

# Rainwater Attenuation Scheme, Oxford University Parks, Oxford

Post-excavation Assessment Report and Proposals for Analysis and Final Publication



Ref: 71081.01

February 2011



### Post-excavation Assessment Report and Proposals for Analysis and Final Publication

Prepared for: Laing O'Rourke Construction South Ltd Bridge Place Anchor Boulevard Admirals Park Crossways Dartford DA2 6SN

> by Wessex Archaeology Portway House Old Sarum Park SALISBURY Wiltshire SP4 6EB

Report reference: 71081.1 Path: \\Projectserver\WESSEX\PROJECTS\71081\Post Ex\Report\71081\_Oxford\_Rainwater\_Attenuation\_scheme Draft report

February 2011

© Wessex Archaeology Limited 2011 all rights reserved Wessex Archaeology Limited is a Registered Charity No. 287786



### DISCLAIMER

THE MATERIAL CONTAINED IN THIS REPORT WAS DESIGNED AS AN INTEGRAL PART OF A REPORT TO AN INDIVIDUAL CLIENT AND WAS PREPARED SOLELY FOR THE BENEFIT OF THAT CLIENT. THE MATERIAL CONTAINED IN THIS REPORT DOES NOT NECESSARILY STAND ON ITS OWN AND IS NOT INTENDED TO NOR SHOULD IT BE RELIED UPON BY ANY THIRD PARTY. TO THE FULLEST EXTENT PERMITTED BY LAW WESSEX ARCHAEOLOGY WILL NOT BE LIABLE BY REASON OF BREACH OF CONTRACT NEGLIGENCE OR OTHERWISE FOR ANY LOSS OR DAMAGE (WHETHER DIRECT INDIRECT OR CONSEQUENTIAL) OCCASIONED TO ANY PERSON ACTING OR OMITTING TO ACT OR REFRAINING FROM ACTING IN RELIANCE UPON THE MATERIAL CONTAINED IN THIS REPORT ARISING FROM OR CONNECTED WITH ANY ERROR OR OMISSION IN THE MATERIAL CONTAINED IN THE REPORT. LOSS OR DAMAGE AS REFERRED TO ABOVE SHALL BE DEEMED TO INCLUDE, BUT IS NOT LIMITED TO, ANY LOSS OF PROFITS OR ANTICIPATED PROFITS DAMAGE TO REPUTATION OR GOODWILL LOSS OF BUSINESS OR ANTICIPATED BUSINESS DAMAGES COSTS EXPENSES INCURRED OR PAYABLE TO ANY THIRD PARTY (IN ALL CASES WHETHER DIRECT INDIRECT OR CONSEQUENTIAL) OR ANY OTHER DIRECT INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE

### **QUALITY ASSURANCE**

SITE CODE	71081	ACCESSION CODE		CLIENT CODE	
PLANNING APPLICATION REF.	08/01542/FUL	CO-ORDINATES	451	559, 20715	0

VERSION	STATUS*	PREPARED BY	APPROVED BY	APPROVER'S SIGNATURE	DATE	FILE
1	F	SDT				<u>\\Projectserver\WESSEX\PROJECTS\71081\Po</u> stex\Report\71080_ report_edLNM

\* I= Internal Draft E= External Draft F= Final



### Post-excavation Assessment Report and Proposals for Analysis and Final Publication

### Contents

	Summary Acknowledgements	vi vi
1	INTRODUCTION1.1Project Background1.2The Site, Location and Geology1.3Archaeological and Historical Background1.4Prehistoric (500,000 BP–AD 43)1.5Roman period (AD 43–410)1.6Saxon period (AD 410–1066)1.7Medieval period (AD 1066–1485)1.8Post-medieval to modern (AD 1485–present)1.9Previous Archaeological Work	1 1 1 2 2 2 2 2 2 3 3 3 4
2	AIMS AND OBJECTIVES2.2Natural topography and the early prehistoric environment2.3Neolithic2.4Bronze Age2.5Iron Age2.6Roman2.7Saxon2.8Medieval and Post-medieval	
3	METHODOLOGY         3.1         Introduction         3.2       Monitoring         3.3       Finds and Environmental Strategies         3.4       Copyright	
4	RESULTS         4.1       Introduction         4.2       Natural deposits and soil sequence         4.3       Summary of the excavation results         4.4       Bronze Age         4.5       Iron Age         4.6       Medieval         4.7       Post-Medieval to Modern	<b>10</b> 10 10 11 11 11 11 12 12
5	WATCHING BRIEF	12
6	FINDS 6.1 Introduction	<b>13</b> 13



	6.2 Pottery	13
	6.3 Ceramic Building Material (CBM)	14
	6.4 Fired Clay	14
	6.5 Worked Flint	14
	6.6 Stone	15
	6.7 Slag	15
	6.8 Metalwork	15
	6.9 Human Bone	15
	0. IU Animai done	15
7	PALAEO-ENVIRONMENTAL EVIDENCE	17
	7.1 Introduction	17
	7.2 Charred plant remains and wood charcoal	17
	7.3 Land and fresh/brackish water molluscs	18
8	STATEMENT OF POTENTIAL	18
	8.1 Introduction	18
	8.2 Natural topography and the early prehistoric environment and Neolithic	18
	8.3 Bronze Age	19
	8.4 Iron Age to Romano-British	19
	8.5 Saxon, medieval and post-medieval	20
	8.6 Finds	20
	8.7 Palaeo-environmental evidence	21
9	CONCLUSIONS AND RECOMMENDATIONS	21
9 10	CONCLUSIONS AND RECOMMENDATIONS	21 21
9 10	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication	<b>21</b> <b>21</b> 21
9 10	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis	<b>21</b> 21 21 22
9 10 11	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME	<b>21</b> 21 22 22 <b>22</b>
9 10 11	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> </ul>
9 10 11	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> <li>22</li> <li>22</li> </ul>
9 10 11	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> <li>23</li> </ul>
9 10 11	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> </ul>
9 10 11	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards 11.4 Tasklist for analysis and publication STORAGE AND CURATION	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> </ul>
9 10 11 12	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards 11.4 Tasklist for analysis and publication STORAGE AND CURATION 12.1 Museum	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> </ul>
9 10 11 12	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards 11.4 Tasklist for analysis and publication 11.4 Tasklist for analysis and publication 12.1 Museum 12.2 Preparation of Archive	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>23</li> <li>23</li> <li>23</li> <li>23</li> </ul>
9 10 11 12	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards 11.4 Tasklist for analysis and publication 11.4 Tasklist for analysis and publication 12.1 Museum 12.2 Preparation of Archive 12.3 Conservation	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>23</li> <li>24</li> </ul>
9 10 11 12	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards 11.4 Tasklist for analysis and publication STORAGE AND CURATION 12.1 Museum 12.2 Preparation of Archive 12.3 Conservation 12.4 Discard Policy	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>24</li> <li>24</li> </ul>
9 10 11 12	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards 11.4 Tasklist for analysis and publication STORAGE AND CURATION 12.1 Museum 12.2 Preparation of Archive 12.3 Conservation 12.4 Discard Policy 12.5 Copyright	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>23</li> <li>24</li> <li>24</li> <li>24</li> </ul>
9 10 11 12	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis. RESOURCES AND PROGRAMME 11.1 Designated project team. 11.2 Management structure. 11.3 Performance Monitoring and Quality Standards. 11.4 Tasklist for analysis and publication STORAGE AND CURATION 12.1 Museum. 12.2 Preparation of Archive. 12.3 Conservation 12.4 Discard Policy. 12.5 Copyright	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>23</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> </ul>
9 10 11 12 13	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis. RESOURCES AND PROGRAMME 11.1 Designated project team. 11.2 Management structure. 11.3 Performance Monitoring and Quality Standards. 11.4 Tasklist for analysis and publication STORAGE AND CURATION 12.1 Museum. 12.2 Preparation of Archive. 12.3 Conservation . 12.4 Discard Policy. 12.5 Copyright . 12.6 Security Copy . REFERENCES	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>26</li> </ul>
9 10 11 12 13	CONCLUSIONS AND RECOMMENDATIONS PUBLICATION PROPOSAL 10.1 Place of publication 10.2 Report synopsis RESOURCES AND PROGRAMME 11.1 Designated project team 11.2 Management structure 11.3 Performance Monitoring and Quality Standards 11.4 Tasklist for analysis and publication STORAGE AND CURATION 12.1 Museum 12.2 Preparation of Archive 12.3 Conservation 12.4 Discard Policy 12.5 Copyright 12.6 Security Copy REFERENCES 13.1 Online resources	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>24</li> &lt;</ul>
9 10 11 12 13	CONCLUSIONS AND RECOMMENDATIONS	<ul> <li>21</li> <li>21</li> <li>22</li> <li>22</li> <li>22</li> <li>23</li> <li>23</li> <li>23</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>24</li> <li>26</li> <li>28</li> </ul>

