JOHN MOORE HERITAGE SERVICES

AN ARCHAEOLOGICAL EXCAVATION

AT 1 PARK TOWN,

OXFORD,

OXFORDSHIRE

NGR SP 51139 07806

On behalf of

Mr & Mrs John van den Bergh

MAY 2013

REPORT FOR	Mr & Mrs J. van den Bergh 1 Park Town Oxford OX2 6SN
PREPARED BY	Gwilym Williams
ILLUSTRATION BY	Andrej Čelovský & Gwilym Williams
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ENQUIRES TO	John Moore Heritage Services Hill View Woodperry Road Beckley Oxfordshire OX3 9UZ Tel/Fax 01865 358300 Email: info@jmheritageservices.co.uk
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Following an archaeological evaluation at 1 Park Town, Oxford in August 2012, John Moore Heritage Services undertook the excavation of the area of the footprint of the proposed new dwelling in September 2012. The site had previously functioned as a laboratory for D'Overbroeks School and before that as gardens for the house. Consequently, the site had been heavily truncated in places.

Nevertheless, the remains of five Middle Iron Age pits and a contemporary surface were recovered in addition to a further five undated pits, which were probably also of Middle Iron Age date. This indicates the presence of later prehistoric activity complementing that on Port Meadow and at Grandpont, locating the Park Town site within the characteristic Upper Thames Valley Middle Iron Age tradition.

During the 19th century the site was redeveloped. The land where Park Town now stands, which had been owned by New College and sold to the Oxford Local Board, or Board of Guardians, was to be used for the St Giles' workhouse. When the workhouse was built in Cowley, the New College land was redeveloped for the Board by Samuel Lipscomb Seckham. Although not a part of Norham Manor, owned by St John's, Park Town provided the template for the redevelopment of North Oxford. When 1 Park Town was erected a stables was also built to the rear of the property, with some garden features present, which were evidenced archaeologically and cartographically.

1 INTRODUCTION

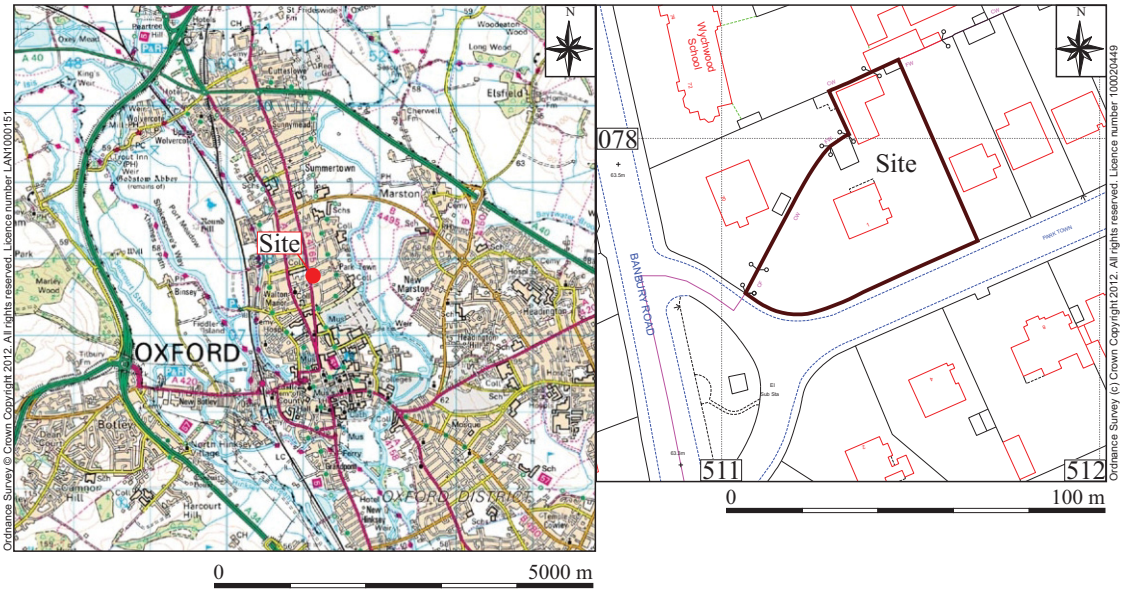
1.1 Site location (Figure 1)

The site was located at 1 Park Town, Oxford at NGR SP 51139 07806 at *c* 64.9m AOD. The underlying surface geology is Second Terrace Gravels (Summertown-Radley Series), overlying Oxford Clay. The site comprised the footprint of a former external laboratory building on a concrete slab within the grounds of a residential home. The laboratory was demolished previously.

1.2 Planning Background

Planning permission (11/01459/FUL) was granted for the alterations and additions to existing outbuildings, which required the implementation of a staged programme of archaeological works. This was due to the potential for archaeological remains to exist on the site. The Archaeological Officer of Oxford City Council provided a Brief for the programme of archaeological work.

The excavation comprised Stage 3 of the programme of works. Stages 1 and 2 had previously been undertaken, consisting of a watching brief during the removal of the laboratory slab, and an evaluation which preceded the excavation. A *Written Scheme of Investigation* outlining the methodology by which the work would be carried out in order to achieve the aims of the further works was prepared by JMHS, which was submitted to and agreed with the Oxford City Archaeological Officer.



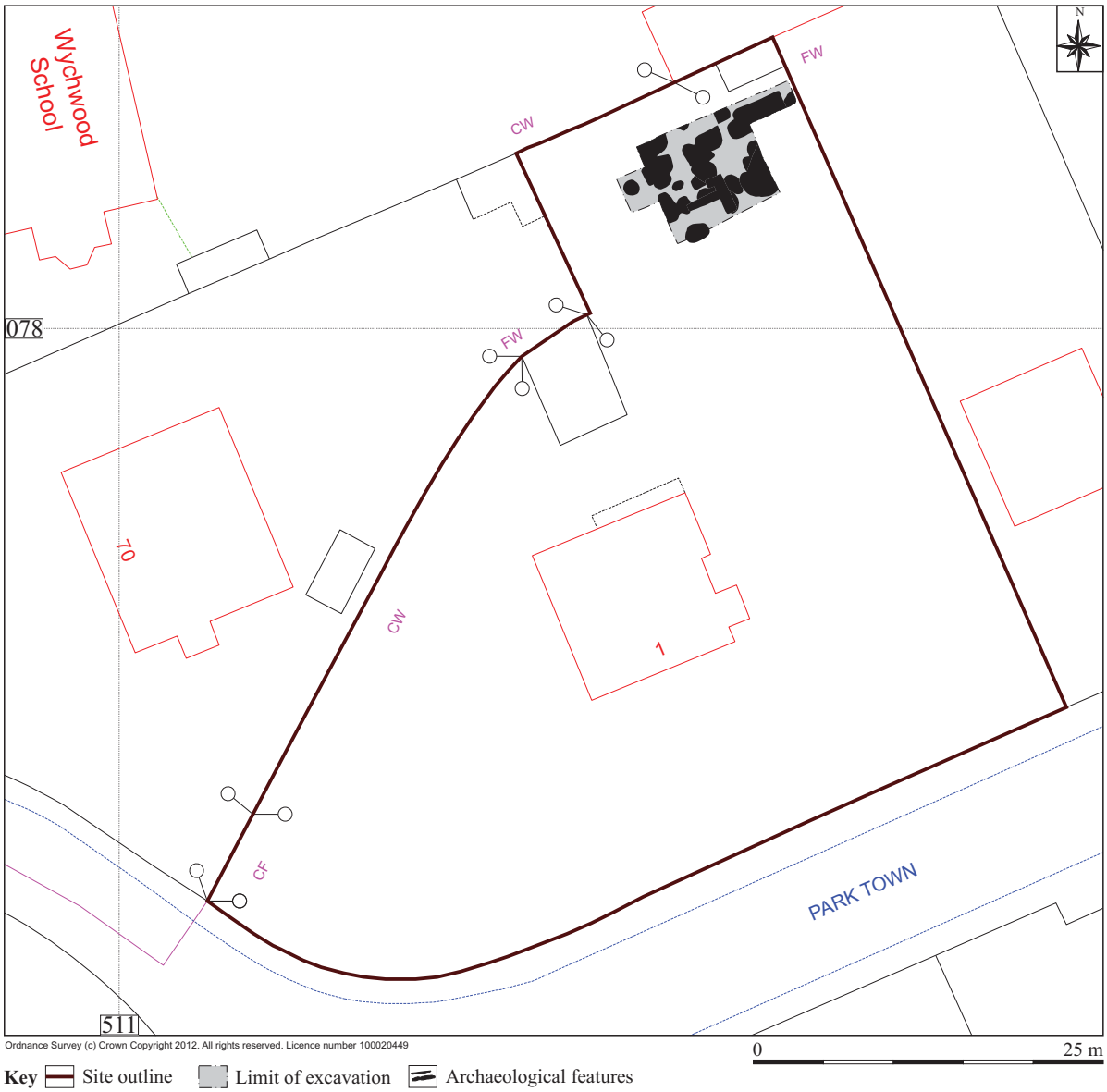


Figure 1. Site location

1.3 Archaeological Background

The site is located on a well-settled part of the Oxford gravel terrace, with within 100m evidence for Bronze Age, Iron Age and Saxon activity. In the 19th century a number of finds were made in Park Town Crescent including a possible Bronze Age food vessel with associated human remains (HER No 3592) and Roman inhumation burials and pottery (HER No 3591). Anglo Saxon finds have also been recorded in the vicinity (HER No 6048)

.

No 1 Park Town, built circa 1858, is a Grade II listed building and one of the Park Town villas designed by Samuel Lipscomb Seckham. Until 2005, the property was a part of D'Overbroecks College. A brick laboratory was constructed on a slab in the garden during the 1960s; this was demolished ahead of the new development. The site still contained concrete slabs laid to support portakabins. These were removed under archaeological control 1st August 2012; an archaeological evaluation followed on the 3rd August 2012.

The first edition OS map (1876) shows a number of outbuildings, including the old stable-block and temporary garden structures in this location. The 1878 town plan (1:500) shows the area in very good detail.

The archaeological evaluation of the site during Stage 2 (evaluation) of the archaeological programme of works indicated the potential for remains relating to possible metalworking. The post-excavation assessment of the pottery confirms the date to have been Middle Iron Age (see below).

2 AIMS OF THE INVESTIGATION

The aims of the investigation as laid out in the Written Scheme of Investigation were as follows:

- to record any archaeological remains that will be impacted on by the development.

In particular

- to record the potential for features relating to the archaeological activity

3 STRATEGY

3.1 Research Design

The work carried out at 1 Park Town was within the structure of a three-part programme of works. The first phase had consisted of archaeological monitoring of the removal of the slab underlying the former laboratory. The impact of this work had been so limited that no indication of the underlying archaeological potential was revealed.

A field evaluation was then carried out, comprising the second phase of the three-phase operation. This second phase identified the presence of archaeological remains, reported in a summary to the Oxford City Archaeological Officer who indicated that further work would need to be undertaken in the immediate area of impact of the new build. In response to a *Design Brief* issued by the City Archaeologist a Written Scheme of Investigation was prepared by John Moore Heritage Services and agreed with Oxford City Council's archaeologist.

