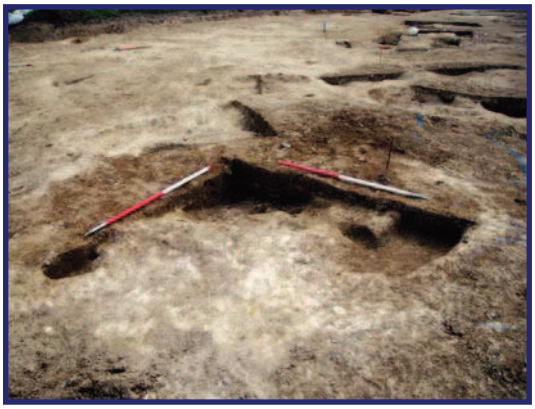
Excavation Assessment

Onslow
Park and Ride
Guildford
Surrey



Excavation Assessment

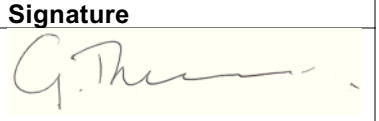
oxfordarchaeology
southsouthsouth

June 2014

Client: Surrey County Council

Issue No: 1
OA Job No: 5680
NGR: SU 97603 49423

Client Name:	Surrey County Council
Document Title:	Onslow Park and Ride, Guildford, Surrey
Document Type:	Excavation Report
Issue/Version Number:	1
Grid Reference:	SU 97603 49423
Planning Reference:	12/P/01505
OA Job Number:	5680
Site Code:	ONPR13
Invoice Code:	ONSPRPX
Receiving Museum:	
Museum Accession No:	

Issue	Prepared by	Checked by	Approved by	Signature
1	Andrew Simmonds (Project Officer)	Edward Biddulph (Senior Project Manager)	Gerry Thacker (Senior Project Manager)	

Document File Location	X:\o\Onslow Park and Ride, Surrey\Report
Graphics File Location	\\Servergo\invoice codes i thru q\O_codes\ONSPRPX
Illustrated by	Hannah Kennedy and Leo Heatley

Janus House
Osney Mead
Oxford OX2 0ES
t: +44 (0) 1865 263800 e: info@oxfordarch.co.uk
f: +44 (0) 1865 793496 w: oxfordarchaeology.com
Oxford Archaeology Limited is a Registered Charity No: 285627

Onslow Park and Ride, Guildford, Surrey

Archaeological Excavation Report

Written by Andrew Simmonds

with contributions by Sheila Boardman, Lisa Brown, Rebecca Devaney, Ruth Shaffrey, Lena Strid and Helen Webb

Illustrated by Hannah Kennedy and Leo Heatley

Table of Contents

List of Figures

Summary

During April and May 2013 Oxford Archaeology carried out an archaeological excavation on behalf of Surrey County Council on the site of a new park and ride facility at Onslow, Guildford, Surrey. The investigation uncovered a pit and gully dating from the early Bronze Age and 94 pits that were attributed to the middle Bronze Age-early Iron Age. The last-mentioned features were arranged into two spatially distinct groups and were interpreted as the remains of ephemeral settlement activity. They were similar in character to groups of similarly dated features that had been discovered during previous excavations a short distance to the west, forming part of a landscape of prehistoric settlement. A single un-urned cremation burial was also excavated and was assumed to be contemporary with the other features.

This document describes the results of the excavation and makes recommendations for further work and publication.

1 INTRODUCTION

1.1 Scope of work

1.1.1 During April and May 2013 Oxford Archaeology (OA) carried out an archaeological excavation on behalf of Surrey County Council on the site of a new park and ride facility at Onslow, Guildford, Surrey.

1.1.2 The excavation was carried out in accordance with a condition that was attached to the planning permission for the facility (planning ref. 12/P/01505) due to the archaeological potential of the site, which had been indicated by the results of an initial desk based assessment (OA 2013a). The site was not subject to the usual trial trench evaluation due to constraints regarding access. The work was undertaken in accordance with a written scheme of investigation that was produced by OA and agreed with Nick Truckle prior to the commencement of the excavation (OA 2013b).

1.1.3 The line of a proposed access road leading from Richard Mwyjes Road to the north-east corner of the site, along the western boundary of the Holiday Inn, was initially intended to form part of the excavation but in the event no investigations were required here as this area had been considerably built up from the spoil of previous adjacent works and further ground reduction reduction was thus considered unnecessary.

1.1.4 This document describes the results of the excavation, presents the findings of the finds and environmental analyses, and makes recommendations for further work and dissemination of the report.

1.1 Location, topography and geology

1.1.1 The site was situated *c* 1.7km west of the centre of Guildford (SU 97603 49423; Fig. 1). It encompassed an area of *c* 2.7ha, and was bounded to the west by the recently constructed Surrey Sports Park, to the north by Guildford Holiday Inn, and to the east and south by the A3 Guildford and Godalming bypass. Prior to the excavation, the area consisted of two fields that had been under pasture prior to the excavation and were until recently divided by a mature hedgerow.

1.1.2 The north-eastern part of the site sloped gently downwards in an approximately east to west direction, the ground surface becoming generally level at the south-western end.

1.1.3 The underlying geology varied across the site (BGS 1976). A small outcrop of Newhaven Chalk, which was deposited during the Cretaceous Period, was located in the south-eastern corner, but most of the area comprised London Clay, dating from the Paleogene period, with a band of Lambeth Clay, of similar date, crossing the southern part. In the north-western corner the London Clay was capped by 'Head' deposits of mixed clay, sand and gravel.

1.2 Archaeological and historical background

1.2.1 The site was located at the eastern edge of a large area that had previously been the subject of a series of archaeological investigations associated with the construction of the University of Surrey's Manor Park campus (Fig. 1). These investigations encompassed a total area of 60ha, almost all of which was subject to evaluation trenching and areas with a combined area of 11.6ha selected for more detailed investigation in the form of open area excavations and watching briefs. The investigations were undertaken on a rather piecemeal basis by several archaeological organisations (GAG 1998;1999; OA 2002a; WA 2002) but their results have been brought together in Pine 2012. These investigation included the excavation of

evaluation trenches within the western of the two fields that comprised the park and ride excavation area, but no archaeological features were recorded in this area.

1.2.2 The Manor Park investigations demonstrated that there is evidence for later prehistoric settlement spread over a considerable area. Mesolithic and Neolithic remains were represented only by stray pieces of worked flint. Settlement dating from the Bronze Age, Iron Age and Roman periods was located on the higher land in the northern part of the area, with more isolated prehistoric occupation in the lower central valley. Middle and late Bronze Age features, largely represented by clusters of shallow pits, were found scattered widely across the site, with a concentration that seemed to indicate tree clearance in the north west of the area. An Iron Age farmstead represented by three possible buildings and a boundary ditch was located in the northern part of the area.

1.2.3 A sub-circular enclosure measuring 80m in diameter and structural evidence dated to the late Iron Age-early Roman period was identified by geophysical survey and evaluation trenching north-west of Manor Farm. A small group of cremation burials have been excavated a short distance north of these features and are also thought to be of Roman date (Pine 2012, 53). These features lay c 700m west of the park and ride site, and a similar distance to the east lies the site of another possible Roman settlement site that was identified by in 1871 by the Rev Charles Kerry, a local amateur archaeologist, as a surface spread of dark soil. This site has not been investigated archaeologically and has since been built on (OA 2013).

1.2.4 Evidence for early medieval occupation is scarce in the immediate proximity of the site, although a hearth that was recorded in an evaluation trench *c* 450m to the west r a radiocarbon date of AD 685-782 (Pine 2012, 53). The 6th century Guildown cemetery is located *c* 1.3km south-west of the site and a further group of ten burials of similar date was found during building works in Mount Street, *c* 1.5km to the east (OA 2013a).

1.2.5 The site was located within Guildford Park, which was created by Henry II in 1154 (Crocker 2005, 187). The moated site of Guildford Park Manor, now a Scheduled Ancient Monument, lies *c* 540m to the west of the site. The manor site appears to have been demolished after 1600 and the moat partially in-filled with rubble from the demolition, although two lengths still survive in good condition. The park was sold off in 1630 and divided into farms, the site of the former manor becoming Manor Farm (ibid.). Most of the park has been developed during the modern expansion of the town.

1.2.6 Cartographic evidence demonstrates that the division of the site of the excavation into two fields dates from before 1841.

2 Aims and Methodology

2.1 Aims

2.1.1 The primary objectives of the strip map and sample excavation strategy were:

- To mitigate the effect of the park and ride development on any surviving buried archaeological remains through archaeological investigation and recording, analysis of the excavated data, publication of the results, and deposition of an ordered project archive with a local museum ("preservation by record").
- To enable the archaeological data from the site to be placed within its local, regional and national context.

2.1.2 The specific aims and objectives were:

- To determine the nature, date and duration of activity represented by any revealed remains.
- To interpret the activities represented in the context of contemporary sites within the wider region and nationally.
- To examine the social, economic and cultural relationships evidenced by the surviving archaeological and palaeoenvironmental remains.

2.2 Methodology

2.2.1 The site was stripped under close archaeological supervision using two mechanical excavators fitted with toothless ditching buckets. The archaeological features thus revealed were mapped using a Global Positioning System. All features were hand cleaned and sample excavated. Ditches, other than those shown to be of post-medieval date, were sampled at a level of 10%, discrete features such as pits and postholes were sampled at levels of between 50% and 100%. All relationships between intercutting features were investigated.

2.2.2 Plans and sections of the excavated features were drawn at a scale of either 1:20 or 1:50. All features were photographed in black and white print film and colour digital formats. Environmental samples were taken where deposits were identified as having potential for preservation of charred plant remains. All excavation and recording followed procedures laid down in the OA *Fieldwork Manual* (Wilkinson 1992).

3 Site Description

3.1 General

3.1.1 The excavation uncovered a total of 96 pits and five shallow ditches or gullies (Fig. 2). The pits were all circular or sub-circular in form and were typically very shallow. Their dimensions ranged from 0.3-3.4m, although they were more typically 0.8-1.5m in diameter, and few were more than 0.3m deep. The lobate form and irregular base and sides of some of the pits suggested that they were likely to be tree throw holes, but the shallow character of most of the features and the similarity of their fills, composed of brown silty soil, precluded any attempt to definitively distinguish between natural and man-made features.

3.1.2 The features were distributed in two areas, comprising a loose scatter of discrete pits at the northern end of the site and a more dense concentration that were cut into an outcrop of chalk at the southern end. The two groups of pits were situated *c* 110m apart.

3.2 Early Bronze Age

3.2.1 Two features contained pottery that indicated a date in the early Bronze Age.

3.2.2 Pit 205 was situated within the concentration of features that were cut into the chalk outcrop and yielded a small sherd from a Beaker vessel. The pit was typical of the features in this part of the site, being very shallow with a diameter of 1.7m and a depth of only 0.15m. It intersected slightly with an undated pit (203), but not sufficiently to enable the stratigraphic relationship between them to be established.