### <u>Tables</u>

Table 1:	All finds by	All finds by context (number / weight in grammes)												
Table 2:	Pottery war	Pottery ware totals												
Table 3:	Number o	f identified	animal	specimens	present	(NISP)	by							
	chronologica	al period												
Table 4:	Assessmen	t of the charr	ed plant r	emains and c	harcoal									



### **Figures**

Figure 1:	Site location and areas of excavation and watching brief
Figure 2:	Phase plan of archaeological features within the excavated area
Figure 3:	Sections
	<b>Section 1:</b> North-facing section of ditch 108 (Group 501) and overlying deposits 101 and 102
	Section 28: West facing section of ditch 195 (Group 502)
	Section 36: South-east facing section of ditch 215 (Group 506)
	<b>Section 39:</b> North-east facing section of ditch 221 (Group 503) cutting
	tree throw 224
	<b>Section 55:</b> North-east facing section of ditches 281(Group 503) and 284 (Group 510) cutting tree throw 286
	Section 65: Ditch 221 (Group 503) cutting tree throw 326, ditch
	terminus 320 (Group 508) cutting 221 and ditch terminus 324 (Group
	510) cutting 320
	<b>Section 71:</b> North-west and north-east facing section of intercutting ditches 365 (Group 503) and 362 (Group 505), tree throw 359 and
	feature 371
Figure 4:	Plate 1: View of group 510, from north-east
	<b>Plate 2:</b> North facing section of ditch 108 (Group 501), and overlying deposits 101 & 102
	<b>Plate 3:</b> North facing section of ditch 352 (Group 503) cutting tree
	throw 356
	Plate 4: South-east facing section of ditch 215 (Group 506)
	Plate 5: Oblique view of south-facing section of Group 511 and west-
	facing section of ditch 175
	Plate 6: View of north-west corner of Site, from the south
Front Cover:	Excavation in the north-west corner of Site
Back Cover:	Eastern service trench monitored in watching brief



### Post-excavation Assessment Report and Proposals for Analysis and Final Publication

### Summary

Wessex Archaeology was commissioned by Laing O'Rourke Construction South Ltd to undertake a programme of archaeological work comprising excavation and watching brief in advance of the construction of a Rainwater Attenuation Scheme within the Oxford University Parks (centred on NGR 541559, 207150) in order to discharge the archaeological conditions attached to the Planning Consent for the Scheme. The work was carried out in February and June 2009

The Oxford University Parks is located on the west bank of the River Cherwell in a rich archaeological landscape, as identified from a series of aerial photographs which reveal remains potentially dating from the Neolithic onwards. Analysis of the photographs has identified an extensive ritual landscape comprising a possible Neolithic cursus and a series of Bronze Age barrows, superseded by a Middle/Late Iron Age to Romano-British settlement, comprising ditched enclosures. Recent excavation in the vicinity of the University Parks has identified a possible henge to the south-west and two Bronze Age barrows and a Romano-British settlement to the south of the Site.

The excavation identified the possible remains of a truncated Bronze Age barrow, the ditch of which may have been deliberately infilled during the Middle to Late Iron Age to make way for a series of fields and paddocks on the periphery of a settlement.

No clear evidence for settlement was revealed in the form of roundhouses, post-built structures or storage pits, although numerous features associated with the animal husbandry and agriculture were uncovered.

It was clear that the Site had suffered truncation, due to post-medieval ploughing and landscaping for the construction of playing fields. This truncation had had a detrimental effect on the archaeological remains, but it was clear that there were still significant remains surviving below the playing fields of Oxford University Parks.

The results of the excavation are of local significance, and warrant a short publication note in the county archaeological journal *Oxoniensia*.



### Post-excavation Assessment Report and Proposals for Analysis and Final Publication

### Acknowledgements

Wessex Archaeology would like to thank Rob Powell of Laing O'Rourke Construction South Ltd for commissioning this programme of archaeological works. Thanks are also due to David Radford of Oxford City Council who monitored the works on behalf of the local authority.

The fieldwork was undertaken by Steve Thompson and Chloe Hunnisett with Gary Evans and Katherine Barber. The watching brief was undertaken by Phil Harding. This report was compiled by Steve Thompson with specialist reports by Lorrain Higbee (animal bone), Lorraine Mepham (all other finds) and Sarah F. Wyles (environmental). The illustrations were prepared by Rob Goller.

The programme of fieldwork was managed on behalf of Wessex Archaeology by Mark Williams, with the post-excavation work managed by Lorraine Mepham.



### Post-excavation Assessment Report and Proposals for Analysis and Final Publication

### 1 INTRODUCTION

### 1.1 **Project Background**

- 1.1.1 Wessex Archaeology was commissioned by Laing O'Rourke Construction South Ltd to undertake a programme of archaeological work comprising excavation and watching brief in order to discharge the archaeological conditions attached to the Planning Consent for the Oxford University Parks Rainwater Attenuation Scheme (hereafter the 'Scheme') within the Oxford University Parks (hereafter the 'Site'). (**Figure 1**). The work was undertaken in February and June 2009.
- 1.1.2 The Scheme comprised the installation of underground water tanks in the southern part of the Site with associated drainage runs to irrigation points to in the north and south and the excavation of a trench for electric cables. The site of the Scheme and the surrounding area were the subject of an archaeological desk-based assessment (DBA) (MoLAS 2008a).
- 1.1.3 The results of the DBA and details of the proposed construction impact were used to produce the written scheme of investigation (WSI) (MoLAS 2008b) which outlined the methods to be employed during the programme of works, and the aims and objectives of those works.
- 1.1.4 This report sets out an assessment of the findings of the programme of archaeological work within the Site, and details proposals for further analysis and publication of these results.

### 1.2 The Site, Location and Geology

- 1.2.1 The Site is located within the Oxford University Parks, a designated English Heritage Grade II Registered Park in the City of Oxford, Oxfordshire, centred on NGR 451559, 207150. The Site formerly lay within the ancient parish of Holywell before being absorbed into the City administration and is situated some 400m north of the northern edge of the medieval city. The Site is currently utilised as playing fields.
- 1.2.2 The underlying geology comprises the Pleistocene Summertown-Radley (second) Gravel Terrace (BGS sheet 236) which forms a north-south aligned ridge of higher ground between the River Thames (Isis) *c*. 1000m to the west and the River Cherwell *c*. 200m to the east.
- 1.2.3 The Site is situated at approximately 62m above Ordnance Datum (aOD).



