was represented only by an antler tine.

This feature contained a variety of debris—non-

OX	SHEEP	PIG	HORSE	F. DEER	CAT	DOG	BIRD	UNIDENT	SHELLFISH
129	88	17	4	1	8	6	7	123	75 oyster 17 cockle 3 mussel 2 whelk 6 fish

Total = 480 (ox = ox + ox sized, sheep = sheep/goat + sheep sized).

Fig. 14

domestic fowl (*Gallus* sp.), cod (*Gadus Morhua*), oyster (*Ostrea edulis*), cockle (*Cardium edule*), mussel (*Mytilis edulis*) and whelk (*Buccinum undatum*). A number of residual human bones, possibly of Roman origin, were found in four gravel pit fills.

Many of the ox, sheep and pig bones were butchered, and together with swan, goose and domestic fowl represent food refuse. Cod was often eaten dried and salted in the medieval period, also closeness to the port of London suggests that the examples represented here could have been eaten fresh.

Fallow deer is represented only by an antler tine which could have been cast, and so is not necessarily evidence of venison.

The barrel-lined pit (134)

Bone was found in several contexts of this feature (see Fig. 15). The following were identified: ox (*Bos* sp.), sheep/goat (*Ovis* sp./*Capra* sp.), pig (*Sus* sp.), horse (*Equus* sp.), red deer (*Cervus Elephas*), dog (*Canis* sp.), rabbit (*Oryctolagus cuniculus*), domestic fowl (*Gallus* sp.), jackdaw, (*Corvus monedula*), oyster (*Ostrea edulis*), cockle (*Cardium edule*) and mussel (*Mytilis edulis*). Sheep skulls and mandibles, some of which were butchered, are frequent in the top

food waste from horse, dog, red deer and jackdaw, as well as primary butchery waste from skull fragments and lower limb extremities, and secondary butchery waste from chopped bone of ox, sheep and pig as joint remains.

The Ditch (221) and associated Wood-lined Pit (165)

Most of the bone came from the ditch (see Fig. 16). The following species were identified: ox (*Bos* sp.), sheep (*Ovis* sp.), pig (*Sus* sp.), horse (*Equus* sp.), cat (*Felis* sp.), domestic fowl (*Gallus* sp.), duck (*Anas* sp.), oyster (*Ostrea edulis*), cockle (*Cardium edule*), and mussel (*Mytilis edulis*). The number of pig bones is inflated by the presence of three partial skeletons, one of which was aged from the mandibles to newborn/two weeks (using the method of Getty, 1975) and another to approximately five months. Eight bones belonged to the former and twenty-three to the latter. The humerus, radius and ulna of a piglet were held in articulation by the preservation of keratinous material in highly organic waterlogged conditions. None of the immature pig bones showed any signs of butchery.

Many of the ox, sheep and pig bones were butchered, and together with swan, goose and domestic fowl represent food refuse. Cod was often eaten dried and salted in the medieval period, also

OX	SHEEP	PIG	RABBIT	HORSE	R. DEER	DOG	BIRD	UNIDENT	SHELLFISH
106	92	76	1	2	1	1	23	25	40 snail 11 mussel 22 mussel 2 cockle

Total = 402

Fig. 15

The bones of ox and sheep were mainly from mature animals and included skull and jaw fragments as well as butchered limb bones. Only one ox metatarsal was found; others may have been removed for bone working.

Conclusions

In general the bone from all three groups seems to be a mixture of domestic food refuse, including a large number of shellfish which were commonly eaten, bones from common food species but which show no butchery marks (eg the sheep skulls and the piglet skeletons) and industrial waste in the form of cattle horn cores (see Armitage, this report). In addition, the remains of horse, cat and dog have also been disposed of in this area.

A fuller report including the bones from each context and plates of the sheep skulls can be found at the Ancient Monuments Laboratory (report no. 4171) and at the Department of Greater London Archaeology (Inner/North London).

DISCUSSION OF ALL MEDIEVAL FINDS

Fig. 6 suggests that most of the gravel pits were backfilled between *c.* 1270 and 1350 AD, since all except the very small groups include some Mill Green ware, thought to start *c.* 1270 (Pearce *et al.*, 1982, 272), while only two groups contain

appreciable amounts of Farnborough Hill ware, thought to start *c.* 1350 (Orton, 1982b, 97). Odd sherds of Tudor brown ware and post-medieval wares are thought to be intrusive. Of the two later pits, 121 would appear to be of mid 14th century date, and 258 of late 14th century date on the evidence of Cheam white ware and Hertfordshire glazed ware, but most of the pottery is in the upper fill and the lower fill may be earlier (ie 13th century).

There is pottery evidence for activity on the site from the 9th/11th century to the mid 13th century, but in the absence of features one cannot say what activity this represents. The 12th century coin (p. 49) relates to this period rather than the gravel-digging.

The chalk wall, 80, appears to be of late 14th century or later date, since it is later than the gravel pit 121 (see above), but it is not sealed by any dateable deposits. The north-south walls 88 and 101, which are later than 80, are otherwise undateable.

The lined pits and the ditch 221 appear to date to the 15th century, although the picture is confused by apparently intrus-

OX	SHEEP	PIG	HORSE	CAT	BIRD	RABBIT	UNIDENT	SHELLFISH
83	40	44	2	15	10	1	3	25 oyster 3 cockle 13 mussel 1 frog 1 snail

Total = 241

Fig. 16

ive later pottery, and by the small size of some pottery groups. There is surprisingly little pottery of Tudor date (eg Raeren or Cologne stoneware), but a few features date to the early 17th century, eg 156 and 270. There are hints of the local pottery manufacturing industry in the latest groups.

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