

The Bittoms Kingston upon Thames London



Post-Excavation Assessment and Updated Project Design



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**THE BITTOMS
KINGSTON-UPON-THAMES
LONDON**

NGR TQ 179 689

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Plate 3: Area 3 looking south

Plate 4: Area 4 (western extent) looking south

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Plate 6: Area 2, Soakaway 2054

SUMMARY

Between August and November 2001, Oxford Archaeology (OA) carried out an evaluation and excavation at The Bittoms, Kingston College, Kingston-upon-Thames, London (NGR TQ 179 689) on behalf of Mount Anvil. The excavation revealed isolated prehistoric features and a Saxon pit. In the northern part of the site 11th- to 13th-century quarrying was present and features related to residential plots were seen. The south of the site contained medieval quarrying and 13th-century boundary ditches. There appeared to be a lull in activity before a sequence of 16th-century cultivation trenches was established in the north of the site. The presence of a 16th-or 17th-century ploughsoil suggests that the area was then probably used for larger scale cultivation.

Several 16th- to 18th-century rectangular quarry plots were observed in the western part of the site, which were truncated by three 18th-century basements; one of which contained a large amount of re-used moulded stone. A well and soakaway were also seen, which may have been associated with the structures. Throughout the site isolated 19th-century features were encountered, and 19th-century cultivation trenches were seen in the east of the site.

It would appear that the site had been used for quarrying and small scale cultivation throughout the medieval period, and had then been left fallow until the early post medieval-period when larger scale cultivation took place. A period of inactivity ensued, followed by the construction of residential properties in the 18th century. The surrounding area was then reused for small scale cultivation.

1 PROJECT BACKGROUND

1.1 Location and scope of work

1.1.1 Between August and November 2001, Oxford Archaeological Unit (OAU), now called Oxford Archaeology (OA), carried out an archaeological evaluation followed by an excavation at The Bittoms, Kingston College, Kingston-upon-Thames, London (NGR TQ 179 689). The work was on behalf of Mount Anvil in respect of a planning application for residential flats and a sports hall (Planning Application No. 00/3212/FUL).

1.1.2 A brief outlining the details of the requirements of the archaeological work was set by English Heritage (EH 2001) on behalf of the Greater London Archaeological Advisory Service (GLAAS). OA produced a Project Design Specification (PDS) outlining how the requirements of the brief would be met (OAU 2001c). The development site was at the time used for car parking and teaching buildings and was 0.56 hectares in area (Fig. 1).

1.2 Topography and geology

1.2.1 The site lies just to the south of the historic core of Kingston-upon-Thames, some 150 m to the east of the River. The modern ground surface is at around +8 m AOD in the west, sloping to +7.19 m AOD in the east.

1.2.2 The solid geology of the site is London clay at around 7.3 m below present ground surface (BPG). This is overlain by drift deposits comprising Quaternary flood plain gravels at 3.3 m BPG, capped by fine-grained silts and sands, the upper surface of which is preserved at between 0.3 m and 1.8 m BPG.

1.3 Historical and archaeological background

General

1.3.1 The archaeological background to the evaluation and subsequent excavation has been the subject of a separate desk study (OAU 2001a), which has been reviewed in light of the trench evaluation (OAU 2001b). The results of which are also presented in the PDS (OAU 2001c). The area itself has produced significant archaeological evidence. There are several known sites and locations with archaeological remains adjacent to the development site. A summary of the DBA is presented below, full references can be found in the DBA.

Prehistoric period (Neolithic to Bronze Age, 4,000- 700 BC)

- 1.3.2 Evidence from numerous archaeological investigations within Kingston town centre has revealed a relatively high level of activity for this period. For much of the prehistoric period the River Thames comprised two main channels around a gravel eyot on which the historic town centre later grew, and on which the proposed development site is now located. In addition, the results from evaluations in the area indicate that the eyot was crossed by a number of smaller channels.
- 1.3.3 The River gravels and sand deposits of the eyot and would have produced fertile and well-drained soils conducive to early settlement and farming activities. At a time when much of the area may still have been heavily forested, the Thames and its tributaries would have been utilised as a resource for food, and a means of communication and transport. Low-lying ground beside the river is likely to have been exploited for a number of transient activities from the Mesolithic period onwards including hunting, fishing and fowling, and for permanent settlement in the later prehistoric period.
- 1.3.4 The Neolithic period (4,000-2,200BC) is traditionally seen as a time when hunter-gathering gave way to farming and settled communities, and when forest clearance occurred for the cultivation of crops. It is possible therefore that during this period the woodland on the gravel eyot was cleared for permanent settlement and cultivation.
- 1.3.5 A small collection of rolled and residual Neolithic flintwork was recovered from the evaluation of the site. While this is not good evidence for *in-situ* activity, information obtained from other sites in the area does point to exploitation of the landscape during this period, and the flints themselves indicate activity in the general area of the site.
- 1.3.6 There is direct evidence for Neolithic activity within a 250 m radius of the site. In 1965 the Kingston upon-Thames Archaeological Society (KUTAS) carried out an excavation c 250 m to the north-east which revealed evidence of Neolithic occupation debris in the form of pottery, flint flakes and animal bone. KUTAS excavations in 1976-7 uncovered a Neolithic floor surface/platform c 200-m north-east of the site. Residual Neolithic flint was recovered during the extensive 1988-90 excavations at Charter Quay. c 150 m to the north of the site, although no features indicating settlement of this date were identified.
- 1.3.7 Evidence of prehistoric activity dated to the Bronze Age (2,200-800 BC) has also been located nearby. In 1996 Lawson Price Environmental carried out an evaluation comprising five test pits, c 30 m west of the proposed development site. The pits revealed Late Bronze Age activity in the form of two stake holes, pottery and burnt flint at a depth of 1 m below ground level (8.25 m above OD). The features were covered by redeposited natural, believed to be medieval/post -medieval garden soils.

- 1.3.8 In 1990-1 the Department of Greater London Archaeology carried out an evaluation and excavation in the area of Kingston College *c* 50 m south-east of the area of proposed development, which revealed evidence of Late Bronze Age occupation comprising flints and features. The occupation was not intensive and was believed to lie on the periphery of the main settlement area. The course of a Bronze Age river channel was also recorded.
- 1.3.9 Evidence of Bronze Age activity in the form of finds of pottery and occupation debris has also been found during evaluations *c* 250 m to the north-east, *c* 160 m to the north-west and *c* 80 m to the south-west of the site.
- 1.3.10 During this period there would have been a more intensive use of the landscape in the Thames estuary due to an expanding population. Much of the gravel terrace along the river would have been cleared of woodland and utilised for cultivation and settlement, while the River would have continued to serve as a major transport and communication route.

Early to middle Saxon period (AD 410 - 850)

- 1.3.11 Kingston-upon-Thames, *Cyngestun* (King's tun) was a royal manor of the kings of Wessex and was a place of considerable significance, serving as an economic, political and religious central place. It is possible that Kingston may be the 'lost' Royal Saxon settlement of *Freoricburna*, whose last documentary entry comes in the same year as the first documentary reference to Kingston in 836 (or 838). The status of Kingston as an important royal demesne of the kings of Wessex suggests that there was a relatively large Saxon settlement here, and while its exact location on the gravel island is not certain it probably lay to the north of the The Bittoms site in the area of the later medieval town.
- 1.3.12 The evidence of the evaluation indicates an earlier settlement, possibly one of a number of smaller dispersed precursor villages or farmsteads that were later to coalesce into the larger tun. This may represent the earliest Saxon settlement of the Kingston area, possibly from the 5th century as the Imperial Roman system collapsed and settlers from northern Europe began to migrate into Britain, many using the Thames as a convenient gateway.
- 1.3.13 Other evidence of early medieval archaeology within the immediate vicinity of the proposed development site suggests a possibly extensive settled area. In 1998 Pre-Construct Archaeology carried out an evaluation comprising nine trial trenches at East Lane *c* 30 m to the west. This revealed a number of stake holes, two postholes and a gully believed to date to this period. The report suggested a potential for further surviving features to the south-east and north-west of the evaluation site.
- 1.3.14 Other evidence of early medieval settlement close to the site includes an extensive concentration of stake holes, a ditch and a considerable quantity of pottery found

during a Pre-Construct Archaeology excavation, c 80 north-east, and the remains of a possible early medieval ditch found during a KUTAS excavation c 150 m to the north in 1976-7. Early medieval pottery has also been found during archaeological investigations c 150 m to the north-west and c 30 m to the north of the site. Excavations by the Museum of London on a Bittoms site immediately to the south-east also revealed features dated to this period, including the possible remains of a sunken feature building.

- 1.3.15 Despite the scattered Kingston material, detailed or extensive evidence for early to middle Saxon rural settlements is relatively scarce for the Greater London area as a whole. Although recent work has identified settlements at Hammesmith, Rectory Grove, Harmondsworth, Mortlake, etc., the evidence is still heavily biased towards middle and later Saxon evidence from Lundenwic and the City.

Later medieval 11th-15th century

- 1.3.16 During this period the focus of the town is likely to have been to the north of the proposed development site in the area of the church, market place and the quayside. The Bittoms site lay outside this and was probably open ground used for a variety of purposes, agricultural, craft/industrial, etc. This may be indicated in the first instance by the possible 'late Saxon' or medieval ploughsoil, identified across the site sealing earlier Saxon features and cut by later pits. The later pitting dated by pottery to between the 11th and 15th centuries may represent small scale quarrying of the brickearths, in-filled with refuse from nearby dwellings or activity areas.

Later history

- 1.3.17 Cartographic sources show that parts of the site fronting The Bittoms and Kent Road were built on from at least the mid eighteenth century.

1.4 Fieldwork methodology

The evaluation

- 1.4.1 Eleven trenches measuring between 2 m and 10 m were machine excavated to the top of archaeological deposits or undisturbed natural (Fig. 2). They were cleaned in plan and section, and a sample of features/deposits excavated and recorded. Trenches were drawn in plan together with at least one long section; all were photographed.
- 1.4.2 All excavated finds were retrieved for analysis. Deposits were assessed for their potential to preserve palaeo-environmental remains. None was assessed positively and no sample retrieved.

The excavations

- 1.4.3 The site was divided into four areas based on accessibility (Fig. 2 and Plates 1-4). The excavation area was cleaned by hand and the revealed features were sampled to determine their extent and nature, and to retrieve finds and environmental samples. All archaeological features were planned and where excavated their sections drawn at scales of 1:20. All features were photographed using colour slide and black and white print film. Recording followed procedures laid down in the *OAU Fieldwork Manual* (ed. D Wilkinson, 1992).