Site procedures for the investigation and recording of potential archaeological deposits and features were defined in the *Written Scheme of Investigation*. The work was carried out in accordance with the standards specified by the Institute for Archaeologists (1999) and the principles of MAP2 (English Heritage 1991).

3.2 Methodology

The proposal area had previously been monitored during removal of the concrete slab, under the former laboratory (Phase 1), and subsequently evaluated 3rd August 2012 (Phase 2) and a summary report prepared for the Oxford City Archaeological Officer.

The area for the new build was stripped down to the uppermost archaeological horizon under supervision of Paul Riccoboni and the author.

4 RESULTS

All deposits and features were assigned individual context numbers. Context numbers without brackets indicate features i.e. pit cuts; while numbers in ( ) show feature fills or deposits of material. CBM refers to undifferentiated ceramic building material, which could be brick, tile or daub.

Figure 2. Excavation area

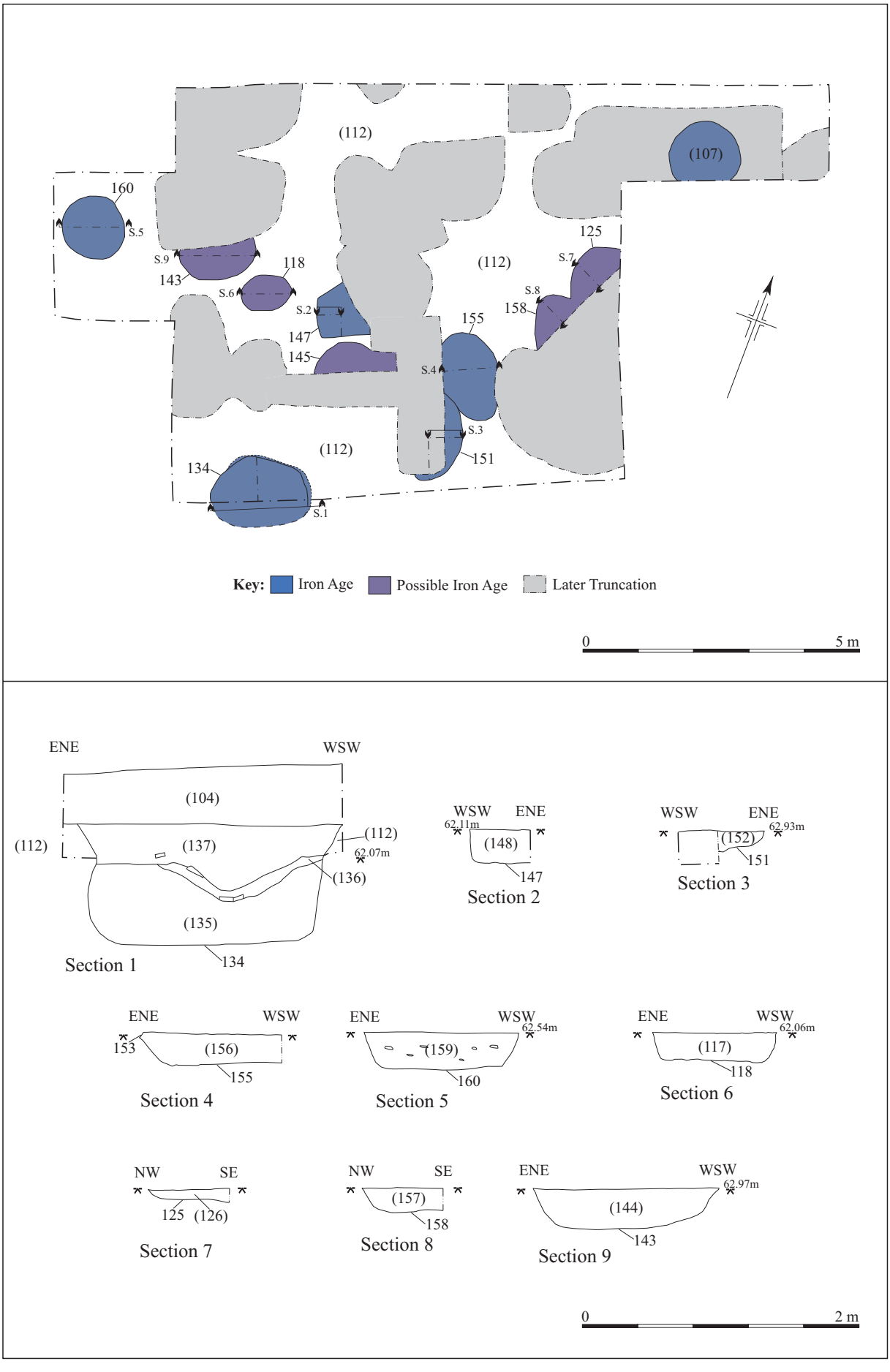


Figure 3. Middle Iron Age and potentially Middle Iron Age archaeological remains. Plans & sections

4.1 Fieldwork *(Figs 2-6)*

The site was excavated to the natural sandy gravel (112) of the Second Terrace (Figure 2). Due to later truncation by the garden features associated with 1 Park Town, the level at which the natural gravel (112) occurred was not consistent across the investigation area. The spur of the evaluation trench on the northeast side and area of a proposed stairwell on the west side were significantly higher than the central area of investigation where there had been extensive pitting associated with the garden (see below).

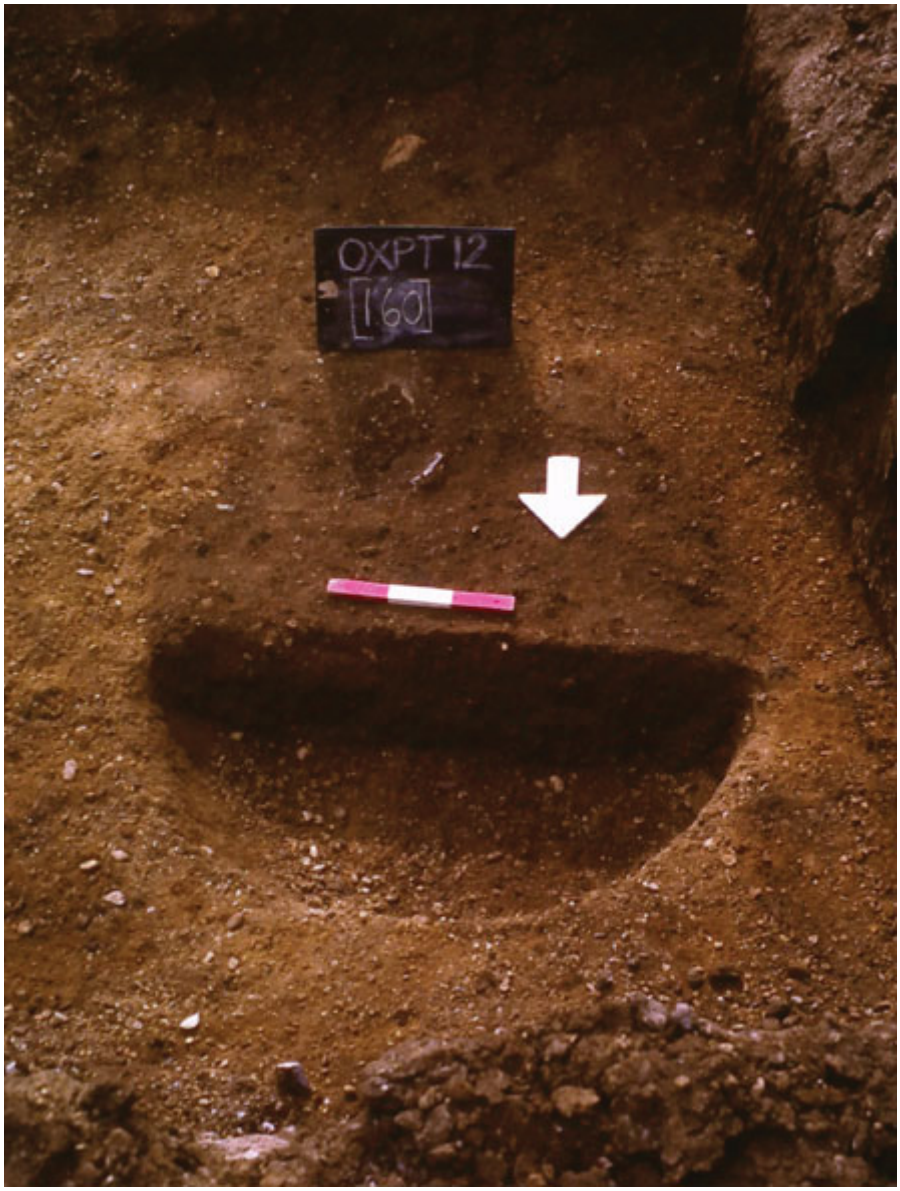


Figure 4. Pit 160.

Middle Iron Age

There were six features which yielded Middle Iron Age pottery. A further five features with similar fills were also revealed, but which did not contain any dating evidence. Three of the dated features – 147, 151 and 155 – and four of the undated features – 143, 145, 158 and 125 – were very clearly heavily truncated by later Victorian garden features and/or modern ?footings trenches, filled with concrete

rubble and broken brick. Of the other three features, two were pits – 160 (Fig 4) and 134 – and the third – (107) – was a truncated surface. This last feature was poorly understood as it was revealed in the evaluation trench, but was in fact outside the area of impact. It was not possible to examine it to any great extent.

The round pit 160 (Fig. 4), which measured 1.1m across and was 0.27m deep, was filled with mid brown sandy silt loam with occasional charcoal flecking and some peagrit gravel (159). The pit yielded three small body sherds in the sandy fabric with limestone inclusions (SALI). The pit was cut into the gravel at a height of 62.54m. Many of the other features were cut into the gravel between 0.5m and 1m lower, due to Victorian and modern truncation. This suggests that other shallow features would have destroyed.

The sub-rectangular pit 147, measuring >0.9m × >1.1m × >0.22m was also filled with mid brown sandy silt loam and peagrit gravel (148), yielding a single sherd of pottery (SALI). The pit 155, located 1m southeast of 147, which measured 1.6m × >0.9m × 0.21m, was sub-oval, and filled with mid brown sandy silt loam (156). A small sherd of the sandy fabric (SA) and four animal bones – two of which were cattle – were recovered from this feature. It was cut by the heavily truncated ?sub-oval pit 151, which was also filled with mid brown sandy slit loam (152); it yielded a sherd of pottery (SALI) and the bone of an unidentified medium-sized animal.

These pits, which were only *c*. 0.1m to 0.25m deep, were all heavily truncated – as were the undated pits (see below). The extensive truncation raises the probability that these contained much higher densities of pottery and other finds originally.

Figure 5. Pit 134.

On the south edge of the investigation are, however, was the large sub-rounded pit 134, measuring 1.8m (east/west) × 1.2m (north/south), and which had a clay-lining

(119) *c*. 10-20mm thick on the sides and base (Fig. 5). There were three distinct fills of the pit. Excavation of the pit was somewhat difficult where it extended beyond the edges of excavation.

