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# 2004 Excavations Castle Hill Environs and Clifton Meadow Little Wittenham Oxfordshire

## Post-excavation Assessment and Updated Project Design

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# The 2004 Excavation Season, Little Wittenham, Oxfordshire

## Post-excavation Assessment and Updated Project Design

By

Hugo Lamdin-Whymark and Tim Allen

# The 2004 Excavation Season, Little Wittenham, Oxfordshire

## Post-excavation Assessment and Updated Project Design

### CONTENTS

## LIST OF FIGURES

## LIST OF TABLES

## SUMMARY

*On behalf of the Northmoor Trust, Oxford Archaeology undertook a six week excavation on the plateau below Round Hill and Castle Hill, Little Wittenham, between 1st August and 10th September 2004. Five trenches were excavated to the south and west of the late Bronze Age and early Iron Age hillfort on Castle Hill to investigate the settlement discovered outside. Four of the trenches (13, 15, 19 and 18) targeted anomalies identified in geophysical surveys and the fifth (14) extended south from Time Team's 2003 re-excavation of Rhodes (1948) investigation of a late Bronze Age/ early Iron Age midden deposit. In addition, four trenches were excavated on the floodplain of the River Thames at Clifton Meadow (11, 12, 20 and 21), to investigate possibly Bronze Age and Roman features visible on aerial photographs in fields to the south of the meadow.*

*The excavation trenches on the plateau below Round Hill and Castle Hill revealed significant archaeological remains dating from the late Bronze Age through to the Roman period. The trench investigating Rhodes' midden (14) revealed a late Bronze Age buried land surface overlain by a significant depth of early Iron Age midden. The midden accumulated in a least two episodes. A number of postholes were cut prior to, and during, the accumulation of the midden.*

*Trench 13 revealed that a long curving landscape boundary running from west of Round Hill to south of Castle Hill had two phases dating to the middle Iron Age; the ditch was cut by a Roman enclosure with at least three phases of ditch.*

*Trenches 15 and 19 both revealed early and middle Iron Age penannular gullies and pits belonging to the extensive extra-mural settlement south and south-west of the hillfort on Castle Hill. A trench on the upper slopes of Round Hill (18), however, contained only a medieval or later field lynchet, supporting the geophysical survey evidence, which suggests that the settlement did not extend onto Round Hill itself.*

*A geophysical survey and auger survey, followed by trenches in Clifton Meadow, next to the Thames at the north end of Long Wittenham parish, investigated a possible Bronze Age field boundary and a Roman trackway. The section through the possible Bronze Age field boundary (Trench 11) failed to recover independent dating evidence or significant waterlogged remains. The trenches investigating the Roman trackway revealed a ditch predating the track an the orientation of the prehistoric field-system. The Roman trackway ditch was investigated by three trenches (12, 20 and 21); only the ditches in Trenches 20 and 21, situated off the edge of the gravel terrace on the floodplain of the river Thames, contained significant waterlogged remains that allow environmental reconstruction.*

# 1 INTRODUCTION

## 1.1 Site location

The Study Area (centred NGR SU 560 940) comprises a block of land some 9 sq. km in area south of the Thames, bounded on the west and north by the river itself, on the east and south by the parish boundary of Little Wittenham, and on the south-west running from White Lees via Woodside Farm to Long Wittenham. The village of Long Wittenham itself is not included. The area is just across the river from Dorchester-on-Thames, in and around which is a nationally important concentration of prehistoric, Roman and Saxon archaeological sites.

## 1.2 Geology and topography

Most of the area is low-lying and relatively flat, and consists of first gravel terrace deposits. These are divided into 1b deposits on the SW and 1a deposits on the NE, Terrace 1b being slightly higher than 1a (and approximately delimited by the 50 m contour). Around the edge of the terrace deposits the river is fringed by alluvial floodplain deposits of varying width. To the south east the ground rises across Gault Clay and Upper Greensand strata to the Lower Chalk ridge of the Sinodun Hills, which separates the current river valley from an abandoned meander. The highest points are Round Hill and Castle Hill, the latter at around 120 m above O.D. Small deposits of plateau gravel cap both hills. South of the Sinodun Hills the ground falls again onto the Upper Greensand, and then to the Gault Clay.

## 1.3 Summary of archaeological and historical background

### *1.3.1 Cropmarks and Aerial photography*

Archaeological discoveries have been made in this area over a long period of time. The tenant farmer of Northfield Farm in the 1890s, Mr Hewett, recognised cropmarks, and produced an extensive plan (VCH Berks 1, 219), as well as excavating some of the features (Haverfield 1901). The site was flown and plotted (Allen 1938; Allen 1940), leading to the designation of the cropmarks around Northfield Farm as a Scheduled Ancient Monument. The area has subsequently been flown frequently both by the Cambridge Committee for Aerial Photography and by the RCHME, and a comprehensive plot was produced by the RCHME in 1977 (Gray 1977 Figure 1). This has since been updated by work for the National Mapping Project in 1992 (RCHME 1995).

The cropmark evidence includes single and multiple ring ditches, enclosure/field systems on various axes, pit alignments, single enclosures, small penannular enclosures and pit groups. Excavation of some of these elements was carried out by Hewett and later by Gray (see below), identifying Neolithic, Bronze Age and Roman elements within the scheduled complex. The area was included in Benson and Miles' 1974 survey

of the Upper Thames gravels (Benson and Miles 1974, Maps 35 and 36), and in 1977 Miles provided a provisional phasing of the cropmarks (Miles in Gray 1977, Appendix 2).

In 1999 Steve Baker undertook a GIS study of the cropmark evidence, attempting to phase the various elements and produce overall plans of the cropmark landscape at various periods (unpublished dissertation for the Diploma in Applied Archaeology, Oxford University). This examined the cropmarks in relation to factors such as underlying geology and current landuse, took into account the findspots and the limited previous archaeological excavations in the area, and (following on from the work of Miles in 1977) provided a provisional, but more refined, chronological development of the landscape (see also Baker 2002).

The results can be summarised as follows:

Neolithic: One possible small late Neolithic henge, but overall there was little that could clearly be identified as of this date.

Early Bronze Age: Several clusters of probable barrows, plus other scattered examples.

Middle/Late Bronze Age: An extensive field and enclosure system across the north part of the study area on a north-north-west alignment, and close to barrow clusters, was attributed to this date.

Iron Age: Several settlements, with new foci in SW (including large enclosure) and NE (including pit alignment) of study area.

Roman: Major N-S and E-W trackways across gravel terrace with settlements alongside. Largest focus in very middle of study area, with lesser foci at Northfield Farm, SE of Long Wittenham and north of Little Wittenham. Possible small enclosure in NE. Probable river crossing at Burcot to the north and possibly one north of Dyke Hills crossing east towards Dorchester.

Neither Miles' nor Baker's study dealt with the medieval period, but Lambrick commented that traces of ridge-and-furrow were visible either as earthworks or cropmarks over much of the gravel terrace (Lambrick in Gray 1977, 24), and provided most of the common fields for Long Wittenham. Miles commented upon the cropmarks of the post-medieval settlement of Littletown (abandoned 1838), visible SE of Northfield Farm (Benson and Miles 1974, Map 36; compare SMR 238242 OA 2002, Fig. 2 Nos 118 and 123).

Off the gravel terrace the cropmark evidence is less coherent. No cropmarks were evident within the interior of Castle Hill on photographs taken up until 1992 (RCHME National Mapping Project). Oblique aerial photographs flown since 1992 have been

scanned at the NMR for this project, and several potential circular features have been noted, but none has been confirmed by the English Heritage geophysical survey in 2002.

A sub-rectangular enclosure has been observed on the north-east side of Round Hill (SMR 15362, OA 2002, Figs 2 and 7 No. 20), but two sides of this correspond to boundaries visible on the 1843 Tithe Map, and it is likely that this feature is of post-medieval date. Two approximately parallel linear features have been plotted immediately east of the hillfort, running NNW towards one of the entrances to the hillfort, (SMR 15364, OA 2002, Figs 2 and 7 No. 7)) and these may indicate a former trackway. In addition, the cropmarks of two probable Bronze Age ring ditches are known south-west of Brightwell Barrow, some 500 m south-east of Castle Hill (SMR 8576).

Another pair of linear ditches some 15 m apart have been recorded south-west of the hillfort running parallel for 115 m on a north-west alignment (SMR15361, OA 2002, Figs 2 and 7 No. 103). These were not however confirmed by the more extensive geophysical survey carried out by GSB for Time Team in 2003, and may alternatively represent medieval furrows. Further cropmarks are known south of Hill Farm, comprising linear ditches at right angles (SMR 15360, OA 2002 Figs 2 and 7 No. 14) and a sub-rectangular enclosure (NMR 1076707, OA 2002, Figs 2 and 7 No. 93). These can be matched to features recovered by the more recent surveys south and east of Hill Farm, and comprise part of the Roman trackways running into the settlement from the south-west, and ditches belonging to various Iron Age boundaries and Roman enclosures.

### *1.3.2 Previous fieldwork on the gravel terrace within the study area*

The SMR and NMR data for the Study Area has been compiled and is illustrated on Figure 2. A gazetteer of this data is held on database at Oxford Archaeology. This includes evidence of every period from the Neolithic to the post-medieval, as the cropmark evidence would suggest, but there is less hard evidence than the number of SMR and NMR entries would suggest. Many of the entries are characterisations of the cropmarks already described, with provisional dates attributed solely on morphological grounds, and there is relatively little artefactual material in this large area.

*Work within the Northfield Farm complex*

An area of the Northfield Farm cropmark complex was observed and part excavated by Hewett in the 1890s (Haverfield 1901). His discoveries (OA 2002, Fig. 2 Nos 60-67) included:

1 a female skeleton with flint artefacts
2 a circular ditch containing a pit with organic material at the centre
3 wells and pits (some steyned with wood, wicker or stone) containing pottery (including Late Celtic urns from the bottom of a well), wattle and daub and leather
4 Late Celtic pottery, Samian and other local RB pottery
5 Painted wall-plaster and stone roof tiles in northern field west of the farm.

Haverfield also noted that 3rd and 4th century coins had been found south of the farm.

Part of Scabbs field (OA 2002, Fig. 2 Nos 68-70) was excavated in 1969, and reported upon by Gray (Gray 1970; Gray 1977). She interpreted a penannular ring ditch with an off-centre possible cremation as probably Bronze Age, and two pit-clusters and other isolated pits containing scraps of Bronze Age pottery as probably also of that date. The NNW-SSE aligned field or enclosure system was interpreted as pre-Roman on stratigraphic grounds, since it was cut by the N-S trackway and associated enclosures and waterholes, all of which were clearly 1st/2nd century Roman. A single Late Roman burial was also present, and scraps of Saxon pottery were found in the very top of a Roman pit or well. This feature was not bottomed as it continued below the water table.

Excavations by Margaret Gray in 1969, supplemented by trenches dug further south adjacent to the north-south Roman trackway by R Chambers in 1976, were partly undertaken to examine the effect of subsoiling on the archaeological features (Lambrick in Gray 1977, Appendix 1). Lambrick concluded that ploughing was normally carried out to 0.20-0.23 m deep, but up to 0.30 m deep for potatoes, and subsoiling to between 0.45 and 0.70 m deep. He suggested that Roman and medieval ploughing would have levelled any earthworks, and concluded that routine ploughing was unlikely to cause any further damage. On the question of subsoiling he did not feel that the evidence available to him allowed a clear determination of the effects, though he was clear that damage would occur.

Two tranchet axes were found at Northfield Farm (OA 2002, Fig. 2 Nos 135 & 139), and lithic scatters have been found on the edge of the floodplain at the very north close to the river (OA 2002, Fig. 2 No. 57).

*Other fieldwork on the gravel terrace*
Fieldwalking carried out over a field just east of Long Wittenham and just south of College Farm (Hinchcliffe 1998) revealed Roman pottery concentrated towards the south, and medieval and post-medieval pottery predominantly on the north closer to the village. A scatter of struck flints was also recovered. The Roman material was suggested to be associated with the cropmarks of an east-west trackway and a small enclosure in the same area.

### *1.3.3 Discoveries in and around Castle Hill and Round Hill*

In contrast to the situation on the gravel terraces, less coherent cropmark evidence is available for this area, but relatively more archaeological fieldwork has taken place.

*The hillfort interior*
Prior to the 2003 excavation on Castle Hill (Allen and Lamdin-Whymark 2004), no formal excavation had been undertaken by archaeologists upon Castle Hill itself, although there was amateur excavation within the clump in the 1920s that recovered Roman and Middle Iron Age pottery (now in Wallingford Museum), and also apparently included Samian and what the excavator described as Early Bronze Age pottery. Rhodes

carried out fieldwalking of the interior after ploughing in 1947 and recovered sherds of Roman and early Saxon pottery (Rhodes 1948, 18). Subsequently potsherds were recovered from rabbit holes in the ramparts (Rhodes 1948, 18; Jope 1949; Harding 1972, 1151 Plate 44E), and these were judged to be Iron Age A (now known as early Iron Age). In 1950 a bronze bracelet was recovered from the centre of the clump (SMR 3163, OA 2002 Fig. 2 No. 11). A geophysical survey of the interior was carried out using a fluxgate gradiometer by Andy Payne and Louise Martin of the Centre for Archaeology, English Heritage, in June 2002. This covered the whole of the grassed part of the interior, plus two small areas within the wooded clump.

The survey showed that there was a smaller enclosure within the hillfort, enclosing an area of about 1 ha. around the highest part of the hill. The ditch is estimated to be between 4 m and 8 m wide. Several breaks or possible entrances were noted, but generally the ditch was continuous and of even dimensions. Only 2/3 of the circuit was plotted, the remainder lying within the wooded clump; the smaller surveyed areas within the clump may also have picked up the line of the ditch.

The 2003 excavations in the interior of Castle Hill recovered a small number of Mesolithic and Neolithic flints, indicating a human presence on the hilltop in these periods, although no surviving deposits of this date were encountered. The excavation also demonstrated that the inner enclosure identified in the geophysical survey is a predecessor of the extant hillfort, dating from the late Bronze Age. The excavations investigated only a small area of the late Bronze Age enclosure's interior and no contemporary internal features were identified. A trench was also excavated through the extant defences, revealing a substantial 'V' shaped ditch with and internal rampart and external counter-scarp bank. No artefactual evidence was recovered from the defences to date their construction and it appeared that the ditch had been regularly cleaned out. Within the interior of the hillfort activity appears to have revived in the early Iron Age with significant deposits of this date in the upper fills of the late Bronze Age ditch and in various pits. The hilltop also appeared to act as a focus for burial in the early and middle Iron Age. No late Iron Age activity was identified.

Late Roman activity was also identified on the hilltop, with a midden behind the Iron Age rampart and a number of substantial vertical-sided pits measuring up to 4 m by 10 m and up to 2 m deep; the function of these pits is unclear. Two substantial medieval pits dating from the late 12th or 13th centuries AD were also found.

*Early discoveries around the hillfort*

In the 19th century human remains were found immediately north and west of the defences (OA 2002 Figs 2 and 7 nos 9 &10), and are marked on the 1st edn O.S. map of 1877. Wade and McGavin's account mentions these, and also Roman coins, a bronze awl (Figs 2 and 7 No. 19), Bronze Age and Saxon pottery (Figs 2 and 7 No. 17) (Wade and McGavin 1978, 291). Peake gives more details, mentioning coins of Domitian, Gratian and Arcadius, and two urns in Wallingford Museum, but his information may

cover a wider area (Peake 1931, 110). It is likely that most of the Roman finds described above derive from burials. In 1984 further burials were found and excavated on the north-east (OA 2002 Figs 2 and 7 No. 8; Chambers 1986). These were judged to be of late Roman date, although there were no finds. Human bones were mentioned by the antiquarian Thomas Hearne in 1716 as having been found on the 'Welsh Harp' (PRN nos 3156-7), which the VCH says was another name for Round Hill (VCH Berks 1972, Vol. 4 381 note 14), though the shape suggests Castle Hill (Allen pers. comm.).

*A Roman building*

Some 200 m west of the SW entrance to the hillfort building debris including tegulae, tesserae and painted wall plaster covering an area around 30 m square was found and investigated (OA 2002 Figs 2 and 7 No. 18; Rhodes 1948). The excavations found no *in situ* remains, but Rhodes interpreted this as the site of a small Roman building (Rhodes 1948, 29). Earlier reports indicated a Roman settlement in the field south of Hill Farm, and this has subsequently been confirmed by fieldwalking in advance of a British Gas pipeline, concentrated towards Hill Farm itself ( Brooks 1992). Further Roman and Saxon findspots are marked on the O.S. map of 1912 west of Hill Farm (OA 2002 Figs 2 and 7 Nos 15 & 16), indicating a sizeable settlement. The Roman finds appear to have been 'large worked stones, two small Roman cups and a lampstand' (Wade and McGavin 1978, 291).

*Early Iron Age occupation*

Beneath the Roman building debris Rhodes found a dark occupation layer between 0.3 m and 0.5 m thick, within which he uncovered part of a rectangular chalk platform (Rhodes 1948, 21 Figure 8). The layer was associated with large quantities of early Iron Age pottery and animal bone

Rhodes also found a pit containing similar Early Iron Age pottery in what is now the Car Park just south of Castle Hill. Rutland subsequently excavated a number of test pits and a small area to investigate this, and found similar occupation deposits beneath a field boundary along the west edge of the Car Park, but no trace of this more than a few metres to the east (Hingley 1980). The character of the pottery suggested that the lowest grey clay was Late Bronze Age, the overlying black occupation deposits Early Iron Age but including some Late Bronze Age elements. Hingley interpreted the black soil as a preserved occupation deposit, not a midden, but speculated that the occupation deposit might extend over the full 200 m from Rhodes' excavation to the Car Park.

East of the car park Rutland excavated a semicircular gully and a number of pits, all of Early Iron Age date (Hingley 1980), demonstrating that the occupation area was extensive.

*Earlier prehistoric remains*

Beneath the Iron Age occupation that underlay the Roman building debris was a possible buried turf line, and below it a grey clay containing occasional sherds including Beaker pottery and a struck flint.

*Geophysical survey between Rhodes' and Rutland's excavations*
An area of just over 1 ha. lying just south and east of the site of Rhodes' 1947 excavation was surveyed by fluxgate gradiometer (Price 1995; Fig. 7). The survey revealed the north-west corner of a rectilinear enclosure aligned north-south and east-west. This was not however picked up by the more extensive geopysical survey carried out by GSB for Time Team in 2003, which included this same area. How this putative enclosure relates to the excavated sites is unclear.

*Fieldwalking, geophysical survey and excavation south of the Car Park.*
South of Wittenham Lane pottery of Bronze Age and Roman date was found east of Hill Farm in 1931 (OA 2002 Figs 2 and 7 Nos 12 and 13).

In advance of the construction of a British Gas pipeline fieldwalking was carried out over the fields south of the road and east of Hill Farm (Brooks 1992; Lingard and Wilson 1995). This demonstrated the presence of considerable prehistoric and Roman activity, with a concentration of prehistoric finds extending for over 200 m south from the site of Rutland's excavations in the Car Park. This included worked flint dating from the Early Neolithic to the Late Bronze Age, most dating to the Early-Middle Bronze Age. Roman material was spread widely across the area, but was concentrated further west close to Hill Farm. Further limited fieldwalking at the north end of the field east of Hill Farm took place in 1999, recovering further Roman pottery.

A geophysical survey covering some 2 ha. east and south-east of Hill Farm was carried out using a fluxgate gradiometer (Price 1995; Figure 7), and located a roughly north-south linear boundary of several phases, probably cut across by the south-east corner of a double- or triple-ditched enclosure oriented south-west to north-east. In the area bounded by these ditches were a cluster of pits and a possible small enclosure. These can be matched to features recovered by the more recent geophysical surveys south and east of Hill Farm, and comprise part of the Roman trackways running into the settlement from the south-west, and ditches belonging to various Iron Age boundaries and Roman enclosures.

A further geophysical scan was carried out along the proposed line of the gas pipeline further south in this field, but did not reveal any significant anomalies (Lingard and Wilson 1995, 52).

Some 200 m south of Castle Hill and just east of Wittenham Lane, the gas pipeline cut across a probable large ditch. This feature was 9.5 m wide and 2.1 m deep, and contained body sherds of prehistoric (possibly Iron Age) pottery, pig bones and a struck flint (Figure 7; Lingard and Wilson 1995, 50 and Figs 3.1 and 3.3). The orientation of

this feature was not stated, but was possibly north-south. This feature was interpreted as a linear boundary of significant function, possibly associated with Castle Hill.

Further prehistoric pottery, including a Late Bronze Age/Early Iron Age decorated sherd, and also Roman and medieval pottery, was found to the east in field 0002 north of Brightwell Barrow by fieldwalking (Lingard and Wilson 1995, 47).

*Finds from Little Wittenham village*
Bronze Age finds have come from the village at the foot of Round Hill (Fig. 2 No. 28|). Roman pottery and coins were found in the garden of the manor (OA 2002 Fig. 2 No 31), and Roman paving thought to belong to a stretch of Roman road leading down towards the Thames east of the church (OA 2002 Fig. 2 No. 27). St Peter's church (which is listed, as is the manor-house) has a 14th century tower, but is otherwise rebuilt, but both church and manor house presumably overlie earlier medieval remains. An Iron Age sword from a pond at the foot of Round Hill is described in section 1.3.4 below.

### *1.3.4 Metalwork from the Thames and other watery deposits*

Significant numbers of Bronze Age and Iron Age metal objects have been dredged from the river Thames immediately below the site, including weapons of Middle Bronze Age and Late Bronze Age date from the construction of Day's Lock (Peake 1931, 54; York 2002, 83-4), and a bronze shield (Cook 1985). Six iron spearheads were dredged from the river at the junction of the Thames and Thame (Peake 1931, 75). Two Iron Age swords from Little Wittenham, one from the village just north of Round Hill, are illustrated in Harding (Harding 1972, 173 and Plate 78, A and B), and also a decorated Late Iron Age chape (Harding 1972, Plate 79 D).

## 1.4 Documentary references and historic mapping

A charter of Aethelred of the West Saxons dated 862 granting 10 hides at Little Wittehnam to Aethelwulf (BL. Cotton Claudius C.ix.108v; Kelly 2000, Charter 15) describes the bounds of the modern parish, though probably also including part of Long Wittenham to the north-west. Another charter of 892x899 granting 5 hides at Appleford gives the bounds, some of which are contiguous with the western boundary of Long Wittenham (BL. Cotton Claudius C.ix.108v-109r; Kelly 2000, Charter 18).

In the Domesday survey Little Wittenham belonged to Abingdon Abbey, having been acquired in 1048 (V.C.H. Berks 1, 340; Kelly 2000, 80). A mill is mentioned as well as the church, and together with Long Wittenham there was a considerable quantity of meadowland (230 acres) as well as arable. In the medieval period Wittenham manor belonged to Abingdon Abbey, and an account of the Reeve for 1384-5 survives (Kirk 1892, 143-5). It indicates considerable arable, some pasture and some woodland. The earliest surviving map are estate maps of the Bishop of Winchester's land at Brightwell, but these do not give any details. Rocque's map of Berkshire 1761 shows that the majority of the gravel terrace was arable, though some areas were pasture, and this

pattern of landuse continued through the 19th century (as shown on the1844 Tithe Map). A comprehensive Historic Map Regression for the wider study area has now been undertaken, and the results will be presented in the Wider Landscape survey report (OA 2006a).

A post-medieval hamlet at Littletown is not marked on Rocque's map of 1761, but appears on an Ordnance Survey drawing of the 1820s. It is not present on the 1st edn O.S. map of 1877, nor on the Tithe Map of 1844, so it existence was clearly of short duration.

Considerable documentary information exists for the Dunch family who owned the manor house at Little Wittenham from the Dissolution to the early 18th century. There are also a large number of surviving wills for inhabitants of the village, some dating back to the 16th century.

## 2 ORIGINAL AIMS OF THE EXCAVATION PROJECT DESIGN

The original aims were presented in the Wider Landscape Project Design (Allen 2002). These aims were revised and refined prior to the 2004 excavation season in the light of the 2003 fieldwork on Castle Hill, of new cropmarks south of Wittenham Lane around Hill Farm, and of new extensive geophysical surveys in the surrounding landscape. The geophysical survey results provided a number of new research aims for the 2004 excavation.

### *2.1.1 Primary Aim*

Baker's work had suggested a potentially very useful framework for interpreting this landscape in the context of the landscape change project, and therefore a significant part of the wider landscape study was concerned with developing this. His approach did not however exhaust the possible avenues by which new information could be obtained about the past landscape, for instance those of surviving earthworks or hedge boundaries that might preserve buried soils, nor did his study consider the post-Roman period. The project's principal concern was therefore:

**To establish as full a range as possible of activities carried out by the people making use of the Study Area over the last 10,000 years, and examine and interpret their changing significance.**

### *2.1.2 Definition of Specific aims and Objectives*

This overall aim was broken down into a number of more specific aims. In the light of the excavation work and environmental sampling that was carried out in and around the hillfort in 2003 and 2004, a revised and reduced list of those aims that can be addressed in some way from the results of the work is given below.

**Aim 1 How can we validate the archaeological dataset in order to have confidence in interpreting it?**

This aim can be refined using a series of specific Objectives as follows:

*1 Do the monuments and other features evident from aerial photography represent the totality of such negative features that existed within the Study Area? Are there areas where negative features survive but do not show as cropmarks, and if so, is this due to underlying geology, burial by alluviation or colluviation, past or recent landuse, continuity, or to other factors? Is preservation of the archaeological evidence better or worse in these areas?*

*2 If additional negative features exist, how do they alter our understanding of the distribution, arrangement and purpose of different types of cropmark feature across the Study Area?*

*5 Do the material remains of later inhabitants suggest a continuing use of earlier features, or abandonment and avoidance of them? If there is continuing use, is this of the same kind, or does it change, and if so, how do we interpret this?*

*7 Since changes in ploughing regime can mask or enhance our recovering of the evidence, how do these changes affect the way in which we interpret this evidence? Can we make allowance for this in our interpretations?*

*9 Does the threefold division of gravel terrace floodplain and the Sinodun Hills adequately represent the topographic variation within the Study Area, or are there more subtle but significant variations, and has this variation altered over time? What effect has this variation had upon human activity within the Study Area and its development ?*

**Aim 2 What changes in the environment of the Study Area have occurred since the last Ice Age, how have natural and human factors interacted to produce these changes, and how have they affected the patterns of human activity over time?**

*12 What natural resources were available to the inhabitants in the past, and how were these exploited? Did the availability of particular resources change over time, and were any new resources introduced, or new uses found for existing resources, over time?*

*13 What was the character of the local environment at the start of the Mesolithic period, and how did this change over time? Was the environment of the high ground of Round Hill and Castle Hill different from that elsewhere in the Study Area, and if so, how? What opportunities and constraints did the environment present to the Mesolithic inhabitants of the area, and how did they respond?*

*14 What was the character of the local environment in the Neolithic period? Was this landscape utilised during the Neolithic period, and what was the character and intensity of that use? Was the pattern of activities different from that of the Mesolithic, and if so, what were the likely factors involved? What effect did man's activities have upon the environment, did the environment change during this period, and if so, how?*

*15 What was the character of the local environment in the Early Bronze Age, and what was the pattern of human activity in relation to this? Was activity focussed around the monuments, on the gravel terraces between them, or (due to the dry conditions) on the floodplain (as at Yarnton)? What use was made of the high ground*

*at Round Hill and Castle Hill, and was this different from activity in the rest of the Study Area?*

*18 What was the environment in the areas not apparently so organised? Were these also utilised in the Middle/Late Bronze Age, and if so, what was the character of that activity and of the local environment in each area? In particular, if there was a hilltop enclosure of Bronze Age date, what effect did this have upon the environment of the surrounding area? Was there also activity on the floodplain (as at Yarnton), and was this similar or different in character or date?*

*20 What was the local environment like in the Iron Age period, were there changes from the preceding Bronze Age, or changes during the Iron Age itself (for instance increasing alluviation)? How do any such changes relate to agricultural practices or climatic developments in this period?*

*21 Was there significant change or broad continuity in the pattern of settlement, landuse and local environment between the late Iron Age and the Early Roman period in the Study Area? Is there any evidence to support the contention that the late Iron Age was a period of agricultural innovation?*

*22 When did the Roman settlements and trackways visible as cropmarks on the gravel terrace begin? What were the environmental conditions prior to this, did the creation of these features change the local environment, and if so, in what way?*

*23 What was the role of Castle Hill, Round Hill and their surroundings in the Roman period, and what was the character of the local environment at that time? Was this different to the use of the gravel terraces, and if so, were these environments complementary in terms of provision of environmental resources?*

*24 What use was made of the Study Area (including Round Hill and Castle Hill) in the early Saxon period? Did local environmental conditions change, and if so, how and for what reasons did these changes come about?*

*26 What light do cropmark evidence and manuring scatters throw upon the pattern of medieval landuse within the Study Area, and is there any evidence of change either during this period or in the early post-medieval period? What changes (if any) are evident between the medieval, and the early post-medieval, pattern of landuse and the situation illustrated in the Tithe Map?*

*29 What light does environmental evidence shed upon the changing local landscape in the medieval and post-medieval periods?*

*30 What is the environmental potential of the Thames floodplain within the Study Area, and in particular the peat sequences east of Little Wittenham, for the*

*reconstruction of the Holocene environmental sequence in this area? Do these sequences contain artefactual material to date them, and do they have potential for scientific dating by radiocarbon assay? How do these sequences compare to those already obtained from further up the river valley at Daisy Banks, Radley and Sydlings Copse?*

**Aim 3 What was the scale and social complexity of settlement within the Study Area, and how did this change and develop over time?**

*32 What natural resources were available to the inhabitants in the past, and how were these exploited? What other sources were used for artefacts such as flint tools and pottery, and what does this tell us about the contacts and social relationships of the local people in the past?*

*33 Was this landscape utilised during the Mesolithic period, and if so, what was the character and intensity of use? What use was made of the high ground of Round Hill and Castle Hill, and was this different from activity in the rest of the Study Area?*

*34 What use was made of the Study Area during the Neolithic period? Was the pattern and location of activity different from that in the Mesolithic? Were there Neolithic monuments within the Study Area, and did these act as foci? What use was made of Round Hill and Castle Hill in the Neolithic, and was this different from activity in the rest of the Study Area? Did the pattern of activity change during the Neolithic, and if so, how?*

*35 What was the pattern of activity in the Early Bronze Age, and how different was this from that of the Late Neolithic? Was activity focussed around the monuments, on the gravel terraces between them, or on the floodplain (as at Yarnton)? What use was made of the high ground at Round Hill and Castle Hill, and was this different from activity in the rest of the Study Area? How do Brightwell Barrow and the adjacent cropmark ring ditches fit into the pattern of burial monuments within the Study Area?*

*38 Were the areas not apparently so organised also utilised in the Middle/Late Bronze Age, and if so, what was the character of that activity? Was there also activity on the floodplain (as at Yarnton), and was this similar or different in character or date?*

*41 What was the overall distribution and intensity of activity in the Iron Age, and where was it focussed? Are there settlements or other activity areas of this period that are not represented by cropmarks, and if so, of what kinds? What was the role of the hillfort in the settlement pattern, and did this change over time? Was there continuity with Late Bronze Age settlement patterns, and how did the pattern of settlement and activity change over time?*

*42 In particular, what was the extent, nature, longevity and development of the Late Bronze Age and Iron Age settlement activity on the south slopes of Castle Hill, and what was its relationship with the use of the hillfort? Does the build-up of dark soil represent an occupation layer or was it a midden, and if the latter, what was its extent and date range? Were the hillfort and external settlement coeval, did the external settlement come first, or did settlement accrete at a later date around the hilltop enclosure? Was this external settlement enclosed, or indeed protected by defences of any kind, and if so, how did the ditches relate to those surrounding the hilltop?*

*43 What impact if any did the emergence of Dyke Hills as a major defended centre in the Iron Age, and subsequently the emergence of the early Roman small town, have upon the settlement pattern and landuse of the Study Area? Can we relate changes in the agricultural regime to either of these developments?*

*44 More specifically, did the Roman settlements visible as cropmarks begin in the Late Iron Age or the Roman period, and was the system of trackways linking them the result of organic development or planning? Where did the west-east trackway crossing the gravel terrace meet the Thames? Was there a crossing point to Dorchester? Or north to Burcot?*

*46 What was the relationship between the cropmark Roman settlements linked by trackways and the Roman settlement south of Round Hill? Is the absence of a southern continuation of the trackway genuine, or is it a product of different geology or landuse? If genuine, how was the settlement south of Round Hill linked into the Roman road system? Are the parallel cropmarks around the hillfort trackways, are they Roman, and how does their date relate to that of the others? What does this tell us of the social relations between these various communities?*

*47 What was the character of the Roman activity south of the hillfort, and was this a high-status settlement or villa, a burial focus or ritual site, or activity of some other kind? Was it connected to the Roman road to the east running south from Dorchester? How does the Roman activity here relate to the use of other hillforts in the region (such as Alfred's Castle or Uffington) at this time?*

*48 What do the Roman finds from the Study Area tell us of the character of occupation, the relative status of the various settlements, and the wider contacts of the area as a whole? Are there activities that are not represented by cropmark evidence, and if so, of what kinds?*

*49 Where were the Roman inhabitants of the Study Area buried in the Late Iron Age and Early Roman period? Was Castle Hill a focus for burial at this time, or did*

*this only develop in the Late Roman period? Did this burial tradition continue beyond the 4th century AD, and if so, for how long?*

*50 What is the distribution and pattern of Saxon settlement, burial and other activities, and how does this relate to the preceding Roman patterns? What use if any was made of Round Hill and Castle Hill in the early Saxon period, and how does this relate to the preceding Roman use of the hilltops?*

*51 Can we recognise evidence of Middle Saxon activity, and if so, of what character? Is this activity located in the same areas as early Saxon activity, or is there a shift? Is there activity of this phase on Castle Hill? What is the relationship of the Middle Saxon finds, if any, to those from Dorchester Abbey, and to the Late Saxon and medieval settlement pattern?*

*52 What evidence is there of Late Saxon activity in the Study Area, and of what character? Is this activity located in the same areas as early or Middle Saxon activity, or is there a shift? Is there activity of this phase on Castle Hill? What is the relationship of the Late Saxon finds to those at Dorchester Abbey, and to the medieval settlement pattern?*

*53 How did the medieval and post-medieval settlement pattern develop from the picture provided in Domesday Book? Did the known settlements expand or contract, are any of the farms of medieval origin, and were there any other settlements that are no longer extant?*

*54 Can we discern any long-term trends of social organisation from the pattern of settlements, burials and other activities across the Study Area? If so, how are these characterised?*

# 3 SUMMARY OF EXCAVATION RESULTS

## 3.1 Introduction

The archaeology is summarised by trench below. Dating is primarily derived from pottery spot dates although other artefacts have been used where appropriate; stratigraphy has been used where relationships were present.