### 1.3 Archaeological and Historical Background

- 1.3.1 The archaeological potential of the Site was investigated in the archaeological desk-based assessment (MoLAS 2008a), which identified 38 known archaeological sites and find spots within a study area extending a minimum of 450m around the University Parks. A summary of those findings is included here.
- 1.3.2 The Site is located in an area of known later prehistoric to post-medieval archaeology.

### 1.4 Prehistoric (500,000 BP–AD 43)

- 1.4.1 No Palaeolithic or Mesolithic finds or features have been discovered to date within the University Parks area. A probable Neolithic henge was identified at Keble College in 2008 by TVAS (<u>http://www.tvas.co.uk/news/oxford-2.html</u>) some 240m to the south-west and may be part of a prehistoric ritual landscape including a possible cursus identified as parchmarks in aerial photographs (see below). Further later prehistoric (Neolithic, Bronze and Iron Age) features probably include some of the other parchmarks shown within and surrounding the Site. These include the remains of a Bronze Age barrow cemetery, and the enclosures of an Iron Age (or Roman) field system and settlement. These are discussed in more detail below (**Section 1.11**).
- 1.4.2 A barbed and tanged arrowhead (of likely Late Neolithic/Early Bronze Age date) has been found in the north-eastern part of the University Parks, *c*. 300m north-east of the Site, and the remains of Bronze Age round barrows and Iron Age features and pottery have been excavated to the south of the Site (Parkinson *et al.* 1996; OA [Oxford Archaeology] 2003).

### 1.5 Roman period (AD 43–410)

- 1.5.1 The Roman settlement pattern is believed to have perpetuated Late Iron Age territorial groupings with Oxford on the periphery between the major towns at Silchester, Cirencester and *Verulamium*. Two small towns were established at Alcester to the north-east, and Dorchester-on-Thames to the south-east, connected by a Roman road that ran through the eastern edge of modern Oxford (Dodd 2003, 11). A second, north-south road is thought to have followed the approximate line of the present Banbury Road.
- 1.5.2 Activity at this period was mainly concentrated in East Oxford, but a smallscale rural settlement has been recorded in the Science Area *c*. 200m south-west of the Site. The Roman activity in this area included field systems, a timber building and inhumation burials. Rectilinear crop marks identified from air photographs in the area of the University Parks (see below, **Section 1.11**) and on the Site itself may represent further traces of Roman field systems and/or settlement.

### 1.6 Saxon period (AD 410–1066)

1.6.1 The Upper Thames Valley was an early centre of Anglo-Saxon settlement, primarily south of Oxford (Dodd 2003, 12). An 8th century monastery



founded by St Frideswide at the southern end of the Oxford promontory, *c*. 1km south of the Site, probably provided a focus for settlement. Oxford subsequently developed as a planned town and fortified *burh* established by Alfred the Great, and by the late Saxon period Oxford was a major town. (VCH Oxon iv, 3).

- 1.6.2 Chance finds and burials to the north and north-east of the medieval town suggest an early Saxon presence, in particular a Saxon cemetery, which could include round barrows, in the area of the Radcliffe Infirmary, c. 500m to the west of the Site (MoLAS 2007a; 2007b). There is, however, a paucity of finds from within the study area: only a Saxon/Danish key from the site of the University Museum, and a gold *bracteate* from St Giles field *c*. 300m west of the Site are reported. There is thus no clear evidence that the suggested cemetery extends as far east as the present Site.
- 1.6.3 The Site would have been located to the north of the later Saxon defences around the *burh*, in the manor of Holywell. The nature and extent of any settlement focus within the manor has yet to be determined, but it is likely that the area of the Site was open, perhaps agricultural land in this period.

### 1.7 Medieval period (AD 1066–1485)

- 1.7.1 The University Parks, including the Site, originally fell within the manor of Holywell (also known as St Cross), centred around the church and manor house located some 500m to the south-east of the Site. At the time of the Domesday Survey (AD 1086) there was land for one plough, 23 men held gardens, and there were the equivalent of 4 acres of meadow (VCH Oxon iv, 271–3). In 1294 the manor passed to Merton College and from the early 13th century the land was leased to tenants (Hibbert 1988, 188). By the 14th century this estate had grown to include fields between the Cherwell and Parks Road, Merton College being lord of the manor (*ibid*.). Much of this land was enclosed at an early date, the 'lord's park' being noted from the 14th century, and the New Park close from the 15th century (*ibid*., 274).
- 1.7.2 Settlement remains have been recorded from the western side of the Banbury Road, and to the south-west of the Site at Woodstock Road and St Giles. A medieval jug handle was found in the University Parks 280m east of the Site, with further medieval pottery was recorded at the Sir William Dunn Laboratory, 150m southeast of the Site, but no settlement remains have been found within the University Parks. The Site is likely to have remained open or agricultural land in the medieval period.

### **1.8 Post-medieval to modern (AD 1485–present)**

- 1.8.1 With the great rise in the fortunes of Oxford due to the growth of the University and a rising population, the suburbs outside the city, including the parish of Holywell, saw considerable growth in the number of domestic dwellings during the late 16th and 17th centuries (VCH Oxon iv, 89). This is reflected in the historic maps.
- 1.8.2 The earliest map to show the site is the Holywell estate map of 1672. Despite the poor quality of the original, the Site can be clearly located in open land including the New Parks, on the north-west edge of the manor.

- 1.8.3 The St Giles estate map of 1769 shows that the site was located outside the parish of St Giles and therefore the mapped area, within an area called 'The Parks', with arable fields to the north. The Holywell estate map of 1847 shows that the site was located within enclosures 2 and 3 of the Parks, which were used for arable at that time. Surrounding fields were used for pasture or meadow and some were gardens.
- 1.8.4 In the middle years of the 19th century, the University and associated occupation expanded steadily. The Ordnance Survey 1st edition 25" map of 1876 shows the site within the open land now called University Park and containing occasional trees and paths. A gravel pit is located to the northeast of the site within the Park, but no gravel pits are recorded on the site. Housing had built up around the park on the north, south and west sides and University buildings had been constructed to the south-west of the site and the University observatory to the south-east.
- 1.8.5 The Ordnance Survey maps of 1900, 1921, and 1939 show that the site remained open and undeveloped within the University Park. Before 1900, a Pavilion had been built to the east of the site and the University science buildings expanded across the area south of the site.
- 1.8.6 Scattered post-medieval artefacts and remains have been recovered from within the Parks and in the surrounding area. The site was open land throughout the post-medieval period and up to the present day, and archaeological features are likely to be those associated with agriculture or small-scale gravel quarrying.

### 1.9 Previous Archaeological Work

### Aerial Photographs

- 1.9.1 The Site lies within an area covered by the English Heritage's National Mapping Programme (NMP) to plot digitally all archaeological cropmarks, soilmarks and parchmarks for each county onto Ordnance Survey 1:10,000 quarter sheets. Cropmarks (parch marks when featured on grass) are caused by the differential moisture content of archaeological features and surrounding soils. Cut features (such as archaeological pits and ditches) provide deeper areas of soil where the deeper rooting zone holds greater reserves of moisture and nutrients. Crops planted over archaeological (cut) features will therefore suffer from less moisture stress and remain green for longer, compared to surrounding plants. By comparison with areas where cropmarks have been excavated, archaeological features can be identified and an interpretation made of their type and date, largely on morphological grounds.
- 1.9.2 Analysis of the English Heritage plots and the cropmarks previously published by Hassall (1986, fig. 12) was undertaken as part of the DBA (MoLAS 2008a, fig. 11 and 12) and a summary of this analysis is included here.