The lowest fill of dark orange brown gravelly silty clay loam (135) was 0.5m thick across the base of the pit; an assemblage of pottery, consisting of jars, dominated by the sandy fabric (SA) was recovered from the upper part of this layer. Bone, 23% of which was identifiable, comprising cattle, pig, and some sheep was present. There were also 12 fragments of largely burnt stone weighing 5771g and two pieces of fuel ash slag, weighing 204g in the fill (135).

Overlying this earliest fill was dark brown grey silty sand loam with charcoal flecking (136), which was 0.1m thick, and appeared to have been tipped from the west. Of the 140 fragments of animal bone, over half – 57% - were identifiable; 42 were cattle with sheep and pig represented also. In contrast to the underlying layer (135), the majority of the pottery assemblage of jars recovered was made from the limestone rich fabric (SALI). There were also 15 fragments, weighing 3846g, of largely burnt stone present.

The pit was sealed by the mid orange brown gravelly silty clay loam (137), which was 0.35m thick. There were two sherds of pottery (SALI), which may even be from the underlying layer. There were eight identifiable animal bones, 22% of the assemblage, dominated by cattle.

Figure 6. Layer (107); looking south.

To the northeast of pit 134, in the eastern extension of the evaluation trench, was the layer (107) (Fig. 6), which survived as a circular area of stamped gravelly sandy silt, cut on all sides by the later garden feature 133; its *in situ* survival appears to be due to

there having been a path located above it on the 1878 Town Plan (see below). The layer (107) appears to have been preserved as an unplanted area in the Victorian garden, with the result that the postulated surface was *in situ*. There were eight bones recovered from the surface, only a single sheep bone was identifiable, while the pottery assemblage was dominated by the oolitic limestone fabric (LI), which was not present anywhere else during the intervention. A single sherd of fossil shell fabric (SH) was present; a further single sherd of which was recovered from fill (136) of the pit 134. Two burnt stones, weighing 474g, were recovered from the surface, in addition to two fragments of slag: a possible plano-convex smithing hearth bottom, weighing 132g, and some fuel ash slag, weighing 5g.

There were a further five pit-like features, which were undated – 143, 118, 145, 158, and 125 – but which are probably contemporary with the Middle Iron Age features, due to their similarity in fill: mid brown sandy silt loam. The features ranged in depth from 0.15 to 0.28m deep (Table . All these features, with the possible exception of the small pit 118, were heavily truncated by later Victorian garden features.

Cut	Fill	L (m)	B (m)	D (m)
143	144	1.4	>0.6	>0.28
118	117	0.85	0.6	>0.2
145	146	>1.5	>0.55	>0.2
158	157	>1	>0.58	0.2
125	126	>1	>0.7	>0.1

Table 1. Undated features

Sealing the pit 134 and presumably the other middle Iron Age or undated features was a dark brown silty loam (104), which represents a buried cultivation soil layer. This thick deposit – *c*. 500mm – was present across site, visible in section albeit cut through by the Victorian and later features.

19th to early 20th century (Figures 7 & 8)
Overlying the layer (104) of buried cultivation soil was a thinner deposit of dark grey brown silty loam (102), which represents a Victorian garden soil; Victorian pottery (not retained) and small pieces of brick rubble were also present. This soil is contemporary with or slightly later than the construction and use of the house in the 19th century.

Some stratigraphic relations between the Victorian garden features, which all cut through the cultivation soil layer (104), can be reconstructed. At the east end of the evaluation trench was an undetermined sub-?circular cut 106, which was filled with grey brown and yellow sandy loam and gravel (105). The exposed portion of this feature, which measured 0.85m × 0.85m, was insufficient to clarify its nature, although it is probably a tree-planting pit.

The cut for the postulated plant-bed 133, which cut the western edge of the pit 106, was sub-rectangular in plan and extended beyond the south edge of excavation. The plant-bed 133 measured 3.75m by at least 1.3m and more than 0.5m deep. The east

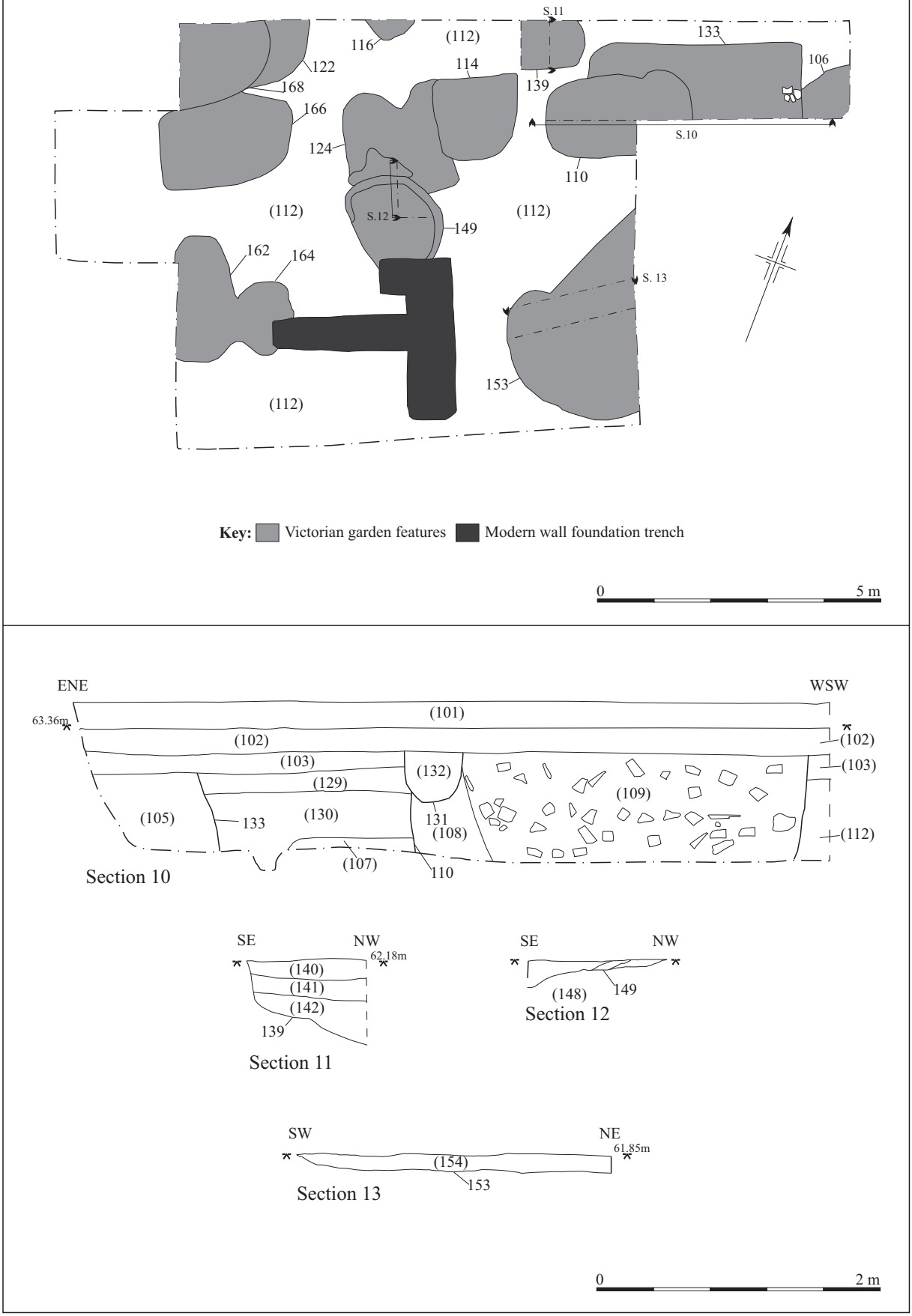


Figure 7. Victorian garden features and modern wall foundation trench

side was slightly convex from the top; the west side was truncated by a later tree planting pit 110 and a shallow ?flowerbed 131. The plant-bed had been dug in such a way as to leave an area of prehistoric ground-surface (107) undisturbed; and, as noted above, due to the area being outside the impact area, only sufficient was investigated to confirm that the surface (107) was *in situ*. This area had in fact never been impacted upon, but rather excavated around, with the dark brown slightly stony, brick-flecked fill (130) filling the cut 133. Overlying the dark brown fill (130) was the dark brown orange sandy silt loam with some small stone (129). This deposit is an interface between the fill of 133 and the overlying layer of orange-yellow grey-brown sandy silt and gravel (103), which was visible in the east end of the evaluation trench and part of the northern face of the excavation area. This deposit undoubtedly represents a gravel area, part of the drive in and around the former stables, shown on the 1878 town plan (Fig. 8).

Figure 8. Location of excavation in respect of Victorian garden (1878 Oxford town plan).

A large pit 110, measuring 2.5m by 1.5m and more than 0.95m deep, was excavated through the western side of the plant-bed. Its relationship with the gravel path (103) could not be demonstrated during the investigation, as both path (103) and the upper part of the tree-planting pit 110 were truncated by a later ?planting-bed 131 (see below).

The tree-planting pit 110 was filled with yellow brown sandy loamy gravel (108), with grey brown sandy silt and slate and brick (109) over the gravel (108). This pit was probably a tree-planting pit, as a tree is shown in its location on the 1878 Oxford town plan. To the south, a further tree-planting pit 153, also shown on the 1878 map, was filled with grey brown sandy silt (154).

During the machine-stripping of this area it was very mixed indicating the possibility of there having been quite a mature tree here. It is possible, though it was not clear during the excavation that the rubble-rich fill (109) of tree-planting pit 110 may well derive from the removal of the tree and back-filling with builder's rubbish. This might explain the marked difference in the fills of the respective tree-planting pits.

The eastern uppermost edge of 110 was cut by a round-bottomed narrow ?gully 131, filled with gravelly mid orange brown loamy sand (132). This feature appeared to represent part of a narrow planting-bed potentially running the length of the gravel path (103), it was not visible in the northern section of the excavation as that area was gravelled, as indicated on the 1878 town plan.

The group of pits 149, 124 and 114 stood in the corner of the planted area (Fig. 7). The earliest cut was the sub-rounded pit 149, with a diameter of approximately 1.8m; it was filled with a layer of sand (161) in the base, *c*. 30-40mm thick, overlain by dark brown black sandy loam (150). A shallower cut 124 for a tree-planting pit, measuring *c*. 2m × 1.8m, which did not cut into the natural (112) cut through the northern side of 149. This pit was filled with dark grey brown sandy loam with orange mottling and brick fragments (123). To the east, cutting the eastern edge of pit 124 was a sub-rectangular pit 114, measuring approximately 2m × 1.5m, filled with grey brown sandy loam and yellow sand (113).

To the southwest of the group of pits 149, 124 and 114, was a pair of pits 162 and 164, both also filled with by dark brown black sandy loam (161) and (163), respectively. The pit 162 was a sub-rectangular pit measuring 2.2m × >1m and the pit 164 was sub-rounded with a diameter of approximately 1.25m. These pits may well be associated with area of garden to the west of the larger garden bounded by the gravel path (103) to the west.