## 3.2 Excavations around Round Hill and Castle Hill EOX 1916

### *3.2.1 Summary*

A total of five trenches were excavated around Castle Hill and Round Hill (see Figure 3). Trench 14 investigated and extended Rhodes (1948) and Time Team's (2003) trenches through an early Iron Age midden and sought to investigate earlier deposits. The excavation located a possible late Bronze Age soil profile with contained a small number of contemporary finds. This profile was overlain by an early Iron Age landsurface cut by numerous postholes, and subsequently overlain by a midden deposit. To the west of Trench 14, Trench 13 was excavated to investigate the relationship between a substantial boundary ditch and an enclosure. The boundary ditch contained Iron Age finds in the latest fill of a re-cut, and has since been dated by radiocarbon to the Middle Iron Age.

The excavation of Trenches 15 and 19 to the west and south west of Castle Hill, revealed the circular gullies of early and middle Iron Age roundhouses and associated pits, and in conjunction with the midden in Trench 14, demonstrate the presence of an extensive contemporary settlement outside the early and middle Iron Age hillfort. Furthermore, the archaeology in Trench 15 demonstrated that the hillfort's extramural settlement extended beyond the substantial boundary ditch traced by geophysics around the southern edge of Round Hill and Castle Hill and investigated in Trench 13.

In Trench 15 a small number of late Iron Age/ early Roman ditches were revealed. The enclosure ditch in Trench 13 May also have begun in the early Roman period, but continued in use into the 3rd century AD.

The speculative excavation of Trench 18 on the upper slopes of Round Hill failed to reveal any archaeology, except for a shallow feature, probably a lynchet of medieval or post-medieval agricultural origin.

### *3.2.2 Trench 13 (Figure 5)*

*An Iron Age landscape boundary and a Roman enclosure*

Trench 13 investigated the intersection of a rectangular enclosure ditch with a curving boundary ditch, running to the south of Round Hill and Castle Hill, identified in the

geophysical survey. The excavation identified that the boundary ditch predated the enclosure. Boundary ditch 1348 (Interventions 1321 and 1341) exhibited a 'V' shaped profile and (although truncated by a recut) was probably c. 2.4 m wide and measured almost 1 m deep. Following a period of natural silting the ditch was re-cut (1349; interventions 1317 and 1345). The re-cut was 3.2 m wide and 0.85 m deep. The ditch was almost fully silted when a group of horse/cattle mandibles were deposited (1302). A small number of Iron Age sherds was recovered with the mandibles. The boundary ditch was cut by an north east to south west aligned ditch 1350 (interventions 1335 and 1325), which from part of an enclosure visible on the geophysical survey. The fills of the primary cut contained early Roman pottery. The enclosure ditch was re-cut on two subsequent occasions (1351; interventions 1312 and 1325; 1352 interventions 1315 and 1326). Pottery recovered from the latest re-cut indicates that the enclosure persisted into the 3rd century AD.

### *3.2.3 Trench 14 (Figure 6)*

*A late Bronze Age landsurface and early Iron Age activity including postholes and a midden deposit.*

Trench 14 initially measured 10 m x 2 m, but was extended at the south-east corner to investigate a concentration of pebbles that it was thought might indicate another pebble and chalk structure similar to that found by Rhodes (Rhodes 1947, Fig. 8). The trench overlapped at the north end with the southern edge of the trench excavated by Time Team in 2003, which it was known had not reached natural (Wessex Archaeology 2004). Trench 14 was excavated to a maximum depth of 1.2 m.

The natural chalk was not reached in excavation, but the two lowest layers in the sequence was a sterile clay probably of colluvial origin. The lowest deposit (1410) was a tenacious, mid yellowish green clay with small chalk inclusions measuring 0.25 m thick. Layer 1410 was overlain by 1457 (= 1409), a 0.20 m thick layer of tenacious mottled mid grey and yellow clay. Six small shallow features, tentatively interpreted as postholes, (1439, 1444, 1446, 1448, 1450 and 1452) cut layer 1457 and are recorded as being sealed by layer 1456 (= 1438, 1431 and 1407). Pottery and animal bone was recovered from postholes 1444 and 1450, but has yet to be dated.

The possible postholes were sealed by layer 1456, a tenacious, mid greyish brown, silty clay containing a large number of bunter pebbles with numerous chalk and charcoal flecks. The deposit was 0.13 m thick at the northern of the trench, but thins towards the south. Layer 1456 was overlain by 1455 (=1432, 1435 and 1406), a 0.12 m thick layer of tenacious, mid greyish brown, silty clay with very occasional charcoal flecks. A small number of flint tempered pottery sherds, probably a late Bronze Age date, were recovered from layers 1456 and 1455. The favoured interpretation of these deposits is as a worm sorted soil horizon, although a further research is required to clarify the formation of these deposits.

The clay layers of the lower sequence (1455 and 1456) are overlain by a light white-brown layer of friable silt, up to 0.22 m thick (1454 = 1413 and 1405). The upper spits in this layer contained numerous artefacts including early Iron Age pottery, animal bone and burnt stone; some of the pottery clustered in distinct groups clearly deriving from a single vessel. The artefacts indicate this deposit may represent 'midden', but the pale colour, friable nature of the deposit and absence of charcoal requires further explanation. Towards the south of the trench layer 1454 was overlain by layer (1462 = 1428) which was similar in character to 1454, but was slightly darker in colour and was slightly clayey. Layers 1454 and 1462 were cut by three shallow pits (1465, 1469, 1470), eleven postholes and stakeholes (1414, 1416, 1419, 1420, 1422, 1424, 1436, 1433, 1460, 1463, 1473) and five shallow 'scoops' (1429?, 1475, 1477, 1479, 1481). The level from which these features cut correlates with the stratigraphic position and level of Rhodes' chalk platform. The features were overlain by a uniform dark blackish brown, charcoal rich, clay silt (1458 = 1412, 1401, 1404 and 1408), which was 0.12 m thick. The deposit contained numerous sherds of early Iron Age pottery (including clusters of refitting sherds), animal bone, worked bone artefacts, spindle-whorls, quernstone fragments and a metal pin. The deposit may be broadly termed as a 'midden', although further characterisation is required to consider aspects of deposit formation and depositional history.

The 'midden' deposit 1458 was directly overlain by ploughsoil 0.26 m thick (1459 = 1411 and 1400. The Roman spread encountered by Rhodes between the topsoil and midden (1948), did not extend further south into Trench 14; a small number of intrusive Roman finds were recovered from the midden deposit.

### *3.2.4 Trench 15*

*Early and Middle Iron Age Roundhouses, settlement activity and burial*

**Introduction**

Trench 15, just south of Hill Farm, targeted ditches and an enclosure visible on the geophysical survey. The excavation revealed elements of three early or middle Iron Age circular gullies, cut through by two ditches, and storage pits pre-dating and post dating both the gullies and ditches. The early Iron Age archaeology was cut by a middle Iron Age enclosure which contained a number of pits. This too was superseded by a series of late Iron Age/early Roman ditches.

**Early/middle Iron Age Activity**

The early or middle Iron Age archaeology of Trench 15 represented at least three phases of activity, but due to the limited area of the trench it is not possible to characterise these phases in any detail. The earliest features are north-south aligned gully 15146 and pit 15231, both of which are cut by circular gully 15330. Circular gully 15330 is *c* 0.45 m wide and *c* 0.25 m deep with an internal diameter of 12.5 m. To the east of the structure the gully terminates and two small postholes (15030 and 15031) continue the line of the gully. No structure was identified within the area

defined by gully 15330; two posthole and several pits were present in this area, although it is possible they may not be contemporary with the structure. To the south of gully 15330, two further curving gullies, with an indeterminate relationship were recorded (15332 and 15333).

Circular gully 15330 was cut by north west to south east aligned ditch 15432, which was in turn cut by north to south aligned ditch 15334. Ditch 15334 also cut curving gullies 15332 and 15333. The terminal of ditch 15334 was cut by pit 15010.

Many of the remaining pits and gullies did not have stratigraphic relationships to indicate which phase of activity they belonged to. Furthermore, as the stratigraphy demonstrates, early Iron Age pits are being cut before the cutting of circular gully 15330 and after the redefining of the area by ditches 15334 and 15342, it is not possible to suggest where in this sequence of activity these features belong.

A number of the early Iron Age pits contained noteworthy deposits. Pit 15018 contained a deposit of burnt stone in the centre of the pit overlying a large portion of an early Iron Age bowl. Pit 15010 contained a deposit with two horse lower mandibles. In the upper fill of pit 15003 the crouched skeleton of young adult male was found and in a small pit (15155) cut into the side of the feature the skeleton of a new-born baby was interred. The skeletons were both buried in crouched positions lying on their left hand side, facing north. Pit 15105 contained a dense deposit of fuel ash slag, a material which may be generated by the burning of thatch.

**Middle Iron Age activity**

In the middle Iron Age a substantial ditched enclosure (15340) was excavated and re-cut on one occasion (15341). The first ditch was 0.80 m deep and in excess of 0.90 m wide, whilst the re-cut was 1 m deep and 2.5 m wide; both ditches had a 'U' shaped profile. Within the enclosure four middle Iron Age pits were identified (15069, 15176, 15254 and 15266). Pit 15069 contained a large Old Red Sandstone quern rubber.

**Late Iron Age to early Roman activity**

The late Iron Age/early Roman Pottery was recovered from north west to south east aligned ditch 15337 and recut 15339. These ditches were cut by early Roman ditches 15338 and 15836. Two tile tessera were recovered from shallow agricultural feature 15008 and a scatter of Roman pottery was found in the topsoil (15000).

### *3.2.5 Trench 18*

*A barren hilltop*

Trench 18 was excavated towards the top of Round Hill to investigate an area of erratic geophysical readings that suggested a possible change in the underlying geology, and to confirm the apparent absence of archaeological features on the hilltop.

The trench found chalk (1804) beneath 0.26 m of topsoil (1800). The sole archaeological feature was a shallow broad hollow (1806), filled with a loose mid brown deposit with a lens of charcoal (1803). The fill contained an iron nail, and the feature appears to represent a medieval field boundary or furrow. The negative evidence provided by this trench can be taken to further suggest the absence of significant prehistoric settlement activity on the hilltop.

### *3.2.6 Trench 19*

*Early and Middle Iron Age Roundhouses and settlement activity*

**Introduction**

Excavation revealed three early Iron Age ring gullies and two possible post built structures. Within two of the ring gullies structural postholes were identified. The earlier Iron Age activity was truncated by two middle Iron Age ring gullies and pits.

**Early Iron Age activity**

***Circular gully 19183***

Circular gully 19183 forms an incomplete circuit, with an internal diameter of 7.5 m. The gully has a 'U' shaped profile and varies between 0.40 m and 0.50 m wide and 0.14 m to 0.18 m deep. The gully is filled with a dark greyish-black silty clay. A posthole (19057) is situated by the western terminal of the gully. The gully also cut pit 19038, which is also truncated by medieval furrow 19105. Within the area defined by the gully the present of a structure demonstrated by several postholes. Posthole 19134 is situated at the centre of the circle mark by the gully. Surrounding this posthole was three broad oval to sub rectangular postholes (19002, 19095 and 19128) which form part of a 2.75 m by 2.75 m square four-post structure; the fourth posthole was truncated by medieval furrow 19105. Two pairs of small postholes (19136 - 19138 and 19130 -19132) are situated between the larger postholes in the four post arrangement.

***Circular gully 19184***

Approximately half of circular gully 19184 was present with the excavation area. The gully has an internal diameter of *c* 7 m and the ditch was between 0.5 m and 0.7 m wide and 0.17 m to 0.18 m deep. The gully had two fills, both dark greyish brown silty clays with occasional charcoal flecks. Within the area defined by the gully two postholes (19086 and 19013) and a pit (19001) were identified. The position of the postholes perhaps indicated the presence of a four post arrangement similar to that in ring gully 19183.

***Circular gully 19189***

A small area of circular gully 19189 was revealed within the excavation area. The gully is 0.36 m wide and 0.16 m deep, with an internal diameter of *c* 7 m. The only

feature revealed within the gully was a irregular natural feature (19158) which contained no dating evidence.

***Posthole group 19190 and gully 19011***

In the northern extension a cluster of nine postholes was excavated (19088, 19041, 19042, 19047, 19045, 19077, 19079, 19083 and 19097). A possible arc of postholes was noted, but given the limited excavation area identification is tentative. Gully 19011 lay to the south of the posthole cluster. The gully terminated one metre into the excavation area and it was not possible to determine of the gully was curving or straight. The gully was 0.29 m wide and 0.12 m deep and was filled with a dark grey silty clay. The terminus of the ditch was slightly flared possibly indicating the presence of a posthole (19035). In complete horse skull was found in the gully (SF 19001) with a large pottery base sherd placed on top (SF 19000). A large fired clay object, possibly a cylindrical loomweight (SF 19002), was found in the posthole at the terminus of the gully. The deposits in this ditch terminal were deliberate and placed.

***Other features***

To the south of ring gully 19183 were two substantial pits (19019 and 19050). Both pits were vertical sided with flat bases, measuring *c* 0.9 m in diameter. The pits were both deep at 0.85 m and 0.45 m respectively. Pit 19019 exhibited simple filling with a primary deposit (19021) of yellowish grey clay and numerous large stones, with pottery and animal bone. The upper deposit (19020), a homogenous dark greyish brown clay silt, was 0.5 m thick. Pit 19050 contained seven distinct fills of clay silt.

A possible arc of posthole was recorded to the west of, and appears to be truncated by middle Iron Age ring gully 19187. A total of five postholes are visible in a *c* 7 m diameter arc; two of the postholes were excavated (19046 and 19055).

**Middle Iron Age activity**

***Circular gully 19185***

A small part of this circular gully fell within the excavation. The gully exhibited steep sides and a flat base and was 0.85 m wide and between 0.2 m and 0.3 m deep. The gully contained two brown clay silts with charcoal flecking and occasional burnt stones and pottery sherds. The internal diameter of the gully was *c* 13.9 m. Within, and parallel to, the gully was a slight trace of a wall slot, surviving 0.22 m wide and 0.06 m deep. No stake holes were revealed at the base of this slot, but four postholes were recorded alongside, or close to the slot (91029, 19031, 19033, 19073). The diameter of the wall slot was *c* 11.8 m.

***Circular gully 19187 and re-cut 19188***

The extension excavation area to the south revealed the circular ditch visible on the geophysical survey. The excavation revealed the ditch was, in fact, two ditches, the entrance to the re-cut being position to the west, a different orientation to the first

ditch; thus explaining the substantial and apparently continuous ditch visible on the geophysical survey. The first phase ditch (19187) had an internal diameter of *c* 13.6 m, which reduced to *c* 12.5 m when re-cut (19188). Within the gullies numerous postholes were recorded (19040, 19142, 19144, 19160, 19162, 19165, 19167, 19175, 19177, 19180 and 19182), but no structure could be identified in the limited excavation area. Three pits were also recorded (19154, 19173 and 19089).

## 3.3 Excavations on Clifton Meadow and the Thames floodplain EOX1917

Excavations on Clifton Meadow and the Thames floodplain targeted cropmarks of the Roman trackway, and of an earlier field system cut by it, which end short of the river Thames. Geophysical survey traced the ditches of the Roman trackway to the edge of Clifton Meadow (see separate report on the geophysical survey). Trench 11 was excavated to trace the alignment of the earlier field system while Trenches 11, 20 and 21, in conjunction with further geophysics and augering traced the Roman trackway across Clifton Meadow.

### *3.3.1 Trench 11*

*Bronze Age? Boundary ditch*

Trench 11 measured 3.6 m by 10.3 m and was excavated to locate a north west to south east aligned ditch which appeared to belong to a field system which predates the Roman trackway ditch. The ditch (11008) measured 2.1 m wide by 0.54 m deep and was naturally filled with five silty deposits, probably of alluvial origin. The ditch did not contain any waterlogged deposits. In addition, the excavation revealed five shallow features cut into the natural gravel (11003, 11006, 11015, 11017 and 11019). The fills in the features were free from charcoal and no finds were recovered, perhaps indicating these features are of natural rather than anthropogenic origin. The features were sealed by two layers of alluvium (11002 and 11001) measuring 0.3 m and 0.1 m thick respectively. The upper alluvial deposit, 11001 contained small fragments of post-medieval ceramic building materials.

### *3.3.2 Trench 12, 20 and 21* PRN 27673

*A Roman trackway and earlier field system.*

Trenches 12, 20 and 21 were excavated to trace the north to south trackway, visible for *c* 2 km on aerial photographs, further north onto the floodplain, beyond the cropmarks. The intention being to recover waterlogged environmental remains from the trackway ditches.

Geophysical survey traced the ditches from the gravel terrace to the edge of Clifton Meadow (see Bartlett 2005). Trench 12 measured 27 m by 3.6 m and was excavated on Clifton Meadow, immediately north of the geophysical survey.

Trench 12 revealed three parallel ditches aligned north to south (12003, 12007 = 12028 (group 12035) and 12015 (re-cut 12016; group 12034)), plus another ditch aligned north east to south west (12010 = 12013; group 12036) on the same alignment as the prehistoric field system. Ditch 12036 was of a shallow 'U' shaped provide, measuring .70 m wide and 0.24 m deep. The ditch terminated at towards the south west and a pit (12024), measuring 1.54 m diameter and 0.40 m deep, was excavated on the alignment. Ditch 12036 and pit 12024 were overlain by 0.20 m of alluvium (12002). The north south aligned ditches (12003 and groups 12034 and 12035) were filled with sterile layers of alluvial silts; ditch 12015 was re-cut on one occasion (12016). Ditch 12034 and 12035 both cut the lower alluvium 12002, but the relationship between ditch 12003 and the alluvium not distinct. All features were overlain by an upper layer of alluvium (12001) and topsoil (12000). No artefacts were recovered from the trench.

The trackway ditches were traced for a further 60 m north of Trench 12 using magnetometer and resistivity survey. Augering was also carried out at 10 m intervals to examine the deposits for deeper sequences of alluvium; these were found 80 m north of Trench 12. Trench 20 was excavated in line with the trackway far enough north to be within deeper sequences of alluvium. In this trench, the trackway ditches 20019 and 20031, measured 1.2 m wide by 0.60 m deep and 1.82 m wide by 0.66 m deep respectively. Both ditches contained waterlogged peat deposits; the alluvium (20007) remained quite thin.

Trench 21 was excavated 30 m north of Trench 20. In Trench 20, the trackway ditch (21004) was shallowing, measuring only 0.80m m by 0.40 m. The gravel upcast from the ditches survived as thin banks on either side of the trackway. The trackway had was not surfaced, yet despite this not wheel-ruts were observed, perhaps indicating this part of the trackway was not extensively used.

## 3.4 Artefactual

Assessments of the finds and environmental remains are presented here; full tables and further details will be found in Appendices 1-16.

### *3.4.1 Early Prehistoric to middle Iron Age pottery*

*by Emily Edwards*

#### Introduction

This report assesses all of the late prehistoric pottery, with the exception of the late Iron Age material, that was recovered from the 2004 excavations at the Wittenham Clumps. The total assemblage (5120 sherds, 38,783 g) includes pottery dating from the middle Bronze Age to the middle Iron Age; the majority of the pottery is, however, of either early or middle Iron Age date. Of the total, 3221 were plain body sherds, the majority of which were small and abraded. Table 3.1 presents a breakdown of the total assemblage by site and period. Among the vessels were a decorated early Iron Age bowl, refitting sherds of which were noted amongst the pottery from the midden. All of the fabrics noted within this assemblage could be local.

#### Dating

Pottery was recovered from 226 contexts or 78 features, 40 of which were discrete features. Excluding the midden, which contained 2365 sherds weighing 20,472 g, 15 of the features contained less than 10 sherds and a further 12 contained between 10 and 20 sherds. It is generally advised that caution should be exercised when dating features containing less than 20 sherds of pottery, so only 14 features can be dated with confidence.

*Table 3.1: Breakdown of total assemblage by period. Codes: LBA; late Bronze Age; EIA; early Iron Age, MIA; middle Iron Age, IA, LPREH; late prehistoric, Iron Age, IND; Indeterminate.*

| | MBA | LBA | LBA OR EIA | LBA TO MIA | EIA | EIA OR MIA | MIA | IA | LPREH | IND | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Trench 13 | - | 4, 35 | 1, 7 | - | 2, 11 | 13, 43 | - | 1, 4 | - | 2, 3 | 23, 103 |
| Trench 14 | - | 67, 785 | 74, 620 | 10, 31 | 421, 4166 | 1927, 16735 | 8, 123 | - | - | 66, 171 | 2573, 22631 |
| Trench 15 | 1, 5 | 32, 210 | 18, 144 | 10, 17 | 316, 118 | 984, 8027 | 211, 2336 | 11, 45 | - | 118, 209 | 1701, 11111 |
| Trench 19 | - | 13, 104 | 34, 154 | - | 55, 410 | 641, 3594 | 40, 555 | 6, 26 | 1, 2 | 33, 93 | 823, 4938 |
| Totals | 1, 5 | 116, 1134 | 127, 925 | 20, 48 | 794, 4705 | 3565, 28399 | 259, 3014 | 18, 75 | 1, 2 | 219, 476 | 5120, 38783 |

#### Methodology

The assemblage has been recorded according to the standard OA system for prehistoric pottery. This system has been developed in line with the guidelines and standards produced by the Prehistoric Ceramic Research Group (PCRG 1997). The

consistent application of this system allows for comparability with other data gathered from sites within the region. All the pottery was examined, including material recovered from sieving. The sherds were quantified by weight and sherd number, excluding refitted fresh breaks. Vessels were counted according to rims and decorated sherds or where sherds could reasonably be identified as representing a single vessel. Condition was measured using only average sherd weight.

The pottery was characterised by fabric, form, surface treatment, and decoration. The fabric groups were characterised according to principal inclusion and divided according to grade, namely fine, intermediate, coarse, fine to intermediate and intermediate to coarse, as with Reading Green Park (Morris 2004). A record was made of use wear. The most diagnostic sherds in each trench have been selected for illustration, and including any key groups. For analysis the information will be entered into an Access database which will form part of the Wittenhams database.

Dating was assigned by form and fabric; this period has been very well studied in this region (Harding 1972; De Roche 1978; Hingley 1979; Lambrick 1984). Quartzite and flint are typically late Bronze Age fabrics, appearing in combination with fine sand towards the very latest part of the late Bronze Age and beginning of the early Iron Age. Shell appears to be specifically early Iron Age at Wittenhams, as is coarse sand, which compares to Lambrick's conglomerate fabric (Mount Farm forthcoming). Fine sand fabrics are used throughout the early and middle Iron Age. A certain small number of fabrics and forms did appear to span either the Late Bronze Age-early Iron Age or the early-middle Iron Age.

**Condition**

In general, the average sherd weights clustered around 5-10 g, with very small proportions weighing any more or less than that. A total of 3775 sherds weighed under 10 g. Average weights did not vary greatly between trenches or between midden and non midden contexts.

The pottery was very broken, with the vast majority of the assemblage having comprised body sherds (4490 sherds); 51 % of these were retrieved from Trench 14 and 33 % from Trench 15. Rims were generally in poor condition; 84 % of all recorded rims (264 rims) weigh less than 20 g and only 32 rims were represented by more than 5 % of the original rim diameter. Many more rims were recovered from Trench 15 (50 % of the total number of rims) than for Trench 14 (35 %) and Trench 19 (15 %); those rims from Trench 15 were also in better, less broken condition.

Conversely, given the brokenness of pottery from Trench 14, the highest number of refits came from Trench 14.

Further analysis is required to determine the significance of the differences that were noted.

**Provenance**

*Trench 13*

A total of 23 (103 g) sherds of late Bronze Age and early Iron Age pottery (see Table 3.1) were recovered from eight contexts within ditches, the plough soil and the colluvium.

*Trench 14*

A total of 2573 sherds (22,631 g) were retrieved from 23 contexts within a late Bronze Age land surface, an early Iron Age midden, clays layers, pebble layers, postholes, a pit and the topsoil. This included 2365 (20,472 g) sherds ranging from late Bronze Age to middle Iron Age in date. A total of 144 vessels were identified, most of which were recovered from the midden. Many of these were small sherds. Two early Iron Age 'T' rimmed 'cauldron pots' were present with higher numbers of slack shouldered jars (17) and angled bowls (10). Other features within this trench contained very few featured sherds, in comparison with the midden layers.

*Table 3.2: Table giving breakdown of pottery from the midden.*

| Date | Count | Weight |
|---|---|---|
| LBA | 14 | 116 |
| LBA OR EIA | 57 | 488 |
| EIA | 388 | 3641 |
| EIA OR MIA | 1833 | 15968 |
| MIA | 7 | 88 |
| IND | 66 | 171 |
| | 2365 | 20472 |

*Trench 15*

A total of 1701 (11,111 g) sherds were recovered from 133 contexts within 33 features including Roman ditches, early Iron Age roundhouse gullies, early Iron Age pits, a middle Iron Age enclosure and associated pits. Pottery was recovered from 13 pits within the trench, of which five contained more than 20 sherds (unfortunately, however, those from pit 15021 were of indeterminate date).

Small abraded and residual late Bronze Age sherds were recovered from six pits (15006, 15305, 15298, 15010, 15021, 15301). Gully 15335 contained a single flint tempered fragment of a late Bronze Age cordon.

Gully 15331 contained very few diagnostic sherds. Such as they were, they suggested an early Iron Age date, as was perhaps gully 15333, which contained one small fragment of a red-coated angular bowl.

Gully 15330 contained a variety of early and middle Iron Age sherds, including fragments of an early Iron Age 'T' rimmed vessel and two middle Iron Age globular jars.

The ditch (15340, 15133) contained prehistoric pottery of mixed date ranging from middle Bronze Age through to middle Iron Age; this included three broken fragments of decorated middle Iron Age rounded bowls (the only decorated middle Iron Age fragments from this trench). The middle Bronze Age body sherd (context 15017) was characterised by a densely tempered, well sorted fine flint fabric that is typical of Globular Urns.

Pit 15003, which contained a human burial, had 15 sherds of late Bronze Age or early Iron Age date (sand and flint fabrics) and furrow 15008 contained 13 late Bronze Age to middle Iron Age sherds manufactured from shell, flint and sand fabrics. Posthole 15052 contained two early Iron Age sherds.

Pit 15018 contained the whole profile of a black, burnished angular bowl and a significant proportion of a 'T' rimmed 'cauldron' vessel. This was cut by pit 15021 which contained early Iron Age sherds and a T-shaped rim (which may have been displaced from the pit below), residual late Bronze Age fragments and sherds from three middle Iron Age globular jars.

*Trench 19*
A total of 823 (4938 g) sherds were recovered from 60 contexts within 25 features, including early and middle Iron Age roundhouses and settlement activity.

The late Bronze Age sherds from this trench (features 19190, 19050, 19154, 19011, 19154, 19060 and 19190) were all small, broken and abraded sherds recovered from later features.

Posthole group 19190 included one red-coated, angular early Iron Age bowl fragment of reasonable size (58 g). Another red-coated sherd (weighing 10 g) was recovered from posthole 19177. Ditch 19038 contained late Bronze Age and early Iron Age pottery which included a decorated angular bowl fragment and a decorated body sherd. Structures 19183 and 19184 and the possible ditch 19038 contained a similar range of pottery, context 19025 (ditch 19183) including a sherd from an angular vessel with stamped concentric circles, but context 19007 (ditch 19184) contained a single decorated middle Iron Age sherd. Gully 19189 contained undiagnostic sherds dating either to the early or to the middle Iron Age.

These two latter ditches were cut by pit 19055 which contained a sizeable quantity of pottery (249, 1900 g) of mixed date, including four globular and barrel shaped middle Iron Age vessels and three decorated middle Iron Age sherds. Gully 19185 belonged to the middle Iron Age roundhouse associated with a wall slot (3 sherds, 7 g) and contained the largest quantity of pottery (112, 58 g) although the average size of this group is very small. This included three middle Iron Age rims and one early Iron Age angular bowl fragment. The quartzite and flint fabrics indicate a residual presence of

late Bronze Age sherds. Another middle Iron Age rounded bowl fragment (1, 19 g) was recovered from pit 19050.

**Discussion by phase**

*Middle Bronze Age*

The middle Bronze Age from this site is represented by one sherd, which was recovered from the middle Iron Age ditch in Trench 15.

*Late Bronze Age*

This pottery (116, 1134 sherds, 828 g) was characterised by quartzite fabrics, of which none were found in the midden layers above the land surface in Trench 14.

None of the trenches contained high numbers of late Bronze Age sherds (see Table 1); the highest sherd count was 67 (785 g) from Trench 14, most of which was retrieved from the soil horizon and immediately overlying layers, although 32 sherds (210 g) of a similar condition were retrieved from later features within Trench 15.

Decoration included grooved designs. Forms were not discernible; with the exception of seven rims (one having cabled decoration), one base, one neck sherd and one shoulder sherd, all sherds within this period were body sherds.

*Late Bronze Age or Early Iron Age and Late Bronze Age to Middle Iron Age*

A small proportion of the assemblage (127 sherds, 925 g) (see Table 1.1) consisted of sherds which could not be dated any more specifically than to the late Bronze Age or early Iron Age. These were manufactured from clay tempered with flint or flint and sand. This element of the assemblage was clearly identified as being of chronological significance due to its presence, in some quantities, within the midden and also due to its absence within the lower late Bronze Age soil horizon. It was given no more specific date due to two factors. Firstly, it was characterised by single incidences of small broken and abraded sherds. Furthermore, flint fabrics were not unique to one period. A little flint tempered material was dated to the late Bronze Age and to the early Iron Age and within the assemblages from Hill Farm, diagnostic middle Iron Age and early Iron Age flint tempered vessels were identified.

A mixture of surface techniques were employed, including two incidences of burnishing. This phase generally constituted plain body sherds; one decorated rim (a single vertical groove), two plain rims and a base.

*Early Iron Age*

A total of 794 (4705 g) early Iron Age sherds was recovered, many of which were from the midden. Other features included pits and postholes within Trenches 14, 15 and 19.

Sherds were manufactured from a range of fabrics including sand, sand and coarse lumps of sandstone, sand and calcareous inclusions, sand and shell, sand and ferruginous pellets. The majority consisted of plain body sherds, although a higher proportion of this phase also consisted of diagnostic sherds.

A total of 94 (1734 g) sherds were decorated, 170 (1282 g) were burnished and 73 (525 g) were red-coated. Other surface treatments included wiping, smoothing and rough smoothing.

A mixture of coarse and fine vessels were noted, coarse including thick walled jars decorated with finger-tip impressions on the shoulders. 'Pie crust' rimmed 'cauldron' vessels occurred in much smaller quantities (5 vessels) than within Castle Hill (23). Fine vessels included one burnished red coated sherd decorated with incised lines, black burnished Chinnor-Wandlebury style bowls decorated with incised zigzag decoration, as recovered by Rutland without the hillfort (Hingley 1979, 35, fig. 8, P13), by Bradford at Allen's Pit (Bradford 1942) and Savory at Wigbalds Farm (Savory 1937, 5, fig.2, P11, P15 and P16). A sherd from the shoulder of an angular vessel with stamped concentric circles was also found. Although flared bowls, similar to those from the pit 3006 within the hillfort were noted, none were red coated.

Vessels from the midden included refitting fragments of a sharply shouldered bowl, the neck of which was decorated with deep furrowed grooves and nested, filled triangles. A total of seven small finds relating to this vessel were recovered from context 1413. Parallels to these vessels may also be found at Standlake (Riley 1947; Bradford 1942) and Kirtlington (Harding and Benson 1967).

*Early or middle Iron Age*
A total of 3565 sherds (28399 g) could only be dated as either early or middle Iron Age, due to similarity of fabric and firing of body sherds from both period. These were recovered from 71 features, within Trenches 13, 14, 15 and 19, including 2422 sherds from the midden deposits. Although coarse fabrics such as the sand and sandstone fabrics or sand and calcareous fabrics are ordinarily presumed to be more typical of early Iron Age assemblages, such fabrics were used to manufacture diagnostic middle Iron Age pottery from Hill Farm, Little Wittenham. Caution has therefore been exercised in the dating of non-diagnostic sherds within this project.

Decorated sherds (8, 68 g) have been included where decoration comprised only small fragments of incised or grooved lines that did not allow the identification of the overall decorative design, and so allow more specific dating. Rim sherds included small fragments of rounded or squared rims.

*Middle Iron Age*
A total of 259 (3014 g) middle Iron Age sherds were recovered from 27 features and very few were recovered from the midden (7, 88 g). Fabrics included sand fabrics,

some of which contained small fragments of sandstone, shell or ferruginous ironstone. Surface treatment included smoothing (32, 459g), rough smoothing (69, 861 g) burnishing (93, 1047 g) and wiping (2, 38 g). Vessel types included slack shouldered, globular and barrel jars, carinated jars and rounded bowls. Decoration was noted on 12 sherds (seven vessels) of which 4 were body sherds; motifs included grooved curvilinear designs, triangular arrangements of dots and grooves and horizontal incised bands.

**Conservation**

Although the relative condition of most of the material is good, it should be considered to be fragile. Most of the sherds have been bagged and are bulk boxed. This will lead, inevitably, to further damage over the long term. Some of the more fragile material should be re-boxed.

**Comparative material**

For the majority of the assemblage, which is of early and middle Iron Age, comparable material has been recovered from a number of adjacent sites including Savory and Rutland's excavations at Wittenham Clumps (Hingley 1979; Savory 1937) Allen's Pit (Bradford 1942), and Mount Farm (Myres 1937), Wigbald's Farm (Savory 1937), Kirtlington (Harding and Benson 1967), Standlake (Riley 1947) and Appleford (De Roche and Lambrick 1980, 45-59). The middle Iron Age decorated globular bowl fragments can also be paralleled at Abingdon Vineyard excavations (Tim Allen, pers comm.).

### *3.4.2 Late Iron Age and Roman pottery*

*by Paul Booth*

**Introduction**

The 2004 excavations in the Little Wittenham area produced 177 sherds (2403 g) of late Iron Age and Roman pottery, the majority of which was of late Iron Age and early Roman date. All the material was from Trenches 13 (6 sherds, 332 g) 14 (21 sherds, 99 g) and 15 (150 sherds, 1972 g). The pottery was recorded using the standard codes set out in the OA system for material of this date, with each context group divided in relation to fabric and form types and other characteristics as appropriate. Quantification was by sherd count and weight and rim equivalents (REs) were used to quantify vessel types. The pottery was in very variable condition - surfaces were relatively well-preserved in most cases but some the material was well-fragmented - most of the sherds in fabric F51, for example, were tiny. The average sherd weight of 13.6 g was boosted by fragments of a single (incomplete) vessel in fabric E80 from context 15194, which also accounted for 40% of the RE total for the site. Discounting this vessel, the average sherd weight was 10.2 g. Overall, there were no substantial individual context groups.

The fabrics identified are listed and quantified below (Table 3.3) with summary descriptions including cross-reference to the national Roman fabric reference collection codes (Tomber and Dore 1998) where appropriate in bold.

**Wares**

The assemblage was dominated by 'Belgic type' (E) and reduced (R) coarse wares, which together accounted for 81.4% of the total sherds (and 92.7% of weight, skewed by the presence of the jar in 15194 mentioned above). The most common reduced ware groups, fine fabrics (R10) and coarse sandy fabrics (R20) support the early Roman emphasis of the assemblage, later assemblages being more usually dominated by the medium sandy fabrics of the R30 group. Fabrics R90 and R95 are also consistent with a predominantly 1st-2nd century date range. Fine and specialist wares were scarce and consisted largely of very small fragments of Oxford colour-coated ware (fabric F51), and Oxford mortarium and other white ware sherds. A single sherd in a probable mica-coated fabric (F30) was notable, and the single sherd of samian ware was a tiny fragment probably of South Gaulish origin.