3.2.3 Gully 234 (Fig. 3 and Fig. 5 section 124) was situated a short distance south of pit 205. It extended from the eastern baulk toward north-west on a fairly straight alignment for a distance of *c* 2.5m then curved sharply round in an anti-clockwise direction, almost doubling back on itself before petering out. Where sectioned, it was found to be a steep-sided feature with a concave base and a depth of 0.36m. A small fragment of pottery that was recovered from the fill (235) was made in a grog-tempered fabric that would be consistent with an early Bronze Age date.

3.3 Middle Bronze Age-early/middle Iron Age

The northern pit group (Fig. 2)

3.3.1 The northern pit group comprised ten pits, all of which were individual, discrete features. The only pit that contained pottery was pit 105 (Fig. 2 and Fig. 5 section 101), which was also the most substantial feature. The pit contained the inverted base of a large urn or jar (108) dating from the late Bronze Age-early Iron Age, although it was uncertain whether the vessel had been placed deliberately or had come to lie in this position as a result of more casual disposal. The vessel lay within a layer of charcoal-flecked clay (106) that was overlain by a deposit of more homogeneous material (107), from which a fragment from a quern was recovered. The pit also yielded nearly 5.5kg of burnt unworked flint.

3.3.2 Two undated pits (111, 121) each contained a single piece of worked flint. Three pits (110, 113, 144) differed from the other features by virtue of their charcoal-rich fills. Although their fills were distinctive, they were otherwise similar to the majority of features, comprising shallow, circular pits. The bases of pits 110 and 113 (Fig. 5 section 104) exhibited evidence for heat-discolouration of the underlying natural clay, indicating that the charcoal fills were the result of *in situ* burning and that the features may have

been hearths. The charcoal fill (117) in pit 113 (Fig. 5 section 104), which was 0.06m thick, was overlain by a backfill of brown sandy clay (114), but the other pits each had only a single fill. None contained any artefactual evidence.

3.3.3 Two gullies (103, 116) lay on parallel NNW-SSE alignments near the north-eastern corner of the site. Both were extremely shallow features, measuring no more than 0.08m deep. Gully 103 extended for a distance of 9.25m and gully 116 for 4.80m, both appearing to peter out at the ends rather than ending in deliberate terminals. Neither feature yielded any artefactual material.

The southern pit group (Figs 3 and 4)

3.3.4 Ditches 158 and 163 may have been among the earliest features in the southern group since the latter was cut by a sequence of pits. They lay at right angles to each other only 2.7m apart. Ditch 158 (Fig. 5 section 119) was located at the south-western edge of the chalk outcrop and extended for 4.9m on a NNE-SSW alignment. It was quite steep-sided with a flat base and was 0.30m deep. A sherd of pottery that was decorated with a boss and which may have been part of a Deverel-Rimbury urn was recovered from the upper of its two fills (160). Ditch 163 was only 0.15m deep and was exposed for a distance of 3.8m, its eastern end being truncated by a group of pits at the edge of the site.

3.3.5 The southern group comprised a total of 83 pits that were cut into the chalk outcrop at the south-eastern edge of the site and two outliers a short distance to the north that were dug into clay substrate. It included both discrete pits and clusters of intercutting pits, the latter ranging in size from pairs of intercutting pits to groups of up to eight intersecting features. Nine pits (134, 177, 205, 223, 240, 254, 312, 316, 318) contained pottery that could be attributed to the middle Bronze Age-early/middle Iron Age and a further 16 pits (136, 138, 140, 185, 203, 211, 215, 218, 238, 250, 252, 271, 275, 283, 292, 320) yielded pottery that was not chronologically diagnostic but was consistent with a similar date range. The pottery from three pits (290, 312, 316) was certainly of Iron Age date. Pit 290 was a typical, shallow bowl-shaped pit and yielded a sherd from an early-middle Iron Age bowl as well as three less diagnostic fragments. Pits 312 and 316 were situated close together at the western edge of the pits that were cut into the chalk and each contained a sherd that could be dated broadly to the Iron Age, the latter pit also containing five very small Bronze Age fragments. Twelve pits (188, 190, 192, 229, 259, 269, 302, 315, 328, 330, 332, 336) contained no pottery but yielded pieces of worked flint, although none of this material was chronologically diagnostic and the quantities were very small, with none of the features yielding more than four pieces.

3.3.6 The features appeared to be arranged into three distinct concentrations in a north-south line, with most of the discrete pits situated to the west. The northern cluster contained at least 16 features, although the amorphous shapes of several of the larger ones suggested that they may have been tree throw holes rather than deliberately dug features. The central cluster comprised 15 pits and exhibited less intercutting that the other groups, being formed mostly by smaller groups of no more than two or three intersecting features. The southern cluster, situated against the south-eastern edge of the site, was the largest and consisted of at least 21 pits. It also exhibited the greatest frequency of intercutting features, particularly against the south-eastern baulk (Fig. 5 sections 123 and 124).

3.3.7 The only burial feature was cremation burial 297 (Fig. 3 and Fig. 5 section 143), which was located at the northern edge of the chalk outcrop, where it cut an earlier, undated pit (299), and comprised a shallow, bowl-shaped pit with a single fill of black, clay soil

that included a substantial admixture of oak charcoal (296). The fill contained 329.7g of calcined bone, representing the cremated remains of a single adult, possibly female. The only other material that was recovered from the feature was a small quantity of unworked burnt flint.

3.3.8 Also of note was pit 156, which was situated in a slightly isolated location 40m east of the chalk outcrop (Fig. 2). It had a charcoal-rich fill and, as with the possible hearths in the northern group, the clay base of the feature was baked and reddened. There was a distinct thin layer of charcoal at the base of the pit and lumps of charcoal were distributed throughout the fill (157).

Modern

3.3.9 The excavation area was crossed from north to south by a grubbed out former hedgeline, which until recently had divided the area into two fields. Ditch 124 is likely to have formed a contemporary boundary and extended from the hedgeline to the eastern edge of the site. The ditch does not appear on the Guildford St Nicholas tithe map of 1841, and had presumably been in-filled at some time before this. A few pieces of clay pipe were observed within its fill but were not retained.

4 Finds Reports

4.1 Pottery

by Lisa Brown

4.1.1 A total of 193 sherds of prehistoric pottery weighing 845g were recovered from 32 contexts. In addition, a single sherd of late Roman Oxfordshire colour-coated ware was recovered from the topsoil. The prehistoric pottery was generally in a very fragmentary and abraded condition, as is reflected in the average sherd weight of only 4g. Diagnostic features are very rare in this assemblage.

Methodology

4.1.2 The pottery was recorded on an Access database. Sherds were examined using a hand lens and binocular microscope at 10x and 20x magnification to identify clay matrices and inclusions. Fabrics were classified using an alpha-numeric dominant inclusion code, further subdivided on size and frequency of the inclusions, following the nationally recommended guidelines of the Prehistoric Ceramics Research Group (PCRG 1997). All sherds were counted and weighed by context. The following characteristics were recorded: fabric, form, surface treatment, decoration, degree of abrasion, and ceramic date. Abrasion was classified as (3) high - surface survival minimum, breaks heavily eroded; (2) moderate - surface somewhat preserved but clearly worn; (1) slight - little indication of wear apparent.

Fabrics

4.1.3 Nine fabrics within four ware groups were identified, all of which could have a local source. The great majority of fabrics include varying quantities of calcined, crushed flint filler. The flint would have been a locally available resource, obtained from the Cretaceous Chalk that outcrops within the site, and on which most of the archaeological features were located. The clay matrix of most of the fabrics is very similar, incorporating sparse mica and ferrous minerals, and could represent the underlying marine London Clay. Fossil shell, which is a component of fabric C1, also occurs in London Clays.

Flint inclusions

F1 Smooth, slightly soapy, slightly micaceous clay with minimal rounded, translucent, fine grade quartz sand and sparse ferrous pellets, sometimes rare red powdery ferrous lumps, incorporating angular white calcined, crushed flint pieces 1-2mm, rarely >3mm, in moderate frequency.

F2 Lightly sanded, micaceous clay with rare ferrous pellets and occasional red ferrous powdery lumps incorporating angular white and grey calcined, ill-assorted, up to 5mm.

F3 Sandy, micaceous fabric (sandy texture) with rare black ferrous pellets incorporating abundant angular while crushed flint 1-3mm.

F4 Very sandy, slightly micaceous fabric, fine-medium grade sand, common black ferrous pellets, sparse to moderate very fine white crushed angular flint <3mm.

F5 Fine glauconitic sandy clay incorporating red ferrous lumps and rare small white crushed flint 1-2mm.

Calcareous inclusions

C1 Smooth slightly soapy, slightly micaceous clay with minimal rounded translucent, fine grade quartz sand and sparse ferrous pellets, incorporating moderate crushed platey shell (?possibly not fossil).

Quartz sand clays

Q1 Very finely sanded, slightly micaceous clay with rare black ferrous pellets and occasional lumps of powdery red ferrous mineral (haematite?). Soft, powdery texture. Not hard fired.

Q2 Fine glauconitic, micaceous sandy clay with rare small white calcined flint, probably not deliberately added

Grog inclusions

G1 Smooth soapy clay with sparse rounded translucent quartz sand, common powdery red haematite lumps and grey and red grog pieces.

The assemblage

4.1.4 The pottery covers a wide date range, in keeping with evidence from previous archaeological work in the locality that points to extensive and continuous settlement in the area during the later prehistoric period, and continuing into the Roman period.

4.1.5 The wide range of fabrics within a very small assemblage is indicative of prehistoric periods that predated the move towards standardisation of fabrics and vessel forms that took place during the middle and late Iron Age periods. This, and the indicators provided by the very few diagnostic sherds, suggests that the pottery dates to between the early Bronze Age and the early to middle Iron Age.

4.1.6 Only three rim fragments, and sherds representing a single base were present. Decoration is confined to an impressed comb motif on a body sherd from context 204, along with a lightly impressed dimple on a flint-tempered sherd from context 243 and an applied boss on another flint-tempered vessel, from context 160. These few diagnostic traits provide only limited scope for characterising the pottery in terms of date and ceramic tradition.

4.1.7 The comb-decorated sherd belongs to an early Bronze Age Beaker and the boss-decorated rim probably to a middle or late Bronze Age urn. The base of a large urn or jar (108) from pit 105 may be the truncated remains of a Bronze Age burial vessel. Another such vessel was found a short distance to the south-west of the site in 2008 (OA 2013a) and evidence of Bronze Age settlement was recorded at Manor Park to the west of the site in 2002 (Pine 2012).

4.1.8 Several small rim fragments of well-finished, thin-walled vessels in fine flint-tempered fabrics from contexts 176, 255, 276 and 317 are likely to belong to belong to late Bronze Age/early Iron Age bowls. A burnished glauconitic ware (Q1) fragment of a round-bodied vessel from context 291 could be middle Iron Age. Iron Age settlement evidence was also recorded at Manor Park (Pine 2012).