### Linear ditches

1.9.3 A series of linear marks are located running north-east to south-west across University Parks. These appear similar to a Neolithic cursus monument and



may relate to the putative henge identified under Keble College (Case 1986, cited by Dodd (2003, 9); <u>http://www.tvas.co.uk/news/oxford-2.html</u>). Prior to the identification of the henge, English Heritage identified these linear marks as two parallel south-west to north-east ditches, thought to represent a possible prehistoric or Roman trackway.

1.9.4 The apparent relationship between the irregular enclosures of probable Iron Age or Roman date and the linear ditches may suggest that the latter interpretation as a trackway is correct, but the later features may be aligning on an earlier substantial earthwork which dominated the landscape.

### Ring ditches

- 1.9.5 The aerial photographs show three complete rings of 40m–45m diameter and two incomplete rings, 23m and 55m respectively in length, in an eastwest line across the southern part of the park. Interpreted as the remains of ploughed-out Bronze Age (or less commonly Saxon) round barrows. The two incomplete rings were not included as part of the barrow cemetery by Hassall (1986) and are considered to have been associated with later settlement or field systems. A number of ring ditches have been identified by English Heritage along the gravel terrace and on the floodplain around Oxford, and examples containing Bronze Age burials have been excavated to the south of the site during the development of the Oxford University Science Area: Rex Richards building and at 24A St. Michael's Street (Parkinson *et al.* 1996). The ring ditches indicate that the site formed part of an extensive Bronze Age barrow cemetery.
- 1.9.6 One of the possible incomplete ring ditches is located partly within the Site, where the proposed tanks and southern end of the route of the northern drainage run out would be located

### Large rectilinear enclosures

1.9.7 Two large irregular rectangles orientated north-east to south-west align with the ditches of the possible cursus or suggested trackway and probably represent ditched enclosures of Iron Age or Roman date.

### Settlement remains

- 1.9.8 In the centre of the Parks are a series of marks representing the ditches of c 15 irregular, conjoined enclosures, two asymmetric polygonal enclosures and a circular enclosure. A number of small parchmarks probably represent pits. This group has been interpreted as a prehistoric (possibly Iron Age) or Roman settlement.
- 1.9.9 A second smaller group of two enclosures and some ditches are visible in the centre-south of the Parks, crossing the proposed line of the northern drainage run-out. These are similar to the northern group and may be of the same date.
- 1.9.10 In the south-west corner of the Parks is a rectangular, almost square, enclosure with a regular curvilinear parchmark in its north-east corner and an entrance in the centre of the western side. The regular curvilinear (probably remains of a round house), and the entrance suggest that the enclosure may be associated with settlement. The distance of this enclosure



from other possible settlement remains suggests it may be of a different period to the remains to the north-east and as it appears to cut through one of the ring ditches it is probably than the Bronze Age. Its proximity to the line of a presumed Roman road (Banbury Road) may suggest a Roman date.

1.9.11 A group of linear and rectilinear marks in the centre-west of the Parks are aligned at rough right angles to the linear ditches of the possible trackway. These ditched enclosures may therefore be of the same date as the trackway (i.e. Iron Age or Roman) and may represent the remains of agricultural or settlement remains.

### Geophysical Survey

### Introduction

1.9.12 The Site was surveyed by Oxford Archaeotechnics using magnetometry, which relies on the principle that features such as ditches and large pits silt up gradually, acquiring fills modified by human activity and therefore with different magnetic properties to the surrounding soil. The magnetic enhancement of this anthropogenic soil causes a slight but measurable variation in the earth's magnetic field above it. This can be measured by suitably sensitive equipment and plotted to show soil with different magnetic properties, which comprise archaeological features and modern constructions (such as services).

### <u>Results</u>

- 1.9.13 The plot shows features with archaeological potential and modern services as darker (higher reading) or lighter areas (lower reading) than the surrounding soil. Features containing higher quantities of anthropogenic material (and therefore a greater proportion of iron particles and burnt remains), such as ditches and large pits, appear as darker areas with a higher reading. The full interpretation of the geophysical results is contained within the DBA (MoLAS 2008a); a summary of the anomalies impacted upon by the Scheme are described below.
- 1.9.14 In the south of the site, a semi-circular anomaly interpreted as a ditch was observed which would be impacted upon by the area of the under ground tanks. This feature corresponded with the southern incomplete ring ditch observed in the aerial photographs. Interpreted as the remains of a Bronze Age barrow by English Heritage, but as part of the settlement activity by Briggs *et al.* (1986).
- 1.9.15 Two clear linear anomalies known to be modern services cross the area of the Scheme. There is also an area of high magnetic disturbance interpreted as modern disturbance in the north western corner of the Scheme. This area of high magnetic anomalies masks possible features due to the halos around each anomaly.

### Service Replacement

1.9.16 In April 2008 an excavation by a mechanised excavator took place in the south-west corner of the area where the tanks would be located, to alter an existing service within the Parks. An inspection of this excavation by the City



Archaeologist Brian Durham revealed part of a V-shaped ditch, which was visible in section.

### 2 AIMS AND OBJECTIVES

- 2.1.1 A Written Scheme of Investigation (WSI) was prepared by MoLAS (2008b) which presented the archaeological strategy for excavation, providing full details of the research aims and methodology by which the aims would be achieved. A brief summary is provided here.
- 2.1.2 The following archaeological research objectives have been compiled taking into account the period summaries of the draft Oxfordshire Historic Environment Resource Assessment (Oxford Wessex Archaeology in prep.) and the Brief (Radford 2008), and in particular considering the results of the aerial photographs and geophysical survey on the Site and excavations on other sites in the area.
- 2.1.3 The primary aim of the investigation was to identify and record any significant archaeological features or deposits which would be affected by the development. The following specific objectives are divided by period below:

### 2.2 Natural topography and the early prehistoric environment

- Relation of any identified remains, particularly Palaeolithic remains within the gravels, to evidence within the draft Oxfordshire Historic Environment Resource Assessment.
- Identification and recording of any other Palaeolithic or Mesolithic remains.

### 2.3 Neolithic

- Recording of any evidence for Neolithic activity.
- Establishment of the date and character of any Neolithic remains and investigation of their relationship to the Neolithic ritual landscape, including the recently discovered possible henge monument.
- Relation of any evidence, particularly for Neolithic ritual activity or the monumental landscape, to other examples recorded within the draft Oxfordshire Historic Environment Resource Assessment.

### 2.4 Bronze Age

- Recording of any evidence for Bronze Age activity, noting the potential for remains related to the barrow cemetery and any satellite burials/activity.
- Identification of any evidence for the relationship between the Neolithic ritual landscape and later Bronze Age remains.



• Relation of any evidence, particularly for burials, ritual activity or the monumental landscape, to other examples recorded within the draft Oxfordshire Historic Environment Resource Assessment.

### 2.5 Iron Age

- Recording of any evidence for Iron Age activity, noting the potential for settlement activity and related enclosures/boundaries.
- Establishment of the date, character status and economic basis of any occupation and its relationship to any field systems.
- Establishment of the chronology, layout and development and economic function (e.g. arable/pastoral) of any identifiable field system(s) and associated features (e.g. crop processing or storage areas).
- Identification, if possible, of the point at which settlement and/or any field systems encroached upon the former ritual landscape, and determination of whether the ritual landscape remained a separate space into the Iron Age, or if the Iron Age field system encroached upon it.
- Determination of how the changing landscape usage related to similar landscapes recorded within the draft Oxfordshire Historic Environment Resource Assessment.