The dominant reduced and 'Belgic type' wares are likely to have been drawn mostly from quite local sources. The same is true of a minor but distinctive component of the assemblage, the oxidised wares. These were notable for their diversity despite their relative scarcity. Two sherds were assigned to fabric O19, one of a group of early Roman fine oxidised fabrics used for beakers and other fine ware forms. The fabrics were first isolated at Abingdon, and production in the Abingdon/Dorchester area is likely on distribution grounds. A further six sherds from context 15136 were from a single butt beaker recorded as fabric O10; this is clearly related to the 'Abingdon type' fabrics, but is not exactly matched amongst them.

**Forms and Chronology**

Twenty-two vessels were represented by rim sherds, of which 14 were certainly or probably from jars. The other forms were beakers (3, including the butt beaker mentioned above), bowls (1), bowls/dishes (2) and mortaria (2). These last were vessels of Young (1977) types M12 and C97, the former dated AD 180-240, the latter after AD 240. The Oxford colour-coated ware component of the assemblage (fabrics F51 and M41) is the only element that will necessarily date after the middle of the 3rd century AD but, as already noted, most of these sherds were very small. Three fragments from midden contexts 1408 and 1412, for example, all weighed 1 g or less and must have been intrusive in these contexts.

*Table 3.3: Late Iron Age and Roman pottery; quantification by fabric*

| Ware | Summary description | Nosh | % | Wt (g) | % | RE | % |
|---|---|---|---|---|---|---|---|
| *S20* | *South Gaulish samian ware (including La Graufesenque - **LGF SA**)* | *1* | *0.6* | *1* | + | - | |
| F30 | ?Local oxidised mica coated ware | 1 | 0.6 | 12 | 0.5 | - | |
| F51 | Oxford red/brown colour-coated ware (**OXF RS**). | 7 | 4.0 | 13 | 0.5 | - | |
| *F* | *Fine wares subtotal* | *8* | *4.5* | *25* | *1.0* | - | |
| M22 | | 3 | 1.7 | 28 | 1.2 | 0.10 | 4.0 |
| M41 | Oxford red/brown colour-coated mortaria (**OXF RS**) | 1 | 0.6 | 14 | 0.6 | 0.01 | 0.4 |
| *M* | *Mortaria subtotal* | *4* | *2.3* | *42* | *1.7* | *0.11* | *4.3* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| W10 | Fine (including Oxford) white ware | 1 | 0.6 | 1 | + | - | |
| W20 | Sandy white wares | 1 | 0.6 | 9 | 0.4 | - | |
| W23 | ?Oxford 'burnt white' ware | 1 | 0.6 | 6 | 0.2 | - | |
| *W* | *White wares subtotal* | *3* | *1.7* | *16* | *0.7* | - | |
| **F & S** | **Fine and Specialist wares subtotal** | **16** | **9.0** | **84** | **3.5** | **0.11** | **4.3** |
| E20 | Fine sand-tempered 'Belgic type' wares undifferentiated | 14 | 7.9 | 117 | 4.9 | - | |
| E30 | Medium to coarse sand-tempered 'Belgic type' wares undifferentiated | 13 | 7.3 | 156 | 6.5 | - | |
| E50 | Limestone-tempered 'Belgic type' wares undifferentiated | 1 | 0.3 | 40 | 1.7 | - | |
| E60 | Flint-tempered 'Belgic type' wares undifferentiated | 7 | 4.0 | 186 | 7.7 | 0.27 | 10.7 |
| E80 | Grog-tempered 'Belgic type' wares undifferentiated (includes **SOB GT**) | 32 | 18.1 | 912 | 38.0 | 1.00 | 39.5 |
| *E* | *'Belgic type' wares subtotal* | *67* | *37.9* | *1411* | *58.7* | *1.27* | *50.2* |
| O10 | Fine, probably Oxford oxidised 'coarse' ware | 12 | 6.8 | 75 | 3.1 | 0.15 | 5.9 |
| O19 | Fine sandy local fabric | 2 | 1.1 | 6 | 0.2 | - | |
| O20 | Coarse sandy oxidised wares undifferentiated | 1 | 0.6 | 2 | 0.1 | 0.04 | 1.6 |
| O30 | Moderately fine sandy oxidised wares undifferentiated | 1 | 0.6 | 4 | 0.2 | - | |
| O80 | Coarse (usually grog-tempered) oxidised wares undifferentiated | 1 | 0.6 | 4 | 0.2 | - | |
| *O* | *Oxidised wares subtotal* | *17* | *9.6* | *91* | *3.8* | *0.19* | *7.5* |
| R10 | Fine reduced 'coarse' wares undifferentiated | 16 | 9.0 | 76 | 3.2 | 0.12 | 4.7 |
| R11 | Fine reduced Oxford 'coarse' ware | 7 | 4.0 | 54 | 2.2 | 0.22 | 8.7 |
| R20 | Coarse sandy reduced wares undifferentiated | 24 | 13.6 | 160 | 6.7 | 0.11 | 4.3 |
| R30 | Moderately fine sandy reduced wares undifferentiated | 16 | 9.0 | 145 | 6.0 | 0.26 | 10.3 |
| R50 | Black surfaced moderately fine sandy reduced wares | 1 | 0.6 | 29 | 1.2 | 0.10 | 4.0 |
| R90 | Coarse (usually grog-tempered) reduced wares undifferentiated. Includes Young 1977, 202, fabric 1 | 11 | 6.2 | 309 | 12.9 | 0.15 | 5.9 |
| R95 | Savernake ware | 2 | 1.1 | 44 | 1.8 | - | |
| *R* | *Reduced coarse wares subtotal* | *77* | *43.5* | *817* | *34.0* | *0.96* | *37.9* |
| **TOTAL** | | **177** | | **2403** | | **2.53** | |

### *3.4.3 Prehistoric fired clay*

*by Emily Edwards*

#### Introduction

A total of 87 fragments (1432 g) of fired clay was recovered, including pieces of triangular, pierced loomweights (features 1349, 1405, 15060, 15168, 15339, 15341, 19154). Fragments of unidentified objects (features 15336, 1405) were also recovered.

*Table 3.4: The fired clay assemblage*

| Part of Feature | Intervention Interpretation | Context | Type | Count | Weight (g) |
|---|---|---|---|---|---|
| | | | Amorphous | 3 | 22 |
| 1349 | Ditch | 1302 | Triangular Loomweight | 13 | 374 |
| 1401 | Midden/ occupation layer | 1401 | Amorphous | 1 | 2 |
| 1401 | Midden/ occupation layer | 1401 | Amorphous | 1 | 2 |
| 1401 | Midden/ occupation layer | 1408 | Tile | 1 | 25 |
| 1401 | Midden/ occupation layer | 1401 | Amorphous | 1 | 4 |
| 1405 | Midden/ occupation layer | 1413 | Triangular Loomweight | 1 | 23 |

| | | | | | |
|---|---|---|---|---|---|
| 1405 | Midden/ occupation layer | 1413 | Object | 1 | 5 |
| 15003 | Grave cut | 15004 | Amorphous | 1 | 7 |
| 15021 | Pit | 15200 | Loomweight | 1 | 13 |
| 15060 | Pit | 15019 | Triangular Loomweight | 18 | 105 |
| 15060 | Pit | 15019 | Amorphous | 10 | 85 |
| 15168 | Ditch | 15167 | Triangular Loomweight | 1 | 30 |
| 15334 | Ditch | 15194 | Object | 1 | 75 |
| 15336 | Ditch | 15142 | Object | 1 | 143 |
| 15337 | Ditch | 15162 | Amorphous | 12 | 140 |
| 15339 | Ditch | 15134 | Triangular Loomweight | 1 | 42 |
| 15341 | Ditch | 15059 | Amorphous | 14 | 44 |
| 15341 | Ditch | 15017 | Triangular Loomweight | 1 | 64 |
| 15341 | Ditch | 15293 | Briquetage | 1 | 4 |
| 19011 | Gully? | 19012 | Amorphous | 1 | 7 |
| 19055 | Pit | 19114 | Amorphous | 1 | 6 |
| 19154 | Pit | 19155 | Object. Bellows hole/Tuyere? | 1 | 210 |

## Method

The fired clay was scanned and examined for evidence of wattle or other impressions, possible finished objects and structural pieces. The material was quantified by number of fragments and weight. No record was made of fabric.

## Fired Clay by Category

*Amorphous*

This category (44 fragments, 312 g) may include unidentifiable fragmentary material from objects, structural pieces, potting clay and fired earth from tree throws.

*Objects*

Three pieces (223 g) were identified as having been fragments of objects, due to the presence of small fragments of surfaces or corners. It was not possible to be any more specific about these.

The object from pit 19154 (context 19155) appears to be part of a metalworking furnace, possibly a fragment of a tuyere. The object is fragmentary, but appears to have originally been rectangular, with a funnel-shaped central hole. One surface has been heavily fired and has a vitrified fuel ash slag adhered, the other side of the object was broken. The fuel ash slag appears to have been formed against an object inserted into the hole, suggesting the hole may have been used for bellows.

*Briquetage (identified by L Brown)*

One small broken fragment of Hampshire briquetage was recovered ditch 15341 in Trench 15.

*Loomweights*

Fragments of triangular pierced loomweights were recovered from seven contexts (35 fragments, 1222 g). These fragments include parts of piercings and fragments with corners; seven loomweight fragments are represented.

**Provenance**
Fired clay was recovered from Trenches 13, 14, 15 and 19. The fragments from the midden in Trench 14 consisted of amorphous fragments and one piece of triangular loomweight. The bulk of the material and most of the triangular loomweights were recovered from pits and ditches within Trench 15, whilst three features from Trench 19 yielded three fragments. The tuyere was recovered from a middle Iron Age pit (19154).

**Documentation**
This material, namely the fragments of triangular loomweights and tuyere, can be compared to those from Danebury Hillfort (Poole 1991).

### *3.4.4 Worked flint and burnt unworked flint*

*by Hugo Lamdin-Whymark*

**Introduction**
A total of 135 struck flints were recovered during the excavation. The flintwork assemblage includes a few flints dated to the Neolithic, identified on the basis of technological attributes, but the majority of the assemblage comprised flake material derived from a flake-based industry probably of middle to later Bronze Age date. A post-medieval gun-flint was also recovered.

**Methodology**
The artefacts were catalogued according to broad artefact/debitage type, general condition noted and dating attempted where possible. Unworked burnt flint was quantified by weight and number. The assemblage was catalogued directly onto a Microsoft Access database. A printout of the catalogue will be deposited with the archive; where possible a digital copy will be deposited.

**Quantification**
A total of 140 flints and was recovered during the excavations. The flint assemblage from is shown in Table 3.5.

*Table 3.5: The flint assemblage*

| | Trench 11 | Trench 13 | Trench 14 | Trench 15 | Trench 19 | Grand Total |
|---|---|---|---|---|---|---|
| CATEGORY TYPE | | | | | | |
| Flake | 1 | 10 | 48 | 50 | 6 | 115 |
| Blade | | | | 1 | | 1 |
| Blade-like | | 1 | 1 | | | 2 |
| Irregular waste | | | 6 | | 1 | 7 |
| Chip | | | 3 | | | 3 |
| Tested nodule/bashed lump | | | 2 | | | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Single platform flake core | | | 1 | | | 1 |
| Multi-platform flake core | | | | | 1 | 1 |
| Core on a flake | | | 1 | | | 1 |
| Unclassifiable/fragmentary core | | | 1 | | | 1 |
| End and side scraper | | 1 | 1 | | | 2 |
| Denticulate | | | 2 | | | 2 |
| Retouched flake | | | | 1 | | 1 |
| Gun flint | | | | 1 | | 1 |
| Grand Total | 1 | 12 | 66 | 53 | 8 | 140 |

**Provenance**
Flintwork was recovered from 55 contexts of late Bronze Age to Roman date. The flint forms a fairly low density spread, with most contexts producing one or two flints. Trench 14 produced the majority of the flints, with contexts 1401, 1408 and 1413 producing 25, 13 and 18 flints respectively; the latter context is later Bronze Age and may contain contemporary flintwork, whilst the two former contexts are early Iron Age and the flint is residual.

**Raw material and condition**
The raw material used was flint from a derived source; where present the cortex was relatively thin and abraded. The flint most probably originating from flint river gravels. No local sources are available but flint terrace gravels are readily available on the river Thames, downstream, south of the Goring Gap.

The condition of the flint assemblage was rather variable with both fresh and damaged flints present; the majority of pieces exhibited small nicks and edge damage consistent with post-depositional damage.

**Storage and curation**
The majority of the struck flints are bagged individually; the burnt unworked flint is bagged by context. The flintwork is adequately boxed and bagged for long-term storage and curation.

**The assemblage**
The assemblage recovered is largely composed of unretouched flakes of broad, thick and of relatively squat proportions, produced with minimal core preparation and direct, hard hammer percussion. This simple reduction strategy is typical of middle and later Bronze Age industries (Ford *et al.* 1984). A few flakes and a blade from Trenches 13, 14 and 15 exhibited platform edge abrasion, reflecting a more careful reduction strategy; these flakes are perhaps more characteristic Neolithic industries. The four cores and two tested nodule recovered which reflect relatively irregular and uncontrolled flake removal, with little core preparation, as such these cores are most probably associated with the middle to later Bronze Age flakes.

The retouched component of the assemblage comprises two end and side scrapers, two denticulates, a simple edge retouched flake and a gun flint. The scrapers,

denticulates and retouched flake represent simple flake tools and a date in the middle to late Bronze Age would not be inappropriate.

A large proportion of the flintwork (66 pieces) was recovered from Trench 14 and it is possible that these result from middle to later Bronze Age activity in the vicinity of this trench, although it is clear that the majority of flints have been reworked into early Iron Age deposits.

### *3.4.5 Worked stone*

*by Fiona Roe*

**Introduction**

A total of 1213 pieces of stone were collected during the 2004 excavation at Little Wittenham.

**Method statement**

These were examined using a x 8 hand lens in order to identify the different varieties of stone in use both for artefacts and for the quantities of burnt stone. All the pieces were also examined for working traces and were divided into objects, burnt stone and unworked fragments.

**Quantification**

There is a total of 35 worked stone objects from this part of the Wittenhams project. The main part of the assemblage amounts to 1100 fragments of burnt stone, while another 78 unworked fragments consist of the same materials and were either collected for the same purpose or else already existed as Plateau Drift in the excavated area. The objects and the materials used to make them are summarised in Table 3.6. Quern fragments predominate, with 15 fragments from probable saddle querns and just one piece from a rotary quern. There is also a good range of other artefacts, including hammerstones, loomweights, spindlewhorls and other less easily identified objects which may be rubbers, smoothers or polishers.

It is possible to suggest source areas for all the lithic materials. The stone that was selected for use was all local or fairly local, with the exception of the Old Red Sandstone used for a later rotary quern. The main saddle quern material, with nine examples, was Lower Greensand from a local source area around Culham, only some 3 miles away. The Lower Calcareous Grit, with seven examples, came from the Corallian ridge, probably between Cumnor and Marcham, at a distance of about 7.5 or more miles. Corallian limestone (1 rubber) would have come from much the same source area. The altogether later rotary quern of Upper Old Red Sandstone was imported from around the Forest of Dean/Wye Valley, a well known source area for Roman querns. The other materials utilised for artefacts probably all came from the immediate area; pebbles of quartzite and flint used for hammerstones occur in the Plateau Drift on the top of the Sinodun Hills as does the quartzitic sandstone used for

a couple of possible polishers. These hills consist mainly of a variety of Upper Greensand which has been termed malmstone (Jukes-Brown & Osborne White 1908, 11), which includes calcareous stone with the appearance of chalk and this was used for objects such as loomweights, spindlewhorls and possible smoothers.

*Table 3.6: Summary of stone objects*

| | *Loomweight* | *Saddle quern fragment* | *Hammerstone* | *Strike-a-light* | *Smoother?* | *Spindle-whorl* | *Rubber?* | *Whetstone?* | *Polisher?* | *Rotary quern* | *Phasing* | *Totals* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Chalk* | 1 | | | | | | | | | | EIA x 1 | 1 |
| *Culham Greensand* | | 9 | | | | | | | | | EIA x 5 MIA x 1 | 9 |
| *Flint* | | | 3 | | | | | | | | EIA x3 | 3 |
| *Iron pyrites* | | | | 1 | | | | | | | EIA x 1 | 1 |
| *Greensand, Chalky* | 1 | | | | 3 | 2 | | | | | EIA x 4 | 6 |
| *Limestone, Corallian* | | | | | | | 1 | | | | - | 1 |
| *Lower Calcareous Grit* | | 6 | | | | | | 1 | | | EIA x 5 | 7 |
| *Quartzite* | | | 4 | | | | | | | | EIA x 2 | 4 |
| *Quartzitic Sandstone* | | | | | | | | | 2 | | EIA x 2 | 2 |
| *Upper Old Red Sandstone* | | | | | | | | | | 1 | Likely to be Roman | 1 |
| *Totals* | 2 | 15 | 7 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | | 35 |

The burnt stone is summarised in Table 3.7, which shows that all of it is of local origin with quartzite and flint predominating amongst other materials such as chert and vein quartz which could all have come from the Plateau Drift, while the local Greensand was also quite widely utilised.

*Table 3.7: Summary of burnt stone*

| | |
|---|---|
| Chert | 13 |
| Conglomerate | 1 |
| Flint | 264 |
| Greensand | 161 |
| Igneous | 1 |
| Ironstone | 2 |
| Limestone | 3 |
| Quartzite | 596 |
| Quartzitic sandstone | 52 |
| Uncertain | 2 |

| | |
|---|---|
| Vein quartz | 5 |
| **Totals** | **1100** |

**Dating**

The majority of the finds from dateable contexts belong to the early Iron Age. All the objects appear to belong to this phase, with the exception of two quern fragments, one of which is from a middle Iron Age context, while the other, a rotary quern fragment, was found in topsoil in an area of known Roman activity (Hugo Lamdin Whymark, *pers. comm.*) and is probably Roman. Likewise the burnt stone is predominantly from early Iron Age contexts, with just 4 fragments from late Bronze Age contexts, while 136 fragments have been assigned to the middle Iron Age and another 18 came from late Iron Age/early Roman contexts.

**Condition and range of material**

The artefacts are all fragmentary with the exception of one block of quernstone (15068). It may be noted that fragments from 11 contexts, recorded as querns, now lack working traces, although they are pieces of local quern materials, either Culham Greensand or Lower Calcareous Grit. These two materials would have been deliberately brought to the site to be used for corn grinding.

**Provenance or context**

Thirteen of the stone objects came from the midden/occupation area (contexts 1401, 1408 & 1413), while another 12 were found in pits in Trenches 15 and 19. Only two fragments came from ditches and one from a posthole. Much of the burnt stone again came from the midden/occupation area (contexts 1401, 1408, 1412 & 1413), but also from pits in area 15, with less frequent finds from ring gullies, ditches and postholes.

**Documentation, including previous publications**

All available information was recorded in an Excel file, including identifications of the stone, context types and provisional dating, and this information is summarised in the two tables in this report.

Previous work in the Wittenhams area has not resulted in further records of worked stone. An early excavation (Savory 1937) apparently produced some saddle querns said to be in the British Museum (Oakley *et al.*, 1939, 192, fn), but staff there have been unable to trace any information about these. Finds from later excavations (Rhodes 1948; Hingley 1979-80) are at Reading Museum, but the only worked stone seen there was a chalk block with an incomplete hole. However some unpublished stone from the 1969 excavation of a Roman site at Northfield Farm, Long Wittenham (Gray 1970) was found at the Standlake museum store, and this includes Upper Old Red Sandstone of the same variety as that from the 2004 and also the 2003 excavations.

### *3.4.6 Worked bone objects*

*By Rose Grant (species identification by Fay Worley)*

**Introduction**

A total of eight worked bone objects were recovered from excavations at Long Wittenhams. The objects were recovered from an early Iron Age midden deposit in Trench 14 (contexts 1401 and 1413), the fill of an early or middle Iron Age ring gully 15330 in Trench 15 (fill 15173, intervention 15174) and a middle Iron Age pit fill in Trench 19 (Fill 19056, intervention 19055). These objects are described in Table 3.8, below.

**Discussion of the assemblage**

The worked bone objects from the 2004 excavations forms a coherent assemblage characteristic of the Iron Age in southern England. The assemblage includes a fragmentary needle (SF 2387), a complete bone gouge (SF 1400) and the tip of another example (context 19056), an awl (context 1413), two points (SF 5199 and 5726) and two unclassified worked pieces. The unclassified pieces consisted of a polished and sawn tine of red deer antler (SF 5726) and miscellaneous abrasion on the edge of a fragment of cattle mandible, that appears to result from use rather than intentional working.

Parallels for the worked bone objects are readily available in the corpus of material from Danebury hillfort (Sellwood 1984) and also among the worked bone from the 2003 excavations on Castle Hill.

*Table 3.8: Worked bone objects*

| Object | Context No | SF No | Length (mm) | Description | Parallel |
|---|---|---|---|---|---|
| Gouge | 1401 | 1400 | 74 mm | Complete. Proximal end of sheep/goat metatarsal with slight degradation at head. The butt is perforated by a round hole 3 mm in diameter. The hole is roughly aligned with an oblique cut on the shaft, which begins 47 mm from the point. The shaft above the oblique cut is sub-square in section. The point is rounded and incorporates the central hollow of the bone. | Sellwood 1984, 384 fig 7.34 no3.123 |
| Needle | 1401 | 2387 | 41 mm | Incomplete. Unknown bone. The head of the needle and part of the shaft below the eye | Sellwood 1984, 381 fig7.32 |

| | | | | | |
|---|---|---|---|---|---|
| | | | | remains. The needle has a sub-rectangular cross section which widens around the oval shaped eye. Above the eye, the needle tapers to a point aligned with the centre of the shaft. The object is polished, and worn along the shaft around the eye. | no3.93 |
| Awl | 1413 | | 110 mm | Right cattle ulna worked into a point. Slightly polished through use. | Sellwood 1984, 388 fig7.36 no 3.149 |
| Antler Object | 1413 | 4754 | 45 mm | Piece of worked red deer antler. Burnt. The piece has been sawn at one end which shows that it was burnt before being worked. The length is polished possibly through use. | |
| Point | 1413 | 5199 | 20 mm | Unknown bone. Slightly eroded (possibly reworked) point but otherwise complete. Worked on all sides into point with a round section that diminishes into the tip. The butt end of the point is worked into a tang 4 mm long, aligned off centre to the shaft.. | |
| Point | 1413 | 5726 | 57 mm | Fragment of a right sheep/goat ulna worked into a point. The length of the point is polished. | Sellwood 1984, 388 fig 7.36 no3.154 |
| Mandible | 15173 | | | Fragment of cattle mandible with abrasion down one edge. | |
| Gouge tip | 19056 | | 31 mm | Medium mammal long bone. Oblique cut tip of a gouge. Highly polished. | Sellwood 1984, 384 fig 7.34 no3.124 |

### *3.4.7 Metalwork* **(see also Appendix 2)**

*by Ian Scott*

The metalwork assemblage from the 2004 excavations comprises 47 pieces; a catalogue is provided in Appendix 1. Nails (n=15) and miscellaneous fragments (n=13) make up a large part of the assemblage. Ten pieces are from phased contexts. These include a possible swan's neck pin from Trench 14 ( Layer 1431, Sf 5913), miscellaneous fragments and a nail from early Iron Age contexts. There is also a very small machine-rolled modern piece. This and the nail are intrusive. There are two miscellaneous fragments from middle Iron Age contexts and a nail from a late Iron Age/early Romano-British context. Other unphased finds include a small hammer head and a gouge, a fragment of a penknife, a heel iron, a horseshoe nail all of which are or may be recent in date.

The most interesting finds are a Swan-neck pin of iron (Layer 1431, Sf 5913) and a bag-shape chape of late Bronze Age date (Trench 15, topsoil). The latter belongs to the Carp's Tongue Complex of the late Bronze Age (Burgess 1969, 38-9, and fig 13, 24 & fig 14). Metalwork of the Carp's Tongue complex is concentrated in the south east and up the Thames Valley. Little Wittenham is just on the edge the main area of distribution of material.

### *3.4.8 Roman coinage*

*by Paul Booth*

Two late Roman copper alloy coins were recovered from the ploughsoil close to Trench 15. All were in poor condition, to the extent that none could be precisely identified. The coins are unremarkable, either intrinsically or as site finds. These coins will be considered along with the fieldwalking material (LWNT'03) as they were recovered from the topsoil.

*Table 3.9: Roman coinage*

| SF | Context | Date | Denomination | Reverse | Obverse | Comment |
|---|---|---|---|---|---|---|
| | 15000 | c 260-295 | Antoninianus 20x17 | ? P]AX [AUG Standing figure | Radiate head right | Worn |
| 15011 | 15000 | c 260-295 | Antoninianus 17x16 | Standing figure | Radiate head right | Very corroded |

### *3.4.9 Conservation requirements for metalwork*

*by Esther Cameron*

*Method of assessment*
The objects were visually examined and x-rayed.

*Condition*
All the metalwork is stable at present. The iron is deeply corroded and fragmentary, the copper alloy is less corroded and has a fairly compact, smooth surface with little soil.

### 3.4.10 *Iron slag and other related debris*

*By Lynne Keys*

A small assemblage weighing 1.56 kg was examined for this report. Most had been recovered by hand, but some came from soil samples taken during excavation. Contextual details, plans and some dating were provided so it was possible to look at spatial distribution of some types of slag.

This report will discuss the types of slag present and the processes which produced them. It will also attempt to determine what its presence in certain contexts may tell us about the site.

The material was visually examined and categorised on the basis of morphology alone. Each slag type in each context was weighed but smithing hearth bottoms were weighed individually and measured to obtain their dimensions for statistical purposes.

Additionally a magnet was run through the soil in bags to detect micro-slags such as hammerscale. Quantification details are given in Table 3.10, below.

**Explanation of terms**
Activities involving iron can take two forms:

1) the manufacture of iron from ore and fuel in a *smelting* furnace. The resulting products are a spongy mass called an unconsolidated bloom (iron with a considerable amount of slag still trapped inside) and slag (waste).

2a) *primary smithing* (hot working by a smith using a hammer) of the bloom on a stringhearth, usually near the smelting furnace, to remove excess slag. The bloom becomes a rough lump of iron ready for use and the slags from this process include smithing hearth bottoms and micro-slags, in particular tiny smithing spheres;

2b) *secondary smithing* (hot working by a smith using a hammer) to turn a piece of iron into a utilitarian object or to repair an iron object. As well as bulk slags including the smithing hearth bottom, this will also generate micro-slags: hammerscale flakes from ordinary hot working of a piece of iron, or tiny spheres from high temperature welding to join two pieces of iron.

*Table 3.10: Quantification of the iron slag.*

| Context | Sample No. | Identification | Weight | Length | Breadth | Depth | Comment |
|---|---|---|---|---|---|---|---|
| 1306 | | undiagnostic | 6 | | | | |
| 15009 | | coal | 1 | | | | two tiny fragments |
| 15009 | | fired clay | 6 | | | | |
| 15025 | | charcoal | 1 | | | | |
| 15057 | | undiagnostic | 52 | | | | |
| 15073 | | fuel ash slag | 1 | | | | |
| 15075 | | undiagnostic | 10 | | | | iron rich |
| 15082 | | fuel ash slag | 78 | | | | |
| 15098 | | cinder | 8 | | | | |
| 15098 | | fired clay | 16 | | | | grey - non-oxidised |
| 15102 | | fuel ash slag | 1 | | | | |
| 15102 | | vitrified hearth lining | 8 | | | | |
| 15132 | | cinder | 2 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 15132 | | undiagnostic | 126 | | | | |
| 15136 | | cinder | 1 | | | | |
| 15136 | | fired clay | 24 | | | | |
| 15136 | | smithing hearth bottom | 192 | 90 | 85 | 40 | |
| 15136 | | smithing hearth bottom | 142 | 70 | 70 | 45 | |
| 15136 | | undiagnostic | 326 | | | | |
| 15136 | | vitrified hearth lining | 2 | | | | |
| 15141 | | undiagnostic | 8 | | | | magnetic |
| 15141 | | undiagnostic | 4 | | | | |
| 15141 | | vitrified hearth lining | 1 | | | | |
| 15149 | | undiagnostic | 10 | | | | |
| 15173 | | undiagnostic | 84 | | | | |
| 15239 | | fuel ash slag | 8 | | | | |
| 19012 | 19001 | fuel ash slag | 104 | | | | |
| 19021 | 19005 | fuel ash slag | 10 | | | | |
| 19021 | | fuel ash slag | 202 | | | | |
| 19021 | | fuel ash slag | 1 | | | | |
| 19023 | | cinder | 1 | | | | |
| 19062 | | fuel ash slag | 48 | | | | |
| 19069 | | fuel ash slag | 30 | | | | |
| 19124 | | undiagnostic | 46 | | | | |

Both these activities generate slag, some diagnostic of the process, others not. Some slag described as *undiagnostic* in the table above is probably diagnostic slag broken up during deposition, re-deposition or excavation. Other types of debris encountered in the slag assemblage may be the result of a variety of high temperature activities - including domestic fires - and cannot be taken on their own to indicate iron-working was taking place. They include materials such as *fired clay*, *vitrified hearth lining*, *cinder*, and *fuel ash slag*. However if found in association with iron slag they may be products of the process.

*Fuel ash slag* is a very lightweight, highly porous, light coloured (grey-brown) residue produced by a high temperature reaction between alkaline fuel ash and siliceous material such as a clay lining or surface. It can be produced by any high temperature activity where these two constituents are present including domestic hearths, accidental fires, and even cremations. The type of fuel ash slag present in the assemblage is typical of Iron Age sites and probably results from the burning down of houses.

**Discussion of the assemblage**

The iron slag examined was produced by secondary smithing. In general the assemblage is not of great significance but one group in ditch 15337 - [15137], context (15136) – produced two smithing hearth bottoms, some undiagnostic iron slag

and a little vitrified hearth lining. The slag may have been produced nearby by a smith in the early Roman period or later and dumped into the ditch.

Some iron-rich slag came from ditch 15336 (15075) dated to the early Iron Age. The undiagnostic slag from ring gully [15330] (15173) has been dated to the same period.

A little undiagnostic slag was recovered from each of the ditches [15340] (15132); [15341] (15149); and [15342] (15141) but these features were undated.

### 3.4.11 *Other finds (clay-pipe, glass, oyster shell and shell)*

*by Adam Partington*

#### *Clay pipe*

A total of three fragments of clay pipe were recovered from the excavations at Little Wittenham. All three items were recovered from topsoil in Trenches 13 and 15.

*Table 3.11: Summary of clay pipe*

| Context | Count | Length (mm) | Diameter (mm) | Weight (gr) | Phase | Comments |
|---|---|---|---|---|---|---|
| 1301 | 1 | 32 | 9 | 5 | Modern | Smooth cream exterior, with regular cylindrical section. 2 mm interior hole. |
| 1301 | 1 | 35 | 8 | 5 | Modern | Smooth white exterior, with regular cylindrical section. 2 mm interior hole. |
| 15000 | 1 | 23 | 6 | 2 | Modern | Smooth white exterior, with regular cylindrical section. 3 mm interior hole. |
| TOTAL | 3 | | | 12 | | |

**Provenance**

All three finds were recovered from surface layers that had been significantly disturbed by ploughing and/or natural processes. The lack of any secure contextual identity, and the limited number and size of finds limits the need for any further analysis of the assemblage. No further work on this assemblage.

#### *Glass*

**Introduction**

A total of two glass sherds were recovered from the excavations at Little Wittenham. Both sherds were found in the uppermost soil horizons in Trenches 13 and 15.

*Table 3.12: Summary of glass*

| Context | Count | L (mm) | W (mm) | D (mm) | Weight (g) | Phase | Comments |
|---|---|---|---|---|---|---|---|
| 1301 | 1 | 24 | 8 | 3 | 2 | Post Medieval | Vessel glass shard with iridescence on exterior and interior surfaces. |
| 1500 | 1 | 30 | 25 | 4 | 10 | Post Medieval | Vessel glass shard with iridescence on exterior and interior surfaces. |

**Provenance**
Both finds were recovered from surface layers that had been subject to ploughing and/or natural processes. The lack of any secure context combined with the limited number and size of finds restricts any further analysis of the assemblage. No further work on this assemblage.

***Shell***

**Introduction**
A total of 21 fragments (66 g) of shell were recovered from excavations at Little Wittenham, including oyster, bivalve and freshwater mussel species.

**Species Type**
Shells were broadly identified into three different categories: Oyster, Mussel and Bivalve.

Trench 14 - 4 of the 7 sherds were identified as bivalve, and the remaining 3 as oyster shell.

Trench 15 - 4 of the 14 sherds were identified as 'bivalve', 1 as freshwater mussel, and 9 as oyster shell.

*Table 3.13: Summary of shell*

| Context | SF No | Count | Weight(gr) | Phase | Comments |
|---|---|---|---|---|---|
| 1401 | 3104 | 1 | 1 | EIA | Bivalve shell. Unworked. |
| 1401 | 3151 | 1 | 2 | EIA | Bivalve shell. Unworked. |
| 1401 | 4112 | 1 | 2 | EIA | Oyster shell. Unworked. |
| 1401 | 4175 | 1 | 2 | EIA | Oyster shell. Unworked. |
| 1401 | | 1 | 4 | EIA | Bivalve shell. Unworked. |
| 1401 | | 1 | 1 | EIA | Oyster shell. Unworked. |
| 1404 | | 1 | 1 | EIA | Oyster shell. Unworked. |
| 1500 | | 1 | 8 | Topsoil | Oyster shell. Unworked. |
| 15000 | | 1 | 2 | Topsoil | Oyster shell. Unworked. |
| 15000 | | 1 | 4 | Topsoil | Oyster shell. Unworked. |
| 15036 | | 1 | 2 | E/MIA | Bivalve shell. Unworked. |
| 15037 | | 3 | 7 | E/MIA | Bivalve shells. Unworked. |
| 15072 | | 1 | 1 | E/MIA | Oyster shell. Unworked. |
| 15077 | | 1 | 6 | E/MIA | Oyster shell. Unworked. |
| 15106 | | 1 | 1 | IA | Oyster shell. Unworked. |
| 15160 | | 1 | 6 | Topsoil | Oyster shell. Unworked. |
| 15160 | | 1 | 3 | Topsoil | Oyster shell. Unworked. |
| 15163 | | 1 | 5 | E/MIA | Oyster shell. Unworked. |
| 15300 | | 1 | 8 | E/MIA | Freshwater Mussel shell. Unworked. |
| TOTAL | | 21 | 66 | | |

**Provenance**

Shell was found in the upper and mid layers of an early Iron Age midden in Trench 14. In Trench 15 shell fragments were recovered from the surface and topsoil, three early to middle Iron Age ditches, and three early/middle Iron Age pits.