Recommendation for further analysis

4.1.9 The pottery has been fully analysed for the purposes of this report and the assemblage merits no further work.

4.2 Worked flint and burnt unworked flint

by Rebecca Devaney

Introduction

4.2.1 A total of 119 pieces of worked flint and 232 fragments (6485g) of burnt unworked flint were recovered (Table 1). The material was recovered from 49 contexts with no single context containing more than 20 pieces of worked flint. Chronologically diagnostic types were not present in the assemblage, but in general the material is reminiscent of later prehistoric flint working and exhibits characteristics usually associated with the hard hammer industries of the later Neolithic and Bronze Age. The assemblage is comprised of unretouched debitage and a few cores. Formal retouched tool types were not present.

Table 1: Summary of worked flint

Flint Category	Total
Flake	85
Blade	3
Blade-like flake	7
Irregular waste	5
Chip	2
Sieved chips	12
Rejuvenation flake core face/edge	1
Multiplatform flake core	1
Unclassifiable/fragmentary core	2
Other utilised implement	1
Total	**119**

Methodology

4.2.2 The worked flint was catalogued according to debitage, core or tool type. Information about burning and breakage was recorded and raw material and technological characteristics were also noted where identifiable. The burnt unworked flint was quantified by count and weight.

Raw material

4.2.3 Where identifiable, virtually all of the raw material is chalk flint. This is generally characterised by a thick pale coloured cortex. It is likely to be locally sourced as the site lies close to the junction of the Lambeth Group with the Newhaven chalk formation.

Condition

4.2.4 The condition of the worked flint is quite good with most pieces (32% excluding sieved chips) being in a fresh condition or exhibiting only slight levels of post-depositional damage (60%). A small number of pieces (7%) are more moderately damaged but heavy post-depositional damage was not seen in the assemblage. Where damage occurs, it is most frequently seen on vulnerable unretouched edges and indicates the occurrence of some post-depositional disturbance. In contrast, the majority of the assemblage (80% excluding sieved chips) is corticated. A total of 55 pieces (64% of all those showing cortication) exhibit heavy cortication while 18 pieces (21%) and 13 pieces (15%) respectively exhibit more moderate and lighter levels of cortication. Just 16 pieces remain uncorticated and four are iron stained. A total of 33 pieces are broken and six are burnt.

Technology and dating

4.2.5 Unretouched debitage dominates the assemblage, with a total of 115 pieces. In general, the material is reminiscent of later prehistoric flint working and probably derives from the hard hammer industries of the later Neolithic and Bronze Age. Characteristics such as pronounced bulbar cones and incipient cones of percussion on striking platforms and clear ventral ripples were common. Characteristics usually associated with Mesolithic and earlier Neolithic flint working, such as platform edge abrasion and lipped butts were rarely seen. A small number of blades and blade-like flakes (some of the latter being probable broken blades) were present in the assemblage, but not in a significant enough proportion to be ascribed to an earlier phase. Some of the flakes are small primary removals with cortical platforms, and their recovery alongside a significant amount of natural unworked flint suggests that some may have been naturally created rather than intentionally struck.

4.2.6 The multi-platform flake core from context 276 has been worked from two platforms. One of the platforms and some of the flake scars appear to be truncated by a natural surface that must have broken along the line of an internal flaw during knapping. This led to the core being unworkable and so it was discarded. At 120g it is of medium size. The fragmentary core from context 176 has a couple of small flake scars in a neat row from a narrow platform. The reverse side is natural and, like the multi-platform flake core, it is likely that the core fragmented along the line of an internal flaw while it was being worked. At 25g it is the smallest of the cores. The other unclassifiable/fragmentary core, from context 276, exhibits a few clear flake removals but has been heavily burnt and so other possible platforms and removal scars have become fragmented. Weighing 319g it is the heaviest of the cores. The cores are not chronologically diagnostic, but are consistent with the technological characteristics seen in the rest of the assemblage.

4.2.7 The worked flint classified as 'other utilised implement' was recovered from context 330. It has a couple of small flake removals taken from a natural striking platform. The acute platform edge exhibits possible usewear that cuts through the corticated surfaces, suggesting that the sharp edge was used at a later date. However, this cannot be confirmed without the use of a microscope.

Discussion and potential

4.2.8 The technological appearance of the worked flint suggests that the material derives from the later Neolithic and Bronze Age. However, due to the lack of any chronologically diagnostic pieces, this date cannot be further refined. The dating of the worked flint is therefore consistent with the middle-late Bronze Age date attributed to the features. The significance of the material lies in its representation of human activity at the site during later prehistory.

Recommendation for further analysis

4.2.9 The assemblage has been fully analysed for this report and no further work is required.

4.3 Worked stone

by Ruth Shaffrey

Summary and quantification

4.3.1 Two pieces of stone were retained (Table 2). Both are worked.

Methodology

4.3.2 The stone was examined with the aid of a x10 magnification hand lens.

Description

4.3.3 One of the pieces is a fragment with a flat, worn but worked surface from fill 107 of pit 105. This is most likely to be from a small saddle quern although it is possible it is from a rubber (the upper stone paired with a saddle quern). The other piece of stone is a single tessera from fill 176 of pit 177. Both items are made of the same purple ferruginous (iron cemented) sandstone.

Recommendation for further analysis

4.3.4 No further work is recommended.

Table 2: Summary of worked stone

Context	Function	Notes	Size (mm)	Wt (g)	Lithology	Lithology notes
107	Possible saddle quern fragment, or rubber	Section of stone with pecked flat and worn grinding surface. This could be part of a large rubber or small saddle quern	>80 x >65 x >45 thick	421	Ferruginous sandstone	Quite coarse grained with purple limonite cement
176	Tessera	Single example with one worn face	24 x 22 x 17	21	Ferruginous sandstone	Quite coarse grained with purple limonite cement

5 Human Remains

by Helen Webb

5.1 Introduction

5.1.1 A single deposit of cremated human bone was recovered. The cremation deposit (296) was recovered from an oval shaped, earth-cut pit (297) measuring approximately 0.66m long and 0.5m wide, with a maximum depth of 0.2m. The pit fill was a silty clay which, due to the high charcoal content (*c* 50%), was dark grey-black in colour. It was unclear whether the pit had been truncated, for example, by ploughing. However, the feature itself truncated an earlier pit (299) of similar dimensions. No cremated bone was present in pit 299 and the fill (298) contained very little charcoal (<2%). No dating evidence was recovered from pit 296.

5.2 Methodology

5.2.1 The cremation deposit was subjected to whole earth recovery and processed by wet sieving. The deposit was then sieved to sort it into >10mm, 10-4mm and 4-2mm fractions. All cremated bone from these fractions was sorted from the extraneous material and subjected to full osteological analysis in accordance with the recommendations set out by the IFA and BABAO (McKinley 2004). The 2-0.5mm residue was not sorted, but was scanned to look for identifiable elements.

5.3 Results

5.3.1 A summary of the osteological findings for deposit 296 is presented in Table 3. The total weight of the deposit (>10mm – 2mm) was 329.7g. The unsorted residue (221g) also contained cremated bone although the total weight present within it was estimated to be small (probably no more than 20g).

5.3.2 A significant proportion of the bone (28.1% of the total bone weight) comprised fragments that were over 10mm in in size and most fragments (53.0% of the total bone weight) were recovered from the 10-4mm fraction. The vast majority (70%) of bone fragments were buff white in colour. The remaining fragments were hues of grey (20%) or black (10%). It was noted that the black and grey coloured fragments included part of a distal tibia and a distal humerus joint surface, and hand phalanges.

5.3.3 Despite the high level of fragmentation, 113.4g of bone (34.4% of the total bone weight) could be identified to element. Of the identified bone, the bones of the lower limbs (including fragments of innominate, femur, tibia and fibula shaft) were best represented (55.4%), followed by the bones of the upper limbs (22.8%, including humerus, radius and ulna shaft, and hand phalanges). The skull was well represented, accounting for 17.5% of the total identified bone weight. Most of the skull fragments came from the vault region, although fragments of maxilla and tooth roots were also identified. Bones of the axial skeleton (ribs and vertebrae) were far fewer (4.2%).

5.3.4 The minimum number of individuals represented in the deposit was one. Given that all observable tooth root fragments exhibited closed apices and that, where observable, epiphyses were completely fused, it is estimated that this was an adult or adolescent. Whilst none of the standard skeletal indicators for sex estimation were present, it was noted that that cross section of the femur shaft was fairly small/gracile, as were the hand phalanges. Therefore, it is very tentatively suggested that this was a female. No lesions of pathology were observed.

Table 3: Summary of cremation deposit 296

Deposit	Skeletal region	>10mm	10-4mm	4-2mm	Colour, MNI, age, sex, pathology
296	Skull	11.0g (Vault, occipital condyle)	8.8g (Vault, molar root frags, maxilla)	0.1g (Tooth root frag.)	70% white 20% grey 10% black MNI = 1 Adult ??Female No pathology observed
	Axial	1.4g (Vertebral arch)	3.4g (Ribs, vertebral arch)	-	
	Upper limb	19.5g (Humerus shaft, distal humerus artic. surface, radius/ulna shaft)	6.3g (Humerus shaft, radius/ulna shaft, hand phalanges)	0.1g (Distal hand phal.)	
	Lower limb	45.6g (Innominate, femur shaft, tibia shaft, distal tibia artic. surface)	17.2g (Femur shaft, tibia shaft, fibula shaft)	-	
	Unid. long bone	7.9g	37.4g	-	
	Unid. joint surface	5.9g	3.4g	-	
	Unid. hand/foot	-	3.1g	-	
	Unid. other	1.2g	95.3g	62.1g	
	(UNID. TOTAL)	(15.0g)	(139.2g)	(62.1g)	
	TOTAL	**92.5g**	**174.9g**	**62.3g**	**329.7g**

5.4 Discussion

5.4.1 The cremated human bone recovered from deposit 296 comprised the remains of a minimum of one individual, probably an adult or adolescent. The remains are very tentatively estimated to be female.

5.4.2 At 329.7g the total weight of cremation deposit 296 is well below the expected range for a cremated adult, which is between 1000g and 2400g, with an average of *c* 1650g (McKinley 2000a, 269). Given that it was unclear whether the pit had been truncated, it is difficult to interpret the overall low bone weight. That said, archaeological cremation deposits comprising low bone weights are not uncommon. For example, it may be a memorial deposit (e.g. cenotaph burials), whereby only a small token amount of the cremated bone is buried, or it may be a deposit of pyre debris (McKinley 2004, 10; McKinley 2000b). Redeposited pyre debris generally comprises a mixture of bone fragments and fuel waste (most frequently charcoal) (McKinley 1997, 137), and deposit 296 was noted by the excavator to contain a large proportion of charcoal. Deposits of pyre debris are frequently encountered archaeologically and are not specific to a particular time period. Whilst the deposit itself remains undated, it is tentatively estimated to be middle Bronze Age-early Iron Age, based on the date of surrounding features. Cremation was the formal burial rite of the middle Bronze Age and although this practice began to decline in the late Bronze Age in favour of inhumation, there is increasing evidence that cremation continued into the late Bronze Age and even the early Iron Age (Lambrick with Robinson 2009, 294). Examples of middle Bronze Age unurned cremation deposits were revealed during excavations at Yarnton, Oxfordshire, Home Farm, Laleham and Hengrove Farm, Staines (ibid, 295, 307), and along the M25 at Upminster Bund and Pond 1791, Greater London (Webb forthcoming a). Other

examples have been found at Coneygre Farm, Nottinghamshire (Allen *et al.* 1987) and Site C of the Pepperhill to Cobham road-scheme, Kent (Allen *et al*. 2012).