The pit 116, which was located on the north side of the excavation area, only projected slightly into the excavation area. It was filled with dark brown sandy loam (115). It cannot be associated with any features on the Victorian 1:500 map of Oxford. Maps after this period become increasingly less detailed, and it is not possible to assert unequivocally the function of the pit.

However the cluster of three pits – 122, 166 and 168 – immediately to the west, can be associated with postulated planting against the east wall of the former coach-house/stables visible on all maps from 1876 through to 1957/8. Shortly after this latter map was published, the stable-block was knocked down by D'Overbroeks School during the 1960s and replaced by the laboratory which stood in the grounds until recently. These three pits were filled with dark brown loamy sand – (121), (165) and (167) – with moderate brick and slate through them. They appear to have been dug on the corner of the stable block – pit 166 – and along the east wall – pits 122 and, subsequently, 168; the latter of which also cuts pit 166.

20th century archaeology

Some of the footings trenches of the former laboratory were also visible as rectilinear truncation filled with concrete, brick, slate and iron. These were not further recorded.

4.2 Reliability of Techniques and Results

The reliability of results is considered to be good. The archaeological excavation took place in unseasonably good conditions. David Radford, City Archaeological Officer, came and visited the site, in addition to providing advice to the client.

5 FINDS AND ENVIRONMENTAL REMAINS

5.1 Prehistoric pottery *by Jane Timby*

Introduction
The archaeological work resulted in the recovery of 114 sherds of prehistoric pottery weighing 2332g. Most of the sherds date to the later prehistoric period accompanied by one medieval sherd and two post-medieval sherds.

The later prehistoric sherds are well-preserved with an average sherd size of 20g. There are several examples of multiple sherds from single vessels.

Pottery was recovered from 10 defined contexts with the quantities ranging from single sherds up to a maximum of 58 sherds from context (135).

For the purposes of this assessment the material was scanned macroscopically and sorted into fabrics based on firing colour and inclusions (type, size and frequency) in the clay following the recommendations outlines in PCRG 1997. The sorted fabrics were quantified by sherd count and weight. Table 2 summarises the data for each context.

Context	IA Fabrics				Forms	No	Wt
	SALI	SH	L1	SA			
107	2	1	8	0	jar	11	244
135	9	0	0	49	jars	58	1026
136	35	1	0	1	jars	37	971
137	2	0	0	0	body	2	65
148	1	0	0	0	base	1	12
152	1	0	0	0	body	1	7
156	0	0	0	1	body	1	4
159	3	0	0	0	body	3	3
TOTAL	**53**	**2**	**8**	**51**		**114**	**2332**

Table 2. Prehistoric pottery by context by fabric by sherd count by form by weight

Middle Iron Age pottery
The prehistoric pottery can be divided into four fabric groups: fossil shell (SH), oolitic limestone (LI) sandy (SA) and sandy with sparse calcareous inclusions (SALI). The group is dominated by sandy wares (44.7%) and sandy with limestone at 46.5% with the other fabrics forming minor components.

Vessels include everted rim jars, shouldered jars, simple and beaded rim jars. Several have a highly burnished finish. A significant number of sherds from a single plain

walled vessel with an undifferentiated rim and showing several coil breaks came from fill (135) of pit 134.

The assemblage is typical of the middle Iron Age period both in terms of the fabric composition and the vessel range. The trend in the Thames Valley is for a transition from shelly wares towards more sandy wares moving from the earlier Iron Age into the middle Iron Age. Vessels are dominated by globular jar forms and rounded bowls although the latter are absent here.

Comparable assemblages have been found at several sites in the Oxford area, for example, Cassington (Harding 1972); Whitehouse Road, Oxford (Mudd *et al*. 1993), and further afield around Abingdon (Parrington 1978; Muir and Roberts 1999); Farmoor (Lambrick and Robinson 1979); Northmoor (Allen 1991); Gravelly Guy (Lambrick and Allen 2004) and at various sites around Banbury (e.g. Ford 2009).

The greatest quantity of pottery came from the layers (135) and (136) of pit 134 with several large sherds from single vessels. In total, these two contexts account for 81% of the assemblage.

5.2 Later pottery *by Jane Timby and Gwilym Williams*

The medieval and later assemblage comprised 15 sherds, weighing 266g, of which 8 sherds, weighing 124g, only represented a small percentage of the modern assemblage present on the site. The majority of this later material was unstratified or not retained during the intervention.

Fabric

The pottery was recorded utilizing the coding system and chronology of the Oxfordshire County type-series (Mellor 1984; 1994), as follows:

OXAQ: East Wiltshire Ware, 12th – 14th century. 1 sherd, 9g.
OXAM: Brill/Boarstall ware, AD1200 – 1600. 2 sherds, 9g.
OXDR: Red Earthenwares. Mid 16th+. 4 sherds, 124g.
WHEW: White Earthenwares. 18th + 8 sherds, 124g.

There were 25 sherds, weighing 266g, of pottery dating from the medieval and later periods (Table 3). There was total recovery of medieval and redwares, with only selective retention of the 19th and 20th-century white earthenwares. There were three sherds of medieval pottery, of fabrics typically recovered in Oxford. These were all residual in later contexts. They could easily have been introduced as manure into the vicinity of the site, as the Brill/Boarstall (OXAM) sherds are somewhat abraded. The rest of the assemblage is also not untypical.

	OXAQ		OXAM		OXDR		WHEW		
Cntxt	**No**	**Wt**	**No**	**Wt**	**No**	**Wt**	**No**	**Wt**	**Date**
100							3	110	U/S
140			1	6	2	105	3	3	19th C
142			1	3	2	19			M16th C
154	1	9					2	11	19th C
Total	1	9	2	9	4	124	8	124	

Table 3. Later pottery by context and by sherd count and by weight

5.3 Slag

A total of five pieces of slag material was recovered from three contexts (Table 4). Two fragments were recovered from the postulated Middle Iron Age surface (107) and two fragments from pit 134 (fill 135), which had been used to dispose of rubbish. The fragment from context (152) was modern. The old pieces were reasonably light with moderate to very vesiculated structures. Environmental samples were also scanned for evidence of metallurgical activity, specifically hammerscale (Table 4) – spherical and flat fragments of iron detached from the billet during working. These are visible as sparks when the metal is hot. At high temperatures the hammerscale is spheroid, as the metal cools hammerscale is flat. In order to ascertain the presence and quantity of hammerscale, a magnet was passed over the residues. No hammerscale was recovered from the samples.

context	frags	wt (g)	type
107	1	132	plano-convex
107	1	5	fuel ash slag
135	2	204	fuel ash slag
152	1	23	fuel ash slag
totals	5	364	

Table 4. Slag by context by number by weight

Three of the fragments - one from the surface (107) and both from the fill (135) of the pit 134 – appeared to be fuel ash slags. These are the result of the fuel sintering and fusing when in flux with other non-combusted materials in the hearth area. Silica, quartz and other minerals can form part of these slags as well as usually combustible materials which fail to burn fully (Salter & Gilmour, n.d.).

A single small plano-convex fragment of slag was recovered from the surface (107) which would have formed round the air-hole or tuyère of the furnace as iron oxide reacted with fuel and flux-material during the firing of the smithing furnace (Salter & Gilmour, n.d.).

The slag fragments recovered during the intervention indicate the probability that iron production was being carried out in the vicinity of the site at Park Town, although the absence of hammerscale is suggestive of no smithing activities being undertaken in the immediate vicinity of the pit 134. If smithing were being carried out, the likelihood is that some flat hammerscale at least would be present in the residues.

It is not recommended retaining the modern slag.

5.4 Stone

A total of 29 fragments, weighing 10 091g, of stone were recovered from three contexts (Table 4). There were two fragments of stone weighing 474g from the surface (107), and the remaining 27 fragments, weighing 9617g, came from two contexts – (135) and (136) – in the pit 134.

The stone comprised a mixture of grey limestone pieces, 11 fragments weighing 4975g, and scorched red stone with occasional sooting – some of which may well be

very heated flints – numbering 16 fragments, weighing 4642g. These came from layers which can be associated with depositions of animal bone and pottery.

Context	Stones	Wt (g)	Type	**Totals**
107	2	474	red scorched stones sandstone	**474**
135	8	3145	grey limestone	
135	4	2626	red scorched stones	**5771**
136	3	1830	grey limestone	
136	12	2016	red scorched stones	**3846**
Totals	**29**	**10091**		**10091**

Table 4. Stone by context by number by weight

5.5 Glass

A single fragment of bottle glass, weighing 134g, was recovered from context (142), the uppermost fill of pit 140. The glass was in a poor state of preservation and flaking. The glass is in the form of a modern 'claret' bottle.

It is not recommended retaining this piece of glass.

5.6 Animal bone *by Claire Ingrem*

A quantity of animal bone was recovered from a Middle Iron Age 'grain-silo' type pit during the excavations. Most of the animal remains came from three discrete layers in a straight-sided, flat-bottomed pit which measured approximately 1.3 metres across and over 1 metre deep. Burnt stone and pottery were also recovered from these layers (Gwilym Williams *pers comm*.)

Methodology

Anatomical elements were identified to species where possible with the exception of ribs and vertebrae which were assigned to animal size categories. Mandibles and limb bones were recorded using the zonal method developed by Serjeantson (1996) to allow the calculation of the minimum number of elements (MNE) and individuals (MNI); this is based on the most numerous zone of a single element taking into account side.

In addition, all bone fragments over 10mm in the hand-recorded material and over 2mm in the sieved samples were recorded to species or size category to produce a basic fragment count of the Number of Identified Specimens (NISP). Fragments categorised as large mammal are likely to belong to cattle, those in the medium mammal category to sheep or pig.

Evidence for burning gnawing and butchery together with the agent responsible was recorded. Measurements were taken according to the conventions of von den Driesch (1976), Payne and Bull (1982) for mammals, and Cohen and Serjeantson (1996) for birds. The wear stages of the lower cheek teeth of cattle, sheep and pig were recorded using the method proposed by Grant (1982) and age attributed according to the method devised by Payne (1973), Legge (1982) and O'Connor (1988). The fusion stage of post-cranial bones was recorded and age ranges estimated according to Getty (1975).

A selected suite of elements was used to differentiate between sheep and goat (Boessneck, 1969, Payne 1985): the distal humerus, proximal radius, distal tibia, distal metapodials, astragalus, calcaneus and deciduous fourth premolar. No elements were positively identified to goat so for the purposes of this report the caprine remains are referred to as sheep.