*Iron Age midden layers (1401 & 1404)*

Seven fragments of shell were recovered from Iron Age midden layers. Three of the fragments were identified as bivalve species, and the remaining four were oyster shell.

*Surface and topsoil (15000 and 15160)*

A total of 5 fragments were found on the soil surface and in the underlying topsoil. All fragments were identified as oyster shell.

*Early/Middle Iron Age ditch fills (15072, 15077, and 15163)*

Single oyster fragments were recovered from the top fills of three early/middle Iron Age ditches (15072, 15077, and 15163).

*Early/Middle Iron Age pit fills (15036, 15106, 15037 and 15300)*

Four bivalve fragments were retrieved from the lower fills (15036, 15037) of pit [15010]. A single, almost complete freshwater mussel fragment was recovered from the fill (15300) of pit [15301]. A single oyster shell fragment was recovered from the top fill (15106) of pit [15107].

**Discussion**

The recovery of bivalve fragments from Iron Age pit fills (15036, 15037, 15300) is notable as shellfish are not a common component of Iron Age diet. The presence of oyster shells in upper Iron Age pit and ditch fills (15072, 15106, 15077, and 15163), and in Iron Age midden layers (1401, 1404) may indicate the intrusive Roman material in earlier layers.

## 3.5 Environmental

### *3.5.1 Charred plant remains and Charcoal*

*By Mark Robinson*

**Introduction**

As part of the Little Wittenham Landscape Project, trenches were excavated around Castle Hill and Round Hill to investigate possible areas of Iron Age settlement including a midden deposit. In addition to the midden, an extensive area of early and middle Iron Age settlement was found extramural to the hillfort of Castle Hill, including storage pits, house gullies and enclosure ditches. Bulk samples were taken from a wide range of archaeological contexts for charred plant remains.

**The samples**

Fifty seven bulk samples, of up to 40 l, were taken for charred plant remains. The samples have been floated by Oxford Archaeology and the material is now in the form of dried unsorted flots.

**Methods**

The samples were floated in water using a flotation machine and the flots caught on a 0.25 mm sieve. Residues were checked to ensure the efficacy of the flotation. The dried flots were scanned under a binocular microscope at up to x20 magnification. The charred seeds and chaff observed were identified and an estimate made of their abundance. Charcoal from the flots was broken transversely and examined. While this is an appropriate means for the identification of *Ulmus*, *Fraxinus* and *Quercus*, the remaining charcoal identifications must be regarded as tentative. Results are given in Table 1 for those samples to contain ten or more charred items other than charcoal and Table 2 for those samples in Table 1 plus the only other samples to contain much charcoal.

**Assessment results**

Carbonised plant remains other than charcoal are present in over three quarters of the samples. Twelve samples (given in Table 3.14) contain ten or more items. Cereal chaff tends to predominate but Sample 15001, from early Iron Age Pit Fill 15022, contains much grain. The main cereals present are *Triticum spelta* (spelt wheat) and hulled *Hordeum vulgare* (six-row hulled barley). *T. dicoccum* (emmer wheat) could also be present in small quantities but only tentative identifications could be made of grain and chaff of this species. The only grains of *Avena* sp. (oats) could be wild oats. Weed seeds are not particularly abundant, the most numerous being *Bromus* Sect. *Eubromus* sp. (brome grass or chess) but most are from plants which readily grow as cereal weeds on the local soils such as *Vicia* or *Lathyrus* sp. (vetch or tare) and *Tripleurospermum inodorum* (scentless mayweed). The occurrence of seeds of *Galium aparine* (goosegrass) suggests that some of the crops were autumn-sown. There is a slight presence of nut shell fragments of *Corylus avellana* (hazel).

Three of the trenches have samples with relatively high concentrations of charred remains. Two samples from Trench 13, which has a confusion of intersecting ditches of Bronze Age to Roman date, contain much chaff from the de-husking of spelt wheat. Trench 15 has many early Iron Age storage pits in it and some of their fills contain high concentrations of cereal processing waste, particularly glumes of spelt wheat. Iron Age storage pits are also present in Trench 19 although without such high concentrations of crop processing remains. Interestingly, charred remains other than charcoal are almost entirely absent from the early Iron Age midden in Trench 14.

Charcoal is also present in around three quarters of the samples although mostly in small quantities. Charcoal of Pomoideae (hawthorn, apple etc) and *Quercus* sp. (oak) predominates. *Alnus* or *Corylus* sp. (alder or hazel), *Fraxinus excelsior* (ash) and, unusually for an Iron Age site, *Ulmus* sp. (elm) are also present.

*Table 3.14: Charred Plant Remains (excluding charcoal) from LWNT 04*
Number of samples 57, Total sample volume (litres) 1531, No. of samples with charred seeds etc 40

| | Trench | 13 | | 15 | | | | | | | | 19 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | | | MIA | EIA | EIA | EIA | EIA | MIA | EIA | EIA | EIA | |
| | Sample | 1312 | 1316 | 15000 | 15001 | 15002 | 15006 | 15010 | 15013 | 15018 | 15019 | 19000 | 19008 |
| | Context | 1315 | 1324 | 15015 | 15022 | 15067 | 15124 | 15088 | 15270 | 15297 | 15300 | 19020 | 19114 |
| | Feature | 1306 | 1350 | 15341 | 15021 | 15006 | 15125 | 15010 | 15254 | 15298 | 15301 | 19019 | 19055 |
| | Sample Volume (litres) | 40 | 40 | 40 | 40 | 2 | 40 | 20 | 30 | 40 | 40 | 40 | 40 |
| CEREAL GRAIN | | | | | | | | | | | | | |
| *Triticum* cf. *dicoccum* Schübl. | emmer wheat | - | + | - | - | - | - | - | - | - | - | - | - |
| *T. spelta* L. | spelt wheat | - | + | - | + | + | + | + | - | + | - | - | + |
| *Triticum dicoccum* Schübl. or *spelta* L. | emmer or spelt wheat | + | + | + | ++ | + | + | + | - | + | + | + | + |
| *Triticum* sp. | wheat | - | - | + | - | - | - | - | - | - | - | - | - |
| *Hordeum vulgare* L. - hulled | six-row hulled barley | - | - | - | - | - | + | + | - | - | - | - | + |
| *Hordeum* sp. - hulled | hulled barley | - | - | + | + | + | + | ++ | + | + | + | - | + |
| *Hordeum* sp. | barley | + | - | - | + | + | - | - | - | - | - | - | - |
| *Avena* sp. | oats | - | - | - | - | - | - | - | - | + | - | - | - |
| cereal indet. | | + | + | + | ++ | + | ++ | ++ | + | + | ++ | + | + |
| Total cereal grain | | + | + | + | +++ | + | + | + | + | ++ | ++ | + | + |
| CEREAL CHAFF | | | | | | | | | | | | | |
| *Triticum spelta* L. - glume | spelt wheat | ++ | + | - | + | +++ | + | ++ | - | + | + | - | + |
| *T. dicoccum* Schübl. or *spelta* L. | emmer or spelt | ++ | +++ | - | ++ | ++++ | ++ | +++ | - | ++ | + | + | + |
| Total cereal chaff | | +++ | +++ | - | ++ | ++++ | ++ | +++ | - | ++ | ++ | + | + |
| OTHER FOOD PLANT SEEDS | | | | | | | | | | | | | |
| *Corylus avellana* L. | hazel nut | - | + | - | + | - | - | - | - | - | - | - | - |

| | Trench | 13 | | 15 | | | | | | | | 19 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | | | MIA | EIA | EIA | EIA | EIA | MIA | EIA | EIA | EIA | |
| | Sample | 1312 | 1316 | 15000 | 15001 | 15002 | 15006 | 15010 | 15013 | 15018 | 15019 | 19000 | 19008 |
| | Context | 1315 | 1324 | 15015 | 15022 | 15067 | 15124 | 15088 | 15270 | 15297 | 15300 | 19020 | 19114 |
| | Feature | 1306 | 1350 | 15341 | 15021 | 15006 | 15125 | 15010 | 15254 | 15298 | 15301 | 19019 | 19055 |
| | Sample Volume (litres) | 40 | 40 | 40 | 40 | 2 | 40 | 20 | 30 | 40 | 40 | 40 | 40 |
| WEED SEEDS | | | | | | | | | | | | | |
| *Ranunculus* cf. *repens* L. | creeping buttercup | - | - | - | - | - | - | - | - | - | + | - | - |
| *R. parviflorus* L. | small-flowered buttercup | - | - | - | - | + | - | - | - | - | - | - | - |
| *Vicia* or *Lathyrus* sp. | vetch or tare | - | - | + | + | - | - | + | + | + | + | - | - |
| cf. *Medicago lupulina* L. | black medick | - | - | - | + | - | - | - | - | - | - | - | - |
| *Polygonum aviculare* agg. | knotgrass | - | - | - | - | - | - | - | - | + | - | - | - |
| *Rumex* sp. | dock | + | - | - | - | - | - | + | - | + | - | - | - |
| *Galium aparine* L. | goosegrass | - | - | + | - | - | - | + | - | + | - | - | + |
| *Tripleurospermum inodorum* (L.) Sch. | scentless mayweed | - | - | - | - | + | - | - | - | - | - | - | - |
| *Bromus* Sect. *Eubromus* sp. | brome grass | - | - | - | + | ++ | + | + | - | + | + | + | - |
| Gramineae indet. | grass | - | + | - | - | - | - | - | - | + | - | - | - |
| weed seeds indet. | | - | - | - | + | - | - | - | - | + | - | + | - |
| Total weeds seeds | | + | + | + | + | ++ | + | ++ | + | ++ | + | + | + |
| Total Items | | +++ | +++ | ++ | +++ | ++++ | +++ | ++++ | + | +++ | ++ | ++ | ++ |

+ 1-10 items, ++ 11-50 items, +++ 51-200 items, ++++ 201+ items

*Table 3.15: Charcoal from LWNT 04*

Number of samples 57, Total sample volume (litres) 1531, No. of samples with charcoal 44 (+ present, ++ some)

| | Trench | 14 | | 15 | 19 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | | | MIA | EIA | EIA | EIA | MIA | EIA | EIA | EIA | |
| | Sample | 1401 | 1407 | 15000 | 15001 | 15006 | 15010 | 15013 | 15018 | 15019 | 19000 | 19008 |
| | Context | 1400 | 1440 | 15015 | 15022 | 15124 | 15088 | 15270 | 15297 | 15300 | 19020 | 19114 |
| | Feature | 1401 | 1439 | 15341 | 15021 | 15125 | 15010 | 15254 | 15298 | 15301 | 19019 | 19055 |
| | Sample Volume (litres) | 40 | 10 | 40 | 40 | 40 | 20 | 30 | 40 | 40 | 40 | 40 |
| cf. Pomoideae | hawthorn, apple etc | + | - | + | + | + | + | + | - | ++ | - | + |
| *Alnus* or *Corylus* sp. | alder or hazel sp. | - | - | - | - | - | - | - | ++ | - | - | - |
| *Ulmus* sp. | elm | - | - | - | - | - | - | - | - | - | - | + |
| *Quercus* sp. | oak | ++ | ++ | + | + | + | + | + | + | - | + | - |
| *Fraxinus excelsior* L. | ash | - | - | - | - | - | + | - | - | - | - | - |

### *3.5.2 Land and freshwater snails*

*By Mark Robinson*

**Introduction**

As part of the Little Wittenham Landscape Project, trenches were excavated through late Bronze Age to early Iron Age settlement features on Upper Greensand south of Round Hill. Trenches were also excavated across Roman trackway ditches and earlier field ditches on the Thames floodplain at Clifton Meadow. Column sequences of samples were taken from soil sequences and ditch fills for molluscan analysis to obtain evidence of the changing environmental conditions. Summary details of the samples, assessment methods, results, interpretations and potential are given here followed by recommendations.

**The samples**

Sample columns were assessed from five trenches, comprising series of 1.0 kg samples.

| | | |
|---|---|---|
| Trench 14. | Greensand, Column 1413 late Bronze Age ground surface and early Iron Age midden | 8 samples. |
| Trench 15. | Greensand, Column 15014 middle Iron Age ditch Feature 15340 | 1 sample. |
| Trench 11. | Clifton Meadow, Column 11002 possible Bronze Age ditch Feature 11008 | 21 samples. |
| Trench 20. | Clifton Meadow, Column 20009 Roman trackway ditch Feature 20031 | 9 samples. |

**Methods**

Each sample was broken up in water and floated onto a 0.5mm sieve. The sample residues were then sieved over a 0.5mm mesh. Both flots and residues were dried and scanned under a binocular microscope and notes made of the shells present.

**Assessment Results**

Trench 14, Column 1413
bottom Contexts 1413-1401 top, very few shell frags inc. *Vallonia* sp. and *Helicella itala*

Trench 15, Column 15014
Contexts 15028, shells absent

Trench 11, Column 11002
bottom Context 11009 top, very few eroded fragments from robust shells inc. *Clausilia bidentata* and *Cepaea* or *Arianta* sp.

Trench 20, Column 20009
bottom Context 20013, lower concentration, wet grassland and stagnant water / marsh esp. *Vallonia pulchella* and *Lymnaea truncatula*
Context 20014-20006, shells absent
Context 20006, few shells inc. *Trichia hispida* gp.
Context 20005 top high concentrations, aquatic flowing water inc. *Valvata* cf. *piscinalis*, marsh inc. *Lymnaea truncatula*, wet grassland inc. *Carychium* sp., *Succinea* or *Oxyloma* sp. and *Vallonia pulchella*.

**Preliminary interpretation**
The samples from Trenches 11, 14 and 16 are all from contexts which had experienced decalcification. Other than noting that there are no marsh or aquatic species amongst the species identified, little further interpretation can be made and these samples have no potential for more detailed analysis.

The shells from the lowest samples from the Roman trackway ditch in Trench 20 suggest there was stagnant water in the ditch bottom and it is likely that the surrounding terrestrial environment was grassland. The samples from the middle layers of the ditch are likely to be alluvial clay which was largely decalcified. (The section drawing is not satisfactory and it is likely that these deposits are continuous with the alluvial clay on the floodplain). The top sample of the column is alluvial clay containing both riverine aquatic molluscs and species characteristic of damp hay meadow. It is the familiar "snaily alluvium" which is extensively present on the floodplain on the floodplain of the Upper Thames Valley and is of medieval date (Robinson 1988).

### *3.5.3 Waterlogged macroscopic plant and insect remains*

*By Mark Robinson*

**Introduction**
As part of the Little Wittenham Landscape Project, trenches were excavated across a pair of Roman trackway ditches on the Thames floodplain at Clifton Meadow. Waterlogged sediments in the ditch bottoms were samples for waterlogged macroscopic plant and insect remains to obtain evidence for past environmental conditions. Summary details of the samples, assessment methods, results, interpretations and potential are given here followed by recommendations.

**The Samples**
Four samples each of 10kg were taken from the trackway ditches in Trench 20.

Clifton Meadow eastern Roman trackway ditch Feature 20031 Samples 20002 and 20000.

Clifton Meadow western Roman trackway ditch Feature 20019 Samples 20005 and 20004.

**Methods**
Sub-samples of 1kg were washed over onto a 0.25 mm mesh to recover the organic material. The flots were scanned in water under a binocular microscope.

**Assessment Results**
The waterlogged seeds observed in the flots are listed in Table 3.16 and Coleoptera (beetles) are listed in Table 3.17. The preservation of waterlogged seeds and Coleoptera

is good in Sample 20002 from Context 20015, the earliest fill of the eastern trackway ditch, whereas preservation in Sample 20000 from Context 20014, the layer above, is poor. The remains in Sample 20005 from Context 20018, the bottom fill of the western trackway ditch show some evidence of degradation but a range of identifiable seeds and insects are present. Preservation in Sample 20004 from Context 20017, the middle fill of the western ditch is very poor, with only seeds of *Juncus* sp. (rush) surviving.

**Preliminary Interpretation**

The most numerous seeds in all the samples are from plants of water's edge, marsh and wet grassland habitats: *Mentha* cf. *aquatica* (water mint) and *Juncus* spp. (rushes). They probably grew on the ditch bottom and sides as well as perhaps on wetter areas of the floodplain. Seeds from fully aquatic plants are absent and the only water beetles, for example *Helophorus* cf. *brevipalpis*, readily occur in temporary puddles of water. The remaining seeds are mostly from plants appropriate to damp grassland including *Ranunculus* cf. *acris* (meadow buttercup), *Lychnis flos-cuculi* (ragged robin), *Leontodon* sp. (hawkbit) and *Carex* sp. (sedge). The terrestrial Coleoptera are likewise species of damp grassland including *Pterostichus* cf. *cupreus, Hoplia philanthus*, *Agriotes* sp. and *Crepidodera ferruginea*. There is no evidence for scrub or woodland.

*Table 3.16: Waterlogged Seeds from LWNT 04 Trench 20*

| | | Eastern Roman Ditch | | Western Roman Ditch | |
|---|---|---|---|---|---|
| | Sample | 20002 | 20000 | 20005 | 2004 |
| | Context | 20015 | 20014 | 20018 | 20017 |
| | Feature | 20031 | 20031 | 20019 | 20019 |
| | Sample Weight (kg) | 1.0 | 1.0 | 1.0 | 1.0 |
| *Ranunculus* cf. *acris* L. | meadow buttercup | + | - | + | - |
| *R.* cf. *repens* L. | creeping buttercup | + | - | + | - |
| *R.* cf. *bulbosus* L. | bulbous buttercup | + | - | - | - |
| *Lychnis flos-cuculi* L. | ragged robin | + | - | + | - |
| *Atriplex* sp. | orache | - | - | + | - |
| *Filipendula ulmaria* (L.) Max. | meadowsweet | + | - | - | - |
| *Potentilla anserina* L. | silverweed | - | + | - | - |
| *Epilobium* sp. | willow-herb | + | - | - | - |
| *Rumex conglomeratus* Mur. | sharp dock | + | - | - | - |
| *Rumex* sp. | dock | - | - | + | - |
| *Urtica dioica* L. | stinging nettle | - | - | + | - |
| *Mentha* cf. *aquatica* L. | water mint | ++ | ++ | + | - |
| *Lycopus europaeus* | gypsywort | + | + | - | - |
| *Glechoma hederacea* L. | ground ivy | - | - | + | - |
| *Valeriana* sp. | valerian | - | - | + | - |
| *Carduus* or *Cirsium* sp. | thistle | + | - | - | - |
| *Leontodon* sp. | hawkbit | + | - | - | - |
| *Juncus articulatus* gp. | rush | - | - | ++ | - |
| *J. effusus* gp. | tussock rush | - | - | + | - |
| *Juncus* sp. | rush | ++ | +++ | + | +++ |
| *Eleocharis* S. *Palustris* sp. | spike rush | + | - | - | |
| *Carex* sp. | sedge | + | - | + | |
| Gramineae | grass | - | - | + | |

*Table 3.17: Coleoptera from LWNT 04 Trench 20*

| | Eastern Roman Ditch | | Western Roman Ditch |
|---|---|---|---|
| Sample | 20002 | 20000 | 20005 |
| Context | 20015 | 20014 | 20018 |
| Feature | 20031 | 20031 | 20019 |
| Sample Weight (kg) | 1.0 | 1.0 | 1.0 |
| *Clivina collaris* (Hbst.) or *fossor* (L.) | + | - | - |
| *Dyschirius globosus* (hbst.) | + | - | + |
| *Bembidion guttula* (F.) | - | - | + |
| *Pterostichus* cf. *cupreus* (L.) | + | - | - |
| *P.* cf. *nigrita* (Pk.) | + | - | - |
| *Chlaenius* sp. | - | - | + |
| *Hydroporus* sp. | - | - | + |
| *Helophorus* sp. (*brevipalpis* size) | + | - | - |
| *Cercyon* sp. | + | - | - |
| *Megasternum obscurum* (Marsh.) | ++ | - | + |
| *Stenus* sp. | + | - | - |
| *Xantholinus linearis* (Ol.) or *longiventris* Heer | + | - | - |
| *Philonthus* sp. | + | - | - |
| *Tachinus* sp. | + | - | - |
| Aleocharinae indet. | - | - | + |
| *Hoplia philanthus* (Fues.) | - | - | + |
| *Dryops* sp. | - | + | + |
| *Agriotes* sp. | + | - | + |
| *Chrysolina* sp. | + | - | - |
| *Longitarsus* sp. | + | - | - |
| *Crepidodera ferruginea* (Scop.) | + | - | - |
| *Apion* spp. | + | - | ++ |
| *Notaris acridulus* (L.) | + | - | - |

### 3.5.4 *Pollen and Phytoliths*

*by Dr Adrian Parker*

**Introduction**

Pollen analysis is routinely used in the evaluation and reconstruction of palaeoenvironments from natural sites e.g. peat bogs, fens and lakes as well as from archaeological contexts e.g. buried soils, wells, ditches and middens. Pollen largely survives under waterlogged, anaerobic conditions. Pollen tends not to survive well under aerobic, oxidising conditions. However, several workers have recovered pollen from non-waterlogged contexts (Dimbleby 1984; Parker 1995).

Phytoliths (plant silica) preserve well under oxidising conditions and may be used as a tool for environmental reconstruction. Their application in environmental reconstruction is largely restricted to archaeological sites from New World (Piperno 1988) and Old World contexts (Ishida *et al.* 2002) with some studies examining longer Holocene environmental sequences (Parker et al. 2004). Within the UK few

studies have been used in which phytoliths have been implemented as an environmental archaeological tool (Powers-Jones, et al., 1987; Hodson 2002; Parker unpubl.). This is largely for two reasons: 1. few specialists exist within this area of environmental reconstruction, and 2. Phytoliths have a more restricted application within temperate regions when compared with drier climatic regions. Phytoliths can be used to differentiate different tribes of Poaceae (Grasses), generic woody taxa, and can, in certain instances be used to differentiate cereals (Tubb et al. 1993) and crop processing sites (Hodson 2002)

A number of column samples were submitted for pollen and phytolith evaluation from the 2004 excavations at Little Wittenham, Oxon. A total of seven column samples were evaluated from a variety of deposition contexts ranging from buried Bronze Age palaeosols under the hillfort rampart, to the infill of a small Roman quarry context. A total of 23 samples were selected from the seven column samples.

In addition, a peat sequence that appears to span much of the Holocene was found by coring an accumulation of more than 2 m of waterlogged material from a pond close to the river Thames on the north side of Castle Hill. The sequence was studied by both physical and pollen analyses to establish the environmental sequence. This work was carried out by Ash Parton at Oxford Brookes University, under the supervision of Adrian Parker.

**Methodology**

*Pollen analysis*

1cm$^3$ of sample for pollen analysis was prepared using the standard techniques outlined in Moore *et al.* (1991). The pollen residues were stained with safranin and mounted in glycerol jelly. Slides were scanned for their pollen content and preservation made using a Nikon Eclipse E400 light microscope under bright light with phase contrast being used for critical determinations. The pollen nomenclature is based on Clapham *et al.* (1989).

*Phytolith analysis*

For the extraction of phytoliths 5g of sediment from each sample was sieved (2 mm mesh) to remove the coarse sands and gravel prior to phytolith extraction. Organic matter was removed by using a warm 10% solution of $H_2O_2$ for 15 minutes or until the reaction had ceased. This was followed by deflocculation using 50 ml 2% Calgon in 250 ml distilled water and shaking continuously for 30 minutes. The samples were then passed through a 212 μm sieve, and the residues rinsed with distilled water and centrifuged. This was followed by heavy liquid separation using zinc iodide (2.35 s.g.) Material less than 5 μm in size was removed using the vacuum filtration method of Theunissen (1994). Samples were mounted onto microscope slides using Canada Balsam and identified at x400 and x1000 magnifications using a Nikon Eclipse E400 light microscope. The slides were scanned to evaluate the level and nature of phytolith preservation.

The phytolith morphotypes were compared with modern reference materials collected by the author and by comparison with phytolith keys including Cummings (1992), Mulholland and Rapp (1992), Piperno (1988) and Rosen (1993) were used.

**Assessment**
The following column samples and contexts were sampled and evaluated for both pollen and phytolith preservation and contents.

**Pollen from Trench 20, Roman Ditch**
The pollen from trench 20 corroborates the plant macrofossil work carried out previously. A total of six samples were prepared using the standard techniques outlined in Moore *et al.* (1991). The pollen residues were stained with safranin and mounted in glycerol jelly. Slides were scanned for their pollen content and preservation made using a Nikon Eclipse E400 light microscope under bright light with phase contrast being used for critical determinations. The pollen nomenclature is based on Clapham *et al.* (1989).

Pollen was well-preserved in the lower half of the core (Table 3.18). The uppermost two samples analysed (20 cm and 40 cm) contained low numbers of poorly preserved grains.

All of the samples were dominated by herb pollen characteristic of open conditions with a background of low trees and shrubs. The samples show a general infilling of the ditch, initially with open water colonised with *Alisma plantago-aquatica*. Plant macrofossils of *Alisma plantago-aquatica* were also present along with Nasturtium *aqauaticum*. However, pollen form the latter species was not present. The surrounding landscape pollen assemblage is indicative of floodplain haymeadow/grassland with *Rhiananthus, Prunella, Plantago media*, Ranunculaceae, *Rumex* spp. and Compositae Liguliflorae present. Evidence for damp grassland/marsh elements include *Cerastium*, Caryophyllaceae (*Lychnis flos-cuculi* seeds were present), Cyperaceae and *Mentha aquaticum*. The plant macrofossil evidence, reported previously, suggest that these marshland elements are likely to be derived largely from the infilling of the ditch itself though some of the sum may have also been derived from the floodplain grassland/haymeadow itself.

Tree and shrub pollen is low throughout the sequence accounting for a maximum of 8% and 6% respectively. The tree and shrub pollen suggest some remnant *Quercus* trees in the landscape along with *Alnus* and the occasional *Salix*, which are likely to have been present on the floodplain or riverbank. Scrub elements are indicated by the presence of *Crateagus* t. and *Rubus* t. pollen and the seeds of *Rubus fruiticosus* agg.

It is likely that the ditch infilled quickly and its existence was short-lived.

**Pollen & Phytoliths from a possible Bronze Age boundary ditch in Trench 11**
Four samples were processed from trench 11 003 column 1/1 for both pollen and phytoliths. The sediment comprised yellow-orange alluvial clay and silt with sandy

and gravel inclusions. No samples yielded suitable material and no further work is recommended. The depths were 20, 40, 60 and 75 cm below the ground level.

**Pollen from the peat sequence at the foot of Castle Hill**
The analysis provided a useful vegetational sequence with a number of clear points of change that were tentatively related to the environmental sequence established from other palynological studies in the Upper Thames Valley. This requires absolute dating to tie down the suggested sequence, and link it to the archaeological activity recorded by the project. A copy of the results is attached under separate cover.

**Pollen and Phytoliths from Trench 14**
Four samples were prepared from Trench 14. No pollen was recovered except for a few resistant Compositae Liguliforae grains. Three of the phytolith samples did yield countable material (Table 3.19). All three samples were dominated by grassland elements with a few Ligneous Dicotyledonous forms suggest that some phytoliths were derived from woody material. However, these were very low in number. The grass elements were dominated by round/square/oblong short-sell forms. These are typically found in C3 grasses that are the dominant form in temperate regions of the world. A number of dumbbell/cross forms were present which a typically derived from C4 Panicoid forms. However, it should be noted that some C3 types may produce these forms as well.

All three phytolith yielding samples contained dendriforms. These are derived from the inflorescence spikes of grasses and are often associated with cereals. The relatively high proportion of these forms may suggest that cereal were processed at the site and the residue discarded into the midden. This would also account for the high proportion of C3 (round/square/oblong) forms also found. The latter types may also have been derived from the surrounding pasture used from animal grazing or grasses collected for animal fodder or bedding or derived from their dung.

*Table 3.18: Pollen from Roman Ditch, Trench 20, Wittenham, Oxon*

| | 20cm* | 40cm* | 60cm | % | 80cm | % | 100cm | % | 116cm | % |
|---|---|---|---|---|---|---|---|---|---|---|
| **Trees** | | | | | | | | | | |
| *Quercus* | | 1 | 2 | 0.66 | 1 | 0.24 | 2 | 0.47 | 6 | 1.06 |
| *Tilia* | | | | 0.00 | | 0.00 | 1 | 0.24 | 1 | 0.18 |
| *Fraxinus* | | | | 0.00 | | 0.00 | | 0.00 | 2 | 0.35 |
| *Alnus* | | 1 | 22 | 7.24 | 7 | 1.70 | 12 | 2.83 | 30 | 5.31 |
| **Shrubs** | | | | | | | | | | |
| *Corylus* | | 1 | 11 | 3.62 | 6 | 1.46 | 9 | 2.12 | 21 | 3.72 |
| *Salix* | | | 2 | 0.66 | | 0.00 | 1 | 0.24 | 7 | 1.24 |
| *Crataegus t.* | | | 2 | 0.66 | 1 | 0.24 | | 0.00 | 3 | 0.53 |
| *Rubus t.* | | | 3 | 0.99 | | 0.00 | 2 | 0.47 | 3 | 0.53 |
| **Herbs** | | | | | | | | | | |
| Cereal t. | | | 2 | 0.66 | | 0.00 | 5 | 1.18 | 3 | 0.53 |
| Gramineae | | 4 | 101 | 33.22 | 124 | 30.10 | 211 | 49.76 | 258 | 45.66 |
| Cyperaceae | | | 30 | 9.87 | 82 | 19.90 | 22 | 5.19 | 47 | 8.32 |
| Ranunculaceae | | | 15 | 4.93 | 17 | 4.13 | 41 | 9.67 | 33 | 5.84 |
| Chenopodiaceae | 4 | 2 | 3 | 0.99 | 8 | 1.94 | 1 | 0.24 | 5 | 0.88 |
| Caryophyllaceae | | | 14 | 4.61 | 5 | 1.21 | 6 | 1.42 | 24 | 4.25 |
| *Filipendula* | | | 7 | 2.30 | 14 | 3.40 | 8 | 1.89 | 1 | 0.18 |
| *Plantago lanceolata* | | | 2 | 0.66 | 10 | 2.43 | 6 | 1.42 | 2 | 0.35 |
| *Plantago major/media* | | | 15 | 4.93 | 5 | 1.21 | 11 | 2.59 | 4 | 0.71 |
| *Rumex* spp. | | | 4 | 1.32 | 14 | 3.40 | 23 | 5.42 | 12 | 2.12 |
| *Urtica* | | | | 0.00 | 4 | 0.97 | 2 | 0.47 | 2 | 0.35 |
| *Galium* t. | | | 1 | 0.33 | 1 | 0.24 | 2 | 0.47 | | 0.00 |
| *Polygonum* spp. | | | 2 | 0.66 | 14 | 3.40 | 6 | 1.42 | 8 | 1.42 |
| Compositae Liguliflorae | 15 | 22 | 44 | 14.47 | 14 | 3.40 | 12 | 2.83 | 21 | 3.72 |
| Compositae Tubuliflorae | 2 | 3 | 3 | 0.99 | 4 | 0.97 | 5 | 1.18 | 4 | 0.71 |
| *Cirsium/Carduus* t. | 1 | 3 | 5 | 1.64 | 4 | 0.97 | 5 | 1.18 | 2 | 0.35 |
| Umbelliferae | | | 3 | 0.99 | 8 | 1.94 | 3 | 0.71 | 6 | 1.06 |
| *Cerastium* t. | | | 2 | 0.66 | | 0.00 | 1 | 0.24 | 4 | 0.71 |
| *Mentha aquatica* | | | | 0.00 | 62 | 15.05 | 8 | 1.89 | 40 | 7.08 |
| *Rhiananthus* | | | 2 | 0.66 | 2 | 0.49 | 3 | 0.71 | | 0.00 |
| *Prunella* | | | 2 | 0.66 | | 0.00 | 2 | 0.47 | 4 | 0.71 |
| *Linum catharticum* | | | 1 | 0.33 | | 0.00 | 5 | 1.18 | | 0.00 |
| **Spores** | | | | | | | | | | |
| Polypodium | | | | 0.00 | | 0.00 | 1 | 0.24 | 1 | 0.18 |
| Filicales | | | 3 | 0.99 | 4 | 0.97 | 5 | 1.18 | 7 | 1.24 |
| Pteridium | | | 1 | 0.33 | 1 | 0.24 | | 0.00 | | 0.00 |
| **Aquatics** | | | | | | | | | | |
| *Alisma plantago-aquatica* | | | | 0.00 | | 0.00 | 3 | 0.71 | 4 | 0.71 |
| ***n*** | 22 | 37 | 304 | 100.00 | 412 | 100.00 | 424 | 100.00 | 565 | 100.00 |
| **Trees** | 0 | 2 | 24 | 7.89 | 8 | 1.94 | 15 | 3.54 | 39 | 6.90 |
| **Shrubs** | 0 | 1 | 18 | 5.92 | 7 | 1.70 | 12 | 2.83 | 34 | 6.02 |
| **Herbs** | 22 | 34 | 258 | 84.87 | 392 | 95.15 | 388 | 91.51 | 480 | 84.96 |
| **Spores** | 0 | 0 | 4 | 1.32 | 5 | 1.21 | 6 | 1.42 | 8 | 1.42 |
| **Aquatics** | 0 | 0 | 0 | 0.00 | 0 | 0.00 | 3 | 0.71 | 4 | 0.71 |

*Table 3.19: Percentage phytolith counts from Trench 14, section 2, Wittenham. Crosses denote the presence of morphotypes but counts yielded insufficient number for reliable percentage calculations.*

| Depth (cm) | Layer | Round, Square, Oblong | Dumbell and Crosses | Saddle | Other grasses | Lig dicots | Cyperaceae | Corklike | Grass long cells | Dendriform | Other long cells | Hairs | Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 1413 | + | + | | + | + | | + | + | + | | | 32 |
| 30 | 1406 | 35 | 10 | 2 | 9 | 4 | 1 | 5 | 21 | 10 | 3 | 1 | 315 |
| 37 | 1407 | 29 | 6 | 1 | 5 | 2 | 0 | 4 | 30 | 17 | 2 | 4 | 300 |
| 50 | 1409 | 40 | 3 | 0 | 11 | 2 | 0 | 7 | 28 | 7 | 1 | 1 | 127 |

### 3.5.5 *Human skeletal remains*

*by Peter Hacking and Ceridwen Boston*

**Introduction**

Disarticulated human bone from three contexts was retrieved during excavation of midden deposits within Trench 14. Two well preserved skeletons, an isolated fragment of human femur and a complete nenatal clavicle were recovered from Trench 15. These human remains were osteologically analysed by Dr Peter Hacking.

**Osteological methodology**

Adults were aged by dental attrition (Miles 1962) and ectocranial suture closure (Meindl and Lovejoy 1985). Subadults were aged by epiphyseal fusion (Bass 1995; Schwartz 2000) and from diaphyseal long bone length (Scheuer *et al* 1980). The osteological sex of adults was determined from morphology of the skull and pelvis (, Workshop 1980; Buikstra and Ubelaker 1994). The stature of skeleton 15005 was estimated from long bone length, using the regression formulae developed by Trotter and Gleser (1958).

The above methodology complies with the guidelines for the recording of human remains set out by BABAO and the Institute of Field Archaeologists (Brickley and McKinley 2004).