5.4.3 The fact that most bone fragments in deposit 296 were white in colour is indicative that full oxidation had occurred (> *c* 600ºC, McKinley 2004, 11). This suggests that the cremation process had been efficient in terms of the heat attained and the burning time. However, the presence of a small proportion of grey and black fragments suggests that in some places lower temperatures (300-<600ºC) were reached. The fact that hand phalanges were amongst the grey/black fragments may imply that the hands were positioned away from the highest temperatures, perhaps lying at the very edge of the pyre (McKinley 1989, 67; 2000a, 269). A similar pattern was noted for an early Bronze Age urned cremation burial from Fordham, Cambridgeshire (Webb forthcoming b). The high proportion of white to non-white bone in deposit 296 is in keeping with other Bronze Age cremation deposits (ibid.; Webb and Dean, forthcoming; McKinley 1994, 339).

Recommendation for further analysis

5.4.4 The cremated bone from the deposit has been fully analysed for this report and no further work is required.

6 Environmental Reports

6.1 Charred plant remains and wood charcoal

By Shiela Boardman

Introduction

6.1.1 Eight bulk samples (of 9-40l) were investigated for charred plant remains and wood charcoal. They included six pit fills from five pits from the northern pit group and a cremation burial and pit from the southern area. On the basis of artefactual material in pit 105 this, and possibly other features from this area, are believed to date from to the late Bronze Age-early Iron Age. The main aims of the botanical work were to investigate the nature of the activities taking place in relation to the features and their possible ages.

Methods

6.1.2 The samples were processed at Oxford Archaeology using a modified Siraf tank. The flots were collected in a 250 µm mesh and heavy residues in a 500µm mesh. Both fractions were dried slowly then dry-sieved at 4mm and 2mm. Between 25% and 100% of the >250µm flots were sorted for charred plant remains, including cereal grains, smaller seeds and nut shell fragments. Fifty or a hundred charcoal fragments from the >4mm and 2-4mm fractions were randomly selected for identification. These were fractured by hand and sorted into groups based on features observed in transverse section at magnifications of x10 to x40. Sub-samples were then fractured longitudinally and examined at magnifications of up to x250 using a Biolam Metam metallurgical microscope. Identifications were made with reference to Hather (2000), Schweingruber (1990) and Gale and Cutler (2000). Plant nomenclature follows Stace (2010).

Results – Charred plant remains

6.1.3 Three samples produced tiny amounts of charred plant remains, including two poorly preserved cereal grains (one of barley, *Hordeum* sp.), a few hazelnut shell fragments (*Corylus avellana*), and a couple of indeterminate seeds and leaf buds (Table 4). The very low numbers of remains precluded further analysis of this material.

Results – Wood charcoal

6.1.4 Charcoal identifications are presented as fragment counts in Table 5. The material was generally well preserved, although some fragments were more dusty or fragile. Eleven taxa groups were identified, including oak (*Quercus*), lime/possible lime (*Tilia*/cf.*Tilia*), willow/poplar (*Salix/Populus*), ash (*Fraxinus excelsior*), field maple (*Acer campestre*), blackthorn/cherry (*Prunus* sp.), blackthorn (*Prunus spinosa*) type, birch (*Betula*), alder/hazel (*Alnus/ Corylus*), elm (*Ulmus*) and hawthorn group (Pomoideae). The latter includes crab-apple (*Malus*), pear (*Pyrus*), hawthorn (*Crataegus*) and rowan/whitebeam/service (*Sorbus*).

Discussion

Pit 105 (samples 1 and 2)

6.1.5 The three main taxa groups - oak, lime/possible lime and willow/poplar - were the same in both samples, suggesting that they resulted from similar activities. The wider range of taxa in sample 1 (fill 107) including ash, field maple, blackthorn/cherry and alder/hazel, may reflect the larger number of fragments identified. Proportionally,

however, there were more lime/possible lime fragments in the lower fill (sample 2). The main taxon in both samples was oak.

6.1.6 Lime is rare in prehistoric charcoal assemblages from southern Britain (Smith 2002) despite its presence in (and frequent dominance of) pollen diagrams. Small-leaved lime (*Tilia cordata*) and large-leaved lime (*T. platyphyllus*) are large, long-lived, woodland trees. Their wood is soft and compact, making it suitable for turning and carving. Cordage, extracted from the inner bark of lime by retting and beating (Edlin 1949), seems to have been widely used from early prehistoric times for ropes, twine and fishing nets. Lime wood is regarded as a poor fuel but it produces a valuable even-burning charcoal that more recently was used widely in the gunpowder industry (Gale and Cutler 2000, 256).

6.1.7 Pit 105 was the only pit with two fills, the lowermost of which (106) was comprised of charcoal flecked clay. It was also isolated from other features in the northern area, with some unusual artefacts. One possibility is that this feature was used in lime processing, including retting. Traditionally, lime bark was retted in late spring or summer, when conditions favoured the easy removal of bark and rapid decay of the corky material. In Scandinavia, lime bark was also retted during the winter months by smoking in chimney-less stoves over a 24 hour period (Myking *et al*. 2005). Willow (*Salix*) is another tree with bark that produces bast fibres, traditionally used in basketry and for ropes, twine and nets (Gale and Cutler 200, 236). The charcoal from from willow/poplar and lime, and the other woody taxa in samples 1 and 2 may alternatively represent more general fuel debris that was dumped in the pit. The dimensions of pit 105 (*c* 1m diameter, 0.35m depth) make it rather small for retting purposes, particularly in depth. During the water-retting of various fibres, the submerged material was ideally kept off the retting pit base (Burke 1837).

Other pits from the northern area: 110, 111, 113, 144 (samples 3, 4, 5 and 6)

6.1.8 Pits 110, 113 and 144 were sampled for their noticeably charcoal rich fills, and pits 110 and 113 additionally had evidence for *in situ* burning. The wood charcoal in the samples from all four of these pits was almost entirely oak heartwood. A few charred oak roots in sample 5 (pit 113) provides tentative support for some of the pits being tree throw holes (or at least containing burnt debris from tree throws). The wood charcoal does not provide clear evidence for other uses of these features.

Cremation burial 297 (sample 7)

6.1.9 This sample was dominated by oak charcoal indicating, that this was the main cremation fuel. There was a mixture of heartwood, sapwood and roundwood, so it is possible that an individual tree was selected for the purpose, as has been suggested elsewhere (Challinor 2008; Gale 1997; Thomson 1999).

Pit 322 (sample 8)

6.1.10 Sample 8 again produced largely oak heartwood but there was no evidence for *in situ* burning, as there had been for some of the pits in the northern area.

Conclusions

6.1.11 The charred cereal and seed assemblage from the excavations at Onslow was disappointingly meagre, so it provides little useful evidence for crop economy and diet during the periods in which the features were in use. In contrast, the samples produced abundant wood charcoal, suggesting that activities involving considerable fuel use, and possibly some tree clearance, were taking place locally.

6.1.12 Previous work on prehistoric and Roman deposits at Manor Park, Onslow, have revealed a broadly similar range of wood charcoal taxa, dominated by oak (Pine 2012). There was some evidence for middle Iron Age tree felling. A Roman cremation deposit was dominated by oak largewood from slow grown timbers. There were very few charred plant remains from all periods, generally a few cereal grains and smaller seeds, suggesting that crop processing did not play a large role in the use of this area (Pine 2012).

6.1.13 Overall, the charcoal evidence is consistent with other charcoal data from across the region, although the small concentration of lime charcoal was noted.

Recommendation for further analysis

6.1.14 As fifty to a hundred fragments of wood charcoal per sample and all the charred plant remains were fully investigated for this report, no further work on these assemblages of plant material is recommended.

Table 4: Summary of charred plant remains

Sample No		**1**	**5**	**6**
Context No		**107**	**117**	**145**
Feature type		**Pit fill**	**Pit fill**	**Pit fill**
Feature No.		**105**	**113**	**144**
Period/Phase		**LBA-EIA**	**Add**	**Add**
Sample vol. (litres)		**37**	**20**	**40**
% sorted		**100**	**50**	**25**
Hordeum sp.	barley	1		
Cereal indeterminate	cereal	1		
Corylus avellana	hazelnut shell		4F	
Indeterminate	seed/fruit		1	1F
Indeterminate			1	1

Table 5: Summary of wood charcoal

Sample No		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Context No		**107**	**106**	**109**	**112**	**117**	**145**	**296**	**323**
Feature type		**Pit 105, upper fill**	**Pit 105, lower fill**	**Pit 110**	**Pit 111**	**Pit 113**	**Pit 144**	**Cremation burial 297**	**Posthole 322**
Sample vol. (litres)		**37**	**9**	**30**	**40**	**20**	**40**	**20**	**20**
Rosaceae									
Prunus spinosa type	blackthorn type					1			
Prunus sp.	cherry/blackthorn	2							
Pomoideae*	hawthorn group							2	
Ulmaceae									
Ulmus	elm		1						
Fagaceae									
Quercus	oak	60h(s)	27h(sr)	50h	49h	41h	50h	48hsr	50h
Quercus	oak root wood					7			
Betulaceae									
Betula	birch				1r				
Alnus/Corylus	alder/hazel	1							
Salicaceae									
Salix/Populus	willow/poplar	9	5						
Sapindaceae									
Acer campestre	field maple	2							
Tiliaceae									
Tilia	lime	14r	8(b)						
cf. Tilia	cf. lime	3	7r						
Oleaceae									

Fraxinus excelsior	ash	5							
Aquifoliaceae									
Ilex aquifolium	holly					1			
Indet. charcoal fragments		4(b)	2	2	0	0	0	0	0
Total charcoal fragments		**100**	**50**	**50**	**50**	**50**	**50**	**50**	**50**

Key: LBA - Late Bronze Age; EIA - Early Iron Age. Includes: b - bark; h - heartwood; s - sapwood; r - roundwood.
*Pomoideae (syn. Maloideae), includes *Crataegus* (hawthorn), *Sorbus* (rowan, service, whitebeam), *Pyrus* (pear) and *Malus* (apple)

6.2 Animal bone

by Lena Strid

6.2.1 The animal bone assemblage comprised four bone fragments (Table 6). They were in a poor condition and indeterminable to species. Judging by size, two fragments came from large mammals such as cattle or horse.