### 2.6 Roman

- Recording of any evidence for Roman settlement.
- Establishment of the date, character, status and basis of such occupation and investigate its relationship with the field system activity, noting the presence of an irregular rectilinear field system in University Parks and associated settlement in the University Science Area.
- Establishment of the chronology, layout and development and economic function (e.g. arable/pastoral) of any identifiable field system(s) and associated features (e.g. crop processing or storage areas).
- Identification of any relationships, spatial or artefactual, between the known Roman occupation in the University Science Area and any occupation or field systems within the Site.
- Relation of the Roman activity on the Site to the Roman settlement pattern within Oxfordshire as recorded in the draft Oxfordshire Historic Environment Resource Assessment.

### 2.7 Saxon

• Identification and recording any Saxon remains within the Site.



- Relation, where possible, of any Saxon activity to a Saxon cemetery to the west and previous finds recorded to the south and west, including a mass burial from recent excavations at St John's College.
- Comparison of the distribution of any Saxon evidence with the prehistoric landscape for example, is there any evidence of possible re-use of the barrow cemetery as has been suggested to the west at the Radcliffe Infirmary?

### 2.8 Medieval and Post-medieval

• Identification of any medieval or post-medieval use of the Site. Is there any evidence that the Site was used for anything other than agriculture during the medieval and post-medieval periods, prior to the creation of the Park?

### 3 METHODOLOGY

### 3.1 Introduction

- 3.1.1 Investigation of the area where the underground tanks were to be constructed was undertaken by the excavation of a Strip, Map and Record area measuring 53m by 27m (1431m<sup>2</sup> or 0.1431 hectares).
- 3.1.2 This was undertaken using a 360° tracked excavator utilising a toothless grading bucket under constant archaeological supervision and ceased at the identification of significant archaeological remains or at natural geology if this was encountered first. When machine excavation had ceased the area was cleaned by hand and archaeological features investigated.
- 3.1.3 At various stages during excavation the features were scanned by a metal detector and signals marked in order to facilitate investigation. The excavated up-cast was scanned by metal detector.
- 3.1.4 All archaeological deposits were recorded using Wessex Archaeology's *pro forma* record sheets with a unique numbering system for individual contexts. Individual features were located using a Leica GPS survey system. All archaeological features and deposits were planned at a scale of 1:20 with sections drawn at 1:10. All principal strata and features were related to the Ordnance Survey datum.
- 3.1.5 A full photographic record of the investigations and individual features was maintained, utilising colour slides and black and white prints on 35mm film and digital images. The photographic record illustrated both the detail and general context of the archaeology revealed and the Site as a whole.
- 3.1.6 The majority of the work was carried out between 9th and 27th February 2009, with the watching brief carried out on 24th June 2009. The archive and all artefacts were subsequently transported to the offices of Wessex Archaeology in Salisbury where they were processed and assessed for this report.



### 3.2 Monitoring

3.2.1 Regular monitoring visits were undertaken throughout the field work programme by Oxford City Archaeologist, David Radford, and WA Project Manager Mark Williams.

### 3.3 Finds and Environmental Strategies

- 3.3.1 Appropriate strategies for the recovery of artefacts and environmental samples were devised by Wessex Archaeology's Finds and Environmental staff, which corresponded to the agreed strategies outlined in the WSI. (MoLAS 2008b)
- 3.3.2 Bulk environmental samples (of up to 40 litres) were taken from well-sealed and dated features, following Wessex Archaeology's standard Environmental and Artefact Sampling policy. All artefacts were as a minimum washed, weighed, counted and assessed for this report.

### 3.4 Copyright

3.4.1 This report may contain material that is non-Wessex Archaeology copyright (e.g. Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which we are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferrable by Wessex Archaeology. You are reminded that you remain bound by the conditions of the Copyright, Designs and Patents Act 1988 with regard to multiple copying and electronic dissemination of the report.

### 4 RESULTS

### 4.1 Introduction

4.1.1 Details of individual excavated contexts and features, and details of artefactual and environmental assessments, are retained in the archive. Individual features which were investigated by the excavation of number of interventions (ie. ditches) have been assigned a Group number by which they will be referred to in the Results section. **Appendix 1** lists the Group numbers, and associated cuts and fills to which the finds and environmental data can be related. Discrete features (pits, post-holes and tree throw-hole) will be referred to by the assigned context number with reference to the fills identified. The results are presented below by the major periods identified.

### 4.2 Natural deposits and soil sequence

4.2.1 The Site is located on an area of higher ground between the River Thames and the River Cherwell (**Figure 1**), and Pleistocene river gravels were identified at *c*. 0.5m below the current ground surface at a height of *c*. 61.40m aOD. These gravels were cut by the archaeological features observed (**Figure 2**). The overlying material was characterised by *c*. 0.35m of turf and topsoil **101** from the landscaped playing fields, sealing *c*. 0.15m of sterile, gravel-rich subsoil/levelling material **102** (**Figure 3** and **Plate 2**).



### 4.3 Summary of the excavation results

4.3.1 It is probable that a number of the tree throw-holes which stratigraphically pre-date the earliest archaeological remains are Bronze Age (or even possibly Neolithic) in date and represent clearance of woodland prior to the creation of the later ritual (burial) landscape. However, no firm evidence to support this supposition was recovered.

### 4.4 Bronze Age

- 4.4.1 No archaeological material was recovered that dated to the Bronze Age. However, a single feature, a curvilinear ditch terminal (Group 511) might be of Bronze Age date (Figure 2; Figure 4, Plate 5), on stratigraphic and morphological grounds. The ditch terminal, which showed a broad, U-shaped profile in its surviving depth, was cut by two later ditches (175 and Group 502), and may correspond with the southern, incomplete ring ditch observed in the aerial photographs and geophysics, interpreted as the remains of a Bronze Age barrow by English Heritage (Parkinson *et al.* 1996, 42), but as part of possible Roman settlement activity by Hassall (1986, 116-7). It is clear that the ditch terminal had been truncated; there was no clear, sharp end as one would expect of a true terminal, and instead the feature gradually became shallower.
- 4.4.2 Dating evidence from the ditch terminal, however, is Middle/Late Iron Age (39 pottery sherds), with a single sherd of 'Romanised' greyware pottery. This would seem to support Hassall's interpretation, but it should be noted that the two Bronze Age Barrows excavated to the south of the Site below the Rex Richards Building and at 24A St. Michaels Street (Parkinson *et al.* 1996, 42) were backfilled during the Early to Middle Iron Age. It is therefore possible that **Group 511** is in fact of Bronze Age origin, and was infilled at the same period.

### 4.5 Iron Age

- 4.5.1 All of the remaining prehistoric features can be dated to the Iron Age, with pottery recovered spanning the Middle to Late Iron Age and possibly into the very early Roman period (**Figure 2**). The features appear to represent the remains of agricultural land divisions, in particular for animal husbandry and management. All features contained a range of dateable pottery (*c*. 400BC-AD100).
- 4.5.2 **Group 507**, a north-west to south-east aligned ditch, was stratigraphically the earliest of the Iron Age features and produced only Middle Iron Age pottery (400-100BC). **Group 507** is interpreted a field boundary.
- 4.5.3 Group 507 was cut through by enclosure ditch Group 503, which in association with Groups 504, 505 and 506 (Figure 3, Sections 36, 39, 55, 65, 71; Figure 4, Plates 3, 4) formed an animal stockade with two funnelling ditches leading to a southern entrance. There is evidence for the reestablishment of the enclosure, with the cleaning out of the termini of ditch Groups 503 and 504. Pottery recovered from 503, 504, 505 and 506 spanned the Middle to Late Iron Age; redeposited human bone (neonate),



possibly representing two individuals, was recovered from two deposits within **504**.