**Provenance of the human remains**

*Trench 14*

The early Iron Age midden deposits in Trench 14 contained three fragments of human bone amongst a quantity of domestic debris. These included an incomplete head of humerus (from spit 2 of deposit 1401), a left maxillary 1st molar (from spit 1 of deposit 1401), and a fragment of the right frontal bone of an adult individual (1445).

*Trench 15*

The two skeletons, a late adolescent male (15005) and a 36-38 week old foetus (15131) were discovered within the fill of an early Iron Age circular pit (15003) located within the settlement. Skeleton 15131 lay immediately to the south of the feet and lower legs of skeleton 15005. It is uncertain if they were interred within the pit as a single event. Skeletons 15005 and 15131 lay on their right sides. In contrast to the norm of north-south orientation of Iron Age pit burials (including those found within the hillfort of Castle Hill), both skeletons were orientated east-west, facing the north. Skeleton 15003 was loosely flexed, whilst the foetus (15131) was crouched in a foetal position.

An isolated fragment of femoral shaft (15272) was recovered from the fill of a middle Iron Age ditch (15341), and a complete left clavicle of neonatal age was recovered from an unstratified context within the trench.

**Preservation and completeness**

*Trench 14*

The three fragments of human bone recovered from midden deposits (1401 and 1445) were in fair condition, but all bones were incomplete having suffered post-depositional damage. They comprised the incomplete head of a humerus (spit 2, context 1401), the left maxillary 1st molar with broken roots (spit 1, context 1401) and a well preserved supraorbital portion of an adult frontal bone (context 1445).

*Trench 15*

The left side of the skull and both feet of skeleton 15005 had been truncated by ploughing and/or mechanical stripping of the site, but most other elements were well represented. The pelvis and long bones, except for the left pubis and distal ends of the tibiae, were in fair to good condition, as were the hand bones. The mandible, maxillae and most of the teeth were present. The 3rd molars were not visible, due either to delayed eruption or to developmentally absence (a non-metric genetic variation). Many vertebrae were missing. The preservation of extant vertebrae and ribs was poor.

Foetal skeleton 15131 was represented by numerous small skull fragments, the mandible (lacking the teeth), the vertebrae, ribs, pelvis and most of the long bones of the limbs. Preservation of the skeleton was fair.

A single isolated fragment of human femoral shaft (15272) measuring 73 x 22 mm, was in fair condition. The diaphysis of the neonatal clavicle found within spoil from trench 15 was complete and in good condition.

**Assemblage distribution**

*Trench 14*

The three fragments of human remains within midden deposits 1401 and 1445 represent the remains of three individuals. The incomplete head of humerus (SF 2240) found within deposit 1401 was unfused, indicating an adolescent younger than 16-20 years. The dental attrition of the left maxillary 1st molar from deposit 1401 suggested a younger adult, probably aged 22-28 years. The supraorbital fragment of a right frontal bone was adult in size, but was sexually indeterminate.

*Trench 15*

The pelvic features of skeleton 15005 indicated a male individual. He was aged 18-20 years, on the basis of epiphyseal fusion and dental attrition. All the measurable diaphyseal lengths of skeleton 15131 correspond to those of a 36-37 week foetus.

The isolated fragment of femur (15272) appeared to be adult. Bone dimensions were not indicative of the sex of the individual. An isolated complete clavicle from an unstratified context in Trench 15 (measuring 44 mm in length) was late foetal to neonatal in age.

## Stature

Skeleton 15005 was the only skeleton to have complete long bones with which to estimate stature. The stature of this individual was estimated at 1.69 ± 0.02 m or 5'6". This is approximately 1 cm taller than the average male stature for the British Iron Age, calculated by Roberts and Cox (2003, 396).

## Skeletal pathology

*Osteochondritis dissecans*

Active *osteochrondritis dissecans* was observed on the articular surface of the left medial femoral condyle of skeleton 15005. The lesion was ovoid in shape, measuring 21 mm x 16 mm. A plaque of cortical bone had become displaced, revealing the underlying trabecular bone. A smaller, well healed lesion was also present on the medial right femoral condyle, measuring 15 mm x 75 mm. Here the bony plaque had healed onto the joint surface, leaving an ovoid indentation in the surface. *Osteochondritis dissecans* is a fairly common osteological disorder found on the joint surfaces of the major long bones, commonly on the femoral condyle of the knee joint. Physically active young males (such as athletes) are most often affected in the first two decades of life. This disease is due to a significant localised obliteration of the blood supply, causing necrosis of small areas of joint tissue (Roberts and Manchester 1995, 87; Aufderheide and Rodriguez-Martin 1998). Repeated, low-grade, chronic trauma or micro-trauma is thought to play a role in this injury to the blood vessels. The necrotic bone plaque breaks off from the joint surface and may remain loose in the joint, causing chronic pain and often precipitating osteoarthritic changes. The lesion on the left condyle of skeleton 15005 had broken off, but no secondary joint disease had developed. In the left knee, the fragment had not completely dislodged, and had re-attached in its original position. Healing was considerable, and it is unlikely that he had suffered further symptoms. The presence of these lesions indicates that this young male led a physically strenuous existence.

*Intervertebral osteochondrosis*

The superior and inferior bodies of T10 - L5 showed slight to moderate irregular and crescentic depressions. Lesions were more marked in the thoracic and upper lumbar vertebrae becoming progressively less severe inferiorly. The lesions ranged in depth from 2 mm to 5 mm, the base being irregular or rugose in appearance. A slight compression of the body of T11 and slight osteophytosis of the body margins was present.

The location of the lesions in the centre or posterior aspect of the bodies is suggestive of Schmorl's nodes. However, the irregular rugose appearance of the lesions is more characteristic of intervertebral osteochondrosis (Kelley 1982, 272). The latter disorder most commonly affects the spine of individuals in the second and third decade of life, and occurs in response to severe and/or everyday stress. The condition is more common in males than females, particularly males of greater stature. Skeleton 15005 is typical of the age and sex distribution of this disease. The presence of bilateral lesions of osteochonditis dissecans on the femoral condyles supports the interpretation that this individual lived a short but physically strenuous existence.

*Cribra orbitalia*

The right orbit of the fragment of adult skull within midden context 1445 showed evidence of cribra orbitalia Grade 2 (Stuart-Macadam 1991, 109). Cribra orbitalia is widely thought to occur in response to a deficiency of iron during childhood, most commonly as a result of inadequate dietary intake of iron, and/or as a result of severe intestinal parasite infestation (*ibid*). Red bone marrow produces red blood cells, which require iron for the transportation of oxygen in the blood. To compensate for low serum iron levels, the bones of the skeleton containing red marrow hypertrophy. In children, the diplöe of the cranial vault is one of the most significantly affected bones. Osteologically, this manifests as thickened porous areas in the orbital sockets and on the cranial vault. Although some remodelling of bone does occur throughout life, porosity of the bone may persist into adulthood but remains a generic indicator of physical stress in childhood, as appears to have been the case in this individual.

**Dental pathology**

Dental pathology was present in skeleton 15005 as moderate dental enamel hypoplasia (DEH) and calculus on the dentition of skeleton 15005.

*Dental enamel hypoplasia*

The 16 dental crowns of skeleton 15005 displayed dental enamel hypoplasia (DEH), a prevalence of 16/23 or 69.6%. DEH is the interruption or slowing of normal enamel formation during tooth crown development in the first six or seven years of life causing permanent thinning of the enamel (Goodman and Rose 1990). DEH manifests on the buccal surface of the crowns of teeth as pits, horizontal lines or lines of pits. Each line forms as a result of a prolonged episode of illness or malnutrition during childhood, lasting several weeks. Unlike bone, enamel does not remodel throughout life and so DEH acts as a permanent indicator of such a stress episode in the early years of life. The clear lines on the dentition of skeleton 15005 indicate exposure to moderate stress episodes, such as childhood infections and/or seasonal food shortages. Teeth displayed between 1-3 lines, indicating multiple episodes in the first 8 years of life.

*Dental decay*

No caries were present in the dentition of skeleton 15005 but slight calculus was noted on 22 of 24 tooth crowns (91.7%). Calculus consists of mineralised plaque. Micro-organisms that accumulate in the mouth after eating become imbedded in a matrix composed of proteins and the saliva and the organisms themselves. Processed sugar in the diet accelerates this process (Hillson 1996, 254-55). These plaques may mineralise to form calculus (colloquially known as tartar). There are two types of calculus: supra-gingival calculus situated above the gum line, and sub-gingival calculus that is found below the gum line on exposed roots. The former was noted on the dentition of skeleton 15005. The deposits are commonly seen on the teeth nearest to the saliva glands (Roberts and Manchester 1995, 55). Regular brushing of the teeth

removes most plaque deposits, thus preventing the formation of calculus. The calculus rate was recorded per tooth present, and the size and position on the crown was noted, using recording criteria set out by Brothwell (1981). However, such a detailed presentation of this data is beyond the scope of this report.

Compared to later historical periods, the prevalence of dental disease in prehistory is generally low. An average of 2.9% is cited as the prevalence (TPR) of caries in Iron Age Britain (Roberts and Cox 2003, 101). This probably reflects the relatively low intake of carbohydrates, particularly in the form of refined sugar, and the fairly young overall age of the population. In many later post-medieval and modern populations, ingestion of refined foodstuffs results in minimal wear of the occlusal surfaces of the teeth. The folds of enamel trap food residues, and in the absence of stringent oral hygiene, result in caries formation. This was not the case in prehistory, where the coarseness of the diet and grit introduced during food processing wore flat these folds within the first two decades of life. The dearth of dental decay in skeleton 15005 is probably the result of all the above factors.

**Discussion**

The insertion of complete articulated individuals, articulated but incomplete body parts, and isolated, presumably skeletonized human bones into ditches, grain-storage pits and postholes is a well recognised range in the treatment of the dead in Iron Age England (Whimster 1981; Wilson 1981; Wait 1985), and has been found widely in southern England, the Midlands (Whimster 1981) and as far north as West Yorkshire (Boston forthcoming). The variation in the treatment of human remains suggests a range of concurrent burial practices, which appear to include the careful placement of the complete corpse within empty or partially features soon after death; dismemberment of fleshed cadavers and the selection of body parts for interment in the above features and/or possible curation elsewhere amongst the living, and the deliberate and/or accidental incorporation of skeletonised bones within settlement features and occupation layers, possibly as a burial rite secondary to excarnation (Carr and Knusel 1997), although this last has not been tested osteologically.

Several individuals, including neonates and adults, were discovered within Iron Age pits of the adjacent hillfort of Castle Hill during excavation of the hillfort interior in 2003 and illustrate the above burial practices. A crouched neonate was discovered within a partially filled middle Iron Age pit. An adjacent pit contained three individuals- at the base, a crouched adult male inhumation (radiocarbon dated to the early Iron Age), in a higher fill the dismembered vertebral column, pelvis and leg of a second adult (possibly female), and overlying this the crouched, prone burial of a neonate. A number of disarticulated bones were also recovered from pit fills on the site (Lamdin-Whymark pers. comm.). Occupation layers of the late Bronze Age to early Iron Age settlement immediately south-west of the hillfort contained three human skull fragments and a tooth (Hingley 1979).

Other Oxfordshire examples of Iron Age pit burials are known from Queen Street, Abingdon (Parrington 1975), Ashville Trading Centre, Abingdon (Parrington 1978),

Cassington Mill, Cassington (Chambers 1977), Allen's Pit, Dorchester-on-Thames (Whimster 1981), Mount Farm, Dorchester-on-Thames (Allen and Robinson 1993) and Watkin's Farm, Northmoor (Allen 1990).

**Conclusion**

The remains of at least five individuals were discovered during this phase of excavation. The two complete inhumations interred within an early Iron Age pit in Trench 15 form part of a growing corpus of inhumations known from Iron Age settlement sites. Young adult male 15005 showed skeletal pathologies consistent with a strenuous physical existence. The assemblage promises to provide interesting comparisons with the early and middle Iron Age pit burials discovered within the interior of Castle Hill hillfort. It may also prove valuable to contrast the demography of these articulated burials with that of disarticulated remains found within the pits and ditches of the hillfort interior and in the early Iron Age midden deposits in Trench 14, although the small numbers may limit the value of this study.

## Catalogue

The following abbreviations have been employed in the catalogue below:

/ post-mortem tooth loss
- tooth not present
C caries
DEH dental enamel hypoplasia
L left
DJD degenerative joint disease
C1-7 cervical vertebra 1 to 7
L1-5 lumbar vertebra 1 to 5
X ante-mortem tooth loss
A dental abscess
k calculus
R root only (in relation to dentition)
R right
SDJD spinal degenerative joint disease
T1-12 thoracic vertebra 1 to 12

***Skeleton number:*** 15005
***Archaeological context:*** Flexed inhumation within early Iron Age pit (15003). The individual lay on his right side, orientated east-west, facing north. No associated grave goods. The skeleton of a 36-37 week foetus (15131) was also buried within the pit. This crouched, individual lay immediately south of the feet of skeleton 15005.
***Completeness:*** 75-85 % (feet missing through truncation)
***Preservation:*** good
***Age:*** 18-20 years
***Sex:*** male
***Stature:*** 1.69 m ± 0.02 m
***Dental inventory:***

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k | | | | k | | | | k | k | k | k | k | k | |
| k | | | | | | | | | | | | | | | U |
| U | | | | | | | | | | | | | | | |
| | 7 | 6 | / | 4 | 3 | / | 1 | / | 2 | 3 | 4 | 5 | 6 | 7 | - |
| - | | | | | | | | | | | | | | | |
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | / | 2 | 3 | 4 | 5 | 6 | 7 | - |
| - | | | | | | | | | | | | | | | U |
| U | | | | | | | | | | | | | | | |
| | k | k | k | k | k | k | k | | k | k | k | k | k | k | |

***Dental Pathology:*** Moderate DEH (16/23), slight calculus 22/24, caries 0/24; AMTL 0/24, abscess 0/24, non-eruption of M3
***Skeletal pathology:*** Active *osteochondritis dissecans* on left medial femoral condyle, healed lesion on medial left condyle; intervertebral osteochondrosis on T10-L5

***Skeleton number:*** 15131
***Archaeological context:*** Crouched inhumation of foetus placed within an early Iron Age pit (15003). Foetus orientated east-west, positioned on right side with head facing north. Skeleton 15005 was also buried within this pit immediately to the north. No grave goods.
***Completeness:*** 70-80%
***Preservation:*** good
***Age:*** 36-37 week foetus
***Sex:*** unknown
***Skeletal pathology:*** none noted

### *3.5.6 Animal bone*

*By Fay Worley*

**Introduction**

The complete assemblage of 10,233 refitted (53,329g) fragments of animal bone from the 2004 excavations at Wittenham Clumps were assessed and recorded at OA by the author. These faunal remains come from seven excavated trenches with archaeological features spanning the late Bronze age to modern periods. The assessed faunal remains were recovered by hand collection and from sieved residues and flots. With the exception of the sieved material, all bone had been washed and marked prior to analysis. The weight of each specimen was noted, the weight of any specimens less than 1 g was recorded as "0 g". Fragment counts in the remainder of this assessment refer to refitted fragment counts.

**Methodology**

Faunal material was identified by comparison with textual sources (Cohen and Serjeantson 1996; Hillson 1986; 1992; Lavocat 1966; Schmid 1972) and the OA faunal reference collection. The identification of a possible wolf calcaneum (context 1435) was verified by comparison with wolf skeletons held at Oxford University Museum of Natural History.

Specimens were identified as specifically as possibly to element and taxon with siding information included where appropriate. Species classes of large mammal (horse, cattle and red deer sized), medium mammal (sheep/goat, pig, roe deer, large dog sized), small mammal (rabbit sized) and micofauna (vole, mouse, frog sized) and species size groups were utilised where identification to more specific taxon was not possible. Sheep and goat bone was differentiated used criteria noted in Boessneck (1969), Hillson (1986, 101) and Prummel and Frisch (1986) with the class sheep/goat used where further identification was not possible. The fish bone was examined by R. Nicholson but could not be identified to species.

Indicators of age-at-death such as bone fusion (following Silver 1969), mandibular tooth attrition (following Grant 1982) and general observations on size and bone porosity were noted. Skeletally mature elements (those for which bone fusion was complete) were measured following standard conventions (Driesch 1976). Where possible, sex was determined using sexually dimorphic characteristics. Any evidence of non-metric variation and pathological alteration was noted.

Evidence for post-mortem variation (butchery marks, gnawing and burning) was noted and described when present.

Fragmentation was recorded using bone zones suggested by Serjeantson (1996) and Cohen and Serjeantson (1996). Preservation was recorded using a six point graded scale based on Lyman (1996, 355).

## Results

Animal bone was recovered from Trenches 11, 12, 13, 14, 15, 18 and 19. The number of fragments and total weight of animal bone from each trench is presented in Table 3.20. Stratified animal bone was recovered through both hand collection and sieving strategies. Table 3.21 presents the quantity of stratified animal bone recovered through each strategy.

*Table 3.20: Quantity of stratified and unstratified animal bone recovered from each trench*

| Source | Quantification | Trench | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 11 | 12 | 13 | 14 | 15 | 18 | 19 | Total |
| Strat. | No. fragments | 1 | 17 | 765 | 3402 | 4233 | 1 | 1787 | 10,206 |
| | *Weight (g)* | *18* | *228* | *5935* | *17,383* | *23,332* | *10* | *6229* | *53,135* |
| Unstrat. | No. fragments | - | - | - | 4 | - | - | 23 | 27 |
| | *Weight (g)* | - | - | - | *35* | - | - | *159* | *194* |
| **Total** | **No. fragments** | **1** | **17** | **765** | **3406** | **4233** | **1** | **1810** | **10,233** |
| | ***Weight (g)*** | ***18*** | ***228*** | ***5935*** | ***17,418*** | ***23,332*** | ***10*** | ***6388*** | ***53,329*** |

*Table 3.21: Quantity of stratified animal bone recovered by hand collection and sieving*

| Collection Strategy | Quantification | Trench | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 11 | 12 | 13 | 14 | 15 | 18 | 19 | Total |
| Hand collection | No. fragments | 1 | 2 | 722 | 3136 | 3368 | 1 | 1124 | 8354 |
| | *Weight (g)* | *18* | *142* | *5886* | *17,289* | *23,174* | *10* | *6029* | *52,548* |
| Sieved | No. fragments | - | 15 | 43 | 266 | 865 | - | 663 | 1852 |
| | *Weight (g)* | - | *86* | *49* | *94* | *158* | - | *200* | *587* |
| **Total** | **No. fragments** | **1** | **17** | **765** | **3402** | **4233** | **1** | **1787** | **10,206** |
| | ***Weight (g)*** | ***18*** | ***228*** | ***5935*** | ***17,383*** | ***23,332*** | ***10*** | ***6229*** | ***53,135*** |

The trenches can be divided into two groups; 11 and 12 were located on the Thames floodplain while 13, 14, 15 and 19 investigated an extensive area of archaeological activity to the west of Castle Hill. Tables 1 and 2 indicate that the vast majority of animal bone was recovered from Trenches 13, 14, 15 and 19 while 11, 12 and 18 contained very little material. The small assemblage size from Trenches 11 and 12 may be due to poor bone preservation (see below) while the lack of bone from Trench 18 reflects a lack of archaeological remains in that area.

## Condition

The condition of the bone varied across the site (see Table 3.22). The condition of the few fragments of bone from Trenches 11, 12, and 18 was fair to poor (stage 3 to 4) while the bone in 13, 14, 15 and 19 was largely very good to fair (stage 1 to 3) with some very fresh looking specimens (stage 1), the majority with fine angular edged cracks (stage 2) and some more battered fragments with abraded fracture edges (stage 3). As stated above, the relativity poor condition of bone in Trenches 11 and 12 reflects a spatial difference as these trenches were located a considerable distance to the north west of the other excavations.

*Table 3.22: Percentage of bone fragments in each trench within recorded condition classes*

| Condition stage | Trench | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 11 | 12 | 13 | 14 | 15 | 18 | 19 | Total |
| 0 (fresh) | - | - | - | - | - | - | - | - |
| 1 (very good) | - | - | 30.8% | 24.8% | 33.4% | - | 7.8% | 26.3% |
| 2 (good) | - | - | 46.9% | 64.2% | 59.3% | - | 74.1% | 62.5% |
| 3 (fair) | 100.0% | - | 20.4% | 10.1% | 6.7% | - | 17.3% | 10.1% |
| 4 (poor) | - | 100.0% | 1.9% | 0.9% | 0.7% | 100.0% | 0.8% | 1.0% |
| 5 (bad) | - | - | - | - | - | - | - | - |
| Total number of fragments | 1 | 17 | 765 | 3406 | 4233 | 1 | 1810 | 10233 |

The condition of the bone in Trench 14 may be used to address particular taphonomic questions regarding the early Iron Age midden. The midden was excavated stratigraphically and in spits with the position of most bone fragments two dimensionally recorded on plan within each spit. Three dimensional comparison of fragment condition and animal gnawing within the midden may illuminate its formation processes. Table 3.23 presents the break down of condition stages for bone from contexts within Trench 14. Analysis of this data together with consideration of fragment weights within bone classes (for example large mammal indeterminate fragments) may also highlight spatial distributions across the midden resulting from taphonomic factors.

*Table 3.23: Condition of bone between contexts and spits in Trench 14*

| Context | Spit | Condition | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| 1401 | 1 | 32% | 65% | 3% | |
| | 2 | 24% | 67% | 8% | 1% |
| | 3 | 15% | 73% | 10% | 2% |
| | 4 | 17% | 73% | 10% | |
| | 5 | 33% | 67% | | |
| | (no spit) | 64% | 28% | 8% | |
| | 1401 Total | 32% | 60% | 7% | 1% |
| 1404 | 1 | | 100% | | |
| | (no spit) | 52% | 46% | 2% | |
| | 1404 Total | 52% | 47% | 2% | |
| 1405 | 2 | | 100% | | |
| | (no spit) | 64% | 9% | 27% | |
| | 1405 Total | 58% | 17% | 25% | |
| 1406 | 2 | | 100% | | |
| | 3 | 100% | | | |
| | (no spit) | 93% | | 7% | |
| | 1406 Total | 88% | 6% | 6% | |
| 1407 | Total | 24% | 29% | 47% | |
| 1408 | 1 | 17% | 77% | 6% | |
| | 2 | | 84% | 12% | 4% |
| | 4 | 2% | 88% | 10% | |
| | 5 | | 100% | | |

| | | | | | |
|---|---|---|---|---|---|
| | 6 | 14% | 79% | 7% | |
| | 7 | | 67% | 33% | |
| | (no spit) | 5% | 85% | 4% | 6% |
| | 1408 Total | 8% | 82% | 8% | 3% |
| 1409 | 1 | | 100% | | |
| | 1409 Total | | 100% | | |
| 1411 | Total | 100% | | | |
| 1412 | 1 | 7% | 79% | 14% | |
| | 2 | 17% | 67% | 17% | |
| | 3 | 9% | 83% | 9% | |
| | 4 | 7% | 80% | 7% | 7% |
| | 5 | 4% | 79% | 17% | |
| | 7 | | | | 100% |
| | (no spit) | 20% | 70% | 10% | |
| | 1412 Total | 8% | 78% | 13% | 2% |
| 1413 | 4 | | 67% | 33% | |
| | 5 | 9% | 83% | 7% | |
| | 6 | 5% | 74% | 19% | 2% |
| | 7 | | 45% | 55% | |
| | (no spit) | 41% | 52% | 7% | |
| | 1413 Total | 9% | 75% | 15% | 1% |
| 1415 | Total | 10% | 90% | | |
| 1417 | Total | 50% | | 50% | |
| 1418 | Total | 38% | 63% | | |
| 1419 | Total | 100% | | | |
| 1421 | Total | 100% | | | |
| 1423 | Total | 83% | 17% | | |
| 1425 | Total | 50% | | 50% | |
| 1432 | Total | 7% | 11% | 81% | |
| 1434 | Total | 80% | 20% | | |
| 1435 | Total | 33% | 58% | 10% | |
| 1437 | Total | 25% | 75% | | |
| 1438 | Total | 50% | 50% | | |
| 1439 | Total | 9% | 91% | | |
| 1440 | Total | | | 100% | |
| 1447 | Total | | 100% | | |
| 1449 | Total | | 100% | | |
| 1451 | Total | 8% | | 92% | |
| 1453 | Total | | 100% | | |
| **Total** | | **25%** | **64%** | **11%** | **1%** |

Generally, the condition of the bone was suitable for the recognition of fine butchery marks and pathology. Table 3.24 summarises the identification of post mortem modification (butchery marks, burning and gnawing) on fragments from different trenches.

*Table 3.24: Proportion of fragments from each trench exhibiting post-mortem modification*

| | Trench | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **11** | **12** | **13** | **14** | **15** | **18** | **19** | **Total** |
| Total no. fragments | 1 | 17 | 765 | 3402 | 4233 | 1 | 1787 | 10,206 |
| No. butchered fragments | 1 | 0 | 11 | 334 | 281 | 0 | 17 | 644 |
| *% fragments butchered* | *100.0* | *0.0* | *1.4* | *9.8* | *6.3* | *0.0* | *1.0* | *6.3* |
| No. burnt fragments | 0 | 0 | 3 | 69 | 95 | 0 | 45 | 212 |
| *% burnt fragments* | *0.0* | *0.0* | *0.4* | *2.0* | *2.2* | *0.0* | *2.5* | *2.1* |
| No gnawed fragments | 0 | 0 | 2 | 120 | 145 | 0 | 17 | 284 |
| *% gnawed fragments* | *0.0* | *0.0* | *0.3* | *3.5* | *3.4* | *0.0* | *1.0* | *2.8* |

Gnawed bones were identified in Trenches 13, 14, 15 and 19. The vast majority of gnawing was carnivore rather than rodent gnawing, in fact only nine fragments from Trench 14 and three fragments from Trench 15 showed evidence of having been gnawed by rodents. Trenches 14 and 15 had the highest prevalence of gnawing with its frequency in the midden in Trench 14 no higher than that in the pits and ditch deposits of Trench 15. It is not clear why the prevalence of gnawing is less in Trench 19 given that it contains similar archaeological deposits to Trench 15; the bone fragments are on average slightly less well preserved in Trench 19 but are still in a suitable condition to recognise gnawing.

Burnt bone is also largely only found in Trenches 14, 15 and 19. Burnt bone ranged from fully calcined to slightly charred fragments and probably represents bones burnt during cooking activities and rubbish disposal. Burnt bone is found in similar frequencies between the midden, pit and ditch deposits of Trenches 14, 15 and 19.

Although butchered bone is found in most trenches, it is frequent in Trench 15 and especially common in Trench 14. In fact the majority of long bones in Trench 14 had been butchered, usually by splitting the shaft longitudinally with further transverse fractures. This suggests that the midden probably contained butchery waste, after the long bones had been processed for marrow.

The majority of the specimens were fragmented. The number of measurable bones (Table 3.25) can provide a rough indication of the high level of fragmentation given that usually only largely complete bones are measurable. It should be noted that many of the measurable specimens are denser elements of the distal limb which tend to fragment less than other regions of the skeleton.

*Table 3.25: Proportion of measurable specimens*

| | Trench | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **11** | **12** | **13** | **14** | **15** | **18** | **19** | **Total** |
| Total no. fragments | 1 | 17 | 765 | 3402 | 4233 | 1 | 1787 | 10206 |
| No. measurable | 0 | 0 | 4 | 46 | 41 | 0 | 6 | 97 |
| *% measurable* | *0.0%* | *0.0%* | *0.5%* | *1.4%* | *1.0%* | *0.0%* | *0.3%* | *1.0%* |

**Species Representation**

The following section considers only stratified animal bone. Table 3.26 illustrates the frequency of taxa between trenches. These are discussed grouped by individual trench

below. In general terms the domestic mammals (cattle, horse, sheep/goat and pig) are the most common taxa identified, with sheep/goat followed by cattle and then pig being the most frequently identified taxa. In trenches 14, 15 and 19 it was sometimes possible to distinguish between sheep and goat with both species being identified. Dog and cat elements were also identified, both of which are probably domestic given the date of the features. Wild species included red deer, wolf, rabbit, weasel, mole, vole, frog/toad, fish, indeterminate bird and mallard. The goose bone from Trench 15 may be domestic or wild. Fish and bird bone were only found in small numbers throughout the site.

*Table 3.26: Taxa identified in individual trenches. Totals in brackets include probable identifications*

| Species | 11 | 12 | 13 | 14 | 15 | 18 | 19 | Total |
|---|---|---|---|---|---|---|---|---|
| cattle | - | 1 | 173 (174) | 250 (252) | 521 (527) | 1 | 90 (93) | 1036 (1047) |
| horse | - | - | 8 | 9 (11) | 30 | - | 17 | 64 (66) |
| red deer | - | 1 | 1 | 3 | - | - | - | 5 |
| large mammal | 1 | 15 | 437 | 558 | 537 | - | 249 | 1797 |
| large/medium mammal | - | - | - | 100 | 7 | - | 13 | 120 |
| pig /cattle size | - | - | - | 1 | 2 | - | - | 3 |
| sheep/goat/cattle | - | - | - | - | - | - | 1 | 1 |
| pig | - | - | - | 85 (101) | 49 (55) | - | 32 (33) | 166 (189) |
| sheep | - | - | - | 8 | 9 | - | 2 | 19 |
| goat | - | - | - | 1 (4) | - | - | 1 | 2 (5) |
| sheep/goat | - | - | 19 | 391 (395) | 384 (390) | - | 148 (152) | 942 (956) |
| sheep/goat/deer | - | - | - | 1 | - | - | - | 1 |
| sheep/goat/pig | - | - | - | 2 | 1 | - | - | 3 |
| dog | - | - | - | 10 (11) | 12 (13) | - | 8 | 30 (32) |
| wolf | - | - | - | 1 | - | - | - | 1 |
| dog/pig | - | - | - | - | - | - | 1 | 1 |
| cat | - | - | - | - | - | - | 1 | 1 |
| cat size | - | - | - | 2 | - | - | 1 | 3 |
| fox size | - | - | 2 | 44 | 12 | - | 4 | 62 |
| medium mammal | - | - | 43 | 1267 | 1509 | - | 544 | 3363 |
| medium mammal size | - | - | - | 1 | - | - | - | 1 |
| medium/small mammal | - | - | - | 16 | 18 | - | 6 | 40 |
| rabbit | - | - | - | 3 | 1 | - | - | 4 |
| rabbit size | - | - | - | 1 | 3 | - | 5 | 9 |
| rabbit/hare | - | - | - | - | - | - | 1 | 1 |
| small carnivore | - | - | - | 1 | - | - | - | 1 |
| small mammal | - | - | - | 6 | 8 | - | - | 14 |
| small mammal size | - | - | - | 1 | - | - | - | 1 |
| weasel | - | - | - | - | 1 | - | - | 1 |
| mole | - | - | - | - | 1 | - | - | 1 |
| rat | - | - | - | - | 3 | - | - (1) | 3 (4) |
| rodent | - | - | - | 1 | - | - | - | 1 |
| vole | - | - | 2 | 2 | 46 (50) | - | 5 | 55 (59) |
| water vole | - | - | - | 1 | - | - | - | 1 |
| frog/toad | - | - | 3 | - | 91 | - | - | 94 |
| microfauna | - | - | 8 | 2 | 182 | - | 15 | 207 |
| fish | - | - | - | 6 | 2 | - | - | 8 |
| goose | - | - | - | - | 1 | - | - | 1 |
| mallard | - | - | - | - | 3 | - | - | 3 |
| bird | - | - | - | 3 (7) | 18 | - | - | 21 (25) |
| mammal | - | - | - | 14 | 45 | - | - | 59 |
| medium mammal/bird | - | - | - | - | 1 | - | - | 1 |
| indeterminate | - | - | 68 | 579 | 712 | - | 634 | 1993 |
| Total | 1 | 17 | 765 | 3402 | 4233 | 1 | 1787 | 10.206 |

Trench 11 contained only a single large mammal fragment from a post-medieval context.

Trench 12 contained cattle, large mammal and red deer elements, at the time of writing these had not been phased. The red deer fragment was a single tooth although large mammal long bone fragments from this context may also be red deer.

Trench 13 contained a range of taxa dating from the early Iron Age, middle Iron Age and modern periods together with some unphased material. Throughout the Iron Age deposits large mammal, probably cattle, dominate the identified assemblage (see Table 3.27). This does not follow the general site trend for sheep/goat to predominate (see below) but may be due to a deposit of cattle elements in context (**1302**) (see 'potentially significant bone groups' below). Horse and sheep/goat were the only other domestic taxa identified in this trench. Wild taxa included red deer (a single carpal only) and microfauna including vole and frog/toad. The microfauna most likely represents a natural death assemblage.

*Table 3.27: Trench 13 identified taxa by phase.*

| Species | Phase | | | | Grand Total |
|---|---|---|---|---|---|
| | EIA | MIA | Mod | (unphased) | |
| cattle | 97 | 31 | 3 | 42 | 173 |
| probable cattle | | | | 1 | 1 |
| horse | 1 | 1 | 1 | 5 | 8 |
| red deer | | | | 1 | 1 |
| large mammal | 148 | 70 | 2 | 217 | 437 |
| sheep/goat | 2 | 4 | | 13 | 19 |
| fox size | 2 | | | | 2 |
| medium mammal | 5 | 18 | | 20 | 43 |
| vole | | | | 2 | 2 |
| frog/toad | | | | 3 | 3 |
| microfauna | | | | 8 | 8 |
| indeterminate | 4 | 23 | | 41 | 68 |
| Grand Total | 259 | 147 | 6 | 353 | 765 |

Trenches 14 and 15 contained the widest range of taxa including domestic mammals; cattle, horse, sheep/goat, pig and dog, and wild animals; fish, bird, wolf, rabbit, red deer and microfauna. All red deer fragments were antler, two had been worked and two charred. Tables 3.28 and 3.29 summarise the frequency of these taxa divided by trench and phase.

The late Bronze Age material in Trench 14 contains mostly large mammal fragments, however the sample size is small. The vast majority of phased bone from Trench 14 dated to the early Iron Age. Unlike the Iron Age material in Trench 13, that in Trench 14 was dominated by medium mammal fragments, where more specifically identifiable these were most commonly sheep/goat. Some sheep/goat fragments could be identified to species; of these eight were sheep and only one goat. The prevalence

of sheep/goat follows general trends in southern England Iron Age sites (Maltby 1996).

Early Iron Age context in Trench 14 also contains the majority of wild taxa from this trench including fish bones. Fish bones are not commonly found on Iron Age in Britain but were also identified in small numbers from excavations on Castle Hill just to the east of Trench 14 (see Kitch 2005). Unfortunately no fish bone fragments from Trench 14 were identifiable to species.