Recommendation for further analysis

6.2.2 The assemblage is too small to be of any analytical value and no further work is required.

Table 6: Summary of animal bone

	Tree throw hole 211	**Pit 290**	**Tree throw hole 330**
Large mammal		1	1
Indeterminate	2		
Total	2	1	1
Weight (g)	0	3	4

7 Discussion and Recommendations

7.1 Discussion

7.1.1 Onslow Park and Ride facility lies at the eastern edge of a substantial block of land defined by Manor Farm to the west and by the A3 to the east that has been subject to large-scale, though somewhat piecemeal, archaeological investigation (Pine 2012). The results from the site, although in some respects unimpressive, therefore contribute to an understanding of the wider landscape, and are in turn enhanced by the context that the previous investigations provide.

7.1.2 The remains were dominated by shallow pits, which were arranged into a northern group of quite widely scattered discrete pits and a more densely concentrated group of features cut into a chalk outcrop at the southern end of the site. Some of the pits had clearly defined, deliberately cut edges but others were more amorphous and are likely to have been natural in origin, most likely representing tree throw holes. However, the shallow character of most of the features and the similarity of their fills precluded any attempt to definitively distinguish between natural and man-made features.

7.1.3 Dating of the remains was also problematic, due to the absence from many of the features of any artefactual evidence and by the small size of the assemblages from those features that did contain dateable material. In addition to this, most of the pottery could only be attributed to a broad date range due to the paucity of chronologically diagnostic attributes and the flint assemblage was similarly unhelpful, comprising unretouched debitage and a few cores, with no formal tools. It was consequently not possible to develop a fine-grained phasing system, and most of the features could only be attributed to a broad date range that extended from the middle Bronze Age to the early-middle Iron Age. The absence of evidence for earlier periods was consistent with the findings at Manor Park, where Mesolithic and Neolithic activity were represented only by a small number of stray flint finds (Pine 2012, 85).

7.1.4 The earliest features at the park and ride site were attributed to the early Bronze Age. The two features, a pit and a gully, did not provide sufficient evidence to enable the character of the associated activity to be interpreted, although the curved form of gully 234 was reminiscent of Iron Age and Roman features in the Upper Thames Valley that have been interpreted as stack rings used to store animal fodder (Jennings *et al*. 2004, 150). However, insufficient of the feature survived for such an identification to be posited with any certainty.

7.1.5 It is not certain whether the arrangement of the majority of the features into two spatially distinct groups had any chronological significance or whether it should be attributed to differences in the character and longevity of the associated occupation within a broadly contemporary framework. The northern group contained only one pit (105) that contained pottery and two others with worked flint. The former, however, was perhaps the most intriguing feature at the site, containing an inverted pot base and part of a quern, although the evidence was not sufficient to indicate whether this represented deliberate, ritual deposition or more casual disposal. A similar instance of an inverted vessel within a shallow pit was recorded at Area B of the Manor Park investigations (Pine 2012, 42), and a more compelling example of ritualised deposition was noted in an evaluation trench, where the sherds from the lower part of a middle-late Bronze Age vessel had been carefully placed in a ring lining the sides of a feature that was interpreted as a tree throw hole (Pine 2012, 47).

7.1.6 Ditches 158 and 163 appeared to have been an early element of the sequence of the southern group and may have formed parts of the north and west sides of a rectilinear enclosure. The pits in this area were more densely concentrated than the northern group and exhibited much intercutting, and the group was very much reminiscent of pit groups that were recorded at Areas A and C of the Manor Park investigations (Pine 2012, 42 and 48-9).

7.1.7 It is probable that such localised concentrations of pits represent the ephemeral remains of settlements, although no features were found that could definitely be ascribed a structural function. The physical form of the settlement is largely unknown. It was apparently unenclosed although it may have included an enclosure as one of its elements, the west and north sides of which were defined by ditches 158 and 163. The quern recovered from pit 105 provides some evidence for the domestic nature of the occupation and also provides evidence for the processing of crops, indicating that the economy was at least partly devoted to arable production. The assemblage of charred plant remains, however, was decidedly meagre and was unable to offer any further information regarding the cultivated crops. Similarly, the poor survival of bone, which was also noted at Manor Park (Pine 2012, 86), precluded any inferences regarding the associated husbandry practices. The presence of lime and willow charcoal in pit 105 may derive from the burning of remains following the processing of the bark for cordage or basketry. The pit groups here and at Manor Park presumably represent small-scale and broadly contemporary settlements that were dotted about the landscape.

7.1.8 In the absence of evidence to the contrary, it is assumed from the proximity of cremation burial 297 to the rest of the features that it is of broadly similar date. It cannot be completely ruled out that it was later in date, particularly since the only cremation burials that were recorded at Manor Park, which were similarly simple, un-urned burials interred in shallow cuts, were considered to be of Roman date (Pine 2012, 52-3), but at the park and ride site there were no associated features of Roman origin. Indeed, the only definite evidence for activity during the Roman period was limited to a single sherd of Oxfordshire Colour Coated Ware that was recovered from the topsoil. The paucity of such material was not unexpected. However, the nearest known or suspected settlements of this period being situated some distance away, *c* 700m west of the site to the north of Manor Farm (Pine 2012, 86-7) and a similar distance to the east at an imprecisely located site somewhere between Dennisville and Farnham Road Hospital (OA 2013a, 6).

7.2 Recommendations for further work and dissemination

7.2.1 The stratigraphic, artefactual and palaeo-environmental evidence has been fully analysed for the production of this report and no further analysis is required. A copy of the report will be deposited with the site archive and a copy will be submitted to Surrey Historic Environment Record in order to make the results of the excavation freely available. The full report will also be made available on OA's online library at http://library.thehumanjourney.net. A summary will be submitted for publication as a note in Surrey Archaeological Collections.

7.3 Acknowledgements

7.3.1 OA would like to thank Steve Williamson of Surrey County Council, who commissioned the excavation, and Nick Truckle, Archaeological Officer of the Surrey County Council Heritage Monitoring Team, who monitored the work. The onsite liaison between OA and other contractors was undertaken by Sam Linley of Skanska. The excavation was supervised by Dan Sykes, who was assisted by Ian Cook, Matt Fenn, Rebecca Griffin,

Lee Grana, Tom Black, Charles Rousseaux, Liann Waring, Emily Plunkett, Ben McAndrew, Benn Penny-Mason, Richard Kevill, Kevin Moon and Al Zochowski. The fieldwork was managed by Gerry Thacker and the post-excavation analysis was undertaken by Andrew Simmonds. Leo Heatley digitised the site plan and Hannah Kennedy prepared the illustrations.

Appendix A. Pottery Catalogue

ID	Ctx	Form	Fabric	Ri	Bo	Ba	Tot	Wt	Sur	Dec	Abr	Comment	Comment 2	Date
1	108	Bs1	F1	0	0	90	90	533	unfinished		2	very friable	base of a large urn or jar	LBA-EIA
2	100		Oxon cc	0	0	1	17	0			3	all cc gone	Late variety Oxon cc	late Roman
3	130		post-med	0	1	1	2	6			0	Victorian? China and green glazed ware		modern
4	135		C1	0	3	0	3	13	wiped		3			Preh
5	137		C1	0	2	0	2	2			3			Preh
6	139		C1	0	1	0	1	1			3	crumb		Preh
7	141		C1	0	11	0	11	65			2			Preh
8	160	urn/jar	F2	1	1	0	2	9	wiped	boss below rim, fine cuts on rim top	2		Dev-Rim urn?	MBA-LBA
9	165		F1	0	1	0	1	3			3			Preh
10	176		F1	0	1	0	1	2	wiped		3			Preh
11	176	tiny rim	F1	1	9	0	10	9	smoothed		3	flint especially small pieces 1mm	tiny out-turned rim	LBA-EIA
12	176		Q1	0	1	0	1	25			3			Preh
13	186		C1	0	1	0	1	1			3	crumb		Preh
14	186		F3	0	1	0	1	10	unfinished		3			Preh
15	202		C1	0	1	0	1	2			3	crumb		Preh
16	202		F2	0	1	0	1	1			3	crumb		Preh
17	204	Beaker	F1	0	1	0	1	3	smoothed	comb-impressed horiz lines	3	illustrate?	comb with round teeth	EBA

ID	Ctx	Form	Fabric	Ri	Bo	Ba	Tot	Wt	Sur	Dec	Abr	Comment	Comment 2	Date
18	210		F4	0	1	0	1	8	roughly smoothed		2	some dark ?organic residue inner		Preh
19	210		F1	0	1	0	1	3	wiped		3			Preh
20	214		F1	0	1	0	1	2			3			Preh
21	219		F2	0	3	0	3	3			3			Preh
22	225		F4	0	1	0	1	8			2			Preh
23	225		F5	0	1	0	1	2	burnished		2			LBA-EIA
24	235		G1	0	1	0	1	3	smoothed		3			EBA
25	239		C1	0	2	0	2	4			3			Preh
26	239		F1	0	2	0	2	2			3		crumbs	Preh
27	239		F3	0	1	0	1	3			3			Preh
28	243		F2	0	6	0	6	15		impressed dimple	3		1 vess?	MBA-EIA
29	251		F2	0	1	0	1	3			3			Preh
30	251		F3	0	1	0	1	15			2			Preh
31	253		F3	0	1	0	1	10			2			Preh
32	255		F5	0	1	0	1	7	smoothed		2			LBA-EIA
33	272		F2	0	1	0	1	5	roughly smoothed		2			Preh
34	272		F3	0	1	0	1	3	smoothed		2			Preh
35	272	tiny rim	F5	1	0	0	1	2	burnished		2		tiny out-turned Beaker or bowl rim	Preh
36	276		F5	0	4	0	4	14	smoothed		2			Preh
37	282		F3	0	2	0	2	3			3			Preh
38	291		F2	0	3	0	3	14	wiped		2			Preh

ID	Ctx	Form	Fabric	Ri	Bo	Ba	Tot	Wt	Sur	Dec	Abr	Comment	Comment 2	Date
39	291	bowl	Q1	0	1	0	1	7	well-smoothed		2	almost burnished	carinated or round bodied bowl with flaring rim	EIA-MIA
40	293		C1	0	1	0	1	4	smoothed		2			Preh
41	313		Q2	0	1	0	1	7	roughly smoothed		2			Iron Age
42	317		C1	0	2	0	2	3			3			Preh
43	317		F2	0	1	0	1	4	wiped		2			BA
44	317		G1	0	2	0	2	5	smoothed		3			BA
45	317		F5	0	1	0	1	12	burnished		2			IA
46	319		F5	0	1	0	1	10	well-smoothed		2	almost burnished		LBA-EIA
47	321		C1	0	4	0	4	2			3		crumbs	Preh