The finds and ecofactual evidence

- 1.4.4 Finds were recovered by hand during the course of the excavation and bagged by context. Finds of special interest were given a unique small find number.
- 1.4.5 Environmental bulk samples were taken from all possible buried soils, and from at least one of every different type of archaeological feature so as to gain evidence for general environmental and economic conditions. Where finds recovery, and therefore dating, from individual features was good more selective samples were taken. Samples for soil micromorphology were taken from some of the buried soils to gain a better understanding of their formation.

2 QUANTIFICATION OF THE ARCHIVE

2.1 Stratigraphic

Record type	Totals
Context sheets	655
Plans	12
Sections	153
Matrix sheets	5
Small finds record sheets	10
Environmental samples record sheets	9
Levels sheets	11
Colour films	19
Black and white films	19

2.2 Quantification of artefactual and ecofactual material

Material	No. of pieces
Pottery	580
Clay pipe	41
Stone	41
Glass	31
CBM	375
Iron objects	46
Copper alloy	12
Composite	1
Slag	74
Flint	238
Animal bone	415
Plaster	9
Mortar	196
Coal	16
Shell	40

3 STRATIGRAPHIC SUMMARY

3.1 Soils and ground conditions

3.1.1 Excavation took place in two phases. In the first phase the overburden was removed to reveal the top of a mid orange brown sandy silt. This was assumed to be the top of a medieval ploughsoil. The soil was only seen in patches in Areas 1 and 2, and in an unbroken form in Areas 3 and 4. The soil deposits sloped from 6.9 m OD, at the south west end of Area 3, to 6.7 m OD in the north. In the middle of Area 4 the soil dropped to 6.6 m OD in the south and north but rose to 6.8 m OD in the west. It can be assumed that the lack of soil in Areas 1 and 2 is due to truncation from more recent activities. In the second phase of excavation the assumed ploughsoil was removed until the upper surface of the natural deposits was seen. This was an orange-yellow silty sand:

- Area 1 - natural varied between 7 m in the south-west and north-east to 7.4 m in the south-east.
- Area 2 - natural dropped from 7.15 m OD in the west of Area 2 to 7 m OD to the east.
- Area 3 - natural dropped sharply to 6.81 m OD in the south and 6.21 m OD in the north.
- Area 4 - natural dropped to 6.4 m OD in the south-east and 5.01 m OD in the north-east.

3.1.2 The ground drops steadily from the SW to the NE, towards the River Hogsmill, which is located to the NE of the site. It is possible that the site experienced periodic flooding prior to the importation of the cultivation soils in the medieval period.

3.1.3 The fills of archaeological features were generally derived from a mixture of the natural sand and the cultivation soils.

3.2 General

3.2.1 It was possible to identify five phases of activity from the stratigraphic and artefactual record:

- Phase 1 - Prehistoric
- Phase 2 - Saxon
- Phase 3 - 11th - 15th centuries
- Phase 4 - 15th - 17th centuries
- Phase 5 - 17th - 19th centuries

3.2.2 Many archaeological features were undated, although it should be possible to phase undated features through further analysis of the stratigraphic record, and through comparison of features of similar function. Figures 3-5 show the exposed archaeological features, with phase information assigned to those features where dating evidence was recovered.

3.3 Phase 1 - Prehistoric

- 3.3.1 Flint artefacts, spanning the Mesolithic period to Bronze Age, were found largely within later features and layers. Primary deposits may have been identified in otherwise undated features in Evaluation Trenches 2, 4 and 8.
- 3.3.2 Five features containing prehistoric (Bronze Age) pottery and flints were encountered during the excavation. All the features appear to be shallow pits of indeterminate function (1572, 1604, 1822, 1845 and 2093 - Figs 3, 4 and 5), although they may represent small scale sand extraction. The features do not appear to be related although two are fairly close together in the centre of the site (1822 and 1845 - Fig. 4). There are a several similar undated features across the site which may share a similar origin.

3.4 Phase 2 - Saxon

- 3.4.1 A large pit (1506) in the north-west part of Area 1 (Fig. 3 and Plate 5) contained a sherd of early to middle Saxon pottery and a sherd of Roman pottery. A pit containing Saxon pottery was also identified in evaluation Trench 9, suggesting that the pit found during excavation was not an isolated feature. Saxon period features, including a pit, gullies and postholes and stakeholes, have also been identified to the west of the site (Hawkins 2002).

3.5 Phase 3 - 11th to 15th centuries

Areas 1, 3 and 4

- 3.5.1 There were several pits and large quarry areas across the site dating to the early to middle medieval period. The smaller isolated pits (i.e. 1597 - Fig. 3), appear to have an earlier, 11th century date. These often irregularly shaped pits have no obvious function, though they might have been excavated to extract small quantities of sand.
- 3.5.2 The 13th century pits (see 1623, 1729 and 1946 - Figs 3 and 4) are generally larger than those of the 11th century, and are located in the central northern part of the site covering an area of several square metres. In the centre of Area 3 almost the entire area could be interpreted as a quarry, although no dating evidence was recovered. This larger scale quarrying is concentrated between the centre and the east of site and could represent more of a coherent enterprise than the isolated 11th-century quarry pits.
- 3.5.3 A 13th-century well (1589) was encountered in the east of Area 1, which was over 2 m deep. The well probably served a building or buildings to the west, fronting The Bittoms, which were destroyed by later development. A north-south aligned gully (1570) to the north was obscured by quarrying. The gully produced prehistoric pottery, thought to be residual, and may indicate a property boundary or drainage into the well after it had become disused.

Area 2 (Fig. 5)

- 3.5.4 In the south of the site a large north-south aligned, 13th-century ditch (2072/2082) was encountered, over 2 m wide and 0.6 m deep. Running perpendicular to the ditch was a smaller 13th-century ditch (2033); any relationship between the two had been obscured by a modern soakaway. The smaller ditch was not seen to the west of the larger ditch, although two parallel gullies (2017 and 2019) running east-west were seen at the western edge of Area 2. The ditches probably represent property boundaries, possibly associated with a structure fronting The Bittoms.
- 3.5.5 Similarly dated pits were also observed, the lack of finds indicates that they were probably sand extraction pits (2006, 2068 and 2051).
- 3.5.6 Similar undated features were seen throughout the site and may be contemporary.

Evaluation

- 3.5.7 Features and material consistent with a 11th to 13th century date were recorded in evaluation trenches 3, 4, 6 and 9. For a full description see OA 2001b.

3.6 Phase 4 - 15th - 17th centuries

- 3.6.1 Five rectilinear east-west aligned features (including 1520 and 1567 - Fig. 3) were revealed in the western part of Area 1. They may represent sand extraction plots, a sherd of 16th-century pottery was recovered from 1567 and a sherd of early 18th-century pottery from 1520. Feature 1520 was truncated by an 18th century basement and the pottery may be intrusive.
- 3.6.2 In Area 3 several east-west and north-south aligned shallow rectilinear features were revealed (Fig. 4). These were all filled with a brown sandy soil and interpreted as cultivation trenches for the growing of vegetables or fruit. N-S aligned trenches 1942 and 1795 contained pottery dating from the 16th century. A posthole (1770) may have represented part of an associated structure.
- 3.6.3 In the south of Area 3 a quarry pit (1669 - Fig. 4) was seen, representing a small local sand extraction site, unlike the larger industry of the 13th century.
- 3.6.4 Sealing the 16th-century features was a mid orange-brown sandy silt (1678 -NI), containing pottery from the 15th to 19th centuries. Some of the pottery is intrusive from later features and other sherds residual. It is certain that the soil dates from either the late 16th century or early 17th century, because it sealed 16th century features and was truncated by late 17th-century or early 18th-century features. This soil can be interpreted as an early post-medieval cultivation soil probably representing a period of larger scale agricultural activity from that of the preceding cultivation trenches.

3.7 Phase 5 - 17th to 19th centuries

- 3.7.1 In the east of Area 1, truncating the quarry plots, were the remains of three 18th-century basements (1546, 1549 and 1609 - Fig. 3), only a few courses deep after truncation, and *c* 4 m square. The most southerly (1609) had a 19th-century floor in place with a small hidey hole evident. This was capped by a curiously ostentatious marble tile. The most northerly basement (1549) had no floor evident but its walls were constructed with a large amount of re-used moulded limestone and green sandstone, possibly deriving from a high-status building nearby. A brick soakaway (1577) to the east may have been associated with structure 1549. In Area 2 (Fig. 5) the edge of a brick structure (2080) had been exposed, to the south of which was a brick well (2054 - Plate 6). These structures were probably the remains of 18th-century residential buildings fronting The Bittoms.
- 3.7.2 Isolated 19th century-features were seen throughout the whole of the site. The features mostly comprised rubbish pits or sand extraction slots, with a large boundary ditch present in the north Area 4 (Fig. 4).
- 3.7.3 In the eastern part of Area 3 were several north-south aligned cultivation trenches similar to the 16th-century features, but more regular in pattern and longer. Some of the trenches had post holes at the termini suggesting some form of covering. Little activity was seen to the south.

4 ARTEFACTUAL SUMMARY

4.1 Introduction

4.1.1 Summaries of the artefactual evidence by category are included below. The full assessment reports can be found in Appendices 1-9.

4.2 Pottery

4.2.1 Almost 10 kg of pottery was recovered from the evaluation and excavation. The majority was post-medieval in date, but medieval pottery was also noted, suggesting continuous activity from the 11th century to present day. In addition, small quantities of early or middle Saxon pottery were present, as well as Roman material and a flint-tempered ware which appears likely to be of Bronze Age or early Iron age date.

4.3 Flint

4.3.1 The evaluation and excavation produced 82 worked flints and 156 pieces of burnt unworked flint. Of the worked flints, most were undiagnostic, though blades, cores and scrapers are also present. The assemblage represents limited amounts of prehistoric activity from Mesolithic, Neolithic and Bronze Age periods. Much of it has been redeposited.

4.4 Clay tobacco pipes

4.4.1 A small assemblage of clay tobacco pipes was recovered from the excavations, all of it post-medieval in date and probably associated with the construction and subsequent occupation of the 18th-century residential properties. The most notable pipe had Masonic decoration.

4.5 Metalwork

4.5.1 A small assemblage of metalwork, the majority of which being nails, was recovered from the excavations. All of it except a pin from a Saxon context, was post-medieval in date and probably associated with the construction and subsequent occupation of the 18th-century residential properties.

4.6 Architectural stone

4.6.1 A number of large blocks, mostly limestone building blocks and possibly post-medieval in date, were recovered. The site also yielded some smaller stones, including a slab of post-medieval white marble and fragments of architectural green sandstone.

4.7 Ceramic building material

- 4.7.1 A total of 375 fragments of ceramic building material, weighing 50,961g, was recovered from the excavation. The assemblage comprised roof tiles, floor tiles and brick samples. All date to the post-medieval period and most are probably associated with the 18th-century residential properties.