*Table 3.28: Trench 14 identified taxa by phase*

| Species | Phase | | | | Grand Total |
|---|---|---|---|---|---|
| | LBA | EIA | Mod | (unphased) | |
| cattle | 9 | 203 | | 38 | 250 |
| probable cattle | | 2 | | | 2 |
| horse | | 6 | | 3 | 9 |
| probable horse | | 2 | | | 2 |
| red deer | | 3 | | | 3 |
| large mammal | 27 | 393 | 7 | 130 | 557 |
| large mammal size | | | | 1 | 1 |
| large/medium mammal | 2 | 94 | | 4 | 100 |
| pig/cattle size | | 1 | | | 1 |
| pig | | 79 | | 6 | 85 |
| probable pig | | 15 | | 1 | 16 |
| sheep | | 8 | | | 8 |
| goat | | 1 | | | 1 |
| probable goat | | 3 | | | 3 |
| sheep/goat | 4 | 348 | 4 | 35 | 391 |
| probable sheep/goat | | 4 | | | 4 |
| sheep/goat/deer | | 1 | | | 1 |
| sheep/goat/pig | | 2 | | | 2 |
| dog | | 9 | | 1 | 10 |
| probable dog | | 1 | | | 1 |
| wolf | | | | 1 | 1 |
| cat size | | 2 | | | 2 |
| fox size | | 44 | | | 44 |
| medium mammal | 9 | 1130 | 8 | 120 | 1267 |
| medium mammal size | | | | 1 | 1 |
| medium/small mammal | | 12 | | 4 | 16 |
| rabbit | | 3 | | | 3 |
| rabbit size | | 1 | | | 1 |
| small carnivore | | 1 | | | 1 |
| small mammal | | 5 | | 1 | 6 |
| small mammal size | | | | 1 | 1 |
| vole | | 2 | | | 2 |
| water vole | | 1 | | | 1 |
| rodent | | | | 1 | 1 |
| microfauna | | 2 | | | 2 |
| mammal | | 14 | | | 14 |
| fish | | 6 | | | 6 |
| bird | | 3 | | | 3 |
| probable bird | | 4 | | | 4 |
| indeterminate | 13 | 459 | 3 | 104 | 579 |
| Grand Total | 64 | 2864 | 22 | 452 | 3402 |

*Table 3.29: Trench 15 identified taxa by phase*

| Species | Phase | | | | | | Grand Total |
|---|---|---|---|---|---|---|---|
| | EIA | MIA | LIA/ ER | PM | Mod | (unphased) | |
| cattle | 87 | 25 | 1 | 1 | 13 | 394 | 521 |
| probable cattle | 2 | | | | | 4 | 6 |
| horse | 13 | 6 | | | | 11 | 30 |
| large mammal | 138 | 70 | 1 | 4 | 21 | 303 | 537 |
| large/medium mammal | 1 | | | | | 6 | 7 |
| pig/cattle size | | | | | | 2 | 2 |
| pig | 8 | 7 | | 1 | 2 | 31 | 49 |
| probable pig | 2 | 1 | | | | 3 | 6 |
| sheep | 3 | | | | | 6 | 9 |
| sheep/goat | 96 | 50 | | 2 | 6 | 230 | 384 |
| probable sheep/goat | 1 | 1 | | | | 4 | 6 |
| sheep/goat/pig | | | | | | 1 | 1 |
| dog | 2 | 4 | | 1 | 1 | 4 | 12 |
| probable dog | | 1 | | | | | 1 |
| dog/fox | 1 | | | | | | 1 |
| fox size | 4 | 1 | | | | 7 | 12 |
| medium mammal | 371 | 216 | 1 | 7 | 9 | 905 | 1509 |
| medium/small mammal | 6 | 7 | | | | 5 | 18 |
| rabbit | | | | | | 1 | 1 |
| rabbit size | | 2 | | | | 1 | 3 |
| small mammal | 3 | 5 | | | | | 8 |
| mole | | 1 | | | | | 1 |
| rat | 1 | 2 | | | | | 3 |
| vole | 33 | 10 | | | | 3 | 46 |
| probable vole | 1 | 3 | | | | | 4 |
| weasel | | | | | | 1 | 1 |
| frog/toad | 23 | 67 | | | | 1 | 91 |
| microfauna | 18 | 155 | | | | 9 | 182 |
| mammal | 4 | 11 | | 1 | | 29 | 45 |
| fish | | | | | | 2 | 2 |
| goose | | | | | | 1 | 1 |
| mallard | | | | | | 3 | 3 |
| bird | | | | | | 18 | 18 |
| medium mammal/bird | | | | | | 1 | 1 |
| indeterminate | 280 | 94 | | 9 | 10 | 319 | 712 |
| Grand Total | 1098 | 739 | 3 | 26 | 62 | 2305 | 4233 |

Trench 15 included material from the early Iron Age to early Romano-British period together with some post-medieval and modern contexts. The majority of animal bone was recovered from the early and middle Iron age. Like Trench 14, the early Iron Age material was predominantly medium mammal, this profile continues into the middle Iron Age. Trench 15 included a wider range of microfaunal wild taxa than the other trenches; mole, rat, vole, weasel and frog/toad. None of these specimens showed any signs of human manipulation and so may all result from natural accumulation. The rabbit bone from this trench is probably intrusive. Trench 15 contained the only bird

bone identified to species and included a single goose fragment and three mallard elements.

Trench 18 contained only a single post-medieval cattle element.

Trench 19 again included early and middle Iron Age faunal material with the majority of fragments coming from medium mammal sized taxa, most often sheep/goat (see Table 3.30). A single tooth was the only identified cat element on site. It was found in a middle Iron Age context in Trench 19 but may be intrusive.

*Table 3.30: Trench 19 identified taxa by phase*

| Species | Phase | | | Grand Total |
|---|---|---|---|---|
| | EIA | MIA | (unphased) | |
| cattle | 20 | 36 | 34 | 90 |
| probable cattle | 2 | | 1 | 3 |
| horse | 11 | 2 | 4 | 17 |
| large mammal | 55 | 75 | 119 | 249 |
| Large/medium mammal | 7 | 4 | 2 | 13 |
| sheep/goat/cattle | | 1 | | 1 |
| pig | 5 | 10 | 17 | 32 |
| probable pig | | | 1 | 1 |
| goat | | | 1 | 1 |
| sheep | | 1 | 1 | 2 |
| sheep/goat | 48 | 61 | 39 | 148 |
| probable sheep/goat | 2 | 1 | 1 | 4 |
| dog | 1 | | 7 | 8 |
| dog/pig | | | 1 | 1 |
| fox size | | 2 | 2 | 4 |
| cat | | 1 | | 1 |
| cat size | 1 | | | 1 |
| medium mammal | 148 | 255 | 141 | 544 |
| medium/small mammal | 5 | 1 | | 6 |
| rabbit size | 4 | | 1 | 5 |
| rabbit/hare | | 1 | | 1 |
| probable rat | | 1 | | 1 |
| vole | 2 | 2 | 1 | 5 |
| microfauna | 7 | 8 | | 15 |
| indeterminate | 360 | 137 | 137 | 634 |
| Grand Total | 678 | 599 | 510 | 1787 |

**Potentially significant bone groups**

Fill (**1302**) is recorded as a deposit of animal bone. Although the deposit contained a small number of sheep/goat, horse, large mammal and fox sized fragments, it chiefly comprised cattle bone, mostly mandibles. (**1302**) contained a minimum of three left and three right cattle mandibles.

Layer (**1435**) contained a single element identified as probable wolf. The fragment was a complete, fused, right calcaneum identified as probable wolf from its large

size. Comparison with a Turkish Grey Wolf skeleton held as the Oxford University Museum confirmed its likely identification. The occurrence of a wolf in a probable Bronze Age deposit in Britain is rare and therefore a significant find.

Two early Iron Age grave fills in Trench 15 contained animal bone. The fill of inhumation **(15005)** contained 33 fragments of animal bone including sheep/goat, cattle, large, medium and small mammal fragments. None of the elements were complete and none exhibited butchery marks. Fill **(15004)** contained 20 fragments of animal bone including cattle, horse, sheep/goat, large and medium mammal fragments. Again no butchery was noted but one fragment had been gnawed and a second had been charred. It is likely that in both contexts the animal bone may have been residual in the grave fill.

Fill **(15037)** of early Iron Age pit **(15010)** contained a horse left mandible and fragments of the associated right mandible. Like the mandibles in Trench 13, these horse bones may be a structured bone deposit rather than domestic refuse.

A highly fragmented horse skull **(SF 19015)** was found in the early Iron Age fill **(19012)** of a gully. A second partial horse skull was found in a middle Iron Age ditch fill **(15230)**

Early Iron Age pit **(19019)** contained a range of animals including cattle, horse, pig and sheep/goat. Identified elements were varied with no evidence of partially articulated skeletons. Given other mandible and cranium deposits on the site it may be significant that the animal bone in this pit included a pig maxilla, sheep/goat cranium and mandible and cattle maxilla.

# 4 QUANTIFICATION OF THE ARCHIVE

## 4.1 Quantification of excavation records

| Record Type | Quantity |
|---|---|
| *Excavation* | |
| Context sheets | |
| Site plans | |
| Sections | |
| Levels sheets | |
| Small Finds Sheets | |
| Bulk Finds sheets | |
| Environmental sample sheets | |
| B&W films | |
| Colour slide films | |
| Digital photographs | |

## 4.2 Quantification of finds and environmental evidence

| Material | Quantity | Weight |
|---|---|---|
| Animal bone | 9742 | 52,593 |
| Pottery | 6617 | 50,730 |
| Flint | 480 | 7700 |
| Ceramic building materials/fired clay | 129 | 1838 |
| Human bone | 2 skeletons + 3 additional pieces | - |
| Shell | 19 | 67 |
| Stone | 38 | 9285 |
| Glass | 2 | 12 |
| Clay pipe | 3 | 12 |
| Worked bone | 3 | - |
| Slag | 117 | 1662 |
| Copper alloy | 10 | - |
| Lead | 6 | - |
| Iron | 31 | - |

# 5 OVERALL STATEMENT OF POTENTIAL

## 5.1 The regional and national research context

The overall project encompasses three of English Heritage's primary goals, as defined in English Heritage's Archaeology Division Research Agenda (1997 Draft). These are:

**A. Advancing understanding of England's Archaeology (particularly A.1 and A.3)**

**B. Securing the conservation of Archaeological Landscapes (especially B.1-4 and B.6-7)**

**D. Promoting Public appreciation and enjoyment of archaeology (D.2-4 and D.6).**

It provides substantial opportunities to contribute to English Heritage programmes such as the Monuments Protection Programme, the RCHME mapping classification programme, the survival assessment programme and the enhancement of the SMR, and to make the results available to the general public.

More specifically, the environs of Castle Hill contribute to a number of nationally important research aims. These include:

### *5.1.1 Transitions: communal monuments into settlement and field landscapes (PC3).*

This gradual transition from the monument-dominated landscape of the Neolithic and Early Bronze Age to the settlement-dominated landscape of later prehistory is poorly understood. Recent work has highlighted the numerous areas of Middle Bronze Age fields and enclosures along the Thames (Yates 1997; Yates 1999), but the reasons for their emergence are still unclear. Similarly the reasons for the emergence of large defended Bronze Age enclosures, the date at which this began, and thus the relationship between them and the enclosure systems, are still imperfectly understood. Where such large enclosures have previously been found in proximity to the field systems, as at Mucking, the defensive enclosures appear to be considerably later (Needham and Ambers 1995).

The area of the Upper Thames that includes Castle Hill is particularly suitable for investigating this change. On the gravel terraces opposite is one of the most important Neolithic monument complexes in the Thames valley, which has been extensively investigated by excavation, and further Neolithic monuments have been excavated south of the river. On either side of the river, and particularly centred around Northfield Farm, are extensive middle to late Bronze Age field and enclosure systems and burial monuments, some of which have already been investigated and dated. Late Bronze Age settlement features and other material has been found below Castle Hill, and south of

Brightwell Barrow to the south-east. The **Group Value** of the Castle Hill site is therefore considerably enhanced.

The extended sequence of hilltop activity at Castle Hill raises the possibility that the first hilltop enclosure was in part contemporary with the middle to late Bronze Age field and enclosure systems on the gravels below, and that their mutual development was directly related.

### *5.1.2 Themes - Settlement hierarchies and inter-action (T1)*

The implications on the regional settlement pattern of the construction of a enclosure and later hillfort on the landscape and social organisation around Castle Hill will have been significant. The position and role of the hillfort at Castle Hill in the regional settlement hierarchy and its' role in social interaction, trade and exchange are fundamental to understanding the development of society in the Upper Thames valley.

Also of interest is the relationship between the defended enclosure and the large settlement now revealed by geophysical survey and excavation that developed outside it. Was this hierarchical, or did these fulfil complementary but equal roles in a single social system? Did the relationship change over time, and if so, how? The history of the defended hilltop may be compared with that of the surrounding hinterland for evidence of the changing pattern of social organisation in later prehistory.

The continuing presence of the earthwork defences is also likely to have had a significant influence on adjacent settlement in later periods, both in the landscapes surrounding Castle Hill and on the hilltop itself. The archaeological evidence provides evidence of settlement activity both in the settlement and on the hilltop in the Roman and Saxon periods, and on the hilltop in the medieval period. The periods of re-occupation of the hilltop need to be considered against the history of Dorchester, the emergence of Wallingford, and the wider political situation of the late Roman to Medieval periods.

### *5.1.3 Chronological Priorities: Late Bronze Age and Iron Age landscapes (P7).*

The extent of archaeological knowledge in the surrounding area means that landscape issues can be addressed effectively in relation to Castle Hill. Investigations carried out include enclosure systems and settlements, unenclosed settlements, floodplain grazing areas, riverbank activities and finds from the modern Thames. It is intended to recover a detailed environmental sequence from known riverside peat sequences and from a variety of other waterlogged features. The **density** and variability of sites is therefore very considerable, and the information **potential** extremely high.

The chronology of the construction of the late Bronze Age enclosure and later hillfort at Castle Hill, its relationship to the organised Middle to Late Bronze Age landscape on the terraces below and to the changing settlement pattern in the Late Bronze Age and Iron Ages (and indeed beyond that), are all issues already raised above. One aspect of

detailed interest is the character of the transition from Bronze Age to Iron Age defended enclosure in relation to the surrounding settlement pattern. The history of the defended hilltop may be compared with that of the surrounding hinterland for evidence of the changing pattern of social organisation in later prehistory.

Another significant aspect of the Bronze Age and Iron Age landscape is the relationship between the hilltop settlement and the concentration of middle/late Bronze Age and Iron Age metalwork recovered from the river Thames adjacent (York 2002). Metalwork is only one aspect of finds of this period from the Thames and adjacent water features. The types and quantities of material deposited may be related to the character and status of the settlements and other features of the surrounding landscape.

# 6 REVISED RESEARCH AIMS AND OBJECTIVES

## 6.1 Revised Research Aims and Objectives

The original aims were presented in the Wider Landscape Project Design (Allen 2002). These aims were revised and refined prior to the 2004 excavation season in light of the 2003 fieldwork on Castle Hill and extensive geophysics in the surrounding landscape. The latter provided a number of new research aims for the 2004 excavation.

### *6.1.1 Primary Aim*

Baker's work suggested a potentially very useful framework for interpreting this landscape in the context of the landscape change project, but limited access was granted for surveys outside land owned by the Northmoor Trust, and beyond the main settlement below Castle Hill it was only possible to excavate in limited areas. These were: trenches on the floodplain at Clifton Meadow, at Trafalgar Wood immediately east of Long Wittenham and a single trench at Little Wittenham Manor. Despite these limitations the project's principal concern remains:

**To establish as full a range as possible of activities carried out by the people making use of the Study Area over the last 10,000 years, and examine and interpret their changing significance.**

### *6.1.2 Definition of Specific aims and Objectives*

The specific aims and objectives will be revised for the monograph publication synopsis, rather than for this element of the project alone.

## 6.2 Potential of the stratigraphic record

### *6.2.1 Work to date as part of current assessment*

A digital context database has been created, and a matrix produced. The matrix has been phased using pottery spot dates and stratigraphic relationships. Digital plans have been produced.

### *6.2.2 Analytical potential of the stratigraphy*

In general, archaeological remains were found below ploughsoil cut into natural lower chalk or upper greenshand at shallow depth, though deeper sequences of deposits were found in the area of the midden, and on the floodplain gravels at Clifton Meadow. Stratigraphic sequences were also provided by intercutting ditches in Trench 13, and by pits and ditches in Trenches 15 and 19.

Where relationships between archaeological features were encountered, there was usually little difficulty in determining the relationships. A summary of the archaeological description is in section 3 above.

## 6.3 Analytical potential of the artefactual evidence

Statements of the potential of the finds in relation to the Revised Research Aims are given below.

### *6.3.1 Early prehistoric to middle Iron Age pottery: Potential for further analysis*

**Potential for Trench by Trench comparison**

The condition of the pottery from each Trench varies very little in terms of average weight. In general, more rims and less broken material was recovered from Trench 15, although more refits came from the midden. The range of early Iron Age pottery from all trenches is very similar; this is equally the case of the middle Iron Age pottery from Trenches 15 and 19. The early Iron Age pottery from the midden within Trench 14 contained more notable forms than other trenches which can in part be explained by the quantities which were recovered from the midden. The most interesting feature of this assemblage is the similarity of the early and middle Iron Age elements recovered from each trench and its' difference in overall condition to that recovered from Castle Hill. It may be that most of the pottery from this site, or most of the late Bronze Age and early Iron Age pottery, has the same pre-depositional history. These differences should be examined and discussed.

**Potential of material from individual phases**

*Middle Bronze Age*

This sherd should be compared with contemporary local material in order that the date may be verified. No further work will be necessary, although it will be considered alongside the above mentioned material from Hill Farm and any further sherds of this date observed amongst the assemblages now held in museums.

*Late Bronze Age*
The presence of late Bronze Age pottery in all four trenches close to Round Hill and castle Hill indicates background levels of activity, possibly relating to the use of the early enclosure on Castle Hill.

*Early Iron Age*
This element of the assemblage was, with some exceptions, in a more broken condition than that from Castle Hill. A similar range of vessel types were represented, albeit a smaller number and in worse condition. It should be possible to examine the post depositional history of the pottery from this phase and to examine the movement of pottery within the midden. The groups from the ring gullies are all relatively small or comprising of broken material and it is not clear that distribution analysis would be of benefit. Nevertheless, some analysis of the differences between the contents of pits, gullies and the midden maybe of use in determining activity areas.

*Middle Iron Age*
This element of the assemblage is of particular significance with regards to the distribution of decorated bowls across the Upper Thames Valley and Oxfordshire. A distribution analysis should concentrate on the differences between the groups from the ditch and pits within Trench 15 and the groups from the ring gullies and pits within Trench 19.

**Recommendations**
Further analysis is required to clarify the chronology, function, status and role of the pottery. This will further clarify the date and longevity of activity within the site, and the character of activity at Wittenhams in relation to material from neighbouring sites.

The potential described above may be addressed by analysis of forms, fabrics (including sources of materials), vessel function, production methods, vessel use (including patterns of deposition) and spatial distribution. Inter-regional research objectives will be met by review of published sources for comparative assemblages, including continental sources. Viewing of key assemblages may be required for unpublished collections and selected items crucial for addressing the research aims of the project.

The assemblage has already been recorded to a standard that will allow this further analysis; no additional recording is necessarily required. Remaining work will include refinement of analysis based on the existing data set and the present report, selection of material for illustration, preparation of an associated catalogue, analysis of the differences between assemblages from within each trench, and further discussion placing the assemblage within its' local and regional context.

It is essential to compare this assemblage both to other Wittenhams assemblages recovered by OA and to the material recovered from previous excavations carried out

in the immediate area. Further research into local fabric and form should clarify some of the issues relating to those sherds that were difficult to date specifically.

A selection of diagnostic sherds should be illustrated to demonstrate the chronology and the affinities of the assemblage with those from other sites in the region.

### *6.3.2 Late Iron Age and Roman pottery: Potential for further analysis*

The late Iron Age-early Roman emphasis of the assemblage is clear, except perhaps in Trench 13 where the assemblage is too small for certainty. Occasional late Roman sherds reflect the presence of activity of that date in the general vicinity of both Trenches 14 and 15. Much of the material is unremarkable, but the presence of fine oxidised wares, particularly the butt beaker in 15136, is noteworthy, as is the probable mica-coated sherd, unstratified in Trench 15. The principal significance of the material lies in its value for dating the sequence in Trench 15, although the material from Trench 14 is also important for understanding the development of the midden in its later phases. The potential of the material for further detailed analyses of fabric and form is limited, however.

**Recommendations**

The assemblage has already been recorded to a standard that will allow further analysis; no additional recording is required. Remaining work will include refinement of analysis based on the existing data set and the present report, selection of material for illustration and preparation of an associated catalogue, and further discussion.

### *6.3.3 Prehistoric fired clay: Potential for further analysis*

Fired clay is a good indicator of domestic and industrial activities, which includes cooking, textile production and pottery manufacture. This assemblage is relatively typical of early and middle Iron Age domestic activity, including small scale metalworking.

**Recommendations**

It is recommended that the fired clay is characterised by fabric and a brief report is produced. The tuyere fragment should be illustrated or photographed, as should the briquetage fragment.

### *6.3.4 Worked flint and burnt unworked flint: Potential for further analysis*

The flint assemblage recovered from the 2004 excavations demonstrates the presence of a spread of middle to later Bronze Age flintwork below Castle Hill, particularly around Trench 14, 15, but to a lesser extent in Trenches 19 and 13. The few Neolithic flints recovered appear to demonstrate a low level of earlier prehistoric activity in the area below Castle Hill. It is noteworthy that the scatter is far more sparse beneath the hill, than on the hilltop itself, from where a light scatter of Mesolithic and Neolithic flintwork was recovered in the 2003 excavations.

The assemblage has little potential for further work due to the limited size of the assemblage and the recovery of the majority of flints as a residual element in later contexts.

**Recommendations**
No further analysis is recommended. A summary publication text of *c* 300 words with one table should be prepared, using this assessment as the basis of the report. None of the flints require illustration.

### *6.3.5 Worked stone: Potential for further analysis*

The value of these finds is firstly that they can be added to the assemblages from the 2003 and 2005 excavations at the Wittenhams, making in all a good collection from which to draw some conclusions. Comparable finds, mainly a little earlier in date, came from the 2003 work on Castle Hill, while those from the 2005 excavation at Hill Farm are mainly MIA. Thus it is possible to gain a picture of the area from the late Bronze Age until the stage in the middle Iron Age when rotary querns were first coming into use. The same saddle quern materials, Culham Greensand and Lower Calcareous Grit, were in use throughout. The Upper Greensand malmstone was used again for spindlewhorls, a loomweight and a possible smoother and Corallian limestone was used again for a rubber, while another flint hammerstone came from the 2005 excavations. A rotary quern fragment of Upper Old Red Sandstone was also retrieved from the 2003 excavations.

Secondly, this assemblage, together with those from 2003 and 2005, is of value because it is a particularly large one and it comes from areas of the site with little or no later Roman activity, so that the prehistoric story can be seen in clear detail.

A third point is that similar patterns of stone use can be seen at other sites, both in the immediate area and on a wider scale throughout Oxfordshire and part of Berkshire. At Appleford Sidings there is a middle Bronze Age assemblage, taking the narrative back earlier (Booth, in prep). At Mount Farm, Berinsfield, the finds include both a late Bronze Age saddle quern of Lower Calcareous Grit and an early Iron Age quern fragment of Culham Greensand (Lambrick & Barclay, in prep). There is also a large, comparable assemblage of worked stone from Abingdon Vineyard (Allen, in prep). Further afield, there are important assemblages from Gravelly Guy (Lambrick & Allen 2004) and Yarnton (Hey, in prep). A number of other comparable sites have been recorded, so that a good body of evidence is now available to use as background information for the interpretation of finds from the Wittenhams.

One complete quern was recovered from Trench 15, and this should be illustrated. A collection of quartzite pebbles utilised as rubbers was found in Trench 14, and a selection of these should also be illustrated. The fragmentary spindlewhorls and other weaving equipment should be photographed.

The burnt unworked stone has no potential for further analysis.

### *6.3.6 Worked bone: Potential for further analysis*

The worked bone assemblage from the 2004 excavations represents a well stratified group from Iron Age contexts. The assemblage has the potential, in conjunction with other materials, to inform on the variety and range of activities performed in the environs of the hillfort on Castle Hill.

**Recommendations**

It is recommended that a full catalogue and brief report are prepared for the final publication. Four objects (the awl, gouge, needle and antler object) should be illustrated to represent the range and form of objects in the assemblage.

### *6.3.7 Metalwork: Potential for further analysis*

The assemblage has been recorded and the data entered onto a database. The assemblage as a whole has limited group value, and limited analytical potential, but the presence of pieces of late prehistoric metalwork should be noted and the pieces published as part of the cultural material from the site and project. The Carp's Tongue chape needs to be placed in its local context. Late Bronze Age metalwork has been recovered from the Thames immediately north of the site at Day's Lock and at Dorchester, and further material between Dorchester and Wallingford downstream. The chape and swans-neck pin should also be photographed and illustrated.

### *6.3.8 Roman Coinage: Potential for further analysis*

The Roman coins have not potential for further analysis.

### *6.3.9 Iron slag and other related debris: Potential for further analysis*

The slag has little potential to address the research aims. No further work on the slag is recommended other than a mention of the slag in Ditch 15337.

### *6.3.10 Other finds (glass, clay-pipe, shell and oyster shell): Potential for further analysis*

The glass and clay pipe have no potential for further analysis, moreover the finds do not address any of the research aims. No further work is recommended.

The recovery of freshwater bivalves from Iron Age contexts is noteworthy, but the assemblage is small and fragmentary and warrants no further analysis.

## 6.4 Analytical potential of the environmental remains

### *6.4.1 Environmental remains: charred plant remains and charcoal*

The results, particularly from Trench 15, suggest that crop processing was an important activity on the early Iron Age settlement situated below the Wittenham Clumps Iron Age hillfort. In contrast, there is much less evidence for crop processing from the hillfort

itself (LWCHL 03 assessment of charred plant remains). Detailed analysis of the charred remains, especially from Trench 15, has the potential to establish the basis of the arable economy of the settlement and to provide a contrast to the results from the hillfort, thus helping to establish the character of Iron Age occupation of the hillfort. The analysis of the charred remains also has the potential to provide details of agriculture based upon the Upper Greensand and Chalk, which is much less well known than the agricultural economy of the gravel terraces of the Upper Thames.

**Recommendations**
It is recommended that the nine Iron Age samples from Trenches 15 and 19 listed in Table 3.14 be analysed in full for charred plant remains including seeds etc and charcoal. The results should be compared with those from settlement sites on the gravels of the Upper Thames Valley, the other excavations at Little Wittenham and the hillforts of the Ridgeway on the Chalk of the Berkshire Downs, in an attempt to discern regional characteristics.

### *6.4.2 Environmental remains: land and freshwater snails*

This sequence from the Roman trackway ditch in Trench 20 has the potential to give useful palaeoenvironmental information on the Roman to medieval floodplain. It is recommended that the snails from Column 20009 be analysed in full and a report prepared on the environmental sequence.

### *6.4.3 Environmental remains: waterlogged macroscopic plant and insect remains*

The macroscopic plant and insect remains from the lowest samples from each of the trackway ditches have the potential to characterise the Roman grassland of Clifton Meadow. In particular, the analysis of larger samples for insects would have the potential to show whether the grassland was being grazed or managed as hay meadow. Scarabaeoid dung beetles which are associated with domestic animals are absent from the assessment samples whereas weevils of the genus *Apion*, which are favoured by hay meadow conditions are present in both Samples 20002 and 20005.

**Recommendations**
It is recommended that Samples 20002 and 20005 be analysed in full for waterlogged macroscopic plant and insect remains. However, it must be noted that a better-preserved sequence of plant and insect remains was identified for Dr A Parker from the column he assessed for pollen from one of the ditches. If more of that material is available, it is recommended that it be analysed instead.

### *6.4.4 Environmental evidence: pollen and phytoliths*

Analysis of the pollen from the Roman trackway ditch in Trench 20 at Clifton Meadow will complement the work recommended upon the macroscopic plant remains. Further work upon the phytoliths preserved within the midden below Castle Hill in Trench 14 will provide useful information upon the local Early Iron Age environment.

### 6.4.5 *Environmental evidence: Soil-micromorphology*

Soil-micromorpology has the potential to address several of the research aims. Analysis of the preserved soil under the early Iron Age midden in Trench 14 will clarify the character of the soil horizon, and environmental conditions under which it formed, prior to the deposition of the midden.

From visual examination, the midden itself appeared to consist of a deep but fairly homogeneous build-up of soil and cultural material. Apart from those few areas where laid surfaces were found within it, such as Rhodes' chalk and pebble platform and a smaller spread of pebbles in Trench 14, there was little evidence of horizons within it. Nevertheless the final section appears to indicate that there were also postholes cut from a similar level to that of the chalk platform, suggesting that there may have been a significant standstill phase within its accumulation. This could usefully be investigated by micromorphological analysis of a column taken through the midden. Such analysis may identify further soil formation phases within the accumulation.

In addition, Roman sherds were found within the upper part of the midden (largely above the level of the chalk platform), and these may have been introduced by ploughing between the end of deposition (within the Early Iron Age) and the time of the construction of the Roman building. Micromorphological analysis of the midden accumulation may be able to establish whether ploughing did take place.

It is recommended that soil micro-morphology is undertaken on a sample from the preserved soil below the midden, and through the midden accumulation.

### 6.4.6 *Human skeletal remains*

The human skeletal remains have been fully analysed and reported as part of the assessment. There is no potential for future analysis. The assessment report will be edited for incorporation in the final publication.

### 6.4.7 *Animal bone*

The faunal assemblage from the 2004 excavations at Little Wittenham is predominately composed of domestic taxa, particularly sheep/goat, cattle and pig. This is consistent with the general pattern for Iron Age economic assemblages elsewhere in southern England (Maltby 1996). Fish bones were identified in small numbers, also fitting with general patterns of animal utilisation and that recognised at the adjacent site of Castle Hill (Kitch 2005). The identification of a probable wolf calcaneum in Trench 14 is interesting. Wolves have rarely been identified in Bronze or Iron Age contexts in southern England (see Yaldon 1999) and this example offers the opportunity to document an occurrence in a well stratified deposit.

The assemblage is generally fairly well preserved allowing the recognition of detail such as butchery evidence on many of the fragments. Further analysis of this data may provide details of carcass processing methodologies. Evidence of age-at-death,

particularly from tooth attrition was also recorded which, when further manipulated, will provide mortality profiles for animal husbandry on site and whether any particular age of cattle was used for the cattle jaw depositions in Trench 13.

The three dimensional recording of the midden in Trench 14 offers the opportunity to examine the midden formation process, accessible through consideration of preservation condition and prevalence of butchery, fragmentation, burning and gnawing evidence.

**Recommendations**
Although the primary analysis of the faunal assemblage is complete, further work is recommended to interpret the data. The following recommendations should be undertaken.

**1. Full consideration of taxon and element data.** Consideration of the taxa and species identified in individual features within the site as well as overall assemblage profiles may highlight economic strategy and particular functional groups.

**2. Age-at-death.** Bone fusion and tooth wear data was recorded wherever possible. Further analysis of this data has the potential to inform about husbandry strategy. It may be of particular interest to investigate the age profiles of the mandibles found in **(1302)**. The assemblage contained several foetal elements from Trenches 14, 15 and 19. Foetal elements included those from pig, sheep/goat and cattle suggesting that these three species were husbanded on site.

**3. Metric data.** Although measurable bones were recorded, with the exception of size implications for the wolf calcaneum in **(1435)** the applications of these measurements on the interpretation of the assemblage are limited. There are too few measurable examples of elements to use this data for sex differentiation. The measurement data should be included in the archive but only manipulated further where withers heights can be calculated.

**4. Butchery.** Butchery was recorded 6.3% of the assemblage (see Table 5). Consideration of the butchery marks may indicate the utilisation of animals for meat and marrow or raw materials. Initial consideration of butchery marks indicates that sheep/goat, goat, pig, cattle, horse, red deer and probably bird were all butchered. Goat and red deer were utilised as part of horn and antler working.

**5. Spatial analysis of the midden material from Trench 14.** The three dimensional recording of animal bone from Trench 14 offers the opportunity to examine the formation of the midden. Spatial analysis should consider the distribution of taxa and taxon size fragments, gnawing, and preservation condition within the midden. Butchery marks should also should be considered. Fragmentation may be investigated not only in terms of zones present within elements and the number of measurable bones, but also butchery and the average fragment weights of bone classes.

**6. Pathology.** Pathological lesions and non-metric variations were noted on 45 fragments of bone. Consideration of these features has the potential to inform about the health of the stock and possibly the utilisation of animals for traction.

**7. Investigation of local husbandry and animal utilisation.** The data from 2004 excavations should be integrated with that from previous and future excavations at Little Wittenham to investigate localised strategies for animal utilisation and spatial differences and continuities between contemporary occupation between sites.

**8. Comparative sites.** Comparative sites, such as contemporary settlements, should be sought for the identified patterns of animal utilisation including species profiles, mortality profiles and butchery patterns. Comparative sites with identified wolf specimens should also be considered.

### 6.5 Assessment of potential for radiocarbon dating

The dating of the settlement is broadly established by the stratigraphic sequences and the artefacts associated with the archaeological features and deposits. While refinement of that dating within the Iron Age would be desirable, long stratigraphic sequences containing reliable deposits suitable for dating are not present in most of the trenches, and without these, the radiocarbon curve for much of the 1st millenium cal BC makes radiocarbon dating unprofitable. Nevertheless, specific issues that would be assisted by radiocarbon dating are:

The date at which the accumulation of the midden in Trench 14 began.

The date of the curving boundary investigated in Trench 13, which seems to have formed the limit of the settlement at some stage.

The date of the trackway and associated environmental remains at Clifton Meadow.

A sequence of five dates is recommended to clarify the pollen sequence obtained from a waterlogged pond below Castle Hill.

# 7 METHOD STATEMENT

## 7.1 Stratigraphic method statement

A full archaeological description will be generated, and publication plans and sections produced, based upon chronological information from the stratigraphic, artefactual and scientific dating.

## 7.2 Artefactual method statement

### *7.2.1 Earlier Prehistoric to middle Iron Age pottery*

A detailed record has been made of the fabric, form, surface treatment, decoration and any evidence of use, using the existing OA system for prehistoric pottery, which has been developed in accordance with guidelines and standards produced by the Prehistoric Ceramic Research Group (PCRG 1997). The data has been entered onto a Microsoft Access database and the data has been manipulated using a variety of queries.

A publication text of *c* 5000 to 6000 words, together with tables (*c* 9) will be prepared and a representative selection of material illustrated.

**Task list**

| Task | Duration (days) |
|---|---|
| Further analysis-body sherd refitting exercise on the midden material. | 1 |
| Drawing briefs and check illustrations | 2.5 |
| Analysis and research time | 6 |
| Supervise volunteers | 1 |
| Catalogue and preparation of report | 4.5 |
| **Total** | **15** |
| Illustration (91 sherds) | *c* 13 |

### *7.2.2 Late Iron Age to Roman pottery*

The pottery was recorded at the assessment stage using the standard codes set out in the OA system for material of this date, with each context group divided in relation to fabric and form types and other characteristics as appropriate. Quantification was by sherd count and weight and rim equivalents (REs) were used to quantify vessel types. The fabrics have been cross-referenced to the national Roman fabric reference collection codes (Tomber and Dore 1998) where appropriate.

No additional recording is required for further analysis; the analysis will be based on the existing data set and the assessment report. A publication text will be prepared, material selected for illustration and an associated catalogue produced.