Appendix B. Flint Catalogue

Flint ID	Cxt	Flint Type	Total	Burnt	Broken	Wt (g)	Comments	Cortication	Post-depositional damage
1	100	Flake	1				Chalk flint, hard hammer?	Uncorticated	Slight
5	107	Flake	1		1		Chalk flint, distal break	Uncorticated	Slight
6	107	Flake	1				Small, irregular primary flake, chalk flint	Uncorticated	Fresh
11	107	Irregular waste	1				Chalk flint, potentially natural but some possible worked scars	Uncorticated	Fresh
221	107	Flake	1				Secondary removal, step termination, probably hard hammer struck	Uncorticated	Fresh
222	107	Blade-like flake	1		1		Small, proximal break, secondary removal	Uncorticated	Slight
223	107	Flake	1		1		Fragment, secondary	Uncorticated	Slight
224	107	Flake	1		1		Proximal break	Uncorticated	Fresh
225	107	Sieved chips	12					Uncorticated	Slight
14	112	Blade-like flake	1		1		Proximal break, potential dorsal blade scars	Light	Slight
16	120	Flake	1		1		Fragment	Uncorticated	Slight
17	127	Flake	1				Secondary removal, gravel flint	Stained	Moderate
18	139	Flake	1		1		Old proximal break, plunging flake	Heavy	Slight
20	141	Flake	1		1		Old proximal break	Heavy	Fresh
21	141	Flake	1				Natural flaw on ventral surface, chalk flint, incipient points of percussion on butt	Heavy	Fresh
23	152	Flake	1					Heavy	Slight
24	152	Blade-like flake	1				Secondary removal, chalk flint	Heavy	Fresh
25	152	Blade-like flake	1		1		Possible distal end of blade	Heavy	Slight
27	155	Flake	1		1		Dubious. Possible distal end of flake, chalk flint	Heavy	Slight

Flint ID	Cxt	Flint Type	Total	Burnt	Broken	Wt (g)	Comments	Cortication	Post-depositional damage
34	160	Flake	1		1		Dubious. Possible broken flake	Light	Slight
35	160	Flake	1					Moderate	Moderate
36	160	Flake	1				Cortciated dorsal surface	Uncorticated	Fresh
37	164	Flake	1		1		Dubious. Possible broken flake	Heavy	Fresh
40	164	Flake	1		1		Dubious, possible broken flake	Heavy	Slight
41	164	Blade	1				Cuts previous removals at 90'	Heavy	Slight
42	165	Flake	1		1		Fragment	Light	Slight
43	165	Flake	1		1		Fragment	Heavy	Slight
48	176	Flake	1		1		Proximal break, secondary removal	Heavy	Slight
49	176	Unclassifiable/ fragmentary core	1		1	25	Probable broken core, couple of small flake scars in a row, reverse natural fracture	Heavy	Slight
52	186	Flake	1				Side trimming, chalk flint	Heavy	Slight
53	189	Flake	1				Hinge termination, primary removal	Heavy	Fresh
54	189	Flake	1				Chalk flint, secondary removal	Heavy	Slight
55	189	Flake	1				Secondary removal, hinge termination, pronounced ripples	Heavy	Slight
56	191	Flake	1				Secondary removal, chalk flint	Moderate	Slight
57	191	Flake	1		1		More recent distal break, secondary removal, chalk flint	Heavy	Slight
58	204	Flake	1		1		Proximal break	Moderate	Slight
60	210	Flake	1		1		Potential broken flake	Moderate	Slight
61	210	Flake	1		1		Possible flake, proximal and distal breaks	Heavy	Slight
62	219	Flake	1				Secondary removal	Heavy	Fresh
64	219	Flake	1					Moderate	Slight

Flint ID	Cxt	Flint Type	Total	Burnt	Broken	Wt (g)	Comments	Cortication	Post-depositional damage
66	228	Flake	1					Heavy	Slight
67	239	Flake	1	1			Possible flake, heavily burnt	Moderate	Slight
69	239	Flake	1				Hinge termination	Heavy	Moderate
71	239	Flake	1				Secondary removal	Moderate	Slight
72	239	Flake	1	1	1		Possible flake, heavily burnt		Slight
73	243	Flake	1					Light	Slight
74	243	Flake	1					Light	Slight
75	243	Chip	1					Uncorticated	Slight
76	255	Blade-like flake	1		1		Proximal break, dorsal blade scars	Heavy	Fresh
77	255	Flake	1				Dubious	Heavy	Fresh
79	255	Flake	1				Secondary removal	Heavy	Slight
81	255	Flake	1				Dubious, potential bulbar scar	Stained	Slight
82	255	Irregular waste	1				Possibly natural	Heavy	Fresh
83	255	Flake	1				Secondary removal	Heavy	Fresh
84	255	Flake	1					Heavy	Slight
86	255	Flake	1				Large flake, secondary removal	Heavy	Slight
87	255	Blade	1				Triangular cross section	Heavy	Slight
88	255	Flake	1				Secondary removal, chalk flint	Heavy	Fresh
89	255	Flake	1				Irregular butt, secondary removal, chalk flint	Heavy	Slight
90	255	Flake	1				Flaw on ventral surface, large secondary removal, chalk flint, 2 cones	Heavy	Moderate
94	262	Flake	1		1		Proximal break, secondary removal	Heavy	Slight

Flint ID	Cxt	Flint Type	Total	Burnt	Broken	Wt (g)	Comments	Cortication	Post-depositional damage
98	270	Irregular waste	1				Potentially natural	Heavy	Slight
99	270	Flake	1				Hinge termination	Heavy	Slight
100	270	Flake	1					Heavy	Slight
104	270	Flake	1					Heavy	Fresh
107	272	Flake	1		1		Dubious	Moderate	Slight
108	272	Flake	1				Secondary removal	Heavy	Slight
110	272	Flake	1				Distal trimming, chalk flint	Light	Slight
112	272	Flake	1				Distal trimming, chalk flint	Heavy	Fresh
113	272	Blade	1		1		Pronounced cone, distal break	Heavy	Fresh
115	276	Flake	1				Primary removal, plunging flake	Stained	Moderate
116	276	Blade-like flake	1		1		Probable proximal end of broken blade, linear butt, break and damage cuts cortication	Moderate	Moderate
117	276	Flake	1					Heavy	Slight
118	276	Flake	1				Secondary removal	Moderate	Fresh
119	276	Flake	1				Flaw on ventral surface	Moderate	Slight
120	276	Flake	1				Hinge termination, punctiform butt	Uncorticated	Fresh
121	276	Flake	1				Dubious, potentially naturally struck	Uncorticated	Fresh
122	276	Flake	1				Hinge termination	Light	Fresh
123	276	Flake	1				Hinge termination	Light	Slight
124	276	Flake	1				Small	Light	Fresh
125	276	Flake	1				Small	Uncorticated	Fresh
126	276	Blade-like flake	1	1	1		Probable distal end of blade, dorsal blade scars	Moderate	Slight

Flint ID	Cxt	Flint Type	Total	Burnt	Broken	Wt (g)	Comments	Cortication	Post-depositional damage
127	276	Flake	1				Squat, incipient cones on butt	Light	Slight
128	276	Multiplatform flake core	1			120	2 platforms, cortex and natural surfaces	Heavy	Fresh
129	276	Unclassifiable/fragmentary core	1	1		319	Possible core, heavily burnt, 1 clear flake removal, potentially others, some cortical surfaces	Uncorticated	Fresh
130	291	Irregular waste	1	1	1		Possibly worked but unclear due to heavy burning, broken edge is corticated	Heavy	Slight
133	291	Flake	1				Dubious, possible flake	Stained	Slight
134	303	Flake	1		1		Proximal break, pronounced ripples	Moderate	Moderate
135	313	Flake	1	1			Large, secondary removal, burnt but not heavily, cortical butt	Light	Slight
138	314	Flake	1				Thin, secondary removal	Heavy	Slight
139	314	Flake	1				Squat, distal trimming	Heavy	Slight
140	314	Flake	1		1		Distal break	Heavy	Fresh
141	314	Flake	1				Small	Heavy	Fresh
142	317	Flake	1				Chunky, secondary removal	Heavy	Slight
143	317	Flake	1				Distal trimming, punctiform butt	Moderate	Slight
144	317	Flake	1					Moderate	Slight
145	317	Flake	1				Secondary removal, chalk flint	Light	Slight
146	317	Rejuvenation flake core face/edge	1				Struck at 90' to another platform, lipped butt	Moderate	Slight
147	319	Flake	1				Distal trimming, plunging termination, dorsal blade scars	Heavy	Slight
148	319	Burnt unworked	1			27	No indication of having been worked		
149	321	Chip	1		1			Uncorticated	Fresh

Flint ID	Cxt	Flint Type	Total	Burnt	Broken	Wt (g)	Comments	Cortication	Post-depositional damage
157	329	Flake	1					Heavy	Fresh
165	330	Other	1			40	Couple of small flake removals from natural platform, chalk flint, possible usewear on acute edge cuts earlier cortication	Moderate	Slight
166	330	Flake	1				Side trimming	Moderate	Slight
167	333	Irregular waste	1		1		Possible flake fragment	Heavy	Slight
168	330	Flake	1				Lipped butt, side trimming	Heavy	Fresh
176	337	Flake	1				Chalk flint, secondary removal	Heavy	Fresh
183	337	Flake	1				Pronounced ripples, dubious, secondary removal, linear butt	Heavy	Fresh
184	337	Flake	1				Dubious, primary removal	Light	Slight
190	146	Burnt unworked	1			47			
191	272	Burnt unworked	3			56			
192	251	Burnt unworked	1			20			
193	303	Burnt unworked	1			17			
194	139	Burnt unworked	1			47			
195	329	Burnt unworked	2			13			
196	341	Burnt unworked	1			47			
197	117	Burnt unworked	3			33	Not as heavily burnt		
198	219	Burnt unworked	8			268			
199	255	Burnt unworked	4			42			
200	227	Burnt unworked	4			170			
201	314	Burnt unworked	12			357			
202	335	Burnt unworked	1			41			

Flint ID	Cxt	Flint Type	Total	Burnt	Broken	Wt (g)	Comments	Cortication	Post-depositional damage
203	270	Burnt unworked	2			63			
204	165	Burnt unworked	3			30			
205	293	Burnt unworked	2			35			
206	155	Burnt unworked	1			78			
207	235	Burnt unworked	3			142			
208	301	Burnt unworked	4			74			
209	291	Burnt unworked	5			82			
210	204	Burnt unworked	1			53			
211	291	Burnt unworked	4			126			
212	225	Burnt unworked	15			307			
213	276	Burnt unworked	21			981			
214	321	Burnt unworked	2			49			
215	107	Burnt unworked	44			1003			
216	114	Burnt unworked	21			442			
218	243	Burnt unworked	9			354			
219	239	Burnt unworked	29			910			
220	317	Burnt unworked	23			571			

Appendix C. Bibliography and References

Allen, C S M, Harman, M, and Wheeler, H, 1987 Bronze Age cremation cemeteries in the East Midlands, *PPS* **53**, 187-221

Allen, T, Donnelly, M, Hardy, A, Hayden, C, and Powell, K, 2012 *A road through the past: archaeological discoveries on the A2 Pepperhill to Cobham road-scheme in Kent*, Oxford Archaeology Monograph **16**, Oxford

BGS, 1976 British Geological Survey, 1:50,000 sheet 285, drift edition, Keyworth

Burke, J F, 1837 *British husbandry: exhibiting the farming practice in various parts of the United Kingdom*, vol 2, Baldwin and Craddock, London https://archive.org/stream/britishhusbandry02burkuoft#page/n9/mode/2up