	107	135	135	136	137	137	140	142	150	152	156	Total	
												n	%
Cattle		15	3	42	6	1						67	68
Sheep	1		1	9	1	2					2	16	16
Pig		6	1	6	1	1						15	15
Large mammal	1	24	6	14	10				1			56	
Medium mammal	2	1	1	2	1	5			2	1	2	17	
Unidentifiable	4	15	39	67	13	14	1	2				155	
Total	**8**	**61**	**51**	**140**	**32**	**23**	**1**	**2**	**2**	**1**	**4**	**325**	
Total identifiable	***1***	***21***	***5***	***57***	***8***	***4***	***0***	***0***	***0***	***0***	***2***	***98***	
% identifiable	*13*	*34*	*10*	*41*	*25*	*17*	*0*	*0*	*0*	*0*	*50*	*35*	

Table 6. Taxa representation according to context and sample (NISP) from hand and sieved (shaded) collection

Data

A total of 251 specimens were recovered by hand collection during the excavation of which 35% (n=89) are identifiable to species or taxa (Table 6); when sieved remains are factored in, they yielded 326 specimens of which 98 (35%) were identifiable. The majority (68%) of the remains belong to cattle although sheep (16%) and pig (15%) are also represented. Three layers (contexts 135, 136, 137) were particularly rich in animal bone and these are discussed in detail below. Small samples were recovered from several other contexts but these were not subjected to detailed analysis as they contained few identifiable specimens; however species representation is given in Table 6.

	Cattle		**Sheep**		**Pig**	
	Left	**Right**	**Left**	**Right**	**Left**	**Right**
Horn core	1					
Frontal	2		1			
Zygomatic	2					
Premaxilla	2					
Occipital condyle		1				
Maxilla	1	1				
Mandible	2	2	1	1	2	1
Scapula	1	1	1			1
Humerus	1	1				
Radius	1	1				
Ulna						1
Pelvis	1					
Femur	1				1	
Tibia		3	2	2		1
Astragalus	1					
Metacarpal	2	1				
Metatarsal	2	1				
MNE	**20**	**12**	**5**	**3**	**3**	**4**
MNI	**3**		**2**		**2**	

Table 7. Minimum number of elements (MNE) and individuals (MNI) from pit 134

An additional nine identifiable specimens were recovered from the environmental samples (Table 6) and although only 9% of this material is identifiable, cattle sheep and pig are all represented.

Calculation of the minimum number of elements and individuals supports the predominance of cattle and indicate that a minimum of three cattle, two sheep and two pigs are represented in the pit (Table 7).

Most of the material is in very good condition.

	135		**136**		**137**
	Left	**Right**	**Left**	**Right**	**Left**
Horn core			1		
Frontal	1		1		
Zygomatic	1				1
Premaxilla			2		
Occipital condyle		1			
Maxilla		1	1		
Mandible	1	2	1	1	1
Scapula			1	1	
Humerus	1	1			1
Radius		1	1	1	
Pelvis			1		
Femur	1				
Tibia		1		2	
Astragalus	1				
Metacarpal			2	1	
Metatarsal			2	1	
MNE	**6**	**7**	**13**	**7**	**3**
MNI	**2**		**2**		**1**

Table 8. Minimum number of elements (MNE) and individuals (MNI) of cattle according to context

Context 135
The majority of the specimens recovered from context 135 belong to cattle and large mammal with pig the only other species present in the hand collected material. The environmental samples produced two sheep incisors (Table 6) as well as a few cattle and pig specimens.

Calculation of the minimum number of elements and individuals represented in each context indicates that the remains are derived from at least two cattle, one sheep and two pigs (Table 8).

Despite the small size of the sample, cattle are represented by bones from most parts of the body with elements from both the head and major limbs present. Foot bones are scarce apart from an anklebone - an astragalus (Table 9). Both sides of the body are represented. Two fragments of large mammal vertebra and a few rib fragments almost certainly belong to cattle. A right radius and ulna are the only bones that articulate or appear to be from the same individual. Whilst no other bones are sufficiently complete to allow them to be rearticulated, differences in morphology and size suggests the bones do not originate from complete or partial skeletons.

	135	136	137	Total
Horn core		3		**3**
Frontal	1	1		**2**
Zygomatic	1		1	**2**
Premaxilla		2		**2**
Occipital condyle	1			**1**
Incisor		1		**1**
Lower premolar		1		**1**
Upper premolar	1	1		**2**
Lower molar		3	1	**4**
Upper molar		1	2	**3**
Maxilla	1	2		**3**
Mandible	3	4	1	**8**
Scapula		5		**5**
Humerus	3		1	**4**
Radius	1	3		**4**
Pelvis		2		**2**
Femur	1			**1**
Tibia	2	2		**4**
Astragalus	1			**1**
Metacarpal		3		**3**
Metatarsal		3		**3**
Tooth fragment		1	2	**3**
Skull frag		4	1	**5**
Total	**16**	**42**	**9**	**67**

Table 9. Anatomical representation of cattle according to context (NISP)

Pig is represented by at least two mandibles, a maxilla belonging to a boar, a left femur and a metapodial. Both sides of the body are represented with the maxilla and metacarpal from the right side of the body and the other elements from the left side (Table 10). A single fragment of rib belonging to a medium size mammal is also present and probably belongs to sheep or pig.

	135	136	137	Total
Frontal		1		**1**
Canine			1	**1**
Maxilla	1		1	**2**
Mandible	4	1		**5**
Scapula		1		**1**
Ulna		1		**1**
Femur	1			**1**
Tibia		1		**1**
Metapodial	1			**1**
Skull frag		1		**1**
Total	**7**	**6**	**2**	**15**

Table 10. Anatomical representation of pig according to context (NISP)

Context 136

Most of the animal remains recovered by hand from context 136 also belong to cattle and large size mammal although elements belonging to sheep and pig are once again present in smaller numbers (Table 6). A minimum of two cattle, two sheep and one pig are represented (Table 8).

Elements from all parts of the cattle skeleton are again present although foot bones are more numerous than in context 135 with both metacarpals and metatarsals present. Other anomalies between the two contexts in respect of anatomical representation are apparent with bones such as the humerus and femur absent from this context but present in Context 135. In respect of the scapula and pelvis the opposite pattern is seen as they are absent from context 135 but present in 136. However, apart from a pair of mandibles there is nothing to suggest that the bones from these two layers derive from the same individual animals since no other articulating specimens were found.

	107	135	136	137	156	Total
Horn core			1			**1**
Frontal			1			**1**
Incisor		2				**2**
Lower molar			1			**1**
Maxilla			1			**1**
Mandible	1		4			**2**
Scapula				1		**1**
Tibia			1	1	2	**4**
Total		**2**	**7**	**2**	**2**	**13**

Table 11. Anatomical representation of sheep according to context (NISP)

Thoracic and lumbar vertebrae belonging to large size mammal were also recovered and almost certainly belong to cattle, as do several fragments of rib.

Apart from a single tibia, all the sheep remains are cranial bones. Mandibles are particularly numerous with a minimum of four elements present (Table 11). Pig is also represented by a few cranial major limb bones although foot bones are absent.

Figure 9. Modified cattle metatarsal

A cattle metatarsal with evidence for canid gnawing also appears to have been worked with a blade and as a result two wide transverse linear furrows are preserved on the

proximal anterior face (Figure 9). The exact purpose of these indentations is unknown but their presence suggests the bone was utilized as some type of tool.

Context 137,
The sample of animal bones from Context 137 is smaller with only eight identifiable specimens recovered by hand collection (Table 6). Of these, six belong to cattle and one each to sheep and pig. Sieved samples also produced a few specimens belonging to all three taxa (Table 6). A minimum of one cow/steer, one sheep and one pig are represented (Table 8).

The cattle remains include a skull, mandible and humerus. Sheep are represented by a scapula and tibia. A maxilla and canine tooth recovered separately by hand collection and sieving respectively, are the only pig remains and probably belong to the same sow.

Mortality
A few specimens are able to provide estimates of the age at which animals died using data obtained from tooth eruption and wear (Table 12) and the state of epiphyseal bone fusion.

Context	Taxa	P4	M1	M2	M3	Estimated age
136	Cattle	(a)				0-1 month
136	Cattle *	(f)	g	b		15-26 months
136	Cattle *	(f)	g	b		15-26 months
137	Cattle			f	E	15-26 months
137	Cattle				g	3 years +
107	Sheep	(g)	b			6-12 months
136	Sheep	(g)				6-12 months
136	Sheep	(h)	e			6-12 months
136	Sheep			f	E	2-3 years
136	Sheep	h	g	g	d	3-4 years
135	Pig		f	d	c	Adult
136	Pig	c	g			Adult
135	Pig			c		Adult

Table 12. Estimated age according to dental data (NISP); (pair)*

Context 135: all the bones belonging to cattle are fused with the exception of a proximal humerus and proximal femur that are in the process of fusing so belonged to animals aged less than 15-20 months and 36-42 months respectively. A pig mandible and isolated mandibular molar both belong to adult animals.

Context 136: one mandible is from a very young calf aged below one month and a pair of mandibles belonged to a heifer/bullock aged between 15 and 26 months. Two isolated deciduous sheep premolars are from animals aged between 6 and 12 months whilst two mandibles are from sheep aged 2- 3 years and 3 – 4 years. A pig mandible is from an adult.

Context 137: produced a cattle mandible belonging to an animal aged 15-26 months and a mandibular third molar from a cow/steer older than 3 years.

Context 107: produced a sheep mandible from an animal aged 6 -12 months.

Taphonomy

A considerable proportion (21%) of the assemblage displays evidence for gnawing by canids (Table 13) with cattle, sheep and pig all affected.

A slightly smaller (17%) proportion of the remains preserves evidence for butchery in the form of cut and chops marks (Table 13). Cut marks are more numerous than chops and most occur on or near limb bone articulations belonging to cattle bones.

Two specimens, one belonging to cattle and the other assigned to the medium size mammal category, are calcined.

	Gnawed		Butchered					Burnt
			chop	cut	cut/chop	Total		
	n	*%*	n	n	n	n	*%*	calcined
Cattle	10	*15*	3	6		9	*13*	1
Sheep/goat	3	*23*						
Pig	3	*20*		2		2	*13*	
Large mammal	1	*2*	1	1	1	3	*5*	
Medium mammal	2	*7*		1		1	*9*	1
Total	**19**	***21***	**4**	**10**	**1**	**15**	***17***	**2**

Table 13. Incidence of taphonomy

Metrical data

A few specimens were able to provide metrical data and these are given in the appendix. Where possible, measurements have been compared with those recorded from contemporary sites and held on the Animal Bone Metrical Archive Project (ABMAP 2003) database.

Most of the bones fall within the range of measurements previously recorded although two cattle bones are slightly larger so probably belonged to a large bull. One is a humerus whose distal breadth exceeds that previously recorded by 0.4mm whilst the breadth of the trochlea is 4.6 mm larger. The other specimen, an astragalus, exceeds the ABMAP (2003) data by 1.6 mm and 4.7mm in respect of the lateral and medial length respectively.