**Task list**

| Task | Duration (days) |
|---|---|
| Further data analysis/discussion and selection and catalogue of material for illustration | 1 day |
| **Total** | **1 day** |
| Illustration | 0.5 days |

### *7.2.3 Prehistoric fired clay*

All of the material will be recorded using the standard OAU system. The material has already been quantified by weight and number. Fabrics will be defined in terms of principal inclusions. The records will be computerised as part of the overall site database, and in order to facilitate analysis and correlation with other categories of data. The briquetage is indicative of salt trading and future work should include a reference to the distribution of Hampshire Briquetage.

A publication report of *c* 1000 words will be prepared with a single table.

**Task list**

| Task | Duration (days) |
|---|---|
| Analysis of fired clay fabrics | 0.10 |
| Report and catalogue of fired clay | 0.40 |
| **Total** | **0.50** |
| Illustrate one object (tuyere) | 0.25 |

### *7.2.4 Flint and burnt unworked flint*

The lithic assemblage has been quantified and characterised typologically. During the initial analysis additional information on condition (rolled, abraded, fresh and degree of cortication), and state of the artefact (burnt, broken, or visibly utilised) was also recorded. Retouched pieces were classified according to standard morphological descriptions (e.g. Bamford 1985, 72-7; Healy 1988, 48-9; Bradley 1999, 211-277).

The assessment report will form the basis of a publication report.

**Task list**

| Task | Duration (days) |
|---|---|
| Prepare publication report | 0.25 |

### *7.2.5 Worked stone*

A publication text should be prepared integrating material from the 2003 excavations on Castle Hill and the 2005 excavations at Hill Farm.

A catalogue should be prepared for the 35 objects, adding in measurements and more detailed descriptions. No thin sections are required for this site. The catalogue and report could be prepared in say 3 days.

**Task list**

| Task | Duration (days) |
|---|---|
| Produce catalogue and publication report | 5 days |

### *7.2.6 Worked bone*

A full catalogue of the worked bone objects and a brief publication report will be prepared. Four objects (the awl, gouge, needle and antler object) will be illustrated.

**Task list**

| Task | Duration (days) |
|---|---|
| Produce full catalogue entries for publication | 0.50 |
| Preparation of drawing brief for awl, gouge and gouge tip and needle. | 0.25 |
| **Total** | **0.75 days** |
| Illustration (4 objects) | 1.5 days |

### *7.2.7 Metalwork*

The metal finds have been fully recorded. Only limited additional recording will be required, to incorporate additional information following further investigation of selected items and updating of entries of objects of uncertain identification.

A report and publication catalogue will be prepared and a discussion written. The chape and the swans neck pin will be illustrated.

**Task list**

| Task | Duration (days) |
|---|---|
| Research prehistoric metalwork | 0.5 |
| Write publication report | 1 |
| **Total** | **1.5** |
| Illustrate chape and pin | 0.75 |

### *7.2.8 Roman Coinage*

A note on the Roman coins will be incorporated into the final report.

### *7.2.9 Metalwork: conservation and storage requirements*

*Conservation requirements*

None of the objects require selective cleaning to reveal detail for further examination.

*Storage requirements*

Recommended levels of relative humidity (RH): iron > 20%; copper alloy > 35%. These objects are brittle and easily damaged physical support and packaging to archival standards should be provided (Museums and Galleries Commission (1992) standards in the Museum Care of Archaeological Collections).

### *7.2.10 Other finds (slag, clay-pipe, oyster shell and glass)*

No further work is recommended on any of these material. The assessment reports will be deposited with the archive.

## 7.3 Environmental method statement

### *7.3.1 Environmental remains: charred plant remains and charcoal*

The flots specified will be sorted under a binocular microscope. All seeds, chaff and other identifiable charred remains (excluding charcoal) will be picked out, identified in full and quantified, and a publication report comprising text and tables will be prepared from the results.

**Task list**

| Task | Duration |
|---|---|
| Sorting flots for charred plant remains - technician | 7 days |
| Analysing and reporting on charred plant remains - specialist | 5 days |

### *7.3.2 Environmental remains: land and freshwater snails*

Snails from Column 20009 be analysed in full and a report prepared on the environmental sequence.

**Task list**

| Task | Duration (days) |
|---|---|
| Sorting samples for shells from Column 20009 - technician | 2 days |
| Identifying and reporting on shells from Column 20009 - specialist | 1.5 days |

### *7.3.3 Environmental remains: waterlogged macroscopic plant and insect remains*

Samples 20002 and 20005 will analysed in full for waterlogged macroscopic plant and insect remains.

**Task list**

| Task | Duration (days) |
|---|---|
| Sorting samples for waterlogged macroscopic plant remains - technician | 3 |
| Identifying and reporting on macroscopic plant remains - specialist | 2 |
| Undertaking paraffin flotation and sorting samples for insect remains - technician | 6 |
| Identifying and reporting on insect remains - specialist | 4 |

### *7.3.4 Environmental remains: pollen and phytoliths*

The pollen slides have already been prepared using the methodology described in section 3. The pollen nomenclature used for identification and interpretation of the pollen grains is based on Clapham *et al.* (1989). A table of the pollen will be produced for Trench 20, and another of the phytoliths from Trench 14. A publication text interpreting the results, in conjunction with the other environmental evidence, will be produced.

### *7.3.5 Soil micromorphology*

The soil columns taken in the field will be carefully examined and briefly described before subsampling for thin section micromorphology. The cores will be impregnated with a crystic resin/styrene mixture, and will be cured and manufactured into 7.5 x 5.0 cm thin sections (Murphy, 1986). Thin-sections will be examined under microscope. The work will be carried out by Marta Perez at Reading University under the supervision of Wendy Matthews and Martin Bell.

**Task list**

| Task | Duration (days) |
|---|---|
| Supervision of micromorphological analysis (W Matthews/M Bell) | 2 |

### *7.3.6 Human skeletal remains*

The assessment report will be edited for the publication.

### *7.3.7 Animal bone*

All animal bone has been analysed and primary data catalogued. The following methods should be used for the interpretation of secondary data (see Reitz and Wing 1999 for definition of primary and secondary data). The assemblage should be quantified in terms on *Minimum Number of Individuals* and species ratios of identified specimens. Age-at-death information should be interpreted following Silver (1969) for epiphyseal fusion and tooth eruption and Grant (1982) for tooth attrition. Where possible withers heights should be calculated following Fock (1966) for cattle, Teichert (1975) for sheep/goats, Kieserwalter (1888) for horses and Harcourt (1974) for dogs. Bone modification including butchery mark evidence and pathological modification should be interpreted following published texts, with photographic documentation where appropriate.

The assemblage should be documented for publication with figures and tables as appropriate. A document of approximately 6000 words is envisaged.

**Task list**

| Task | Time (days) |
|---|---|
| Analysis of data | 5 |
| Spatial analysis of midden material | 1.5 |
| Library research time | 1 |
| Writing report | 5 |
| Final editing | 0.5 |
| **Total** | **13** |
| Photography of pathology and butchery (*c* 3 figures) | 0.5 |

## 7.4 Method statement for scientific dating

### *7.4.1 Radiocarbon dating*

Samples will be chosen on the basis of stratigraphic integrity and the quality and appropriateness of the materials, and may include human and animal bone, charred plant remains and charcoal. It is likely that AMS dates will be needed on some of the samples, as the quantities of material available is small. The laboratory will be chosen in consultation with English Heritage Scientific Dating Service to ensure the highest quality and reliability of the dates.

## 7.5 Health and safety statement

All OA post-excavation work will be carried out under relevant Health and Safety legislation, including the Health and Safety at Work Act (1974). A copy of the OA Health and Safety Policy can be supplied. The nature of the work means that the requirements of the following legislation are particularly relevant:

*Workplace (Health, Safety and Welfare) Regulations 1992* - offices and finds processing areas

*Manual Handling Operations Regulations (1992)* - transport: bulk finds and samples

*Health and Safety (Display Screen Equipment) Regulations (1992)* - use of computers for word-processing and database work

*COSSH (1988)* - finds conservation and environmental processing/analysis

# 8 PUBLICATION SYNOPSIS

## 8.1 Publication synopsis

The report on the excavations will be prepared and submitted for publication as part of an OA monograph titled 'The changing landscape of Little and Long Wittenham'. The publication will be of A4 format and approximately 45 pages in length.

### EXCAVATIONS IN THE WIDER LANDSCAPE OF CASTLE HILL, LITTLE WITTENHAM, OXFORDSHIRE

**Introduction** *c* 1250 words

Site location and project background (500)

Archaeological background (750)

**Trench descriptions** *c* 10,000 words

Castle Hill Environs:

Trench 13 (500)

*Landscape boundary and enclosure ditches*

Trench 14 (2500)

*Rhodes' midden*

Trench 15 (3500)

*Early/middle and middle Iron Age settlement*

Trench 19 (2500)

*Early and middle Iron Age settlement*

Trench 18 (200)

*An empty hilltop*

Clifton Meadow:

Trench 11 (300)

*A Bronze Age boundary*

Trenches 12, 20 and 21 (500)

*The Roman trackway and a prehistoric ditch.*

| | |
|---|---|
| **Artefactual evidence** | |
| Prehistoric pottery | *c* 3500 words |
| Roman pottery | *c* 1000 words |
| Fired clay | *c* 500 words |
| Flint | *c* 500 words |
| Worked stone | *c* 1500 words |
| Worked bone | *c* 200 words |
| Metalwork | *c* 750 words |
| Other finds | *c* 500 words |
| **Environmental evidence** | |
| Charred plant remains and charcoal | *c* 2000 words |
| Pollen | *c* 2500 words |
| Human bone | *c* 1000 words |
| Animal bone | *c* 4000 words |
| **Scientific dating** | |
| Radiocarbon dating | *c* 1500 words |
| **Discussion and conclusions** | *c* 3000 words |

**TOTAL: *c* 33,700 words**

**Illustrations:**

*Figures:*

Figure 1: Site location

Figure 2: Location plan of trenches by Castle Hill with the results of the geophysical survey (Trenches 13, 14, 15, 18, 19)

Figure 3: Location plan of trenches on Clifton Meadow with the results of the geophysical survey (Trenches 11, 12, 20 and 21)

*Plates:*



*Tables:*

| Section | No. of tables |
|---|---|
| Pits | 1 |
| Prehistoric pottery | 5 |
| Roman pottery | 1 |
| Fired clay | 1 |
| Flint | 1 |
| Worked stone | 1 |
| Metalwork | 1 |
| Charred plant remains | 3 |
| Charcoal | 2 |
| Animal bone | 6 |
| Radiocarbon dating | 1 |
| Discussion | 1 |

# 9 PROGRAMMING AND RESOURCES

## 9.1 Personnel

| | | |
|---|---|---|
| T Allen | OA | Project Manager |
| L Allen | OA | Finds Manager/metalwork specialist |
| A Barclay | OA | Head of Publication |
| P Booth | OA | Roman pottery specialist |
| M Bradley | OA | Project Officer - GIS support |
| D Challinor | OA | Environmental manager/ charcoal specialist |
| E Edwards | OA | Prehistoric pottery specialist |
| R Grant | OA | Worked bone specialist |
| H Lamdin-Whymark | OA | Project Officer / lithic specialist |
| S Lucas | OA | Graphic Officer Manager |
| N Scott | OA | Archives Manager |
| F Worley | OA | Animal bone specialist |
| E Cameron | Freelance | Conservator |
| F Roe | Freelance | Worked stone specialist |
| A Parker | Oxford Brookes | Pollen Specialist |
| M Robinson | Freelance | CPR specialist |
| Wendy Matthews/ Martin Bell | Reading University | Micromorphology |

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## APPENDIX 1: METALWORK CATALOGUE

*By Ian Scott*

*Table 1: Metalwork from Little Wittenham (LWNT 04)*

| ID | Trench | Context | Sf No | Phase | Count | L (mm) | W (mm) | Function | Identification | Comments | X-ray ref. | Metal | Box No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 251 | | 15000 | | | 1 | 46 | 16 | Arms | Chape | Bag shaped chape - LBA, Carps Tongue Complex. Tinned | X 01 X 05 | cu alloy | CA 01 |
| 256 | | u/s | | | 1 | 33 | 15 | Household | Pen knife | Pen knife fragment, comprising thin sheet of iron with attached piece of bone or ivory plate | X 03 | fe bone | FE 01 |
| 232 | | 1301 | | | 2 | 35 | | Miscellaneous | Rod | Rod fragments x 2 | X 03 | fe | FE 01 |
| 219 | | 1431 | 1401 | EIA | 1 | 29 | | Miscellaneous | Pin | Pin fragment | X 02 | cu alloy | CA 01 |
| 237 | | 15000 | | | 2 | 38 | | Miscellaneous | Waste | Melted waste fragments | X 01 X 05 | pb | PB 01 |
| 222 | | 15000 | 15003 | | 1 | 21 | | Miscellaneous | Bar | Short length of bar, square section, slightly chamfered edges. The ends are slightly battered. | X 02 | cu alloy | CA 01 |
| 255 | | 15144 | | MIA | 1 | 43 | | Miscellaneous | Wire | Wire or nail fragment, encrusted | X 03 | fe | FE 01 |
| 258 | | 15300 | 15014 | EIA | 1 | 23 | | Miscellaneous | Strip | Thin strip of rectangular section | X 03 | fe | FE 01 |
| 260 | | 16000 | | | 1 | 68 | | Miscellaneous | Rod | Rod or bar slightly curved and encrusted and laminated. | X 01 X 05 | fe | FE 01 |
| 259 | | 19018 | | MIA | 1 | 28 | | Miscellaneous | Block | Irregular triangular block, small | X 03 | fe | FE 01 |
| 221 | | | 15002 | | 1 | 62 | | Miscellaneous | Wire | Length of wire | X 02 | cu alloy | CA 01 |
| 233 | | 15000 | | | 1 | 49 | | Miscellaneous | Sheet | Sheet fragment, trapezoid | X 01 X 05 | pb | PB 01 |
| 235 | | 15000 | | | 1 | 52 | | Miscellaneous | Sheet or block | Heavy sheet, irregular | X 01 X 05 | pb | PB 01 |
| 236 | | 15000 | | | 1 | 34 | | Miscellaneous | Sheet | Thin sheet, rolled and flattened | X 01 X 05 | pb | PB 01 |
| 234 | | 15000 | 15010 | | 1 | 36 | | Miscellaneous | Sheet | Sheet fragment, irregular | X 01 X 05 | pb | PB 01 |
| 228 | | 1300 | | | 1 | 31 | | Nails | Nail | Nail Type 2? Incomplete | X 03 | fe | FE 01 |
| 229 | | 1301 | | | 3 | 62 | | Nails | Nails | Nails x 3. Two nails with small/no heads - L 62mm; L 47+mm. One nail Type 2 - L 44mm. | X 03 | fe | FE 01 |
| 230 | | 1301 | | | 1 | 47 | | Nails | Nail | Nail with small head | X 03 | fe | FE 01 |
| 238 | | 1301 | | | 1 | 56 | | Nails | Nail | Nail Type 1, bent at one end. L 56+mm. | X 03 | fe | FE 01 |
| 239 | | 1301 | | | 1 | 31 | | Nails | Nail | Nail Type 1, almost complete. L 31+mm. | X 03 | fe | FE 01 |
| 240 | | 1301 | | | 2 | 50 | | Nails | Nails | Nails, no heads, both almost complete | X 03 | fe | FE 01 |
| 241 | | 1308 | | LIA/ER | 1 | 17 | | Nails | Nail | Nail head and stem fragment, Type 1 | X 03 | fe | FE 01 |
| 242 | | 1411 | | | 1 | 29 | | Nails | Nail | Nail Type 1, incomplete. L 29+mm | X 03 | fe | FE 01 |
| 244 | | 1468 | | EIA | 1 | 28 | | Nails | Nail | Nail Type 1, almost complete. | X 03 | fe | FE 01 |
| 245 | | 1500 | | | 1 | 36 | | Nails | Nail | Nail expanded head. L 36+mm | X 03 | fe | FE 01 |

| ID | Trench | Context | Sf No | Phase | Count | L (mm) | W (mm) | Function | Identification | Comments | X-ray ref | Metal | Box No |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 246 | | 1801 | | | 1 | 45 | | Nails | Nail | Nail Type 1, with slightly domed head, incomplete. L 45+mm | X 03 | fe | FE 01 |
| 250 | | 12002 | | | 1 | 50 | | Nails | Nail | Cut nail, with mineralised wood | X 03 | fe | FE 01 |
| 220 | | 1431 | 5913 | EIA | 1 | 51 | | Personal | Pin | Possible pin, with kink in middle. | X 02 | fe | CA 01 |
| 247 | | 1301 | | | 1 | 40 | 34 | Personal | Buckle | Probable buckle frame. Rectangular and incomplete, with roller at one edge. | X 03 | fe | FE 01 |
| 253 | | 1300 | | | 1 | 55 | 63 | Personal | Heel iron | Heel iron with four rectangular nail holes | X 03 | fe | FE 01 |
| 248 | | | 1318 | | 1 | | | Personal | Hobnail | Hobnail, almost complete | X 03 | fe | FE 01 |
| 226 | | 15000 | | | 1 | 39 | | Query | Connector | Object of thick flat section with two holes. Modern | X 01 X 05 | cu alloy | CA 01 |
| 254 | | 15079 | 15001 | EIA | 1 | 44 | | Query | Spike? | Encrusted spike. See x-ray. | X 03 | fe | FE 01 |
| 243 | | 1437 | | EIA | 1 | 15 | | Query | Query | Object formed from rolled sheet. Small and probably machine-made. Modern? | X 03 | fe | FE 01 |
| 249 | | 11001 | | | 1 | 40 | | Structural | U staple | U staple made from wire | X 03 | fe | FE 01 |
| 252 | | 15000 | | | 1 | 97 | | Tool | Hammer head | Small hammer head, with elongated rectangular eye | X 01 X 05 | fe | FE 01 |
| 257 | | u/s | | | 1 | 185 | | Tool | Gouge | Gouge with tapering half round blade. Tang for wooden handle. | X 03 | fe | FE 01 |
| 231 | | 1301 | | | 1 | 27 | | Transport | Horseshoe nail | Horseshoe nail with expanded tapering head. | X 03 | fe | FE 01 |
| 227 | | 15013 | 15000 | EIA? | 1 | 11 | | Unknown | Fragment | Flat fragment, curved in section. | X 02 | cu alloy | CA 01 |
| | | | | | 44 | | | | | | | | |

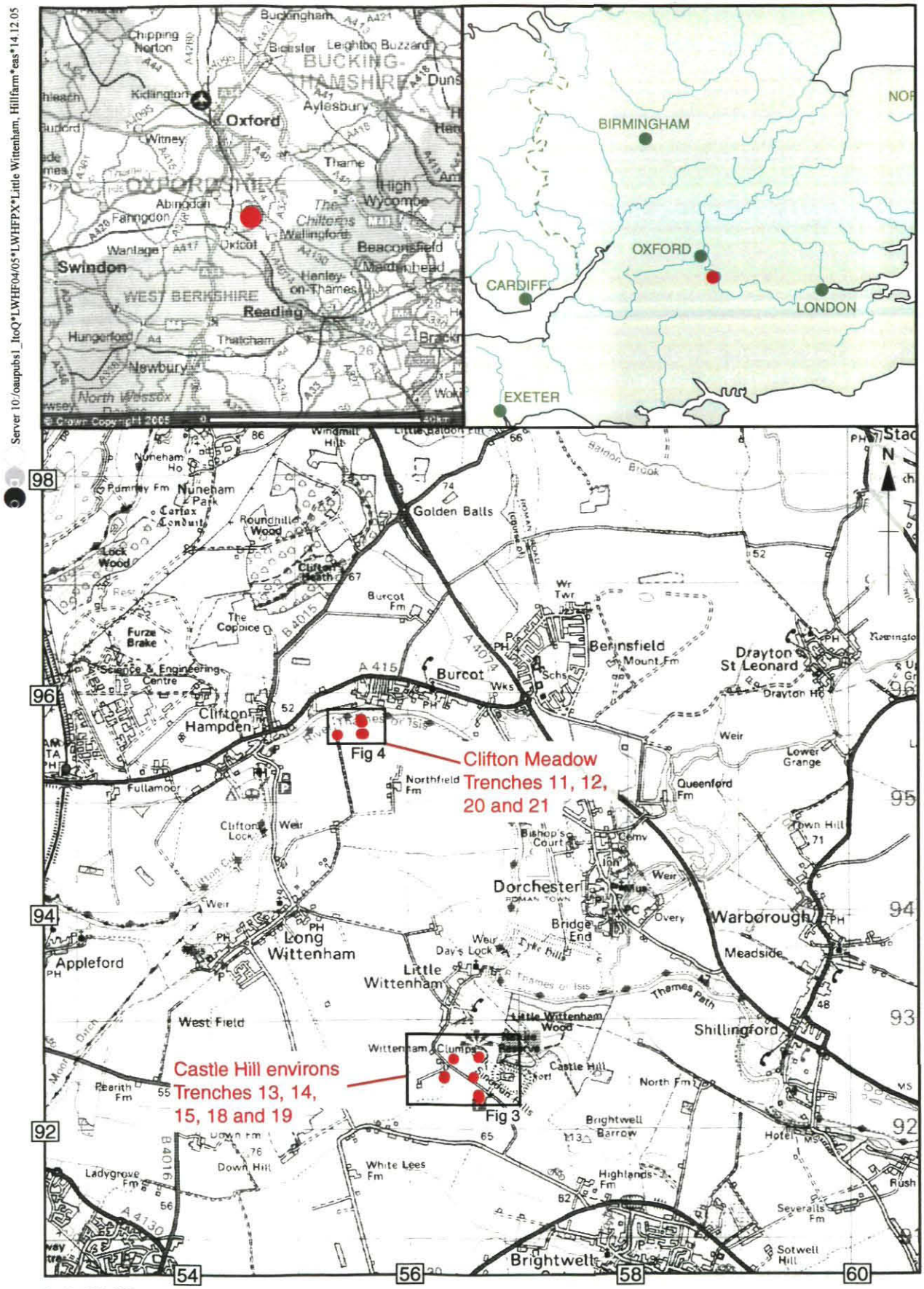




Figure 1: Site location

Fig. 2: Study Area with Cropmarks and SMR Data

1:12500 @A3

0 0.15 Kilometres

LWHPFX

LWHPFX02

Oxford Archaeology
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Osney Mead,
Oxford,
OX2 0ES
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email: mail@oxfordarch.co.uk
web: www.oxfordarch.co.uk

**KEY**

- Gazetteer
- Linear Cropmarks
- Area Cropmarks
- Scheduled Ancient Monuments
- Study area

Survey data supplied by: OA

QA by : AK & SL

X:\LWNTCO_Wittenham clumps_250102\Geomatics\GIS\ArcGIS\current\Wider Landscape Project_fig2.mxd**LWHPFX*Little Wittenhams Hill Farm*leif.isaksen*06/01/2006

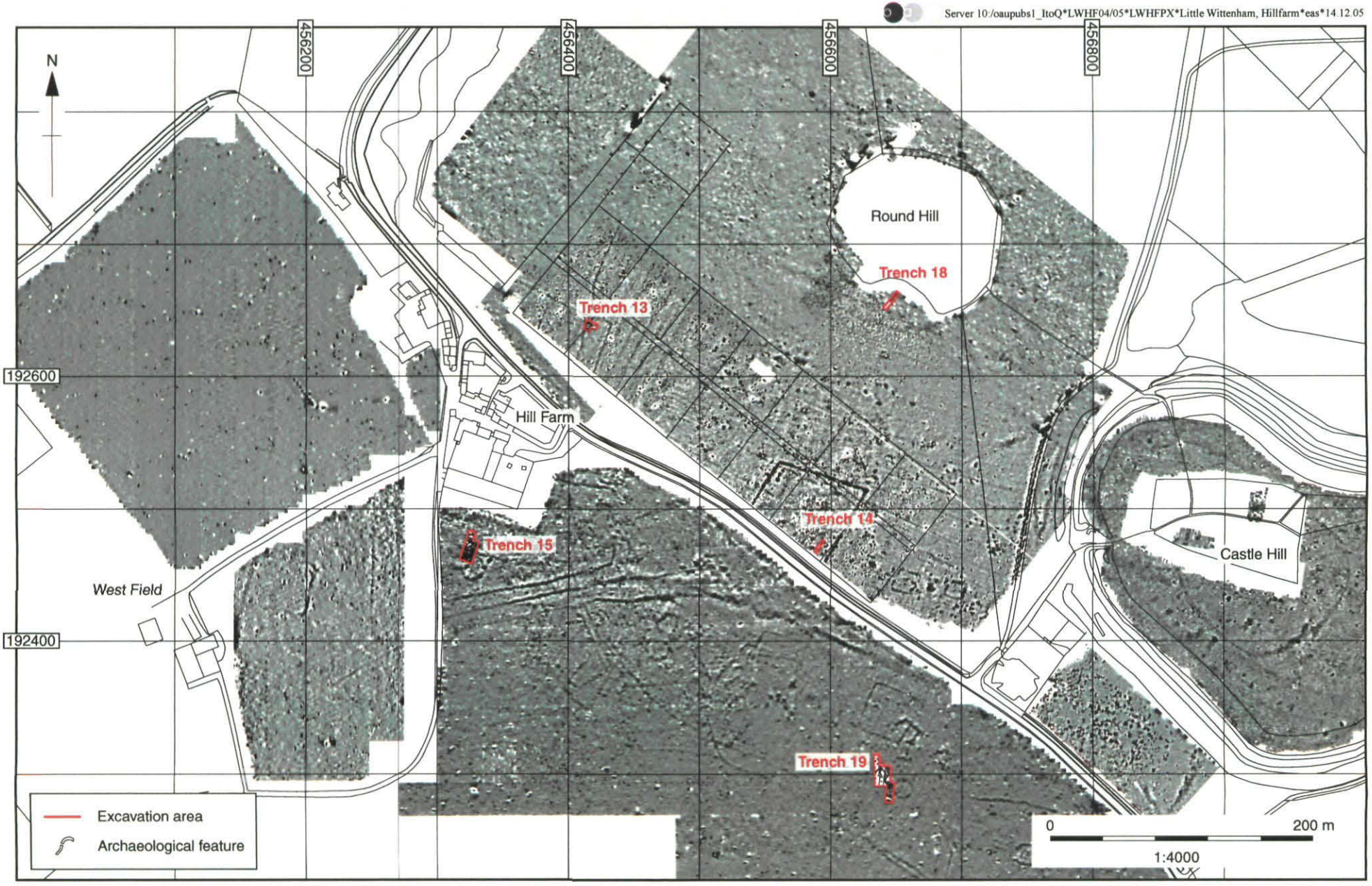



Figure 3: Location plan of trenches in the Castle Hill environs with the results of the geophysical survey (Trenches 13, 14, 15, 18 and 19)

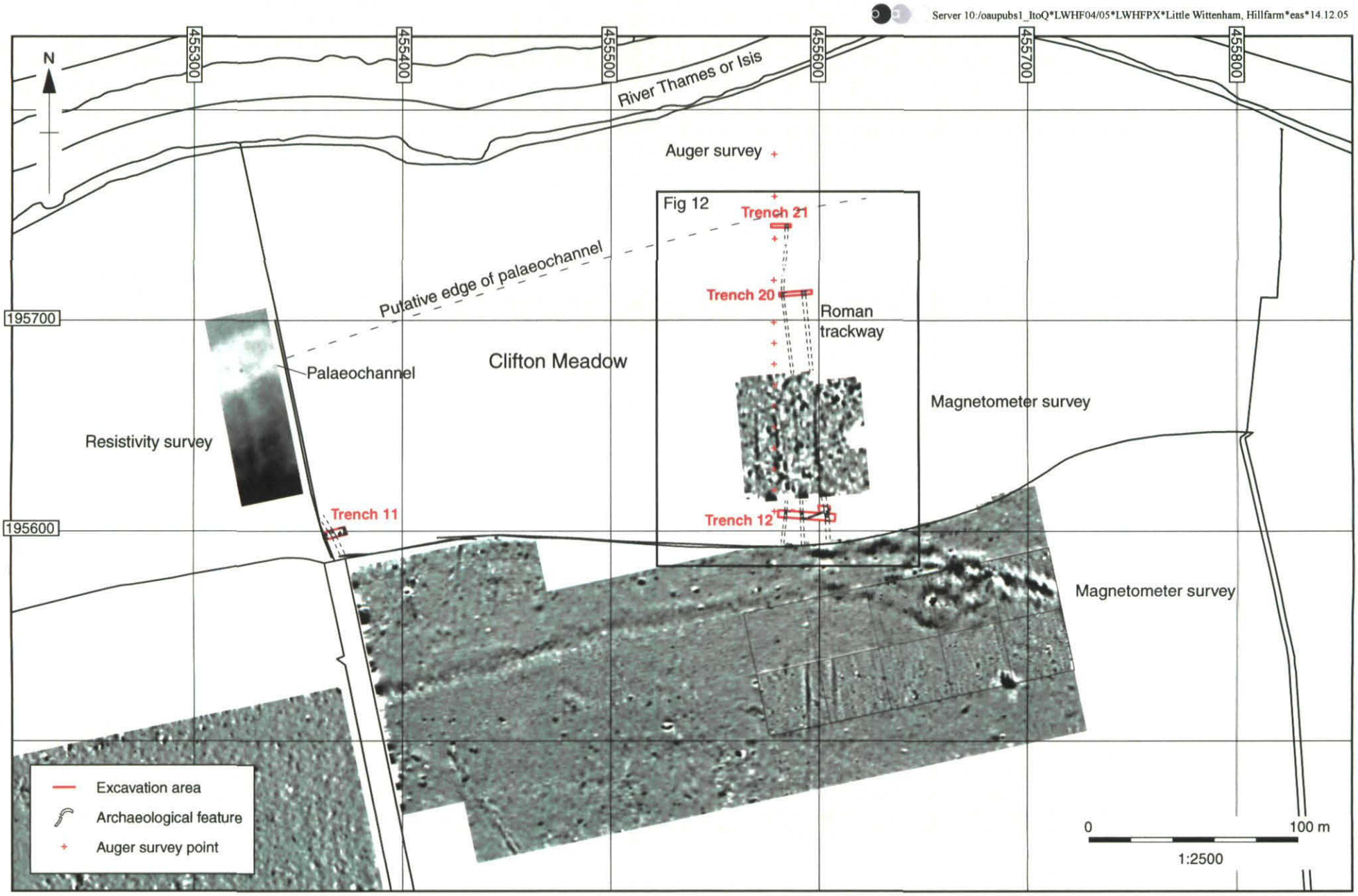



Figure 4: Location plan of trenches on Clifton Meadow with the results of the geophysical survey (Trenches 11, 12, 20 and 21)

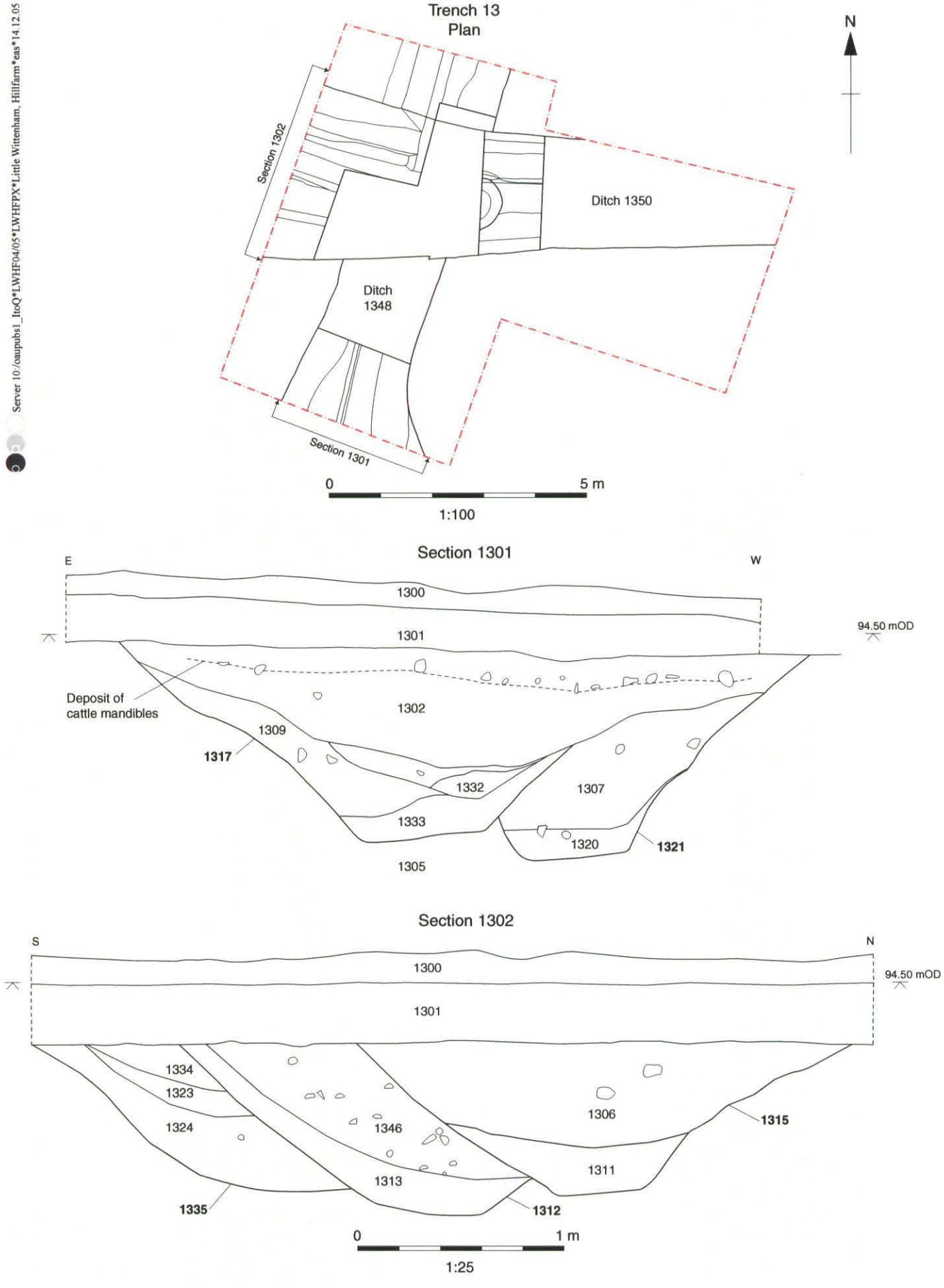
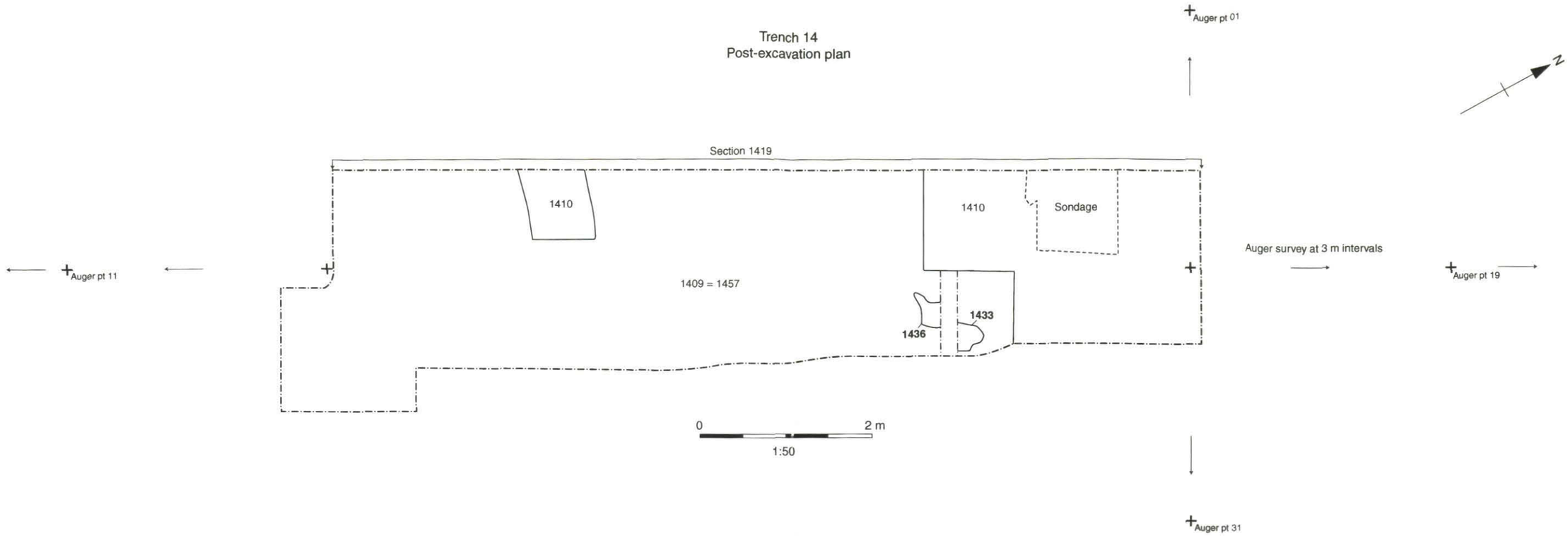