5 ECOFACTUAL SUMMARY

5.1 Animal bone

- 5.1.1 A total of 392 fragments were recovered from the excavation, adding to the 23 pieces from the evaluation. Around 50% of fragments were identified to taxon. Cattle, sheep/goat, pig, horse and dog were identified. Cattle predominated in the 11th-13th centuries, but proportions of sheep and pig were much higher in later periods.

5.2 Charred and waterlogged plant remains

- 5.2.1 Nine of the 29 samples taken during excavation were selected for processing by flotation. Charcoal and cereal grain were common to most flots. Occasional weed seeds, legumes and nutshell fragments were also noted.

5.3 Soils

- 5.3.1 The natural subsoil is classed as argillic brown sands formed on river terrace drift. Soil samples were taken from section 1552 showing what was originally presumed to be a Saxon pit underlying a medieval layer. Pottery has since given the pit a medieval or later date, with the overlying layer dating to the 19th century.

6 STATEMENT OF POTENTIAL

6.1 Stratigraphic

- 6.1.1 The potential of the pre-medieval remains is limited by the nature and scale of later activity, which has led to truncation of features and redeposition of artefacts. The prehistoric and Saxon features that have been identified, yielding just a few sherds of contemporaneous pottery, must be considered unreliable in light of the site history. That said, artefactual material clearly indicates prehistoric, Roman and Saxon activity in the area, and provides evidence for the origins of Kingston. A published note should draw attention to this.
- 6.1.2 The medieval and post-medieval evidence provides useful information about industrial and agricultural activity in the area, and the residential development of Kingston. While good artefactual evidence is generally absent, the broad phasing of the site, together with information from other investigations in the vicinity, allows a picture of medieval and post-medieval life in this part of the town to be drawn.

6.2 Artefactual and ecofactual

Pottery

- 6.2.1 The assemblage was fragmented and does not merit further analysis. The few Roman sherds should be identified to complete the record and relate to Roman material from previous investigations of the area.

Flint

- 6.2.2 The flint assemblage was of limited size, poor condition, and of a largely residual nature. This mainly redeposited collection merits no further work.

Clay tobacco pipes

- 6.2.3 The assemblage is of minimal potential. The pipe with Masonic decoration is noteworthy, but otherwise no further work is recommended.

Metalwork

- 6.2.4 The assemblage is of minimal potential. No further work is recommended.

Architectural stone

- 6.2.5 In general, the stones could be described, and the moulding profiles should be noted for the archive, but none is likely to be worth publishing or be the subject of much further study, unless thought to come from an adjacent structure.

Ceramic building material

- 6.2.6 The assemblage probably relates to the 18th-century residential dwellings constructed on the site. Further analysis of the fabric of the brick samples and comparison with other material in the Kingston-upon-Thames area may help to indicate their source, and refine their dating. In general the assemblage will yield little further information apart from confirming the fact that there was a tiled building, or out-house, in the area in the post-medieval period. No further work is recommended.

Animal Bone

- 6.2.7 The assemblage is in reasonable condition with a good proportion of identifiable bone. It has the potential to contribute to a picture of the subsistence economy, in relation to period and other archaeological findings. Large groups are generally absent, however, and no further analysis is required.

Charred plant remains

- 6.2.8 The charred plant remains are of minimal potential and no further work is recommended.

Soils

- 6.2.9 No further work is recommended.

7 RESEARCH AIMS

7.1 Original aims

7.1.1 The pre-excavation research aims as set out in the PDS (OA October 2001), which take regional and national research priorities into account (MoLAS 2000), are summarised as follows:

- To identify the sequence and chronology of site occupation.
- To identify the topographic and environmental conditions that determined human activity.
- To identify the social and economic conditions within which human occupation was undertaken.

7.1.2 In addition, a number of period-specific questions were formulated:

Neolithic/Bronze Age

- From where did the prehistoric material derive? Is there evidence of in situ activity?
- Is there evidence for deforestation?

Saxon

- What evidence is there for human activity immediately prior to the Saxon settlement? Is there evidence for the Romano-Saxon transition?
- When and how did the Saxon settlement develop and what was its character?
- Can the agricultural basis for the settlement economy be defined?
- Can any craft/industrial activities be defined?
- What evidence is there for the architecture of the buildings?
- When was the settlement abandoned?
- Can the pottery help to better define dating for this period?
- What is the relationship of the Saxon period archaeology to the later ploughsoil?

Medieval/post-medieval

- What is the nature of medieval/post-medieval evidence in terms of human activity? How far does the evidence relate to industrial or horticultural activity?
- How does the medieval occupation relate to the Saxon settlement?

7.2 Revised aims

7.2.1 In light of excavation results, a number of the research aims listed above no longer remain valid. Revised aims are as follows:

- To identify development and chronology, the topography and environment, and social and economic conditions of site occupation, and relate these to evidence identified in previous investigations.
- To establish whether the lack of prehistoric and Saxon activity was as a result of the topography of the site. The low lying nature of the eastern part of the site may have made it unsuitable for occupation.
- To report on the pre-medieval evidence and put this into context of other contemporaneous occupation evidence identified in the area.
- To determine the nature of the medieval/post-medieval evidence.
- To prepare the archive for deposition.

8 METHODOLOGY

8.1 Stratigraphic

- 4.1.2 Little further stratigraphic analysis is required, and the work undertaken for the assessment report will largely form the basis of the final published document.

8.2 Artefactual and ecofactual

General

- 8.2.1 The assemblages require no further work, and therefore summaries of assessment reports will be published.

Pottery

- 8.2.2 No further analysis is recommended, except to identify prehistoric, Saxon and Roman pottery using MoLAS codes where possible.

9 PUBLICATION

9.1 Publication outline

- 9.1.1 It is recommended that a note on the findings be published in Surrey Archaeological Collections (*c* 5 pages).

9.2 The archive

- 9.2.1 All post-excavation documentation will be filed, ordered and indexed as part of the research archive in accordance with guidelines laid down by the receiving museum. After completion of the project the archive will be deposited with the Museum of London, a copy also going to the National Monuments Record in Swindon.

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APPENDIX 1 ASSESSMENT OF THE POTTERY

by Paul Blinkhorn

The pottery assemblage comprised 470 sherds with a total weight of 7,912 g. The estimated vessel equivalent (EVE), by summation of surviving rimsherd circumference (Saxon and medieval wares only) was 0.61.

The majority of the assemblage was of post-medieval or modern date (*c* 85 % by weight), but medieval pottery was also present, with the range of wares suggesting continuous activity at the site from around the 11th century to the present day. In addition, small quantities of early or middle Saxon pottery were present, as well as a flint-tempered ware which appears likely to be of Bronze- or early Iron Age date, and a few sherds of Roman material were also noted.

Fabric

The fabric codes utilized are those of the Museum of London post-Roman type-series (Vince 1985; Blackmore 1988), as follows:

- SLGSA, Sand-tempered handmade ware, 400-850. 5 sherds, 50 g, EVE = 0.03 (jar rim).
 CHAF, Chaff-tempered handmade ware, 400-850. 1 sherd, 8 g, EVE = 0.
 EMS, Early medieval sandy ware, 970-1100. 20 sherds, 272 g. EVE = 0.15 (jars = 0.07, bowls = 0.08).
 ESUR, Early Surrey ware, 1050-1150. 4 sherds, 14 g, EVE = 0.
 LOND, London-type ware, 1080-1350. 9 sherds, 65 g, EVE = 0.
 KING, Kingston-type ware 1230-1400. 7 sherds, 50 g, EVE = 0.07 (jugs).
 CBW, Coarse border ware, 1270-1500. 20 sherds, 298 g, EVE = 0.31 (all jugs).
 TUDG, 'Tudor green' ware, 1380-1500. 3 sherds, 4 g, EVE = 0.
 MPUR, Midlands purple ware, 1400-1500. 2 sherds, 10 g, EVE = 0.
 CSTN, Cistercian ware, 1480-1600. 1 sherd, 3g. 1 sherd, 6 g, EVE = 0.
 PMR, Post-medieval redware, 1580-1900. 72 sherds, 1,825 g.
 TGW, English tin-glazed ware, 1570-1800. 5 sherds, 56 g.
 STSL, Staffordshire slipware, 1650-1800. 2 sherds, 35 g.
 CREA, Creamware, 1740-1880. 15 sherds, 136 g.
 ENPO, English porcelain, 1745-1900. 2 sherds, 12 g.
 ENGS, English stoneware, 1700-1900. 9 sherds, 687 g.
 PEAR, Pearlware, 1770-1850. 12 sherds, 21 g.
 EYGE, English yellow-glazed earthenware, 1785-1835. 10 sherds, 129 g.
 CHINA, 'Ironstone' china, 1800-1900. 233 sherds, 4074 g.

In addition, the following were noted:

?*Bronze Age/Early Iron Age*: 24 sherds (118 g) of plain bodysherds in a flint-tempered ware were also noted. The fabric comprised sparse to moderate angular burnt white flint up to 2 mm in a very soft sandy matrix. Several late Saxon and medieval fabrics are known from London and its environs with flint temper, but all the sherds from this site were extremely

abraded, even when they occurred in contexts with Anglo-Saxon sherds which were not, suggesting that they are of prehistoric rather than post-Roman type.

Three sherds (33 g) of Romano-British pottery were also present.

The pottery occurrence by number and weight of sherds per context by fabric type is shown in Table A1.1. Each date should be regarded as a *terminus post quem*.

Generally, the Anglo-Saxon and medieval assemblages were fragmented, with most sherds quite small. All the Anglo-Saxon handmade sherds were undecorated, and the only feature sherd was an extremely small fragment (3% complete) of a simple upright rim. A few rimsherds were noted amongst the medieval material, but generally the assemblage does not merit further analysis.