Discussion and Interpretation

It is uncertain whether or not the predominance of cattle in the assemblage recovered from the Middle Iron Age pit at Park Town is representative of the everyday diet and economy of the inhabitants as the sample is relatively small and derives from a single feature. Contemporary sites in the Upper Thames Valley tend to have fairly equal proportions of cattle and sheep with pig scarce although this is not always the case (Hambleton, 1999:46). Sheep remains outnumber those belonging to cattle in the large assemblage of Middle Iron Age animal bone recovered from the rural site of Gravelly Guy, Stanton Harcourt (Mulville & Levitan, 2004: 463). Here, the authors note that whilst a predominance of sheep and cattle is usual at rural sites of this period, the proportions of each are sometimes reversed. At Claydon Pike (Sykes, 2007: 54), the NISP figure for the site as a whole indicates cattle were slightly more numerous than sheep. In this case, there is considerable variation in the relative proportion of cattle and sheep across the site with cattle considerably more numerous

in the sample recovered from Gravel Island 1 which might reflect chronological differences *(ibid)*.

At Park Town, despite the small sample size most parts of the cattle skeleton are represented with the exception of foot bones, particularly phalanges, which are noticeably scarce. This anomaly is unlikely to be the result of density mediated taphonomic process preferentially destroying small fragile bones, since most of the assemblage is in very good condition. A more likely explanation is suggested by a practice known from later periods (Serjeantson, 1989:136), whereby cattle feet remain attached to the hide to be used as handles. As a result, phalanges are sometimes deposited away from dumps of butchery waste at locations where tanning activities took place Differential depositional practices relating to primary butchery were also used to explain the scarcity of cattle phalanges at Gravelly Guy where body part representation similarly suggested that whole animals were being consumed and disposed of at the site (Mulville & Levitan, 2004**:** 469).

There is evidence to indicate that some cattle from Park Town were culled between the ages of fifteen and twenty-six months and these would have would have provided prime beef. The presence of a young calf provides evidence that some cattle were bred at or near the site; this is fairly unusual during the Iron Age when a scarcity of foetal and neonatal remains is thought to reflect transhumant activities, whereby lambing and calving took place at a time of year when animals were grazing away from settlements (Hambledon, 1999). The small sample of ageing data from Park Town compares well with the pattern seen at Gravelly Guy (Mulville & Levitan, 2004**:**469) where tooth eruption and wear data indicate that 40% of Middle Iron Age cattle were culled between eight and thirty months. This focus on prime meat animals was interpreted by the authors as a move toward a meat economy whilst adult animals represented individuals that had reached the end of their working life.

The sheep and pig assemblages recovered from Park Town are too small to withstand detailed analysis and therefore interpretations based on this data are tentative. However, the recovery of cranial and postcranial bones does strongly suggest that whole animals were originally present and arrived at the site on the hoof. At Gravelly Guy, anatomical representation similarly suggested that whole animals were originally present (Mulville, 2004: 469).

The culling of sheep in their first year and between two and four years is suggestive of a mixed husbandry strategy with sheep providing both meat and secondary products such as manure, wool and milk. A similar pattern has been noted at contemporary sites in the region including Gravelly Guy (Mulville, 2004: 472) and is believed typical of assemblages from the Upper Thames Valley, with animals raised primarily for meat but also valued for their secondary products (Sykes, 2007: 55).

Pigs are generally slaughtered for meat before reaching skeletal maturity as they provide few secondary products other than manure and bristles. The remains of adult pigs are therefore most likely to represent animals kept for breeding and subsequently slaughtered for meat. In this respect, the pattern differs from that seen at Gravelly Guy where a predominance of sub-adult and male pigs is thought to reflect the importance of prime meat production (Mulville, 2004: 472).

Blade marks preserved on a number of bones provide clear evidence that at least some of the bones are from animals that were dismemberment by cutting through the soft tissue at or near the joint articulations, as was common practice during the Iron Age. Gnaw marks are also preserved on a good proportion of the assemblage indicating that some material results from secondary deposition and before being placed in the pit was accessible to dogs, either as a result of its being left lying around the site or having been deliberately fed to them.

The recovery of skulls, articulated remains and partial skeletons from pits at contemporary sites such as Danebury, Hampshire (Grant, 1984) are often interpreted as representing activities of a ritual or ideological nature. At Gravelly Guy several cattle and sheep burials were found, those belonging to cattle consisted mainly of skulls and disarticulated limb bones whilst almost all the sheep were whole (Mulville, 2004: 470, 472). The pit at Park Town produced fragmentary skulls belonging to cattle, sheep and pig but articulating bone groups are extremely scarce and the disarticulated material is not associated with animal burials. Some of the material results from secondary deposition and consequently most probably represents waste from everyday activities such as butchery and food preparation. That is not to say that the composition and placing of the assemblage is purely functional as several researchers (Hill, 1995; Bradley, 2003; Pluskowski, 2002) have suggested that throughout prehistory and in later periods, domestic and ritual life were intertwined.

Summary

The animal bone assemblage recovered from the Middle Iron Age pit at Park Town is unable to provide detailed information concerning the everyday diet and economy of the inhabitants due to its limited size and recovery from a single feature. However, in many respects including the slaughter of prime aged cattle, it compares well with the much larger assemblage recovered from Gravelly Guy and other sites in the region. There is also evidence to suggest breeding took place at or near the site and that a mixed strategy of sheep husbandry was practiced. Skulls belonging to cattle, sheep and pig were present in the pit but whilst their deposition may be related to the ideological beliefs of the Iron Age inhabitants of the sites, other bones appear to represent waste from more mundane activities.

5.7 Environmental Remains *by Professor Mark Robinson*

During excavation, in advance of building work at Park Town, Oxford, the Middle Iron Age pit 134 was investigated. Bulk samples from two contexts – fills (135) and (137) – were taken, which were floated onto a 0.25mm mesh to recover biological remains. The dried flots were scanned at up to ×20 magnification under a binocular microscope. Any mollusc shells, grain, chaff and weed seeds were identified and the results listed in Tables 14 and 15. A representative range of the charcoal fragments present were broken and identified using a high-power incident-light microscope at magnifications of up to ×400. Results are given in Table 15.

The land snails were mostly species of well-drained open habitats (Table 14). *Carychium* sp. requires shady conditions but these can be met by tall grass. The fauna was entirely appropriate to the Second Gravel Terrace of the Thames, on which Park Town is situated, during the Iron Age.

Context	137	135
Sample	1000	1001
Carychium sp.	-	+
Cochlicopa sp.	-	+
Vertigo pygmaea	-	+
Pupilla muscorum	+	-
Trichia hispida gp.	+	+

+ present

Table 14: Land snails from pit 136

The charcoal comprised two taxa which were commonly used as fuel in the region during the Iron Age: *Corylus avellana* (hazel) and *Quercus* sp. (oak). Carbonised cereal grain and chaff were not abundant but they showed the utilisation of the two main crops in the region during the Iron Age, hulled *Hordeum vulgare* (six-row hulled barley) and *Triticum spelta* (spelt wheat). The few weed seeds were from plants which readily grow as weeds of cereal cultivation. It is likely that the cereal and weed remains had become charred during the late stages of crop-processing.

Context		137	135
Sample		1000	1001
CHARCOAL			
Corylus avellana	hazel	++	-
Quercus sp.	oak	+	+
CEREAL GRAIN			
cf. *Triticum* sp.	wheat	1	-
Hordeum vulgare - hulled lateral	six-row hulled barley	-	1
Hordeum sp. - hulled	hulled barley	3	-
Hordeum sp.	barley	1	2
cereal indet.		1	-
CEREAL CHAFF			
Triticum spelta - glume	spelt wheat	-	1
WEED SEEDS			
cf. *Trifolium* sp.	clover	1	-
Atriplex sp.	orache	-	1
Rumex sp.	dock	1	-

+ present, ++ some

Table 15: Charred plant remains from pit 136

The results from Park Town fell into the typical pattern for the Iron Age of the Upper Thames Valley and there is no need for further analysis of samples from pit 134.

6 DISCUSSION

Middle Iron Age

The Middle Iron Age pits recovered during the excavation at 1 Park Town were largely truncated and only two appear to have been reasonably well preserved. Nevertheless, the presence of the occupation surface (107) indicated the high likelihood of further remains subsisting beyond the edges of the investigation area.

Comparison of the excavation area with the historic mapping demonstrates that it is unsurprising that the area was as heavily truncated as it was. The immediate vicinity

of the excavation area had been used as a formal garden, probably since the construction of 1 Park Town, when it must be assumed the gardens were laid out. In addition to bordered footpaths, there are planting areas and trees shown on the 1:500 OS map of 1878 (Fig. 4), which dates from twenty years after the house was built. The impact of these upon the buried remains potentially could have been slight, but in this case was clearly significant in places.

Nevertheless, the results of the investigation have established the presence of Middle Iron Age activity on the spur of land separating the Cherwell from the Thames. Both earlier Bronze Age barrows and later Iron Age and Roman activity have been evidenced, to the south of the present site, under the University Parks and the Science Area (Beckley & Radford 2012, 6; Anthony 2005; Bradley *et al*. 2005; Lambrick *forthcoming*). Although air photos indicate some later prehistoric recolonisation of this area (UAS 2012), this is largely undated. Excavations at the Radcliffe Infirmary on Woodstock Road have revealed further earlier activity also comprising Early Bronze Age barrows (Radford 2010, 219), in addition to part of a Neolithic henge monument from under St John's College (Beckley & Radford 2012, 6). Evidence for Bronze Age barrows was also recovered during the excavations at the Sackler library between 1998 and 1999 (Poore & Wilkinson 2001).

Within the Thames floodplain at Binsey and on Port Meadow, amongst Bronze Age barrows are later prehistoric enclosures (Atkinson 1942), field systems and occupation sites (Beckley & Radford 2012, Fig. 3), including significant Middle Iron Age activity (Lambrick *forthcoming*) which may provide complementary occupation sequences to that indicated at Park Town. On a gravel island at Grandpont, south of the Thames, excavations by Andrew Mudd at the former Oxford City football ground on Whitehouse Road revealed extensive evidence for Middle Iron Age settlement, comprising several structures and enclosures (Mudd 1993).

On the high ground to the east of Oxford interventions by JMHS have revealed the presence of Middle Iron Age activity at Barton (Gilbert 2005) and Rose Hill (2011), which are perhaps comparable with the site on Wytham Hill (Mytum 1986). It has been argued by Harold Mytum that Wytham Hill represents more sedentary occupation which had a possible relationship with the pastoralist economic activity at Farmoor (*ibid*, 23). It is possible that sites such as Barton and Rose Hill, both of which overlook watercourses – the Bayswater Brook, which is a tributary of the Cherwell, and the Thames, respectively – are hillforts or similarly defensible sites (Gilbert 2005, 30; Gilbert 2011, 17-8).

Although it is difficult within the limited constraints of the intervention at 1 Park Town to be entirely sure of the broader picture, it would appear that the pits revealed during the excavation align the present site with other Upper Thames Valley Early and Middle Iron Age occupation sites. There are a number of well-investigated sites within extensive prehistoric landscapes, which have been investigated in the Upper Thames Valley, in addition to the more limited work at Whitehouse Road, Oxford and on Port Meadow.