Figure 5: Plan and sections of of Trench 13

Trench 14
Post-excavation plan



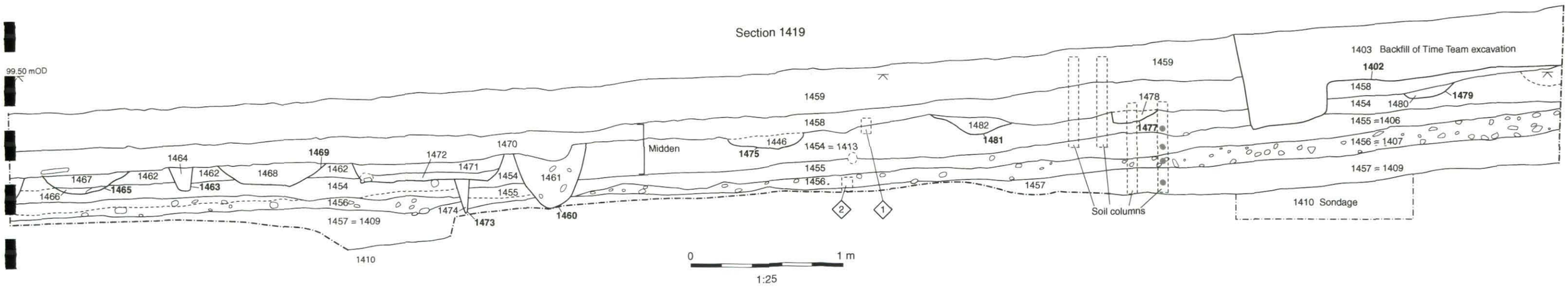




Figure 6: Plan and section of Trench 14

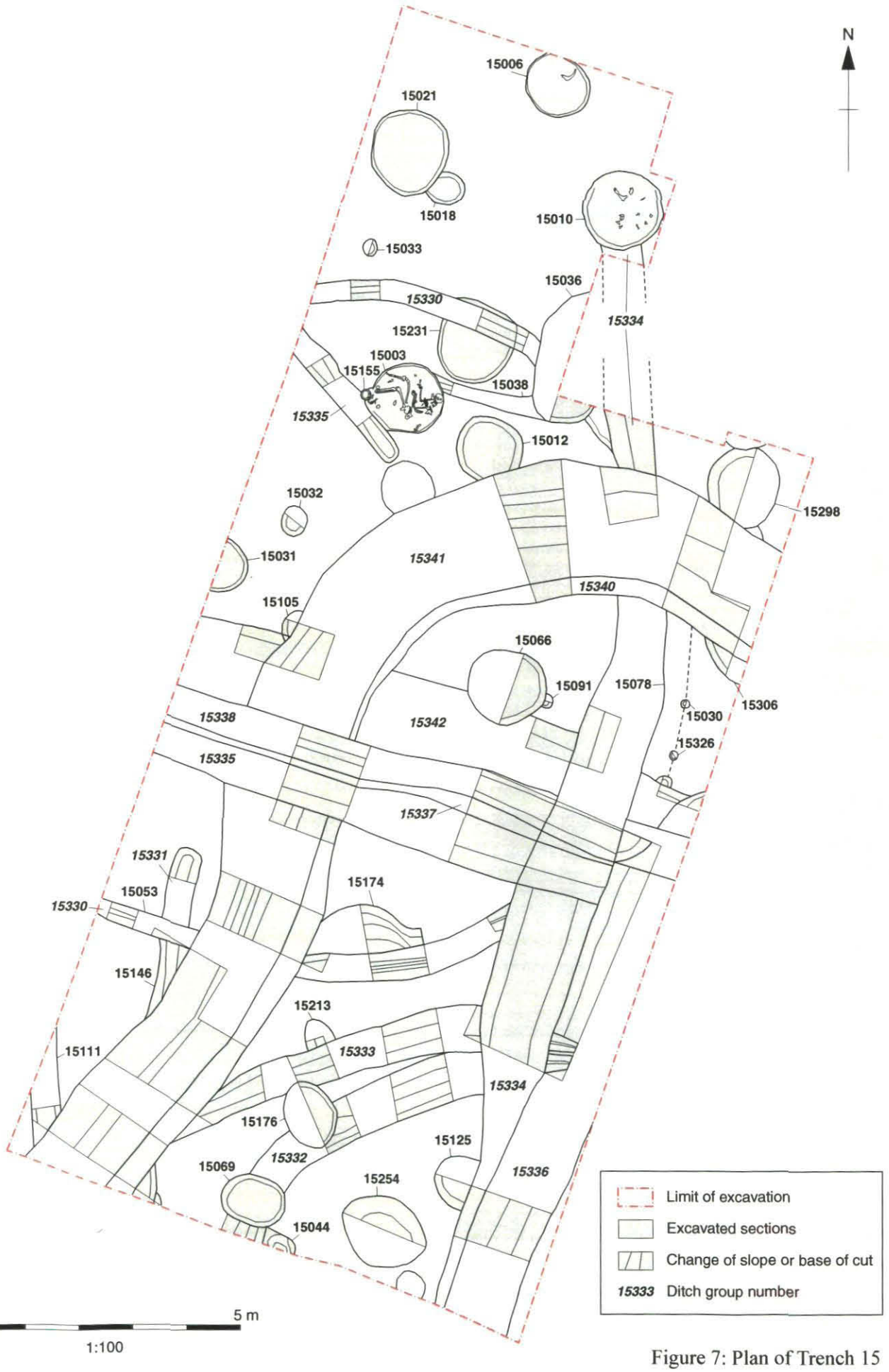



Figure 7: Plan of Trench 15

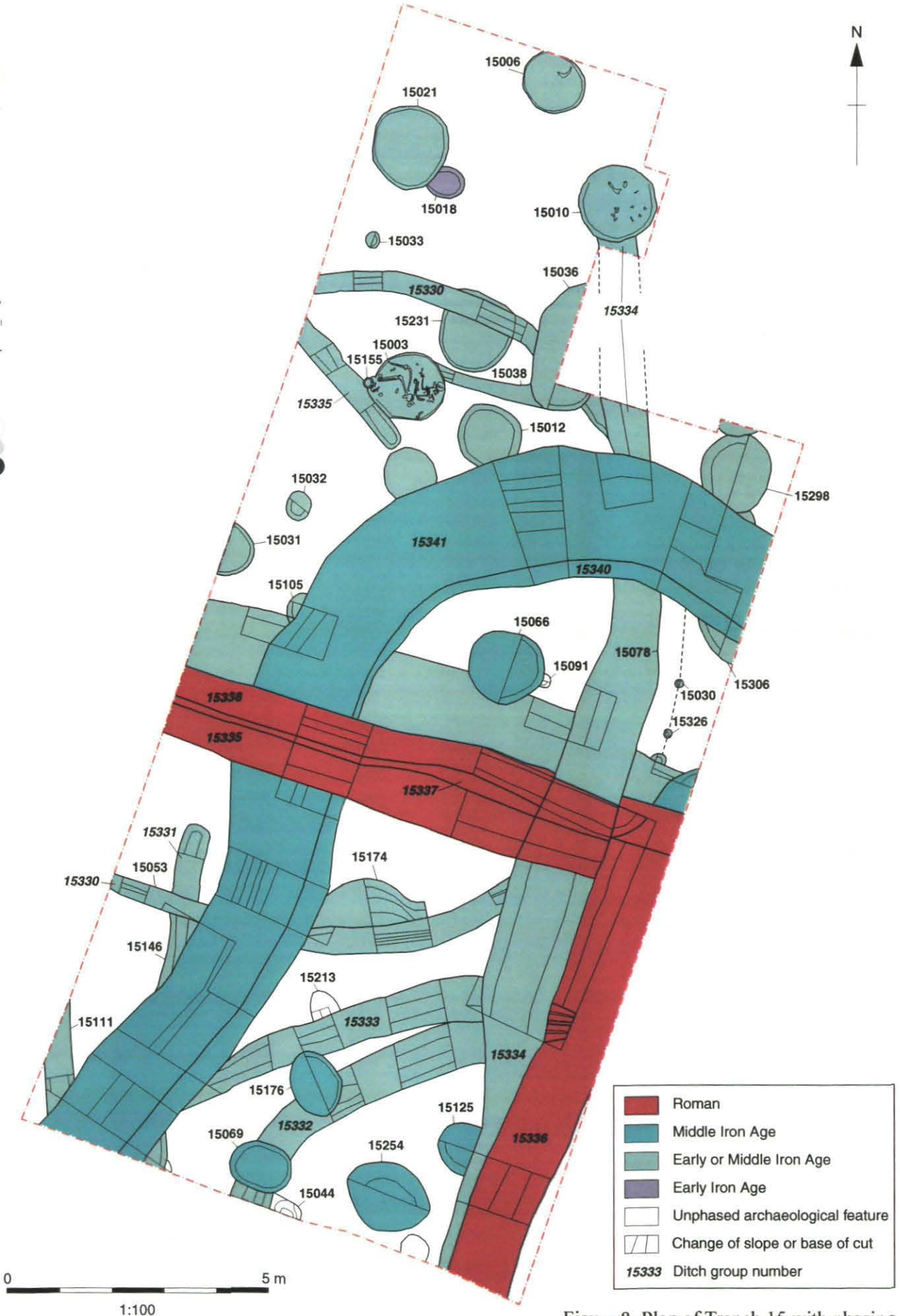



Figure 8: Plan of Trench 15 with phasing

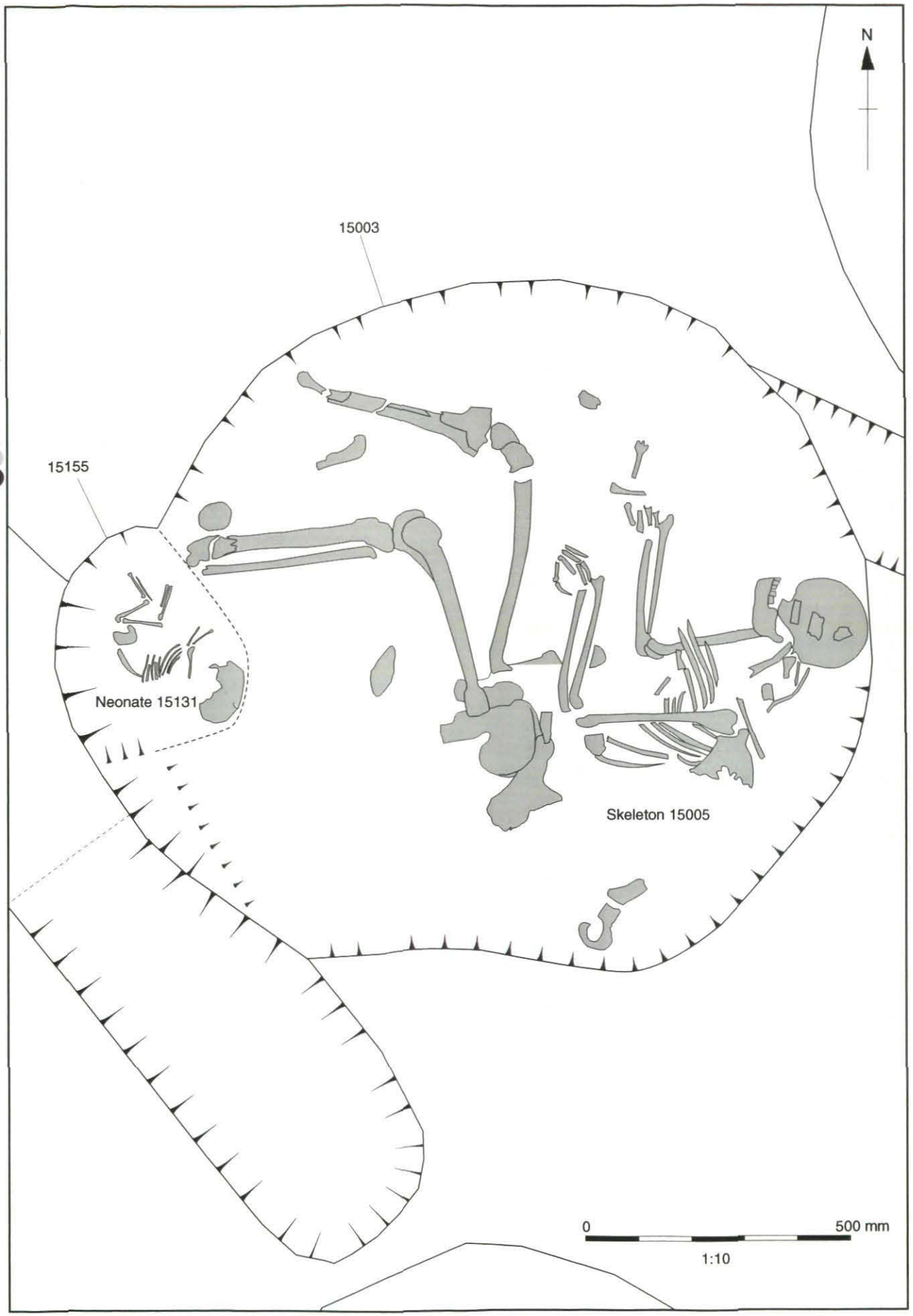



Figure 9: Plan of skeletons in pits 15003 and 15155

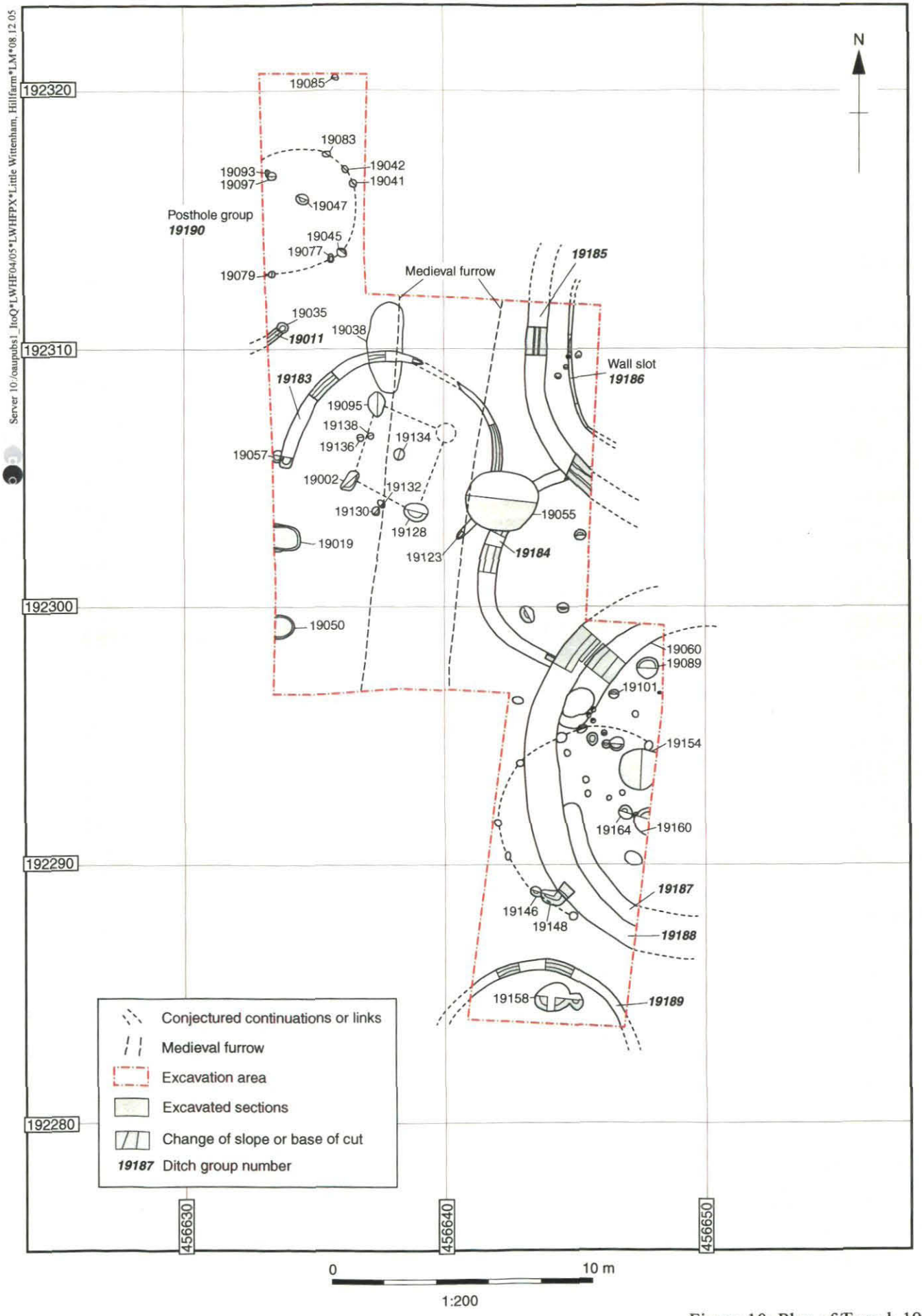



Figure 10: Plan of Trench 19

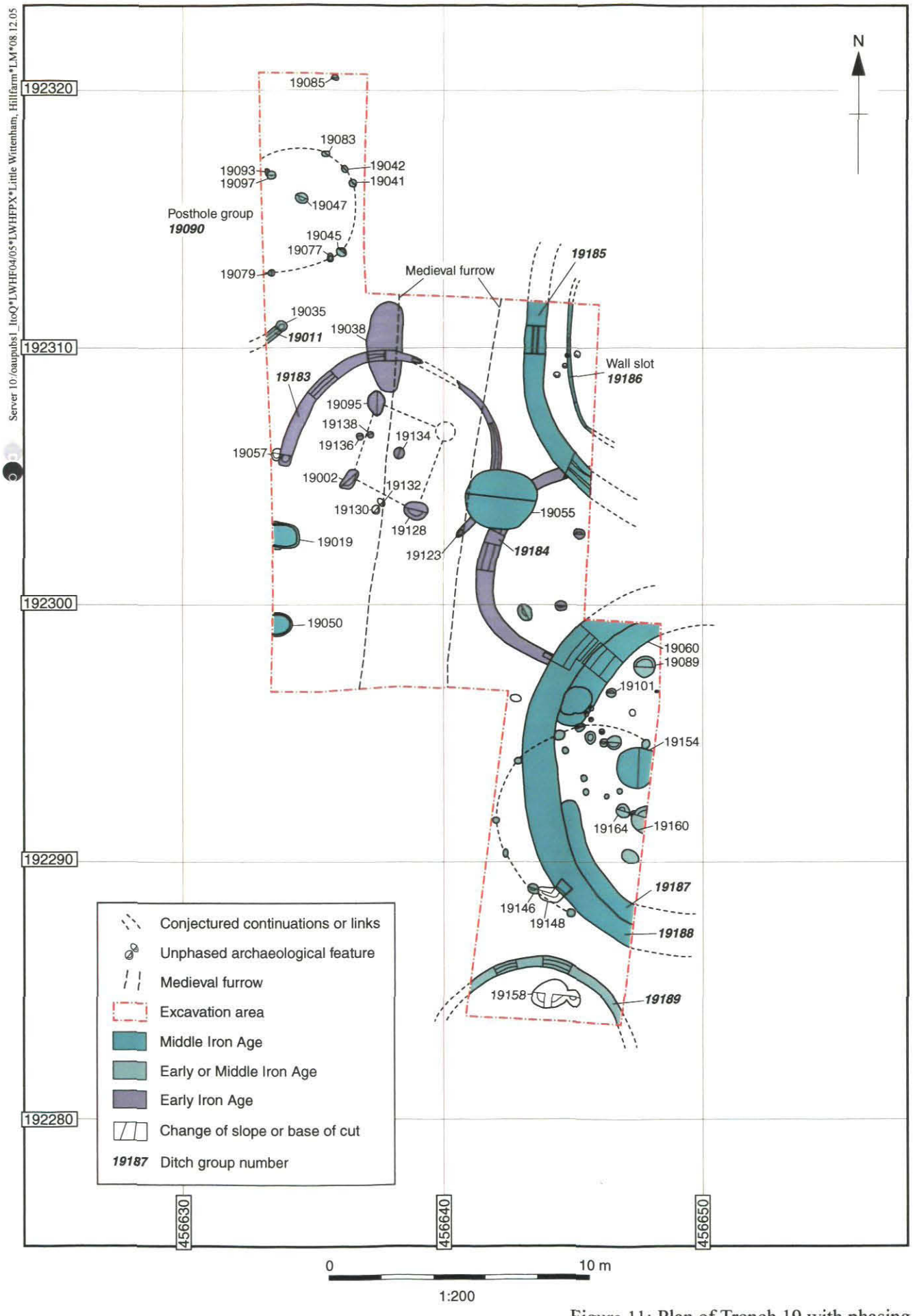



Figure 11: Plan of Trench 19 with phasing

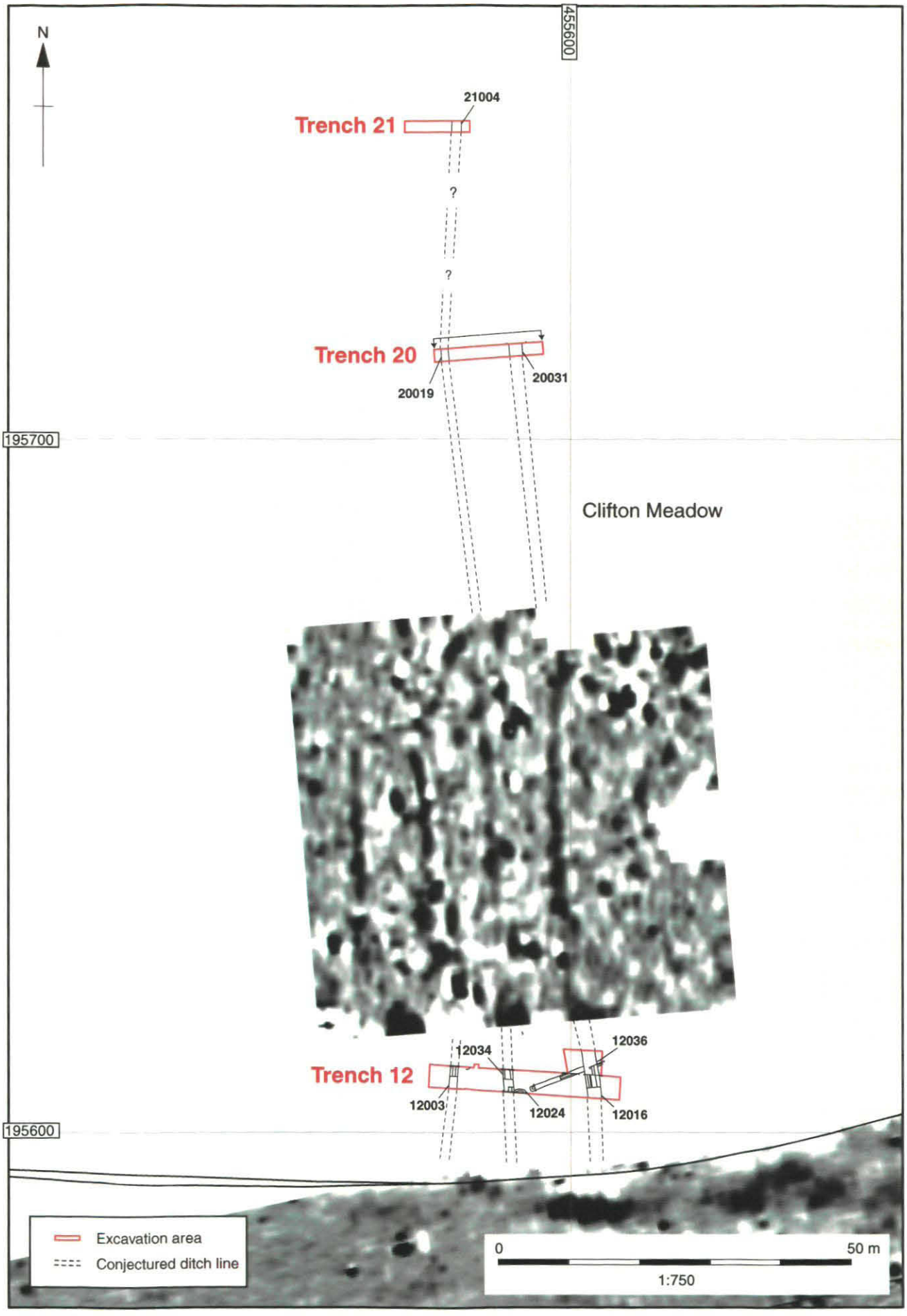
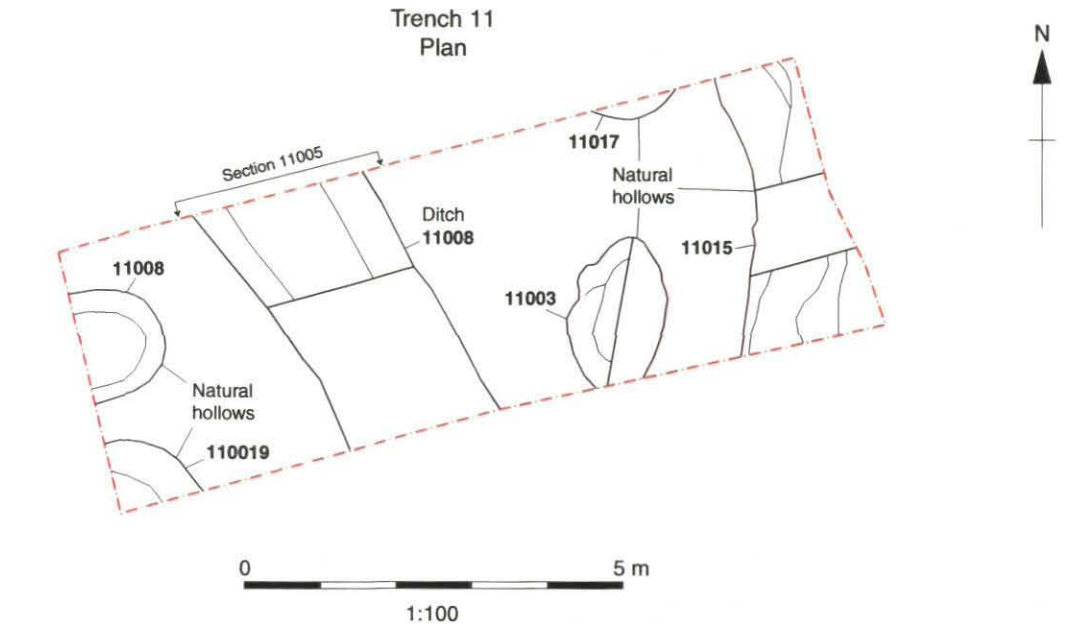
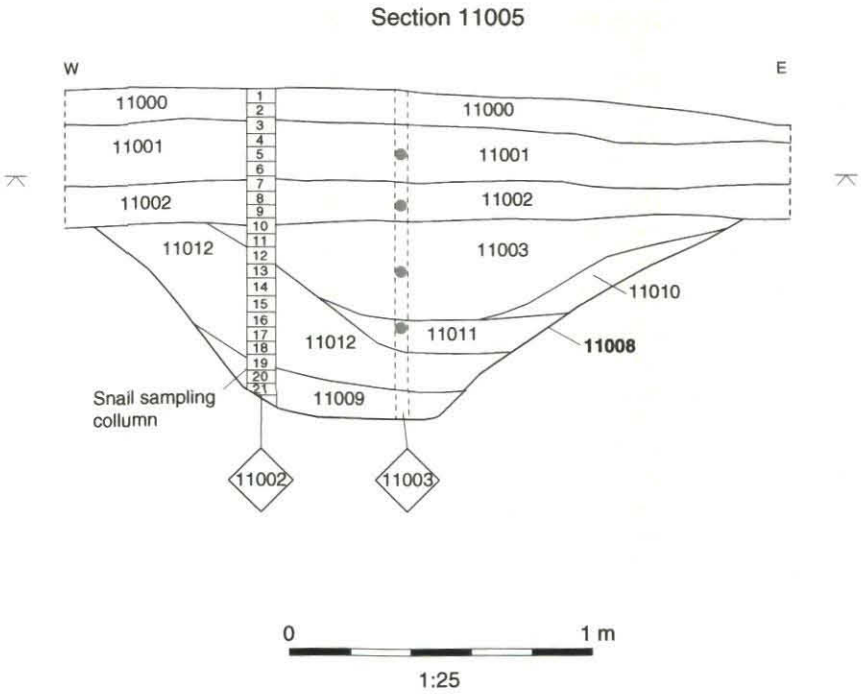



Figure 12: Plan of Trenches 12, 20 and 21



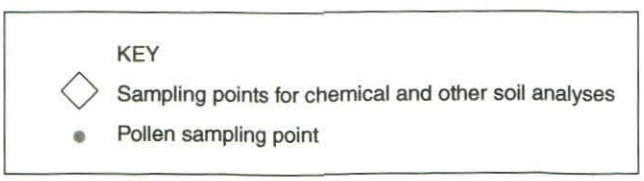
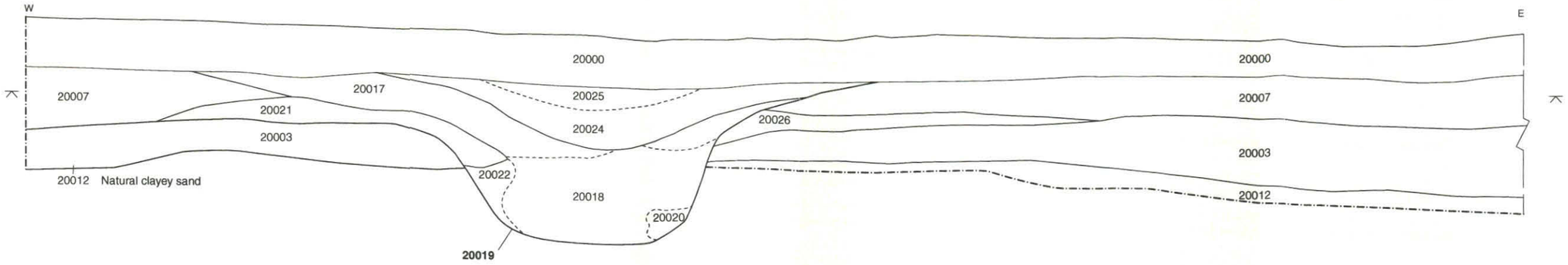
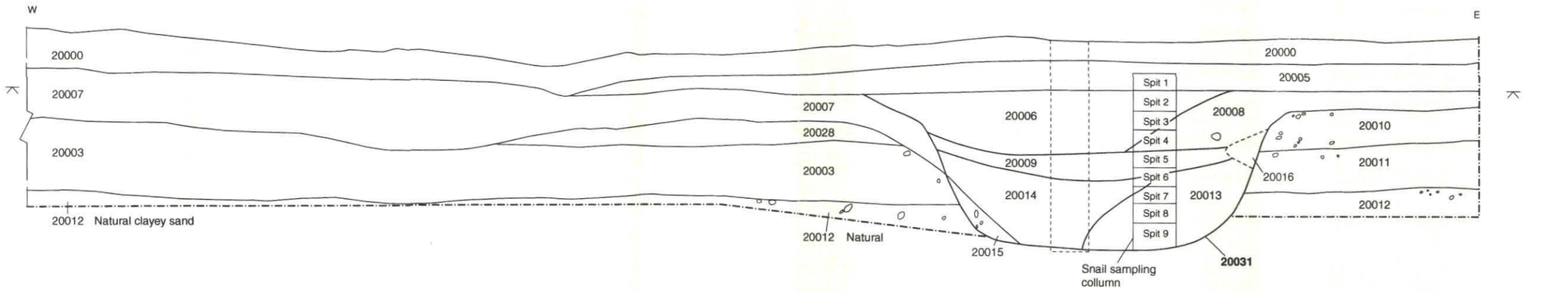




Figure 13: Plan of Trench 11 with section

Trench 20
Section 20003




Trench 12
***Group 12035***

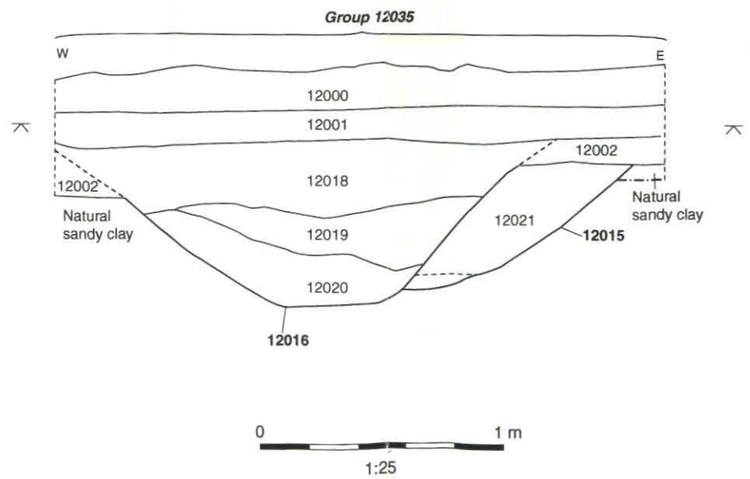






Figure 14: Sections of features in Trenches 12, 20 and 21

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