Table A1.1: Pottery occurrence by number and weight (in g) of sherds per context by fabric type

	PHIST		RB		SLGSA		CHAF		EMS		ESUR		LOND		KING		CBW		TUDG		MPUR		CSTN		PMR		TGE		STSL		ENGS		CREA		ENPO		PEAR		EYGE		CHINA		Date	
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt				
1507			1	10	1	3																																			E/MS			
1526																												1	2												M18thC?			
1568																			1	45																				16thC				
1571	1	1																																						PHIST?				
1575																											1	309													19thC			
1584																1	6	1	1					1	3															16thC				
1590																					2	3																		L14thC				
1592					1	6									1	25																								M13thC				
1595																							1	7																16thC				
1598															1	6																								M13thC?				
1601																											1	5													17thC			
1603																												1	5												19thC			
1605	1	1																																							PHIST?			
1616					1	7																																			12thC?			
1618															1	6	1	4	1	15																					M13thC?			
1625									1	11																															M13thC?			
1629																																										L15thC		
1634																													1	5											19thC			
1637																																									2	9	19thC	
1646																																										3	8	19thC
1650	1	4	1	3																																						1	24	19thC

	PHIST		RB		SLGSA		CHAF		EMS		ESUR		LOND		KING		CBW		TUDG		MPUR		CSTN		PMR		TGE		STSL		ENGS		CREA		ENPO		PEAR		EYGE		CHINA		Date							
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt										
1652																		1	7									3	33	6	45													17thC						
1659																																												3	27	19thC				
1663															1	2																													16thC					
1668	6	42								2	3																																		11thC?					
1671																																													16thC					
1673																																												1	1	19thC				
1678																																													16thC					
1680																																													3	29	19thC			
1692																																															M18thC			
1693											1	17																																		11thC?				
1695																																														1	15	19thC		
1695																																															19thC			
1715																																														32	1433	19thC		
1716																																														5	11	19thC		
1730											1	29																																				11thC?		
1744	1	2																																														M13thC		
1762																																																	M13thC	
1764																																																	17thC	
1766																																																	M13thC	
1767																																																2	26	19thC
1768	1	1																																															15thC	
1771																																																	16thC	
1773																																																		17thC
1794																																																		M13thC

	PHIST		RB		SLGSA		CHAF		EMS		ESUR		LOND		KING		CBW		TUDG		MPUR		CSTN		PMR		TGE		STSL		ENGS		CREA		ENPO		PEAR		EYGE		CHINA		Date
	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt			
2225											1	2																															M11thC
2242									7	153					1	5																											M13thC
2242																																											M13thC
2270																																							1	5			19thC
2275					1	25																																					E/MS??
	24	118	3	33	5	50	1	8	20	272	4	14	9	65	7	50	20	298	3	4	2	10	1	6	72	1825	9	56	2	35	9	687	15	136	2	12	12	21	10	129	233	4074	

APPENDIX 2 ASSESSMENT OF THE FLINT

by Kate Cramp

Introduction

The evaluation and excavation produced a combined total of 82 worked flints, (*Table A2.1*). A further 156 pieces of burnt unworked flint, collectively weighing 1.79kg, was also retrieved. The majority of the assemblage was recovered in the course of the excavation, which provided 84.1% (69 pieces) of the worked component, and 78.8% (123 pieces) of the burnt unworked component.

Category:	Evaluation:	Excavation:	Total:
Flake	8	36	44
Blade-like	1	3	4
Blade	1		1
Core face/edge rejuvenation flake		4	4
Irregular waste	1	6	7
Chip		3	3
Single platform flake core		1	1
Multi-platform flake core		1	1
Single platform blade core		1	1
Core on a flake		1	1
Tested nodule		3	3
Retouched flake	1	6	7
End scraper	1	1	2
Thumbnail scraper		1	1
Burin		1	1
Miscellaneous retouch		1	1
Burnt unworked flint	33	123	156
Total:	46	192	238

Table A2.1: Flint by type from the evaluation and excavation.

The flint work forms a low-density spread across the site, and is generally in a poor condition. The majority consists of undiagnostic flake material, for which it has only been possible to ascribe a broad Neolithic or Bronze Age date. The presence of a blade core (context 2266) and possible burin (context 2220) imply a Mesolithic element, whilst evidence for early Bronze Age activity is indicated by the presence of a burnt and broken thumbnail scraper, (context 1846). Given the paucity of diagnostic types and in-situ material, however, further interpretation is largely prohibited.

Methodology

All the worked flint within the assemblage was individually examined and catalogued using an MS Access database according to broad artefact/débitage type. Technological information was recorded throughout the analysis, particularly where such data contributed to the characterisation of the assemblage. Dating was attempted where possible. Further observations with regard to the condition, degree of cortication, and type of raw material were commented on where appropriate. Cores and core fragments were classified according to the organisation and types of removals exhibited, and were individually weighed. Burnt flint was described and quantified by piece and by weight. Additional information, such as the degree of calcination, was recorded where relevant.

Condition

The majority of the assemblage was uncorticated, and in a poor condition. A total of 51 pieces (62.2% of the assemblage) were recorded as exhibiting a moderate or heavy degree of post-depositional damage, and numerous pieces were rolled and glossed. A total of 38 flints (46.3%) were broken. Modern ploughing activity is probably responsible for a considerable proportion of the observed damage and breakage. Only ten pieces (12.2%) were recorded as fresh. These were recovered from contexts 1650, 1668, 1846, 1916, 1948, 2008, 2226 and 2266. In general, the condition of the assemblage implies that it consists largely or entirely of redeposited material.

Raw material

For the most part, the raw material used for the production of the tools and débitage was probably a locally available gravel flint, characterised by a thin, abraded cortex and the occasional presence of thermal fractures. The use of bullhead flint, which occurs at the base of the Reading Beds (Dewey and Bromehead, 1915; Shepherd 1972, 114), was represented by two pieces. These were recovered from contexts 411 and 1916. A small number of flints of possible chalk flint manufacture were also recovered, including two flakes (contexts 1948 and 2008), one blade-like flake (context 1693), one blade (context 309) and one rejuvenation flake (context 1507). In most cases, the cortex on these pieces exhibited a slight staining and abrasion that implies it was procured from surface deposits of chalk flint.

Technology and dating

The assemblage is composed mainly of undiagnostic flakes, which can be dated broadly to the later Neolithic and Bronze Age. A total of 44 were recovered, (*table 2*). Blades and blade-like flakes were less numerous, represented by a total of five pieces or 6.3% of the assemblage (excluding chips). The blade-like secondary flake from context 2220 may be attributed to the Mesolithic, although it is conceivable that it represents an earlier Neolithic product. The snapped tertiary blade with a small amount of platform edge abrasion from context 309 may also be dated to this period. In general, the paucity of blade material implies that the flint work is mostly of later prehistoric date, (Ford, 1987).

Limited evidence of knapping activity is provided by four cores, three tested nodules and four core rejuvenation flakes. The single platform flake core from context 2225 is likely to be of an earlier Neolithic date, and exhibits several flake and blade-like flake removals which have been taken from a single platform with an abraded edge. The blade core from context 2266 probably dates broadly to the Mesolithic, and appears to have been reduced using a soft-hammer percussor.

The retouched component consists of a total of 12 pieces (15.2%), including seven edge-retouched flakes, two end scrapers, a thumbnail scraper, a burin and a miscellaneous retouched piece. The latter, from context 2034, consists of a thermally fractured blank exhibiting some possible bifacial retouch to one edge. The broken edge-retouched flake from context 1916, manufactured from bullhead flint, can be dated broadly to the Neolithic or early Bronze Age. Some edge gloss was noted on the ventral surface of the retouched flake from context 1841. It is possible that this piece represents a heavily worn serrated flake. The end scraper from context 1841 has been finely retouched on a blade-like flake blank, and possibly dates to the Mesolithic or earlier Neolithic. A probable burin on a truncation was recovered from context 2220. This piece, which can be dated broadly to the Mesolithic, exhibits a shallow proximal notch and truncating distal retouch, into which a small burin removal has been made. The thumbnail scraper (context 1846) is of early Bronze Age date, and has been relatively heavily burnt. It is possible that the flint work associated with this piece, including three flakes and a rejuvenation flake, are of a similar date. All were recorded as being in a fresh or slightly damaged condition, suggesting minimal post-depositional disturbance.

Small concentrations of flint work were also noted in contexts 1507, 1668 and 2008, although the quantity recovered did not exceed eight pieces. Within these assemblages, the flint work was in a variable condition and appeared to represent redeposited material of mixed date. Most pieces were undiagnostic; a few could be dated broadly to the Neolithic.

Most of the burnt unworked component formed a thin scatter across the site, which was punctuated by a few minor concentrations, (*table 3*). The largest assemblage was retrieved from context 1650, which contained 16 pieces weighing 180g. Smaller concentrations were also noted in contexts 414, 610, 1730, 1846, 2083 and 2226. The majority of the burnt unworked flint was heavily calcined; some pieces were slightly reddened in places. Where it could be determined, it appeared that gravel flint deposits provided the main source of this raw material.

Discussion and recommendations

The assemblage appears to represent limited amounts of prehistoric activity from the Mesolithic, Neolithic and Bronze Age periods. The poor condition and mixed date of the material implies that much of it has been redeposited.

The flints were recovered from 40 individual contexts, indicating the low-density of the distribution involved; most contexts only produced a single flint. A few minor concentrations were nonetheless noted in the general spread of material, including the small assemblages from contexts 1507, 1668, 1846 and 2008. In two cases, these flints occurred with quantities of prehistoric pottery.

Given the limited assemblage size and its largely residual nature, no further work is recommended.

Area:	Context:	Flake	Blade	Blade-like	Edge/face rejuvenation flake	Irregular waste	Chip	Single platform flake core	Multi-platform flake core	Single platform blade core	Core on a flake	Tested nodule	Retouched flake	End scraper	Thumbnail scraper	Burin	Miscellaneous retouch	Total:
Evaluation	309		1															1
	311												1					1
	410	1																1
	411	1																1
	607	3																3
	608	1																1
	624	1																1
	627			1														1
	806													1				1
	812	1																1
	924						1											1
Excavation	1507	5			1								2					8
	1514	1																1
	1593	1																1
	1606	1																1
	1616											1						1
	1625	3				1												4
	1629												1					1
	1633										1	1						2
	1650	2					1											3
	1663	1				1												2
	1668	3			1			1					1					6
	1693			1														1
	1716	1																1
	1730					1												1
	1744	1																1
	1800			1														1
	1823	1																1
	1841	1											1	1				3
	1846	3			1											1		5
	1878							1										1
1916						1							1				2	
1948	2					2											4	
2008	6											1					7	

2034	1																	1	2
2083	1																		1
2220			1														1		2
2225				1					1										2
2226	1								1										2
2266	1															1			2
Total:	44	1	4	4	7	3	1	1	1	1	1	1	3	7	2	1	1	1	82

Table A2.2: Worked flint by type and by context.

Area:	Context:	Total number of pieces:	Total weight (g):
Evaluation	306	2	18
	309	2	35
	414	4	122
	607	1	12
	608	1	9
	610	6	88
	624	6	129
	627	3	77
	710	4	71
	806	2	26
	812	2	13
Excavation	1507	3	48
	1509	2	78
	1515	1	19
	1571	2	14
	1598	1	4
	1629	3	16
	1650	16	180
	1668	3	47
	1730	6	102
	1823	2	18
	1846	5	134
	1878	1	6
	1929	3	68
	1948	3	59
	2008	4	56
	2021	1	12
	2034	13	64
	2083	23	80
	2226	26	80
	2252	4	88
	2275	1	15
Total:		156	1788

Table A3.33: Burnt unworked flint by piece and by weight.