Challinor, D, 2008 Wood charcoal, in *The Roman roadside settlement at Westhawk Farm, Ashford, Kent: excavations 1998-9* (P Booth, A-M Bingham and S Lawrence), Oxford Archaeology Monograph **2**, 343-349

Crocker, A, 2005 Disparking the Royal Park of Guildford, *Surrey Archaeological Collections* **92**, 187-215

Edlin, H L, 1949 *Woodland crafts in Britain*, Batsford, London

GAG, 1998 Evaluation and excavation at Manor Farm, Guildford, interim report, Guildford Archaeology Group of the Surrey Archaeological Society

GAG, 1999 Evaluation and excavation at Manor Farm, Guildford, interim report 1999, Guildford Archaeology Group of the Surrey Archaeological Society

Gale, R, 1997 Charcoal, in *Archaeological excavations on the route of the A27 Westhampnett bypass, West Sussex, 1992, vol 2: The late Iron Age, Romano-British and Anglo-Saxon cemeteries* (A Fitzpatrick), Wessex Archaeology Report **12**, 77-82

Gale, R, and Cutler, D, 2000 *Plants in archaeology: identification manual of vegetative plant materials used in Europe and the southern Mediterranean to c 1500*, Westbury and Royal Botanical Gardens, Kew and Otley

Hather, J G, 2000 *The identification of northern European woods: a guide for archaeologists and conservators*, Archetype Publications, London

Jennings, D, Muir, J, Palmer, S, and Smith, A, 2007 *Thornhill Farm, Farirford, Gloucestershire: an Iron Age and Roman pastoral site in the Upper Thames Valley*, Oxford Archaeology Thames Valley Landscapes Monograph **23**, Oxford

Lambrick, G with Robinson, M, 2009 *The Thames through time: the archaeology of the gravel terraces of the Upper and Middle Thames: the Thames Valley in late prehistory, 1500 BC-AD 50*, Oxford Archaeology Thames Valley Landscapes Monograph **29**, Oxford

McKinley, J I, 1989 Cremations: expectations, methodologies and realities, in *Burial archaeology: current research, methods and developments* (eds C Roberts, F Lee and J Bintliff), BAR Brit Ser **211**, Oxford, 65-74

McKinley, J I, 1994 Cremation burials, in *Excavation of a Bronze Age unenclosed cemetery, Cairns, and Field Boundaries at Eaglestone Flat, Curbar, Derbyshire, 1984, 1989-1990* (J Barnatt), PPS **60**, 335-340

McKinley, J I, 1997 Bronze Age 'barrows' and funerary rites and rituals of cremation, *PPS* **63**, 129-145

McKinley, J I, 2000a Cremation burials, in *The eastern cemetery of Roman London: excavations 1983-1990* (B Barber and D Bowsher), MoLAS Monograph **4**, London, 264-277

McKinley, J I, 2000b Phoenix rising; aspects of cremation in Roman Britain, in *Burial, society and context in the Roman world* (eds J Pearce, M Millett and M Struck), Oxbow Books, Oxford, 38-44

McKinley, J I, 2004 Compiling a skeletal inventory: cremated human bone, in *Guidelines to the standards for recording human remains* (eds M Brickley and J I McKinley), IFA Paper No. **7**, British Association for Biological Anthropology and Osteoarchaeology (BABAO) and IFA, 9-13

Myking, T, Hertzberg, A, and Skrøppa, T, 2005 History, manufacture and properties of lime bast cordage in northern Europe, *Forestry* **78 (1)**, 65-71

OA, 2002a New campus for Surrey University, Manor Farm, Guildford, Surrey: archaeological evaluation, Oxford Archaeology unpublished client report

OA, 2002b Expansion of the University of Surrey at Manor Farm, Guildford: Environmental Impact Assessment

OA, 2013a Onslow Park and Ride: cultural heritage desk-based assessment, Oxford Archaeology unpublished client report

OA, 2013b Onslow Park and Ride: written scheme of investigation for a strip, map and sample excavation, Oxford Archaeology unpublished client report

PCRG, 1997 *The study of later prehistoric pottery: general policies and guidelines for analysis and publication*, 2nd edn, Prehistoric Ceramics Research Group occasional papers 1 and 2, Oxford

Pine, J, 2012 Multi-period occupation at Manor Park, Guildford (2003-9), in *Archaeological investigations in Surrey, 1997-200*9 (ed. S Preston), TVAS Monograph **11**, Reading

Schweingruber, F H, 1990 *Microscopic wood anatomy*, 3rd edn, Swiss Federal Institute for Forest, Snow and Landscape Research, Birmensdorf

Smith, W, 2002 A review of archaeological wood analyses in southern England, Centre of Archaeology Report 75/2002. English Heritage

Stace, C, 2010 *New flora of the British Isles*, 3rd edn, Cambridge University Press, Cambridge

Thomson, GB, 1999 The analysis of wood charcoals from selected pits and funerary contexts, in *Excavations at Barrow Hills, Radley, Oxfordshire, Vol 1: the Neolithic and Bronze Age monument complex* (A Barclay, C Halpin), Oxford Archaeology Thames Valley Landscapes **11**, 247-253

WA, 2002 Manor Farm, University of Surrey: archaeological evaluation, Wessex Archaeology unpublished client report 51468.03

Webb, H, forthcoming a Human remains, in Prehistoric, Roman and Anglo-Saxon activity between Junctions 27 and 30 of the M25 motorway: the archaeology of the M25 widening scheme, Essex (E Biddulph, K Brady and S Lawrence), *Essex Archaeol Hist*

Webb, H, forthcoming b The human remains, in Early to late Bronze Age funerary activity and late Bronze Age domestic material at Turners Yard, Fordham, Cambridgeshire (N Gilmore), Archaeological Excavation Report No. 1425, Oxford Archaeology East, Cambridge

Webb, H and Dean, B, forthcoming The human remains in late Neolithic to early Iron Age activity at Moulton Paddocks and Moulton Gallop, Newmarket, Suffolk (L Bush), Oxford Archaeology East, Cambridge

Wilkinson, D, (ed.) 1992 Oxford Archaeological Unit fieldwork manual

Appendix D. Summary of Site Details

Site name: Onslow Park and Ride, Guildford, Surrey

Site code: ONPR13

Grid reference: SU 97603 49423

Type: Excavation

Date and duration: 1st April-10th May 2013

Area of site: 2.7ha

Summary of results: The investigation uncovered a pit and gully dating from the early Bronze Age and 94 pits that were attributed to the Bronze Age-early Iron Age, the latter arranged into two spatially distinct groups. The features were interpreted as the remains of ephemeral settlement activity and are similar in character to features that were discovered during previous excavations a short distance to the west, forming part of a landscape of prehistoric settlement. A single un-urned cremation burial was also excavated and was assumed to be contemporary with the other features.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with an appropriate museum in due course.