The better-understood later prehistoric sites are located to the west of Oxford in the Evenlode valley: Yarnton/Cassington (Hey 2011a & 20011b); and to the west again in

the Windrush valley: Watkins Farm, Northmoor (Allen 1990), Stanton Harcourt (Lambrick & Allen 2004), Gill Mill, Ducklington (Lambrick 1992), Mingies Ditch, Hardwick (Allen and Robinson 1993), Gravelly Guy (Lambrick & Allen 2004), and Old Shifford Farm, Standlake (Hey 1995). This distribution is then interrupted until the Leach valley in the vicinity of Fairford where there are a further group of sites at Roughground Farm (Allen *et al*. 1993), Thornhill Farm (Jennings *et al* 2004) and Claydon Pike and environs (Miles *et al*. 2007; Pine & Preston, 2004; Lamdin-Whymark *et al*. 2009).

Recently a watching brief at Bampton (Williams 2013) revealed a reasonably broad Middle Iron Age feature, which could have been an enclosure ditch, part of the prehistoric activity found at Shrewsbury Place (Mayes et al 2000), approximately100m to the west, indicating the possibility that apparent *lacunae* in the archaeological distribution record is more apparent than real.

The distribution of a similar type of site downstream is hinted at by various excavations at the confluence of the Ock at Abingdon (Parrington 1978; Gilbert & Riccoboni *forthcoming*) as well as by the up-standing Iron Age *oppidum* of Dyke Hills overlooking the Thames up-stream of where it is joined by the Thame. While it is clear that these formed important *foci* throughout prehistory, it is clear that from the Late Bronze Age and into the Early Iron Age these sites show that people were drawn to these high points above the confluences of the Thames and its tributaries.

Purely functionalist environmentally determinism can be deployed to argue that a rising water-table – observed throughout the British Isles during the Late Bronze Age and Early Iron Age – was responsible for increased transhumance during the Early Iron Age; however, the higher ground between such confluences is potentially of territorial or chorological significance. This is more frequently argued from the Neolithic and Early Bronze Age data where monuments appear to directly refer to their immediate topography. Nevertheless, the placing of depositions of human and metallurgical remains, amongst others, from the Late Bronze Age onwards seems to illustrate a practice which makes reference to the occupied – and by implication the unoccupied – parts of the landscape (cf Bradley 1990; Bradley & Gordon 1988).

Nevertheless, even while more sedentary activity has become better evidenced, mobile activity was still a significant factor (Lambrick 2009, 92). Those parts of the landscape that were seasonally used for pastoralist activities appear to have been complemented by permanent settlements. By the Middle Iron Age, pits dug specifically for grain storage, are evidenced; the excavations at Gravelly Guy, for example, have provided an extensive sequence for the analysis of Middle Iron Age pits. The pits at Gravelly Guy were analysed in terms of the evidence for their use, back-filling process, and contents of back-fill, amongst other considerations. The best-represented example at 1 Park Town – pit 134, which was at least 0.9m deep – corresponds to Lambrick's type C1 (Lambrick & Allen 2004, Fig 3.4; 113) the most common form (*ibid*. 109), and which, like some of the pits at Gravelly Guy, also yielded evidence of a clay-lining, indicating that it had probably been dug for storing grain.

The back-filling sequence of 134 comprised a reasonably thick dump of gravelly loam (135), in the uppermost part of which was dumped pottery, bone, burnt stone and two small pieces of fuel ash slag, initially. Analysis of the bone – two cattle, two pig and one sheep – does not indicate that there was a particularly ritualistic process of deposition: rather that the material comprises a more mundane disposal of rubbish. The high proportion of sandy fabric jars from fill (135) contrasts with a corresponding high proportion of sandy limestone jars from the overlying fill (136). The significance of this bias is not readily apparent.

Burnt stone was also recovered from this overlying deposit, further pointing to a cooking, or indeed feasting, event being represented in the archaeological record. The animal bone seems to confirm such an interpretation consisting of two cattle, two sheep and one pig. Fuel ash slag, which was also present, need not be associated exclusively with industrial processes, although it often is. It was observed during excavation that it appeared that the layer (136) had been thrown in from the west. This may well indicate the location of potential settlement activity. The overlying deposit of gravelly loam (137) also yielded a small amount of pottery and the remains of one cow/steer, one sheep and one pig, in addition to the presence of a small assemblage of cereal grains and associated weeds of cultivation as well as wood charcoal.

The contents of the fills of pit 134 indicate that the there is a strong likelihood that the pit is associated with settlement activity in the immediate vicinity: conjoining sherds of pottery, which are unlikely to have travelled far, and a range of animal skulls, mandibles, burnt and otherwise processed bone as well as bone gnawed by dogs. The natural faunal remains revealed a local environment entirely consistent with Second Terrace Gravels elsewhere in the Upper Thames Valley: open grassland which even the shade-loving snail species would have tolerated where the grass lay sufficiently long.

The other pits investigated during the excavation failed to provide the same volume of data, largely due to these other features having undergone significant truncation, with the exception of the small pit 160, which may possibly represent a posthole or similar. If this were the case it would probably be part of a building – either a roundhouse or some form of four-post structure, typical of the period (i.e. Lambrick & Allen 2004, Fig. 3.2). This pit or posthole was cut through the natural gravel. To the east this was gravel had been heavily truncated, with the exception of a small area underlying the garden path on the east side of the intervention. Here, pottery, animal bone and a smithing hearth bottom were recovered from the buried surface. Further Middle Iron Age activity can be shown to extend to the east.

As a consequence of the comparatively limited view afforded by the intervention, it is impossible to fully understand the role of the buried surface (107), the posthole 160 or the pit 134, although it is clear that neither the pit nor any of the other features were isolated, but – like the settlement at Gravelly Guy – part of a larger occupied landscape, potentially incorporating field systems and domestic enclosures, roundhouses and farm structures, which were laid out overlooking the Cherwell. Insufficient work has been carried out at present within the modern city to fully assess the implications of the results.

Medieval and post-medieval remains
The site is located within the historic Norham manor. Norham, which means the 'north estate' or 'north hamlet/settlement', has previously evidenced Saxon remains (HER 6048). The presence of several sherds of residual medieval and post-medieval pottery is unsurprising and could easily derive from manuring as much as any possible near-by settlement activity.

19th-century Park Town
The Oxford suburb of Park Town is located on land previously owned by New College. In the late 1840s, in part due to the Poor Law Amendment of 1834, the Oxford Board of Guardians came to an arrangement with the college to purchase a block of land on the east side of the Banbury Road in order to replace the old St Giles' workhouse, at this time located under the present Wellington Square.

Initially the Local Board had approached St Johns to buy land but the college had declined. Already, the suburbs at Tagg's Gardens, north of the Radcliffe Observatory – west of the Woodstock Road, and east of Walton Well Road as far north as the present Leckford Road; North Parade and Summertown (Minn 1946-7) were emerging as distinct enclaves to the north of the city, occupation round which at this time stopped at St Giles' (Hinchcliffe 1992).

As St Johns started to realise the potential in developing the land which was held north of the city, the possibility of there being a workhouse located here was undesirable. Nevertheless, the colleges was unwilling to pay the Board what was asked in return for the land. Anticipated changes in government policy meant that a start on the workhouse was postponed, and when a larger site in Cowley became available for less money, the workhouse and industrial school was located there. The Board asked Samuel Lipscomb Seckham and E.G. Bruton in 1852 to submit designs and proposals for the land, which was to become Park Town (Hinchcliffe 1992, 27-8).

Although during 1853 the railway was also seen off from dividing North Oxford in two, south and north of Bevington Road, construction was continuing apace elsewhere, as both Woodstock and Banbury Roads became the sites of suburban villas (Hinchcliffe 1992, 31). Between 1853 and 1857 Seckham bid for the Park Town contract and raised the necessary capital. The Board of Guardians took responsibility for the streets and drainage, for which since the abolition of the Paving Commissioners in 1771, they had assumed responsibility (Williams 1998, 11-12) Potentially one of the earliest cast-iron street grates is located in Park Town (*ibid*., 41).

Through the creation of a tontine scheme Seckham tried to raise sufficient capital to make a start on his project, although by 1861 the company went into liquidation (Hinchcliffe 1992, 33). Nevertheless, there were people living in Park Town when the census was taken that year: 2.6 women to every man, which is a sure indicator of a middle class suburb (Hinchcliffe 1992, 36), and of the 48 households, 44 heads of house were in residence (Hinchcliffe 1992, 166).

As a consequence, it is unsurprising that the grounds were laid out, as seen on the 1878 O.S. (1:500) map. The general pattern in Park Town appears to have been that the house was owner-occupied, unlike the slightly later built houses to the south in Norham manor. Here, we see that certain leaseholders held several properties, one of which they may have occupied, while frequently letting other properties which they held in neighbouring houses or streets (Hinchcliffe 1992, 216-43).

While in some cases the leaseholders of multiple properties were clearly builders/developers who would go on to dispose of the leases as soon as a buyer was found, this is not exclusively so, and it is clear that parts of North Oxford were seen in terms of their investment potential. This does not appear to have been the case in Park Town. Similarly, the architecture of the houses at the west end of Park Town looks to the Georgian-style of villas, a factor which may have made it appear unfashionable, or indeed comforting, at the time (cf VCH 1979). Looking back to the architectural forms of the 1810s and 1820s the villas provide a sense of stability and belonging, rather than obviously being a new development.

The grounds were laid out to indicate a rural setting, as was common with many such villa developments, while making the best of limited grounds. The stables, which would have provided accommodation for one of the few, if not perhaps the only male servant in the house, were located as discreetly as possible within the plot. The gardens are shown on the 1878 map, and subsequent editions, with planting beds and trees as excavated. The OS map reflects the layout of the site, rather than providing an idealised version of the mid-Victorian villa suburb.

7 CONCLUSIONS

The excavation at 1 Park Town was quite limited in its extent. Nevertheless the results indicate that the form of later prehistoric occupation evidenced on the gravel ridge separating the Cherwell and Thames rivers was entirely in character with the other tributaries – and indeed distributaries – in the Upper Thames Valley.

The potential significance of this permits the association of the hut-rings and occupation known from Port Meadow, Binsey and potentially Whitehouse Road to be put into a broader context of transhumant activities carried out between the water-meadows of the Thames and the higher, drier ground, probably used for arable farming.

The potential for this kind of Middle Iron Age settlement activity had long been suspected, but the absence of residual prehistoric pottery from within the medieval city, from where much of the archaeological record of Oxford has been derived, has meant that more than postulating such a relationship has been tentative, in the absence of actual evidence.

This work has demonstrated that there are undoubtedly further areas of Middle Iron Age activity to be revealed in the vicinity of Park Town.

The 19th-century development of the suburb yields an important insight into the development of Oxford from a county town, with the apparatus of the University bolted on, to a more integrated city combining both the University and, from the early 20th century, industry within the expanding limits of the city.