APPENDIX 3 ASSESSMENT OF THE CLAY TOBACCO PIPES*by Leigh Allen*

A total of 38 clay pipe fragments were recovered from the excavations at Kingston-upon-Thames. The majority of the assemblage comprised broken fragments of pipe stem. There are however 8 fragments from bowls, 5 of which are either decorated and/or bear the initials of the maker on the base or spur.

Table A3.1 Incidence of clay tobacco pipes

Context	Stem/bowl	date of context
1521	Stem	-
1537	Stem	-
1556	Stem	-
1608	Stem	-
1616	Stem	12th
1646	Bowl	19th
1652	Stem	17th
1652	Bowl	17th
1671	Stem (x2)	16th
1678	Stem (x2)	16th
1680	Stem (x3)	19th
1767	Bowl	19th
1771	Stem	16th
1773	Stem	17th
1856	Stem	-
1876	Stem	19th
1878	Stem	19th
1880	Stem (x2)	19th
1880	Bowl	19th
1882	Stem (x2)	19th
1914	Bowl	19th
1914	Base	19th
1918	Stem (x2)	19th
1952	Stem (x2)	mid 18th
1952	Bowl (x2)	mid 18th
2022	Bowl	19th
2059	Stem (x3)	19th

For the purpose of this assessment only the pipe bowl fragments have been commented on.

The bowl fragments

Context 1652

A near complete bowl, upright with fairly thick walls. A medium sized base. Undecorated. Oswald type 10 or 11 (1700-40 or 1730-60).

Context 1646

A near complete bowl, upright with a fairly wide mouth. tall with thinner walls than the previous example. The base is small and square cut. The initials 'C' and 'R' appear on either side of the base (c.1730-1780).

Context 1914

Near complete bowl, forward drooping. The bowl is small with thin walls, the spur is also small. The bowl is decorated with leaf decoration along both seams. (c1840-1880).

A second fragment from a medium sized pipe base was also recovered from context 1914 it bears the initials 'C' and 'R' on either side.

Context 2002

Near complete bowl, upright with fairly thin walls. The bowl is medium height, the base is small and square cut. This example is a highly decorated masonic bowl with the usual mason's tools; stars and moon depicted. There are also castles and a set of scales. The initials 'P' and 'I' appear on either side of the small base. (see Le Cheminant 1981, 48, fig.24 No. 48 for a pipe bearing similar masonic motifs and dated 1830-1840)

Context 1952

Damaged fragment of a bowl and stem with a small base that bears the initials 'J' and 'V' on either side.

A second fragment from this context is interesting because it has a flange at the top and base of the stem where it meets the bowl. that appears to be a deliberate moulding.

Context 1767

A tiny undiagnostic fragment from a bowl.

Summary

The small collection of bowl fragments is late 18th-19th century in date and is probably associated with the construction and subsequent occupation of the 18th-century residential properties. The most notable pipe in the assemblage is the example with the masonic decoration from context 2002. Many of the bases bear initials but as the bowls are in general incomplete there are very few other distinguishing marks. These initials may be traceable to particular makers in the London area, but in general no further work is necessary on this small assemblage.

APPENDIX 4 ASSESSMENT OF THE METALWORK

by Leigh Allen

A small assemblage of metalwork was recovered from the excavations, which is all post-medieval in date, with the exception of a single copper alloy pin shank from an early to middle Saxon context. The assemblage comprises 10 copper alloy objects and 41 iron objects, the majority of which are nails.

The copper alloy objects include a drawn wire pin (SF 2) with a wire wound head from context 1796. This type of pin was produced in huge quantities in late medieval/post-medieval period and was used to secure clothing and head-dress or in needlework. A second more robust pin shaft (SF 3) was recovered from an early/middle Saxon context 2275, unfortunately the head of the pin missing but it is possibly from a dress or hair pin. A large and fairly heavy flat circular disc with fine concentric grooves on the upper surface (SF 1) was recovered from context 1502. This object is probably a weight or possibly a gaming piece. The remaining copper alloy objects are tacks, tubes and miscellaneous unidentifiable fragments.

The iron assemblage comprises 29 structural nails of various sizes, 4 strips, 7 miscellaneous unidentifiable fragments and the corroded remains of a scale tang knife from context 2225 dating to the mid 11th century. The tip of the blade is missing, there are 3 rivets through the handle to secure the scale tangs. This object is intrusive as scale tang knives were not introduced until the late medieval/post-medieval period.

The assemblage (with the exception of the copper alloy pin shaft from context 2225) is all late in date and is probably associated with the construction and subsequent occupation of the 18th-century residential properties. The Copper alloy pin is missing its head and no further comment will be possible. No further work is recommended.

APPENDIX 5 ASSESSMENT OF THE CERAMIC BUILDING MATERIAL

by Leigh Allen

A total of 375 fragments of ceramic building material weighing 50,961g was recovered from the excavation, the assemblage comprises roof tiles, floor tiles and brick samples all dating to the post-medieval period.

The assessment has restricted itself to a quantification and broad classification of the material by type. The thickness of the tile fragments together with any complete dimensions have been recorded on to a database together with contextual data and any relevant comments. No attempt has been made at this stage to classify the fabric types. The following category headings have been used.

- Peg tile where the fragment has a perforation or a striated upper surface commonly seen on this type tile.
- Flat tile where there are no distinguishing marks.
- Curved tiles
- Bricks
- Miscellaneous where the fragments are undiagnostic.

Table A5.1 Incidence of CBM

Context	Pot date	spot	Tile type	Fragments	Thickness	weight	Comments
1663	16th		Flat	3	11-12mm	43g	-
1515			Peg	2	14mm	221g	-
1521			Misc	20	-	545g	-
1526	18th		Brick	3	62mm	158g	-
1526	18th		Curved	1	13mm	59g	-
1526	18th		Peg	1	13mm	69g	-
1530			Peg	1	13mm	33g	-
1531			Brick	1	65mm	3000g	Complete
1537			Brick	1	49mm	974g	width 105mm
1537			Brick	1	50mm	889g	-
1537			Misc	21	-	305g	
1537			Misc	1	-	24g	glazed
1537			Peg	10	13-15mm	844g	
1539			Brick	1	65mm	2500g	Complete
1539			Brick	1	60mm	1971g	Complete
1543			Brick	1	60mm	3000g	Complete
1546			Brick	1	60mm	3000g	Complete

Context	Pot date	spot	Tile type	Fragments	Thickness	weight	Comments
1551			v.thin	1	9mm	11g	-
1554			Brick	1	60mm	2500g	Complete
1556			Misc	19	-	42g	-
1556			Peg	1	11mm	46g	Hole D:16mm
1575	19th		Peg	1	11mm	76g	-
1578			Flat	1	30mm	2500g	Complete
1582			Brick	1	65mm	3000g	Complete
1584	16th		Brick	1	56mm	624g	-
1584	16th		Peg	3	12mm	251g	Hole D:15mm
1590	14th		Brick	1	56mm	542g	-
1591			Peg	2	14mm	213g	Hole D:16mm
1592	13th		Peg	5	15mm	251g	Hole D:13mm
1596			Peg	6	15mm	99g	-
1596			Peg	1	12mm	38g	Hole D:13mm
1608			Peg	1	11mm	59g	-
1616	12th		Brick	2	51mm	747g	-
1616	12th		Peg	1	14mm	34g	-
1618	13th		Misc	1	-	76g	-
1618	13th		Peg	11	10-15mm	429g	Hole D:12 +14mm
1625	13th		Flat	4	10-15mm	253g	-
1629	15th		Peg	2	11-14mm	66g	Hole D:15mm
1637	19th		Flat	1	13mm	48g	+ 1 modern frag
1642			Flat	3	12-15mm	131g	-
1646	19th		Brick	2	44mm	81g	-
1650	19th		Misc	3	-	59g	-
1650	19th		Peg	3	10-13mm	167g	Hole D:12mm
1652	17th		Flat	1	11mm	49g	-
1652	17th		Flat	1	12mm	40g	-
1652	17th		Misc	2	-	29g	-
1654			Misc	3	-	31g	-
1654			Peg	1	13mm	90g	-
1659	19th		Curved	1	13mm	60g	-
1659	19th		Peg	4	11-15mm	183g	-
1660			Misc	1	-	55g	-
1660			Peg	11	10-15mm	428g	Hole D:13mm
1668	11th		Misc	1	-	84g	-

Post-Excavation Assessment and Updated Project Design

Conte xt	Pot date	spot	Tile type	Fragme nts	Thickness	weight	Comments
1670			Flat	1	22mm	63g	* Thick tile
1671	16th		Flat	4	12-14mm	143g	-
1673	19th		Misc	1	-	29g	-
1677			Flat	2	11mm	78g	-
1678	16th		Misc	3	-	46g	-
1678	16th		Peg	6	11mm	289g	Hole D:10mm
1690			Brick	1	70mm	2750g	Complete
1692	18th		Flat	2	14mm	57g	-
1693	11th		Peg	3	12mm	61g	-
1695	19th		Peg	3	12mm	238g	Hole D:9mm
1706			Flat	1	13mm	26g	-
1715	18th		Curved	1	14mm	124g	-
1715	19th		Peg	1	14mm	134g	-
1716	19th		Misc	7	-	53g	-
1716	19th		Peg	6	10-14mm	171g	-
1720			Peg	1	-	9g	Hole D:19mm
1730	11th		Misc	1	-	7g	-
1747			Peg	1	12mm	41g	Hole D:15mm
1747			Peg	1	12mm	117g	-
1760			Peg	1	12mm	41g	-
1762	13th		Misc	2	-	83g	-
1764	17th		Misc	1	-	6g	-
1767	19th		Flat	4	11-15mm	96g	-
1768	15th		Brick	1	52mm	43g	-
1768	15th		Misc	2	-	116g	-
1768	15th		Peg	10	10-14mm	463g	Hole D:12-15mm
1771	16th		Flat	1	30mm	437g	* mortar on back
1771	16th		Flat	1	40mm	518g	* thick tile
1771	16th		Flat	1	14mm	60g	-
1773	17th		Peg	2	12-15mm	84g	-
1785			Flat	1	10mm	31g	-
1796	16th		Misc	4	-	158g	-
1800			Flat	1	7mm	14g	-
1823	PHIST		Misc	1	-	2g	-
1844			Flat	1	12mm	20g	-
1856			Flat	4	10-12mm	189g	-