- 4.5.4 Within the interior of the stock enclosure were a number of intercutting ditches and short segments of ditch recorded as Groups 508, 509 and 510 and dating from the Middle to Late Iron Age (Figure 3, Section 55, 65; Figure 4, Plate 1). These features were interpreted as internal divisions within the stockade.
- 4.5.5 To the east of the stock enclosure were two roughly north-south aligned parallel ditches each showing a distinct dog-leg, as if avoiding a structure or feature already existing in the landscape. **Groups 501** and **502 (Figure 3, Sections 1, 26; Figure 4, Plate 2)** contained Middle to Late Iron Age pottery and probably represent the remains of a droveway for the movement of animals. Due to the truncation of the Site by later activity (farming and levelling for the playing fields) it is unclear what would account for the distinct dog-leg. It may have been a structure, perhaps a roundhouse with shallow post-holes which have not survived.
- 4.5.6 At the northern edge of excavation area, a narrow north-east south-west aligned ditch (175) was partially revealed cutting ditch Group 511 and contained only one sherd of Late Iron Age pottery. The dating remains uncertain (it is shown as 'undated' on Figure 2), but it may be noted that the alignment matches that of the parallel gullies of the medieval Group 512 (see below).
- 4.5.7 No evidence of structures was observed on Site and it would appear that in fact the Site is located on the periphery of a settlement. However, the identification of shallow pits **309**, **159**, **186**, **189**, three of which contained Middle to Late Iron Age pottery, may provide evidence of settlement closer by, and perhaps further evidence that the Site has suffered through truncation. The pits were too truncated to determine possible function.

### 4.6 Medieval

4.6.1 A series of five parallel north-east to south-west aligned gullies were revealed crossing the Site, four of which cut the earlier archaeological features. These gullies represented the remains of medieval ploughing and were recorded as Group 512. Pottery recovered from ridge and furrow (gullies 157 and 182, 230) includes wares dated between the 11th/12th and 13th/14th centuries.

### 4.7 Post-Medieval to Modern

4.7.1 Seven post-holes, recorded as **Group 513**, were located in the south portion of the site and formed a roughly rectangular structure associated with the use of the Site as a park. Modern finds including pottery and glass (not retained) were recovered from these features.

### 5 WATCHING BRIEF

5.1.1 In June 2009 a watching brief was carried out during the excavation of two service trenches, located to the northern and eastern side of the excavation



area (**Figure 1**). The service trenches were approximately 0.50m wide which resulted in limited interpretation of the identified archaeology. Identified archaeological remains were recorded in the accordance with the agreed methodology set out above.

5.1.2 Nine features were identified with the northern service trench, recorded as **393**, **394/398**, **400**, **402**, **404**, **406**, **408**, **409** and **410**. These features corresponded approximately with the features identified within the aerial photos and the geophysical survey and were interpreted as belonging to the series of sub-rectangular settlement enclosures.

### 6 FINDS

### 6.1 Introduction

- 6.1.1 The strip, map and recording of the Site, and the subsequent watching brief, produced a relatively small finds assemblage. Only animal bone and pottery were recovered in any significant quantity. The date range of the assemblage extends from prehistoric to post-medieval, with a focus on the Iron Age, possibly extending into the early Romano-British period.
- 6.1.2 All finds have been quantified by material type within each context, and the results are presented in **Table 1**. Subsequent to this, all finds have been at least visually scanned, and details of their nature, date range and condition recorded. Spot dates have been recorded for datable finds (pottery, ceramic building material).

### 6.2 Pottery

- 6.2.1 The small pottery assemblage has a date range running from the Iron Age through to the Roman period, with a few sherds of medieval and post-medieval date.
- 6.2.2 The whole assemblage has at this stage been quantified by broad ware group (e.g. calcareous), in order to ascertain the range of ware types and vessel forms, and thence to assign spot dates on a context-by-context basis. Totals by ware type are given in **Table 2**.

### Iron Age/Romano-British

6.2.3 A total of 176 sherds has been dated as later prehistoric, and these fall into three broad ware groups: calcareous, sandy and grog-tempered. All can be accommodated within regional traditions of the Iron Age, possibly in some cases extending into the post-conquest period. Calcareous wares predominate, and these include wares tempered with shell, shelly limestone and oolitic limestone. Vessel forms comprise slightly convex jars with upright rims (pits 180, 309); rounded jars with slightly everted rims (pit 159, ditch groups 503, 511); one necked jar (ditch group 510); one convex jar with pointed, slightly inturned rim (ditch group 507); and a bead rim jar (ditch group 505); these forms have a date range from Middle to Late Iron Age, possibly extending into the early Roman period in the case of the necked and bead rim vessels.

Wessex Archaeology

- 6.2.4 Grog-tempered wares, generally fine and possibly wheelthrown, are found mainly in necked jar forms (ditch groups **505**, **506**, **510**, **511**), with one jar with an upright, pulled bead rim (ditch group 503). One body sherd comes from a high-shouldered, probably necked bowl (ditch group **510**). Two body sherds have horizontal scoring or tooling, and one sherd may be deliberately roughened or 'rusticated' on the exterior surface. These vessel forms indicate a Late Iron Age date for the grog-tempered wares, again possibly extending into the early Roman period.
- 6.2.5 There are no diagnostic sherds in the sandy wares.
- 6.2.6 Only one sherd of definite 'Romanised' wheelthrown greyware was recovered (ditch group **511**, upper secondary fill), from a necked jar.

### Medieval

6.2.7 Five sherds are of medieval date, two from ridge and furrow gullies (157, 182), and one from droveway ditch 230. Ware types represented include coarse, flint-/chalk-tempered East Wiltshire ware (OXAQ) and fine sandy Brill/Boarstall ware (OXAM).

### Post-Medieval

6.2.8 Post-medieval sherds came from topsoil, and from two postholes (**271**, **274**). Wares identified comprise coarse earthenwares (including white-firing Border ware from the Surrey/Hampshire border industry) and modern refined whitewares.

### 6.3 Ceramic Building Material (CBM)

6.3.1 The CBM comprises one fragment of medieval roof tile (pit **189**), and four fragments of post-medieval bricks (posthole 277).

### 6.4 Fired Clay

6.4.1 The fired clay may also represent, at least in part, further building material. Only a small quantity of this material was recovered; several pieces exhibit flattish surfaces, and one fragment (ditch **Group 505**) also has wattle impressions. Fragments from two other contexts, however (pits **180**, **309**) are more likely to derive from objects such as triangular loomweights, of probable Iron Age date.

### 6.5 Worked Flint

6.5.1 The small lithic assemblage comprises seven flakes, one of which is retouched and two broken; and one broken scraper. Most of these pieces are clearly residual in later contexts (ditch Groups 503, 512; tree throw 186), although one piece did come from a feature containing no other datable artefacts (pit 111). In the absence of clearly diagnostic and chronologically distinctive tools, no close dating of this small assemblage can be offered.