8 BIBLIOGRAPHY

ABMAP 2003 (University of Southampton) *Animal Bone Metrical Archive Project (ABMAP)* [data-set]. York: Archaeology Data Service [distributor] (doi:10.5284/1000350)

Allen, T.G., 1990 *An Iron Age and Romano-British enclosed settlement at Watkins Farm, Northmoor, Oxon*. Thames Valley Landscapes: the Windrush Valley, Volume **1**, Oxford University Committee for Archaeology

Allen, T.G., and Robinson, M.R., 1993 *The Prehistoric Landscape & Iron Age enclosed settlement at Mingies Ditch, Hardwick-with-Yelford, Oxon*. Thames Valley Landscapes: the Windrush Valley, Volume **2**, Oxford Archaeological Unit and Oxford University Committee for Archaeology

Allen, T.G., Darvill, T.C., Green, L.S, & Jones, M.U., 1993 *Excavations at Roughground Farm, Lechlade, Gloucestershire: a* prehistoric *and Roman landscape*, Thames Valley Landscapes: The Cotswold Water Park, Vol **1**, Oxford

Anthony, S., 2005 'Prehistoric and early Roman field systems at Halifax House, South Parks Road, Oxford' *Oxoniensia* **70** 129-39

Atkinson, R.J.C., 1942 'Archaeological sites on Port Meadow, Oxford' *Oxoniensia* **7** 24-35

Boessneck, J. A., 1969 'Osteological differences between sheep (*Ovis aries* Linne*)* and goat (*Capra hircus* Linne)' in D.R. Brothwell & E.S. Higgs (eds)., *Science in Archaeology.* 331-358. London: Thames and Hudson.

Booth, P., & Simmonds, A., 2011 *Gill Mill, Ducklington and South Leigh, Oxfordshire Post-excavation assessment and project design* Unpublished client report

Beckley, R., & Radford, D., 2012 *Oxford Archaeological Resource Assessment 2011 The Iron Age*

Bradley, P., Charles, B., Hardy, A., & Poore, D., 2005 'Prehsitoric and Roman activity and a Civil War ditch: excavations at Chemistry Research Laboratory, 2-4 South Parks Road, Oxford' *Oxoniensia* **70** 141-202

Bradley, R., 1990 *The Passage of Arms* Cambridge CUP

Bradley, R., 2005 *Ritual and Domestic Life in Prehistoric Europe*. London: Routledge.

Bradley, R., and Gordon, K., 1988 'Human skulls form the River Thames, their dating and significance' *Antiquity* **62** 503-9

Bull, G. & Payne, S., 1982 'Tooth Eruption and Epiphyseal Fusion in Pigs and Wild Boar' in B. Wilson, C. Grigson, and S. Payne, (eds), *Ageing and sexing animal bones from archaeological sites.* BAR British Series **109**.

Driesch, A. von den, 1976 'A guide to the measurement of animal bones from archaeological sites' *Peabody Museum Bulletin* **1**.

English Heritage 1991 *Management of Archaeological Projects 2*

Ford, S., 'Middle Iron Age occupation at Ells Lane, Bloxham, Bicester, Oxfordshire' *Oxoniensia* **74**, 113-26

Getty, R., 1975 *Sisson and Grossman's The Anatomy of the Domesticated Animals.* Philadelphia: W.B. Saunders Co.

Gilbert, D., 2005 *An Archaeological Excavation at Bernwood First School, North, Barton, Oxford* Unpublished client report

Gilbert, D., 2011 *An Archaeological Watching Brief at the Site of the Former King of Prussia, 76 Rose Hill, Oxford* JMHS Unpublished client report

Gilbert, D., & Riccoboni, P., forthcoming *Excavations at Abingdon Old Gaol* JMHS Monograph

Grant, A., 1982 'The use of toothwear as a guide to the age of domestic ungulates' in R. Wilson, C. Grigson and S. Payne (eds.) *Ageing and Sexing Animal Bones from Archaeological Sites* BAR British Series **109**, 91-108.

Grant, A., 1984 'Animal husbandry' *Danebury: Vol 2*. B. Cunliffe. London, Council British Archaeology **52b**: 496-548.

Harding, D., 1972 *The Iron Age in the Upper Thames Basin*, Oxford

Hey, G**,** Booth, P and Timby, J 2011a *Yarnton: Iron Age and Roman settlement and landscape*, Thames Valley Landscapes Monograph **35**, Oxford

Hey, G, 1995 'Iron Age and Roman settlement at Old Shifford Farm, Standlake' *Oxoniensia* **60**, 93-175

Hill, J.D., 1995 *Ritual and Rubbish in the Iron Age of Wessex. A study on the formation of a specific archaeological record.* BAR British Series **242**.

Hinchcliffe, T., 1992 *North Oxford* London Yale University Press

Hambleton, E., 1999 *Animal Husbandry Regimes in Iron Age Britain: a comparative study of faunal assemblages from British Iron Age Sites.* Oxford: BAR British Series **282**.

Institute of Field Archaeologists, 1999. *Standard and Guidance for archaeological excavations*. Revised 2008

Jennings, D., Muir, J., Palmer, S., & Smith, A., 2004 *Thornhill Farm, Fairford, Gloucestershire An Iron Age and Roman pastoral site in the Upper Thames Valley* Thames Valley Landscapes Monograph **23**, Oxford

Lambrick, G., 1992 'The development of late Prehistoric and Roman farming on the Thames gravels' in *Developing landscapes of Lowland Britain. The archaeology of the British*

gravels: a review (eds MFulford and E Nichols), Soc Antiqs London Occasional Paper **14**, 78-105

Lambrick, G., 2009 *Thames Through Time: the archaeology of the gravel terraces of the Upper and Middle Thames. Late prehistory: 1500 BC – AD 50* Oxford Archaeology Thames Valley Monograph

Lambrick, G., forthcoming 'Prehistoric Oxford The Tom Hassell Lecture for 2012' *Oxoniensia*

Lambrick, G., & Allen, T., 2004 *Gravelly Guy, Stanton Harcourt, Oxfordshire: the development of a prehistoric and Romano-British community* Thames Valley Landscape Monograph **21** Oxford: Oxford University School of Archaeology/Oxford Archaeology

Lambrick, G., and Robinson, M., 1978, *Iron Age and Roman riverside settlements at Farmoor, Oxfordshire*, Oxford Archaeol Unit Rep 2/CBA Res Rep **32**, Oxford and London

Lamdin-Whymark, H., Brady, K., and Smith, A., 2009 'Excavation of a Neolithic to Roman Landscape at Horcott Pit near Fairford, Gloucestershire, in 2002 and 2003' *Transactions of the Bristol & Gloucestershire Archaeological Society* **127** 45-129

Mayes, A., Hardy, A., & Blair, J., 2000 'The excavation of Early Iron Age and Medieval remains on land to the west of Church View, Bampton, Oxon' *Oxoniensia* **65**, 267-90

Mellor, M., 1984 'A summary of the key assemblages. A study of pottery, clay pipes, glass and other finds from fourteen pits, dating from the 16th to the 19th century' in T.G. Hassall *et al*, 'Excavations at St Ebbe's' *Oxoniensia* **49**, 181-219.

Mellor, M., 1994 'Oxford Pottery: A Synthesis of middle and late Saxon, medieval and early post-medieval pottery in the Oxford Region'*Oxoniensia* **59**, 17-217

Miles, D., Palmer, S., Smith, A. & Jones, G.P., 2007 *Excavations at Claydon Pike and other sites within the Cotswold Water Park* Thames Valley Landscape Volume **26**

Minn, H., 1946-7 'A manuscript history of Summertown' *Oxoniensia* **11-12**, 152-61

Mudd, A., 1993, 'Excavations at Whitehouse Road, Oxford, 1992' *Oxoniensia* **58**, 33-85

Mulville, J., and Levitan, B., 2004 'The animal bone' In G. Lambrick and T. Allen, *Gravelly Guy, Stanton Harcourt: The development of a Prehistoric and Romano-British Community*, Oxford Archaeology, Thames Valley Landscape Monograph **21** 263-479

Muir, J., and Roberts, M., 1999 *Excavations at Wyndyke Furlong, Abingdon, Oxfordshire, 1994,* Oxford Archaeology, Thames Valley Landscapes Monograph **12**

Mytum, H., 1986 'An Early Iron Age site at Wytham Hill, near Cumnor, Oxon.' *Oxoniensia* **51**: 15-25

O'Connor, T., 1988 *Bones from the General Accident Site, Tanner Row*. London, Council for British Archaeology.

Parrington, M., 1978 *The excavation of an Iron Age settlement, Bronze Age ring ditches and Roman features at Ashville Trading Estate, Abingdon, Oxfordshire, 1974-76*, Oxford Archaeology Unit Rep 1, CBA Res Rep **28**, Oxford and London

Payne, S., 1985 'Morphological distinctions between the mandibular teeth of young sheep, *Ovis,* and goats*, Capra*' *Journal of Archaeological Science* **12** 139-47

Payne, S., 1973 'Kill off patterns in sheep and goats: the mandibles from Asvan Kale' *Anatolian Studies* **23** 281-303

PCRG, 1997 *The study of later prehistoric pottery: general policies and guidelines for publication*, Prehistoric Ceramics Research Group, Occas papers nos **1** and **2** (revised)

Pine, J., & Preston, S., 2004 *Iron Age and Roman Settlement and Landscape at Totterdown Lane, Horcott, near Fairford, Gloucestershire* Thames Valley Archaeological Services Monograph **6**

Pluskowski, A., 2002 'Hares with crossbows and rabbit bones: integrating physical and conceptual studies of medieval fauna' *Archaeological Review from Cambridge* 18, 153-182.

Poore, D., & Wilkinson, D., 2001 *Beaumont Palace and the White Friars: excavations at the Sackler Library, Beaumont Street, Oxford* OAU Occasioanl Paper **9**

Radford, D., 2010 'Archaeological work in Oxford City, 2009' *Oxoniensia* **75** 219-221

Salter C.J., & Gilmour, B., n.d. *Glossary of terms used in the study of ancient metal-working and associated processes* URL: http://hist-met.org/glossary.pdf Retrieved 22 April 2013

Serjeantson, D., 1989 'Animal remains and the tanning trade' in D. Serjeantson & T. Waldron (eds) *Diet and Crafts in Town: the evidence of animal remains from the Roman to the Post-Medieval periods.* Oxford: BAR British Series 199. 129-146.

Sykes, N., 2007 'Animal Bone' In D. Miles, S. Palmer, A. Smith, & G. P. Jones (eds) *Iron Age and Roman Settlement in the Upper Thames Valley: excavations at Claydon Pike and other sites within the Cotswold Water Park* Oxford: Oxford Archaeology Thames Valley Landscape Monograph No. 26. 53-55.

UAS 2012 Aerial Photographs of the Crop Marks in the University Parks URL: http://www.parks.ox.ac.uk/crops/ Retrieved 9 April 2013

VCH 1979 'Modern Oxford' *A History of the County of Oxford: Volume 4: The City of Oxford* (1979), 181-259.
URL: http://www.british-history.ac.uk/report.aspx?compid=22805 Date accessed: 29 April 2013

Williams, G., 1998 *Street Furniture in Oxford* Unpublished dissertation OUDCE

Williams G., 2013 *An Archaeological Watching Brief at Moonraker Lane, Bampton, Oxfordshire* JMHS Unpublished client report