Post-Excavation Assessment and Updated Project Design

Conte xt	Pot date	spot	Tile type	Fragme nts	Thickness	weight	Comments
1862	19th		Curved	2	12-15mm	216g	-
1862	19th		Flat	1	25mm	70g	-
1862	19th		Misc	6	-	203g	-
1862	19th		Peg	16	11-16mm	1006g	Hole D:15mm
1864	18th		Curved	1	12mm	21g	-
1864	18th		Flat	1	12mm	14g	-
1864	18th		Misc	3	-	58g	-
1876			Flat	1	13mm	42g	-
1878	19th		Peg	3	13-14mm	76g	Hole D:10mm
1884	19th		Peg	4	12mm	210g	-
1890	19th		Misc	3	-	51g	-
1914	19th		Misc	1	-	10g	-
1916	19th		Flat	10	10-12mm	305g	-
1916	19th		Misc	2	-	35g	-
1920	19th		Misc	1	-	3g	-
1925	16th		Flat	1	14mm	36g	-
1929	PHIST		Flat	1	13mm	31g	-
1952	18th		Peg	3	11-12mm	90g	Hole D:10mm
1964			Brick	1	65mm	2000g	Complete
1964			Flat	2	12-13mm	83g	-
1964			Misc	1	-	57g	-
1966	19th		Peg	3	12-13mm	63g	Hole D:10mm
1987			Peg	1	12mm	79g	-
1995	PHIST		Peg	1	12mm	17g	Hole D:12mm
2013	18th		Peg	3	10mm	156g	-
2018	13th		Flat	1	12mm	12g	-
2021	19th		Misc	3	-	130g	-
2022	19th		Brick	1	60mm	687g	W:100mm
2022	19th		Curved	1	13mm	139g	with flange
2022	19th		Flat	1	32mm	1013g	see below
2022	19th		Misc	1	-	258g	-
2022	19th		Peg	2	12-14mm	124g	Hole D:11mm
2023	19th		Flat	1	11mm	51g	-
2023	19th		Misc	2	-	28g	-
2029			Misc	1	-	10g	-
2034	13th		Flat	1	12mm	28g	-

Conte xt	Pot date	spot	Tile type	Fragme nts	Thickness	weight	Comments
2034	13th		Peg	2	13mm	29g	Hole D:14mm
2040			Brick	1	62mm	1523g	W:105mm
2040			Brick	1	62mm	368g	W:105mm
2040			Brick	3	-	653g	W:105mm
2040			Curved	1	14mm	103g	with flange
2045	PHIST		Flat	2	12-13mm	88g	-
2046	13th		Flat	4	12mm	98g	-
2059	19th		Misc	1	-	3g	-
2062			Misc	7	-	31g	-
2083	13th		Misc	1	-	9g	-
2096	13th		Peg	4	12-13mm	261g	-
2103	19th		Brick	1	65mm	2500g	Complete
2206			Flat	1	9mm	6g	-
2225	11th		Peg	1	15mm	123g	Hole D:14mm

The total number of fragments and the weight of each category of tile is summarised below.

<i>Tile type</i>	<i>fragments</i>	<i>Weight</i>
Bricks	28	33,510g
Peg tiles	145	7,410g
Flat tiles	67	6,684g
Curved tiles	8	722g
Miscellaneous	127	2,635g

The largest category by weight is the bricks 28 examples were recovered 10 of which were complete. The following table lists the complete dimensions where present and indicates a fair degree of uniformity in the size.

Table A5.2 Dimensions

Context	Length	Width	Thickness
1554	-	100	60
1539	220	105	65
1531	220	105	65
1539	220	100	60
1543	220	100	60
1546	220	100	60
1582	225	100	65
2103	225	95	65
1690	230	105	70
1964	235	95	65

The peg tiles are the second largest group although the vast majority of the flat tile fragments are probably also from peg tiles. The thickness ranges from 10-16 mm with no complete examples recovered. Many fragments have nail holes near the upper surface a single example from context 1537 has two nail holes at one end. The nail holes vary in diameter from 10-19 mm and are very crudely made. Irregular in shape they taper towards the back of the tile and are often applied at an angle. In a number of cases they barely break through the back of the tile.

As mentioned above many of the 66 flat tile fragments with a thickness between 10-16 mm are probably from peg tiles. There are however a number of thicker tiles including one complete example which are probably floor tiles. They have a thickness in the range 22-40 mm, the complete example from context 1578 measures 250 mm x 250 mm x 30 mm, and a second large fragment with a thickness of 32 mm has a near complete width (or length) of at least 185 mm and could be a further example of the same type. They both have slightly flared well cut sides.

There are 8 examples of curved tiles probably ridge tiles and two examples (context 2022 and 2040) of curved fragments with squat flanges at the end that may be fragments from drain pipes.

The assemblage is post-medieval in date (material recovered from early contexts is almost certainly intrusive) and probably originates from the residential dwellings that are known to have been constructed on the site in the 18th century. Further analysis of the fabric of the brick samples and comparison with other material in the Kingston-upon-Thames area may help to indicate their source and refine their dating but in general the assemblage will yield little further information apart from the fact that there was a tiled building or out-house in the area in the post-medieval period.

APPENDIX 6 ASSESSMENT OF THE ARCHITECTURAL STONE*by Julian Munby***Large Stones**

There are a number of large blocks, mostly of limestone (some probably Reigate stone), which are building blocks, possibly post-medieval (Nos. 12, 15, 16, 26, 29 & 30). Some have working or re-working, such as a smooth hollow (15) and a tapered end (29).

A few items, mostly of Reigate stone, have mouldings indicating they are medieval or early modern: a block with rebate (14), window jambs or mullions (17, 28, 30), and there is one sloping window sill (18). Others are of indeterminate date, such as the angled coping stone (27), a column section (19), and a hollow moulding (21). In addition there are some plain slabs (20, 25, & 31)

Small stones

Apart from the fragments of a post-medieval slab of white marble, the small stone objects are mostly of no consequence, unless their context suggests that they should be considered more carefully.

APPENDIX 7 ASSESSMENT OF THE ANIMAL BONE

by Julie Hamilton

Animal bone hand-retrieved from excavation areas was scanned, and fragments were identified as far as possible and counted. Surface condition, presence of pathology, burning, butchery and gnawing marks, and potential for measurement and ageing information were noted.

A total of 392 fragments were recovered (slightly fewer than on box contents sheet because of joins), of which 50% were identified to taxon. To avoid undue distortion of the totals, 61 dog bones from one individual (feature 1717) and 20 horse hind limb bones from one individual (feature 2029) were each counted as 1: on this basis, 38% of bone was identified. These data are summarised by date, using the pottery spot-dating of features (Table A7.1).

Table A7.1. Numbers of fragments by species, with numbers and percentages identified

Date	Sheep/g oat	Cattle	Pig	Horse* ¹	Dog* ²	Bird	N Ident	N Unident	Total	% Ident
PH/Saxon							0	7	7	0.0
11-13th C	2	19					21	47	68	30.9
14-18thC	12	9	1			1	23	43	66	34.8
19thC	24	12	5			11	52	61	113	46.0
undated	9	4	3	3	1	1	21	36	57	36.8
TOTAL	47	44	9	3	1	13	117	194	311	37.6
% of Ident fragments	40.2	37.6	7.7	2.6	0.9	11.1				

*¹ 20 bones from 1 individual counted as 1

*² 61 bones from 1 individual counted as 1

Cattle, sheep/goat (no positive goat), pig, horse and dog were identified. There was also a partial metatarsal from a smaller mammal, possibly cat. Of the 13 bird fragments recovered most were very immature, but potentially further identifiable (and probably from domestic fowl). Cattle predominated in the 11-13th centuries, but proportions of sheep and pig were much higher in later periods: this is a potentially interesting finding if confirmed in subsequent study.

Apart from the groups of bones from single individuals, fragmentation was generally high, with few complete bones: in many cases breaks, gnawing damage etc. seemed to represent the condition of the assemblage before recovery, though some breakage was recent.

Surface condition of the bone was scored from 1 (just recognisable) to 5 (perfect): scores ranged from 2 to 5, averaging 3.6 (some surface damage/erosion), indicating reasonable potential for observation of other surface alteration e.g. butchery. Prehistoric/Saxon fragments were noticeably worse preserved (average 2.3), and surface condition was slightly better for more recent bone overall, as was identifiability. 4 fragments were noted as burnt, while 10 showed signs of dog gnawing, 43 of butchery, and none of pathology (out of 392 fragments):

detailed examination would probably increase these numbers. Of the 196 identified fragments 35 were noted as measurable and 53 as contributing ageing data.

Overall, the bone recovered is in reasonable condition. Where good groups of bone are found from dated contexts, these would repay further study. Depending on the amount of bone recovered in further excavation, there is high potential for information on species present, ageing data, and measurements, as well as taphonomic information, especially on butchery, to contribute to a picture of the subsistence economy in relation to period and other archaeological findings.

APPENDIX 8 ASSESSMENT OF THE CHARRED PLANT REMAINS

by Gaylynn Carter and Dana Challinor

A total of 29 samples were taken during the excavation for the recovery of charred plant remains. Of these, 9 were selected for assessment on the basis of potential by feature type and phasing. The samples were processed by flotation using a modified Siraf-type machine, with the flot collected on a 250µm mesh. After air drying the flots were scanned for material under a binocular microscope at x10 and x20 magnification.

Phase, century	Sample Number	Context Number	Volume Processed (lt.)	Volume Flot (ml)	Charcoal	Grain	Weeds	Nut-shell	Legume
18th ??	04	1536	5	95					
13th??	06	1593	40	10	++	+	+		
19th??	08	1514	10	5	+		+		+
mid 13th	12	2034	40	60	++	+			
mid 13th	14	2083	40	45	++	++		+	
19th??	23	1650	40	145	+++	++	+		+
16th??	32	1785	20	35	++	+		+	
19th	38	1878	20	150	++	+	+	+	
mid 11th	42	2226	40	50	++	+	++		+

Key: + = present (up to 5 items), ++ = frequent (5 - 25), +++ = common (25 - 100), ++++ = abundant (>100)

Table A8.1: Results of the charred plant remains assessment

The flots varied in size but were generally similar in character, see Table A8.1. The majority of the flots, (contexts 1536, 1650, 1785, 1878, 2034, 2083 and 2226), contained abundant quantities of coal and a fuel-ash type residue, resembling clinker. The extent of this material suggests in most cases that this represents fuel residue contemporary with the feature, dating from the 16th to 19th centuries. Contexts 2034, 2083 and 2226 date from the mid 11th to mid 13th centuries and therefore the residue material may represent intrusive contamination from later activity on the site. Charcoal was frequent to common in most of the contexts, except 1536, where it was entirely absent, and 1514 where it was rare. A range of taxa were noted, but mainly dominated by *Quercus* sp. (oak). Cereal grain was present in small quantities in all flots except 1536 and 1514, but the preservation was generally poor and fragmentary. The occasional free-threshing *Triticum* sp. (wheat) was noted. Occasional charred weed seeds were present in the flots but many of these were highly vitrified making identification difficult. A number of probably modern weed seeds of *Sambucus nigra*, (elder), were present in 2034. Contexts 1514, 1650 and 2226 produced pea-sized legumes in addition to grain and weeds, and contexts 1785, 1878 and 2083 produced occasional nutshell fragments. Context 1593 contained common small mammal bone, including vertebrae and long bones.