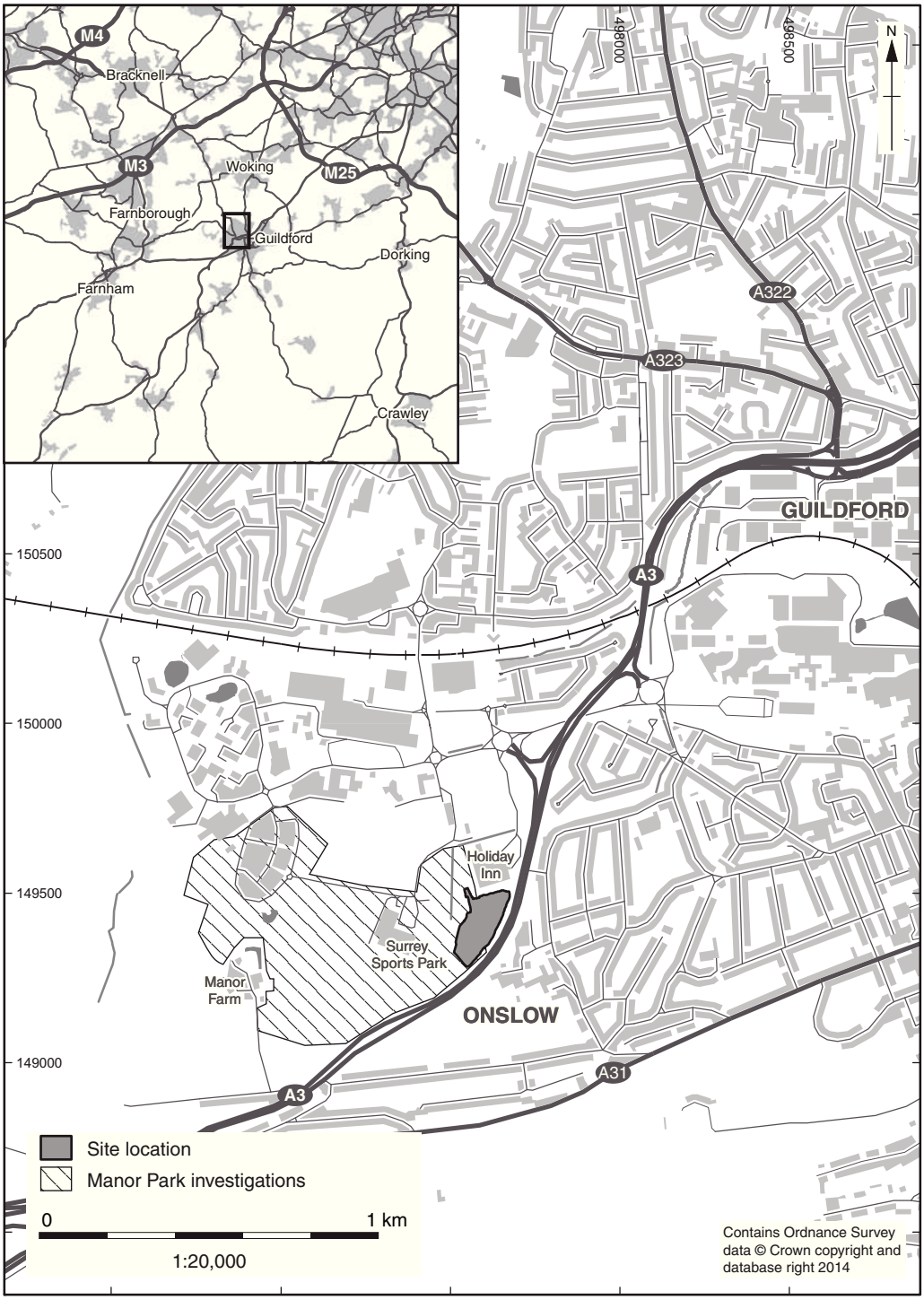


Figure 1: Site location

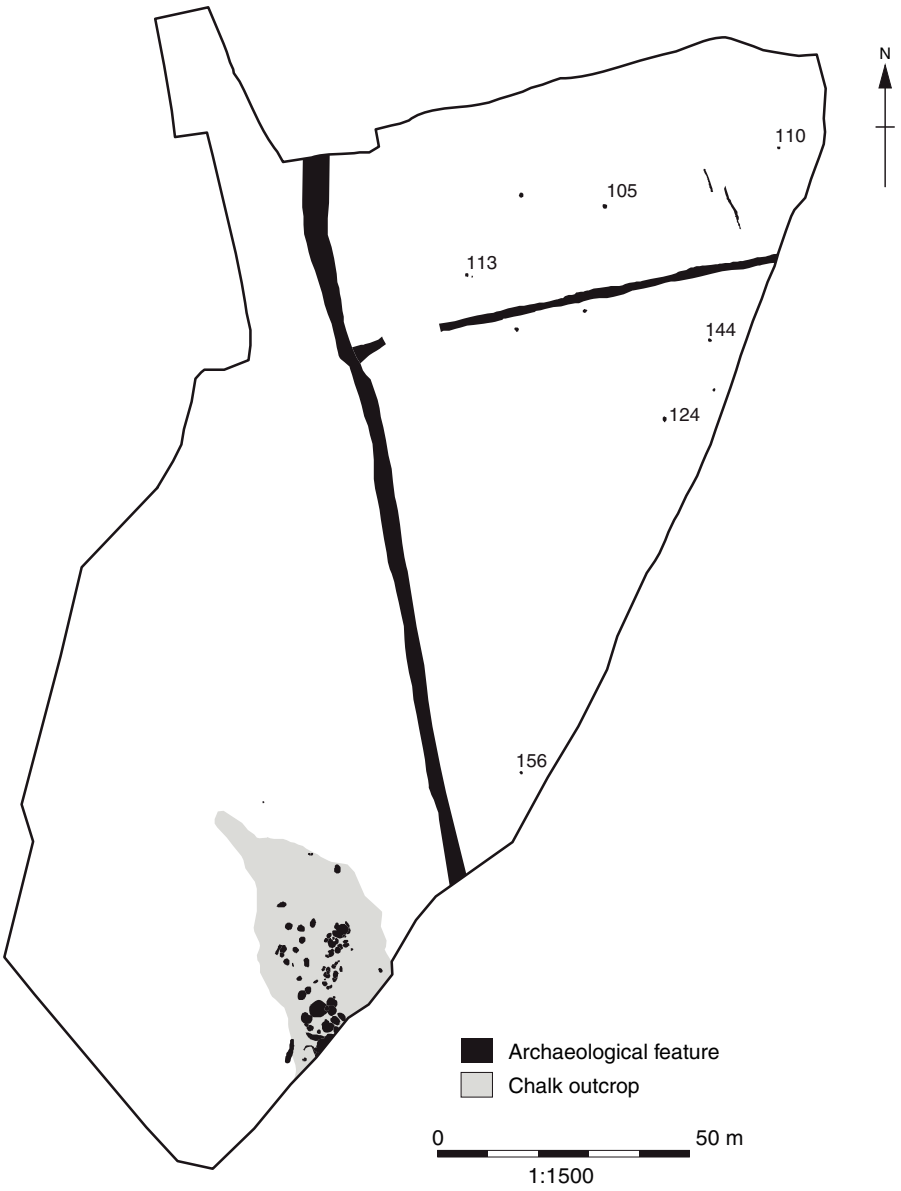


Figure 2: Plan of all archaeological features

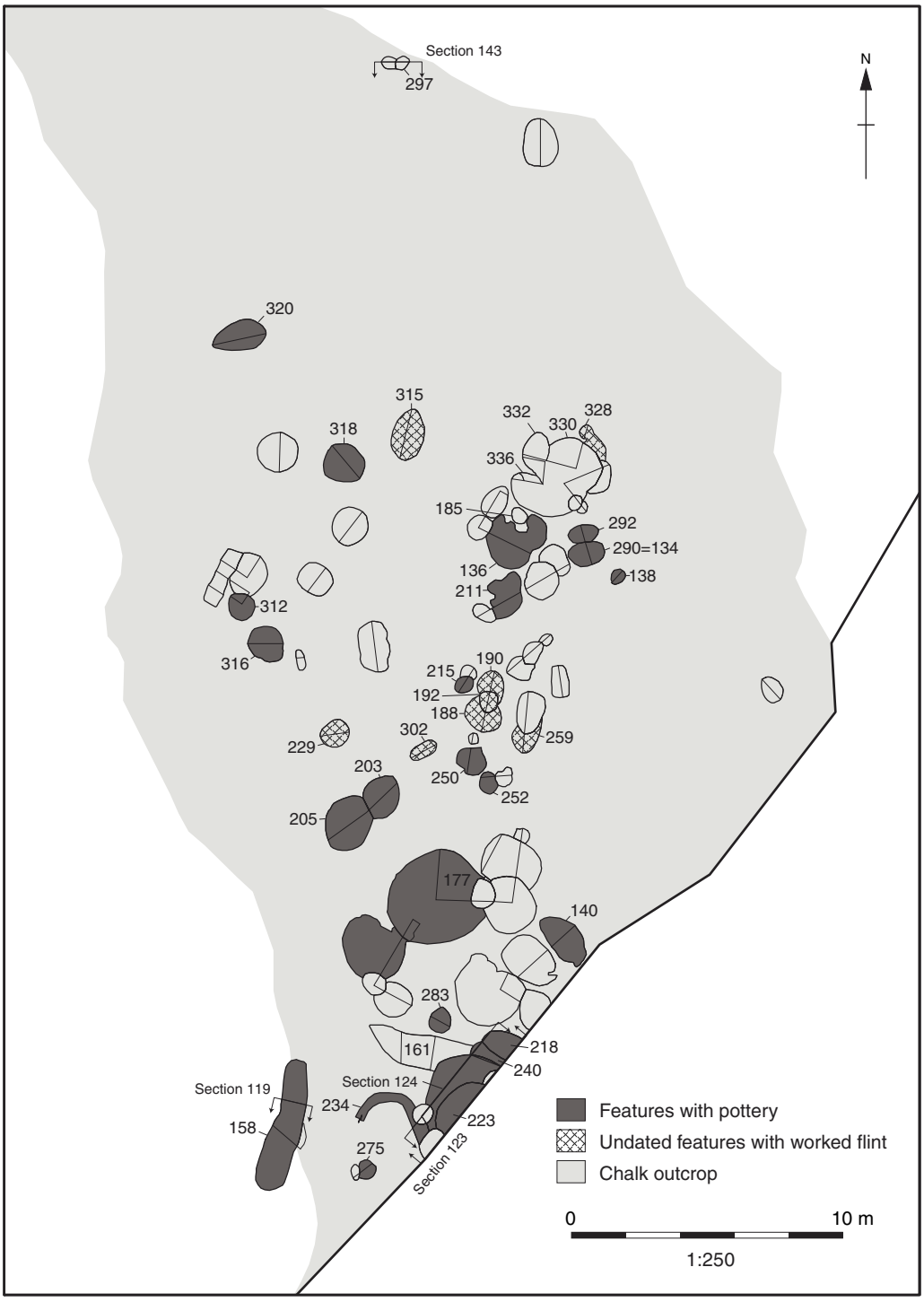


Figure 3: Plan of features dug into the chalk outcrop at the southern end of the site

Figure 4: View of features dug into the chalk outcrop at the southern end of the site

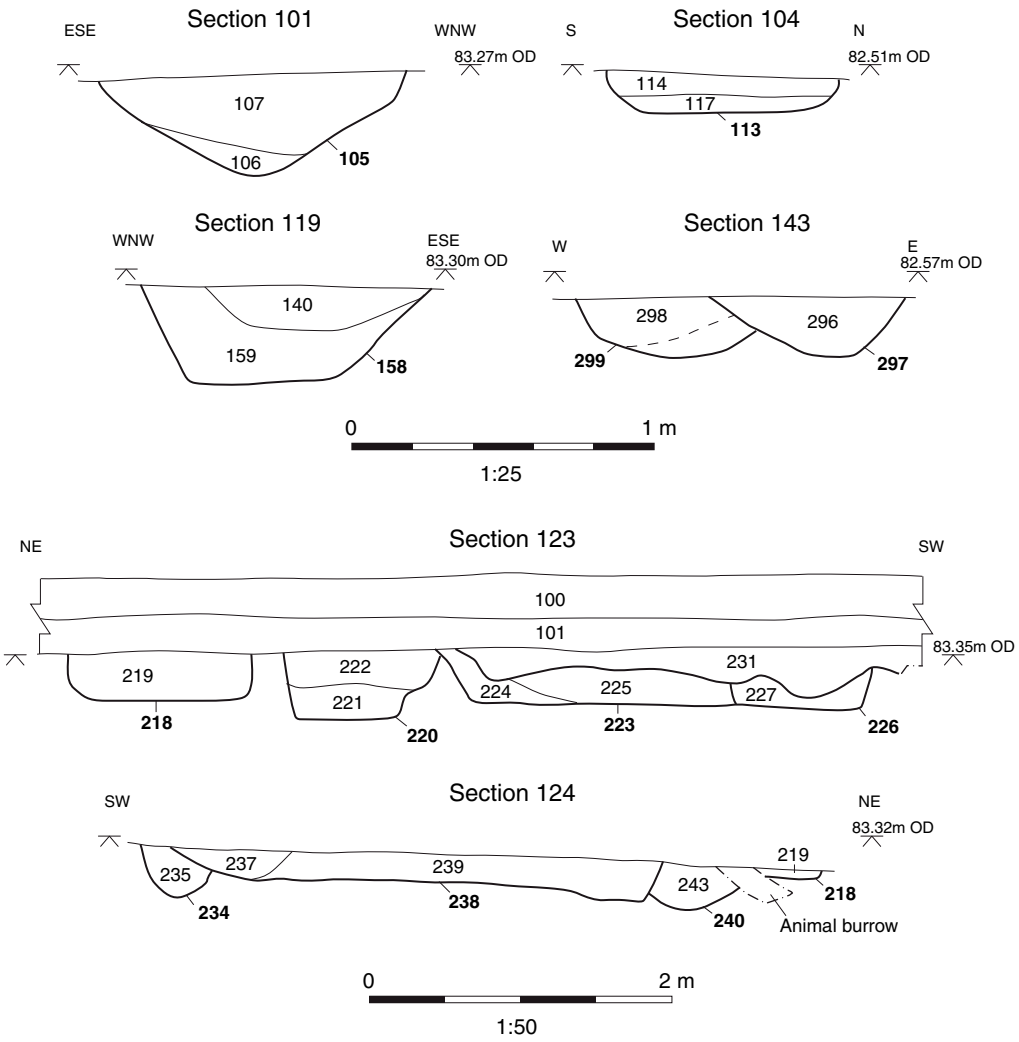


Figure 5: Sections of selected features

Head Office/Registered Office/ OA South

Janus House
Osney Mead
Oxford OX2 0ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA North

Mill 3
Moor Lane
Lancaster LA1 1QD

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: oanorth@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: oaeast@oxfordarchaeology.com
w: http://oxfordarchaeology.com