### 6.6 Stone

6.6.1 One, possibly two pieces of worked stone were recovered. The more obvious example is a fragment from the upper stone of a rotary quern, in greensand (ditch **Group 507**). A second fragment has a slightly irregular curved surface, and might represent part of an object, perhaps a pyramidal loomweight (ditch **Group 506**).

### 6.7 Slag

6.7.1 A very small quantity of slag was recovered (331g), of which 44g comprises seven small fragments of light, pale grey, vesicular material. This presumably derived from some kind of pyrotechnical activity, but not necessarily metalworking. The remaining three fragments are more characteristic of ironworking, but are insufficient to postulate on-site metalworking.

### 6.8 Metalwork

6.8.1 Of the three iron objects recovered, two are nails (undated pit **210**, modern post-hole **274**), and one comprises a small, tapering strip (length 40mm) of unknown function (possible droveway ditch **Group 501**)

### 6.9 Human Bone

6.9.1 A number of fragments of skeletal remains were recovered from ditch terminus 243 (Group 504) and these were identified as belonging to a full term foetal to first week neonatal individual. Fragments of right humerus were recovered from deposit 245 and left humerus and left tibia from deposit 246. The remains from 246 are slightly larger and more robust than those from 245, perhaps indicating the remains of two individuals.

### 6.10 Animal Bone

### Introduction

- 6.10.1 A small assemblage of animal bone (444 fragments or 6.365kg) was recovered from the Site; the majority (87% of the total) was recovered during the normal course of hand-excavation and a further small quantity retrieved from the sieved residues of seven bulk soil samples.
- 6.10.2 Most of the assemblage is from securely dated Middle and Late Iron Age contexts, with smaller amounts from Romano-British, medieval, modern and undated contexts.

### Methods

- 6.10.3 All anatomical elements were identified to species where possible, with the exception of ribs, which were assigned to general size categories. All conjoining fragments were counted as one specimen hence the overall fragment count is less (at 324) than the raw fragment count given above (**Table 3**).
- 6.10.4 Where appropriate the following information was recorded for each fragment; element, anatomical zone, anatomical position, fusion data, tooth ageing data, butchery marks, metrical data, gnawing, burning, surface



condition, pathology and non-metric traits. This information was directly recorded into a relational database (in MS Access) and cross-referenced with relevant contextual information.

### Results

- 6.10.5 Bone preservation across the site is generally good however, the proportion of gnawed bones is relatively high at 12% and this suggests that the assemblage has been significantly biased by the destructive habit of scavenging carnivores.
- 6.10.6 Approximately 41% of fragments are identifiable to species and element; cattle and sheep/goat bones are common and account for *c*. 78% of all identified bones. Less common species include pig, horse and duck. The assemblage is quantified in **Table 3** and briefly described in the following sections.

### Middle Iron Age

6.10.7 Eighty-four bone fragments were recovered from six Middle Iron Age contexts. The assemblage includes a small number of cattle, sheep/goat and pig bones, as well as a complete horse tibia with a withers height estimate of *c*. 10.2 hands (i.e. a small pony). Two complete sheep/goat mandibles are present, tooth wear analysis indicates that one is from an individual under two years of age and the other is between 3-4 years (i.e. MWS F, after Payne 1973).

### Late Iron Age

- 6.10.8 The Late Iron Age assemblage is from 14 separate contexts and is the largest stratified group from the site, it comprises 150 fragments. Cattle and sheep/goat bones are common; other identified species include pig, horse and duck (mallard-sized). Butchery evidence consistent with dismemberment using a sharp knife (see Maltby 1985) was noted on a small number of cattle bones. Most of the marks were recorded on mandibles and are located just below the condyle (i.e. associated with detaching the mandible).
- 6.10.9 Three complete sheep/goat mandibles and one pig mandible are present, one of the sheep/goat mandibles is from an individual under 2 years, one is between 2-3 years and the other is between 4-6 years (MWS E and G); the pig mandible is from a 21-27 month old (MWS F, after Hambleton 1999).

### Iron Age

6.10.10 Sixteen bones were recovered from five broadly dated Iron Age contexts. Identified bones include a cattle cervical vertebra and two sheep/goat tibiae.

### Romano-British

6.10.11 A single fragment of horse skull was recovered from ditch 221 (Group 503).



### Medieval

6.10.12 Three identified bones were recovered from ditch **182** (ridge and furrow **Group 512**); they include a cattle metapodia, and a sheep/goat humerus and mandible from a 4-6 year old individual (MWS G).

### Undated

6.10.13 Sixty-four fragments of bone were recovered from seventeen undated contexts. The identified portion of the assemblage includes a number of cattle and pig bones, as well as a few sheep/goat and horse bones. Age information is provided by one cattle mandible from a senile individual (MWS I, after Halstead 1985) and one pig mandible from a 21-7 month old individual (MWS E). The assemblage also includes a horse radius with an estimated withers height of *c*. 15.3 hands and a horse mandible with deciduous dentition (i.e. from a juvenile animal).

### 7 PALAEO-ENVIRONMENTAL EVIDENCE

### 7.1 Introduction

- 7.1.1 Thirty-one bulk samples were taken from a range of features of Middle Iron Age to Late Iron Age/early Romano-British date (where dated), from across the site. These features included pits, post-holes, ditches and tree throwholes. These were processed for the recovery and assessment of charred plant remains and charcoals.
- 7.1.2 Bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6mm, 2mm and 1mm fractions and dried. The coarse fractions (>5.6mm) were sorted, weighed and discarded. Flots were scanned under a x10 x40 stereo-binocular microscope and the presence of charred remains quantified (Table 4) to record the preservation and nature of the charred plant and wood charcoal remains. Preliminary identifications of dominant or important taxa are noted below, following the nomenclature of Stace (1997).

### 7.2 Charred plant remains and wood charcoal

- 7.2.1 The flots were generally small with very high numbers of roots and modern seeds, as well as the occasional fragment of coal, which is indicative of stratigraphic movement and the possibility of contamination by later intrusive elements. Charred material was poorly preserved.
- 7.2.2 The small quantities of charred cereal remains recovered from 18 of these samples were mainly low numbers of indeterminate grain fragments or grain fragments possibly of free-threshing wheat (*Triticum turgidum/aestivum* type). There were three possible fragments of grains of barley (*Hordeum vulgare*).
- 7.2.3 A few other charred remains were recovered from nine of the samples. These included shell fragments of hazelnut (*Corylus avellana*), a grape pip (Vitis vinifera), and weed seeds of knotgrass (*Polygonaceae*), oats/brome grass (*Avena/Bromus* spp.) and vetch/wild pea (*Vicia/Lathyrus* sp.).



- 7.2.4 Wood charcoal fragments were only present in very small quantities.
- 7.2.5 Grains of free-threshing wheat and grape pips are rarely recorded from Iron Age or rural Romano-British settlements. Given the good preservation of the grape pip, the high numbers of roots and presence of modern seeds, this is certainly likely to be intrusive, and it is probable that the free-threshing wheat grains, and by association possibly those of barley as well, are also intrusive.
- 7.2.6 Glume bases and grains of spelt wheat (*Triticum spelta*) are usually commonplace archaeobotanical finds upon Iron Age and Romano-British sites in the Thames Valley (Robinson and Wilson 1987; Stevens 2003) and have been recovered from Iron Age sites within Oxford itself (Letts 1993).
- 7.2.7 The absence of such material here may then be due to a combination of factors. The main reason proposed is that the shallow nature of the features and high degree of bioturbation has destroyed much of the material. However, it is possible that activity here was too short-lived for such material to have been produced in any quantity. The latter possibility seems less likely given that the pottery spans the Middle Iron Age to Late Iron Age/Romano-British period. A third possibility is that the lack of cereals reflects intermittent periods of short-lived, low-level occupation upon the Site.