Overall the identifiable charred plant remains recovered from the samples processed are of minimal potential, indicating only that industrial activity requiring coal fuel was occurring from around the 16th century. The dating of the contexts is insufficient in a number of cases

to exclude the possibility that they represent later, 19th century, activity. The contexts, which are securely dated to earlier phases, contained similar levels of coal and 'clinker' as the later deposits, which may indicate contemporary fuelburning, or may be the result of intrusive contamination from later deposits. The probable contamination and poor preservation in these samples indicates that their potential for economic reconstruction is low. Consequently it is recommended that no further work is necessary on these samples, although any unprocessed samples from features which can be securely dated to the Saxon period should be looked at. Remaining unprocessed samples from the later phases of activity, or those which lack secure dating are unlikely to produce material worthy of further analysis. Sampling from any future excavation in this area should be limited only to features of possible Saxon and earlier date, or features which are securely sealed and not at risk of later intrusion.

APPENDIX 9 ASSESSMENT OF THE SOILS

by Richard I Macphail

Introduction

The Saxon site at Kent Road, Kingston-Upon-Thames was visited 15th November 2001. It is located just south of a tributary (Hogsmill??) running west into the Thames some 100 m away. A number of areas of the site were discussed with Andy Norton (Oxford Archaeology) and section 1552 deemed the best to investigate. The site is composed of few enigmatic cut features, few finds of likely Saxon origin and inferred ploughsoil accumulation (Andy Norton, pers. comm.). Section 1552 was examined and sampled.

Local soils

The soils on site can be classed as argillic brown sands (Ebtree soil series; Hucklesbrook soil association) formed on river terrace drift (Jarvis *et al.*, 1984; Jarvis, *et al.*, 1983)(Table A9.1). Section 1552 is an exposure of a concrete covered buried soil, some 1.50 m in depth. A 19th century humic topsoil and dump cuts/occurs over an earlier formed humic buried topsoil to a depth of around 350 mm. This is the likely topsoil of a ~600 mm thick (950 mm depth) of Saxon-medieval-recent soil, that occurs over the mixed infill of a probable Saxon cut feature (1729)(Table A9.1). The boundary between the homogeneous 'Saxon' soil and the cut feature fill contains layers of brownish yellow sand and few coarse fragments of reddish yellow sandy loam, identified as possible Bt horizon material (Table A9.1)(Avery, 1990). The bottom of the section exposed the lowermost brownish yellow sands of the B/Ck horizon and displayed calcium carbonate infilled channels (Table A9.1).

The field evidence is consistent with Saxon occupation and erosion of the natural argillic brown sand/sandy loam soil, down a *c* 2-3° slope running north to the tributary of the Thames. Soils seem to have been severely truncated mainly down to the lower subsoil B/Ck horizon, with only rare relic fragments of likely Bt horizon material being preserved in deep cut features/quarries(?).

Samples and proposed study

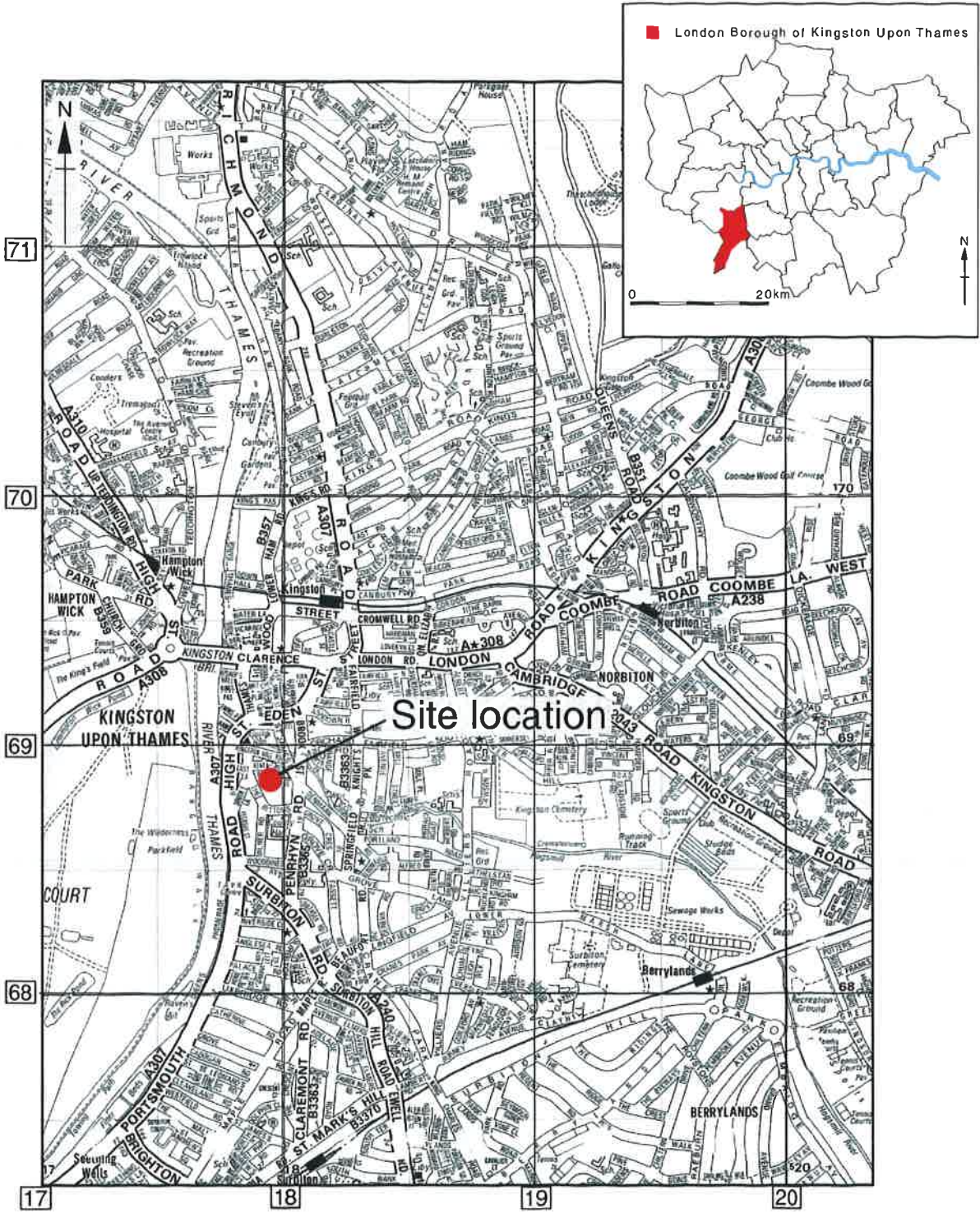
Two undisturbed Kubiena box and three bulk samples were taken (Table A9.1). It is suggested that, 1) the junction between the 'Saxon' soil and cut feature-fill, including a fragment of likely eroded/dumped Bt horizon material, and 2) the overlying lower 'Saxon' soil should be studied through soil micromorphology (Courty *et al.*, 1989). This analysis is to be complemented by three bulk sample assays (by Dr John Crowther, University of Wales, Lampeter) of organic matter (LOI), organic and inorganic phosphate and magnetic susceptibility (χ) and total potential magnetic susceptibility (χ_{max}) of the natural subsoil (B/Ck horizon) and two examples of the lower 'Saxon' soil (Crowther and Barker, 1995). These studies are intended to characterise the natural soils present and to identify the origin of the 'Saxon' soil, as a ploughsoil colluvium that may have developed into a grassland soil (Macphail, 1992; Macphail *et al.*, 1990). Chemical and microscopic traces of manuring and local activities will be sought (Macphail, 1998; Macphail and Cruise, 2001).

Coincidentally, the same soil association was studied at Hampton Court Privy Garden across the Thames by Macphail and Crowther (Macphail *et al.*, 1995; unpublished archive, Northamptonshire Archaeological Unit). Here a pre-Garden (pre-1702) ploughsoil and truncated pre-garden Bt horizon were investigated through soil micromorphology and chemistry. This database will act as a useful analogue for the present study.

NOTE: In light of ceramic dating and stratigraphic analysis, no further work is now required.

Table A9.1: Kent Road, Kingston-Upon-Thames – soil samples, November 2001

Monolith	Bulk samples	Depth	Context
Section 1552			
			1735: 19 th century dumping?; 0-100(350) mm: black (10YR2/1) humic sandy loam containing abundant coal, brick etc; sharp, irregular (including cut features) boundary.
			1656: 19 th century? topsoil; 100-350 mm: very dark greyish brown (10YR3/2) humic sandy loam, with many earthworm channels from above, few stones; gradual horizontal boundary.
M2 (700-780 mm)	2a 2b	450-550 mm 700-780 mm	1650: Saxon-medieval-recent soil; 350-890(950) mm: dark brown (10YR3/3) loamy sand, with common earthworm channels containing humic soil, fine grit (from above) (aestivation channels?); few small stones; irregular, sharp boundary.
M1 (850-920 mm)			Boundary between 1650 and 1730: base of Saxon soil and Saxon cut feature 1729; 850(920)-1200(1300) mm: mixture of dark brown (10YR3/3) loamy sand (Saxon soil), coarse fragments of strong brown (7.5YR6/8) sandy loam (eroded Bt horizon material?) and brownish yellow (10YR6/6) natural sand; sharp cut feature boundary.
	1	1.30-1.40 m	1505: natural sandy lower subsoil B/Ck horizon; 120(130)-150 m: brownish yellow (10YR6/6) sand containing tubular (channel fill) calcium carbonate infills.



Scale 1:25,000

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Figure 1: Site location.

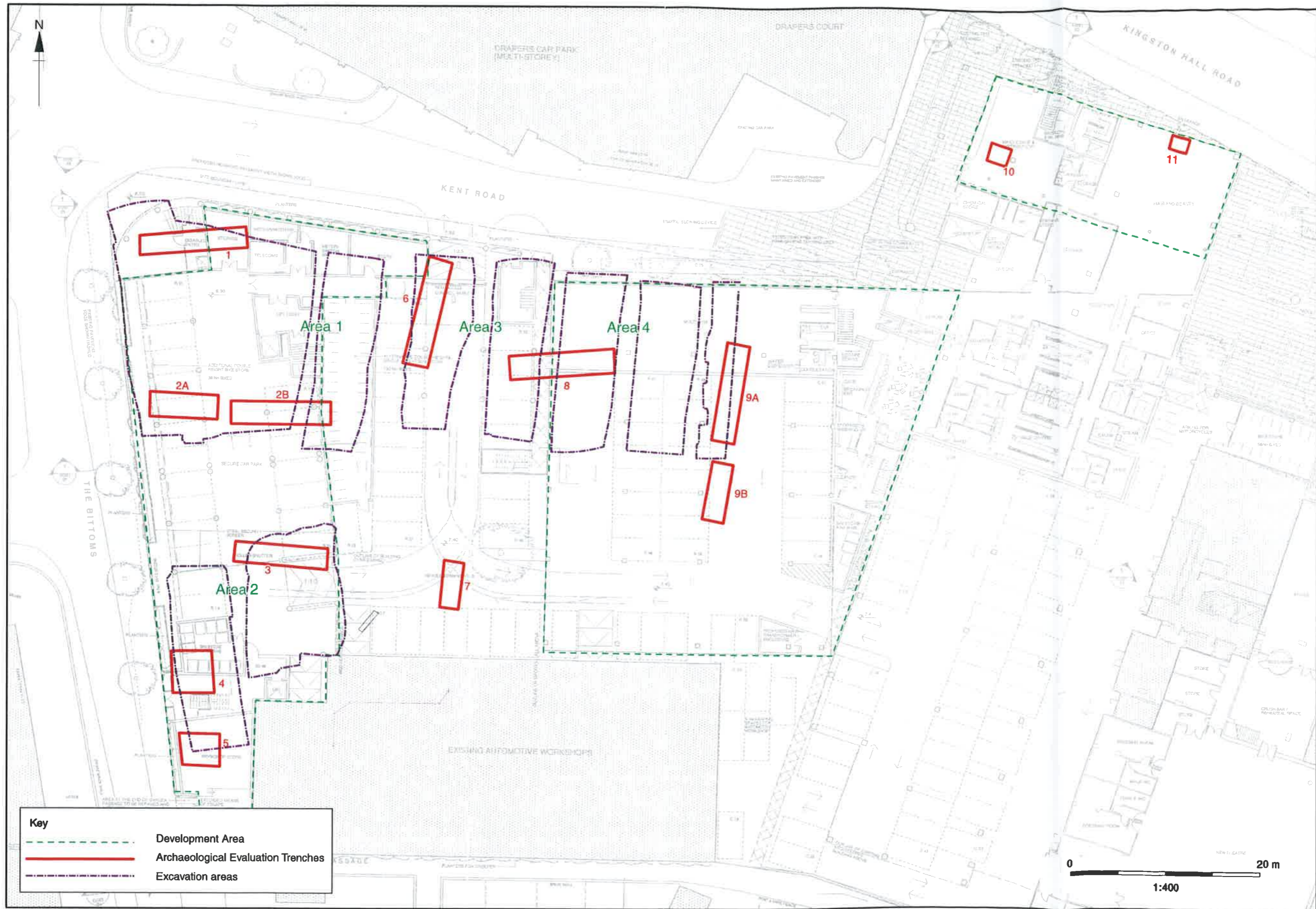


Figure 2 : Evaluation and excavation area location

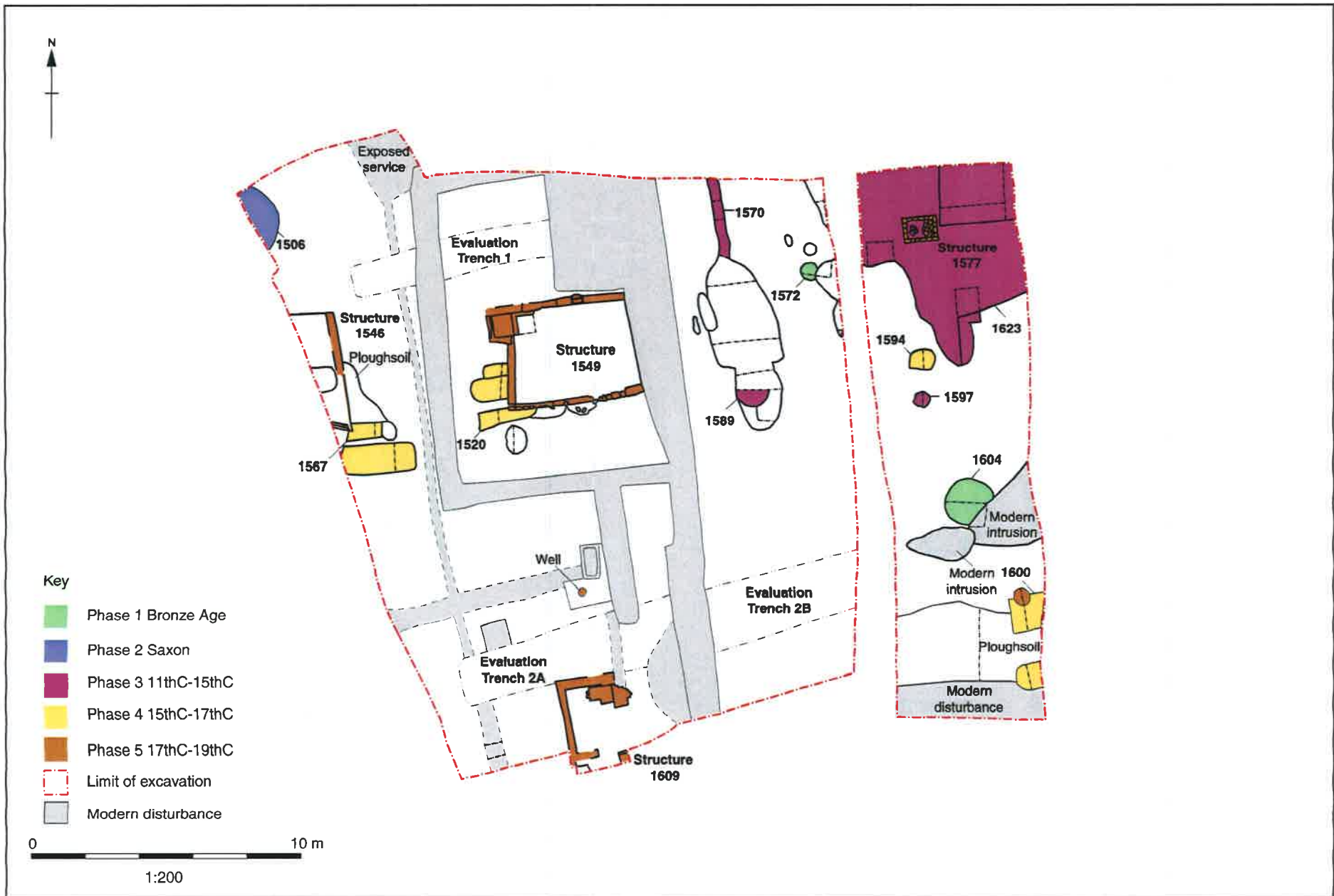


Figure 3: Area 1



Figure 4: Areas 3 and 4

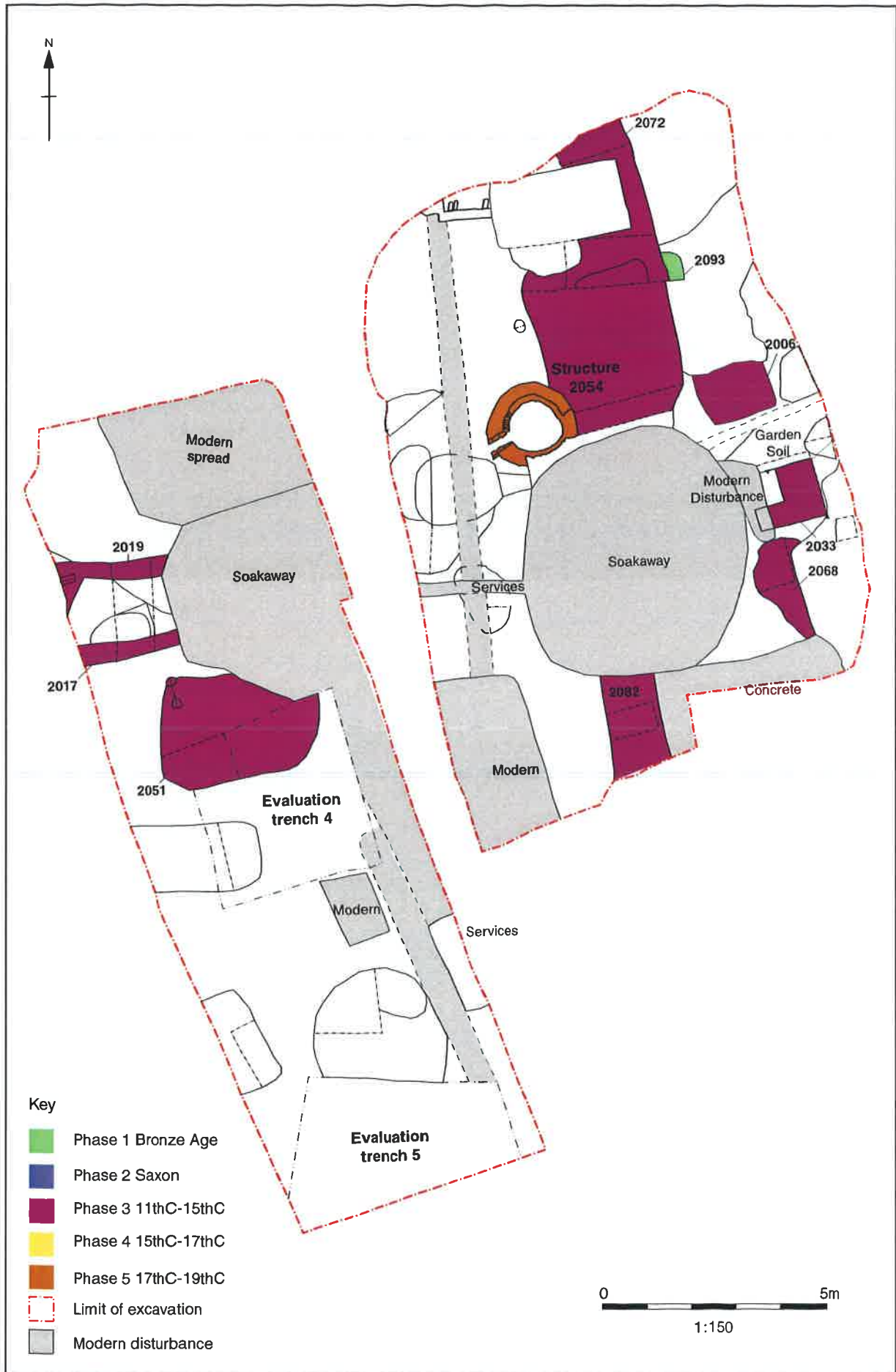


Figure 5: Area 2



Plate 1: Area 1 looking west



Plate 2: Area 2 looking south



Plate 3: Area 3 looking south



Plate 4: Area 4 (western extent) looking south



Plate 5: Area 1, Saxon pit 1506



Plate 6: Area 2, Soakaway 2054



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