### 7.3 Land and fresh/brackish water molluscs

- 7.3.1 Land snails were observed in generally low numbers in the bulk samples during the assessment of the flots, with the exception of the high numbers of the burrowing snail *Cecilioides acicula*, a medieval introduction which is a good indication of the level of intrusiveness within the sample. A few comments were made on the molluscs and nomenclature is according to Kerney (1999).
- 7.3.2 The molluscs recorded were mainly open country species and included *Vallonia* spp., *Vertigo Pygmaea*, *Helicella itala* and *Pupilla muscorum*. There were also a number of shells of the introduced *Helicellids* species (Roman or later introductions) within the samples. A number of the shells had a very fresh appearance.

### 8 STATEMENT OF POTENTIAL

### 8.1 Introduction

8.1.1 A number of specific research aims and objectives were included in the WSI for the Site; the potential of the results to address these aims and objectives is discussed below.

# 8.2 Natural topography and the early prehistoric environment and Neolithic

8.2.1 It was clear that the Site had suffered from considerable truncation, as indicated by the depth of the excavated features, and this was most probably a result of post-medieval agriculture and the levelling of the Site in



the modern period during landscaping for playing fields. Analysis of the natural topography was therefore limited and no new information regarding the early prehistoric environment was obtained. No clearly early prehistoric deposits, features or artefacts were identified. A small lithic assemblage was recovered, but featured a complete absence of clearly diagnostic and chronologically distinctive tools.

### 8.3 Bronze Age

- 8.3.1 No finds of Bronze Age date were identified in this programme of works. One feature, **Group 511**, which may correspond with the southern incomplete ring ditch noted from aerial photographs and identified as a possible Bronze Age barrow, contained only Iron Age and Romano-British pottery, but could, on analogy with two other Bronze Age barrows in the vicinity, have been of Bronze Age origin but infilled during the Iron Age, immediately prior to the construction of the ditches revealed across the Site. The evidence remains uncertain.
- 8.3.2 No evidence of burial or other activity associated with the Neolithic ritual landscape of the putative cursus was identified.

### 8.4 Iron Age to Romano-British

- 8.4.1 The majority of the archaeology identified dates to the Iron Age into the beginning of the Romano-British period, and the features revealed represent part of a much wider landscape of enclosures, fields and animal stockades as indicated from the geophysical survey and aerial photographs. No structures were identified that could be directly linked to settlement activity, although the pits (heavily truncated) could be settlement-related, and this may be due to the location of the Site on the periphery of the main settlement, although it is possible that the dog-leg observed in droveway **Groups 501** and **502** was the result of it respecting an earlier feature in the landscape, perhaps a roundhouse, subsequently removed by truncation.
- 8.4.2 The relatively small assemblage of pottery and animal bone supports the notion that the excavated features were at the periphery of the settlement, and that the material was deposited in these features during the manuring process an indication of probable arable field systems, although there was also evidence of a pastoral economy from the recovery of sheep/goat and cattle bones, as well as the probable animal corral formed by **Groups 503**, **504**, **505** and **506** and the droveway (**Groups 501** and **502**).
- 8.4.3 One particular aim of the fieldwork was to identify at what point settlement activity and/or any field systems encroached upon the former ritual landscape, and to assess whether the ritual landscape of the Bronze Age remained as a separate space into the Iron Age, or if the Iron Age field systems encroached upon it. It may be noted that the location of the Site on a ridge of high ground between the Rivers Thames (Isis) and Cherwell would have provided an ideal location for settlement, safe from flooding but within easy access of water. The evidence of the curvilinear ditch **Group 511**, albeit somewhat ambiguous, suggests that this putative barrow ditch was infilled during the Iron Age, and the area used for agricultural (and probably settlement) activity.



- 8.4.4 No evidence of deliberate burial was observed in this programme of works, although the partial remains of one or possibly two foetal or neonatal individuals were recovered from the terminus **Group 504** of the animal corral. Whether this represents deliberate deposition or redeposited remains is unclear.
- 8.4.5 The artefact assemblage, although small, did provide evidence for a possible continuation of activity on the Site into the beginning of the Romano-British period, raising the possibility that the features excavated were components of a settlement precursor to that identified some 320m south of the Site at Mansfield College (Booth and Hayden 2000). The work at Mansfield College uncovered a small rural settlement comprising two distinct phases of activity, dating to the 1st/2nd century and 3rd/4th century AD.

### 8.5 Saxon, medieval and post-medieval

8.5.1 No Saxon activity was identified on Site, and no evidence other than agricultural dating to the medieval and post-medieval period was revealed.

### 8.6 Finds

- 8.6.1 The finds assemblage recovered from the Site is small, with only animal bone and pottery occurring in any appreciable quantity. Its potential to inform an understanding of the Site, therefore, is correspondingly limited.
- 8.6.2 Due to the small size of the faunal assemblage, intra- and inter-site comparisons are not possible (see Hambleton 1999, 39-40). Equally, the small amount of age, biometric and butchery information available from the assemblage is insufficient for interpretative purposes.
- 8.6.3 The pottery provides practically the only dating evidence for the Site, and has enabled a preliminary phasing. The small quantities recovered, however, and the relative scarcity of diagnostic vessel forms, means that further analysis is unlikely to lead to any refinement of the initial dating. Despite the limited potential, further detailed recording of pottery fabrics and vessel forms is nevertheless recommended, using nationally recommended guidelines (PCRG 1997), in order to provide a firmer basis for the site phasing, and to construct a dataset which could be used for comparative purposes during any future research in the area.
- 8.6.4 The results of the analysis will be presented in a short report which will be included in the publication report for the Site. The report will include brief descriptive details of the pottery fabrics and vessel forms, and a short discussion of the chronology and affinities of the assemblage, citing published parallels from the region to support the suggested dating. The small size of the assemblage will preclude any detailed investigation of intrasite patterning, but some brief comments may be possible on the distribution of the pottery across the Site. A small representative selection of vessels (a maximum of four) will be illustrated to accompany the report.
- 8.6.5 Other finds provide a very limited amount of functional evidence (ceramic loomweights; quernstone). No further analysis is proposed for any other



material types, but the information presented in this assessment report could be incorporated in the publication report (see below).

### 8.7 Palaeo-environmental evidence

8.7.1 There is no likelihood that the analysis of any of the environmental remains recovered from the Site will provide any information on the nature of the Site and the local environment, nor any agricultural processes taking place there. This is due both to the paucity of the recovered remains and to the high possibility of intrusive material within the samples. No further work is proposed on the environmental material. However, a statement that environmental samples were taken and that charred remains were not recovered should be made in any final report.

### 9 CONCLUSIONS AND RECOMMENDATIONS

- 9.1.1 The archaeological information derived from the Site is limited due to the relatively small nature of the area excavated and the extent to which the Site has suffered through later truncation. The lack of diagnostically distinct pottery recovered has resulted in a phasing for the Site based predominantly on the stratigraphic relationships, and no further analysis of the stratigraphic sequence is proposed.
- 9.1.2 The results of this programme of work has, however, been able to augment the small amount of information on the nature of archaeological remains identified through fieldwork previously undertaken in the vicinity of Oxford University Parks, and are of local significance.
- 9.1.3 The identification of predominantly linear (ditch) features, and a corresponding absence of direct settlement activity, has resulted in basic interpretations of the archaeology revealed. However, the identification of the probable animal corral, associated droveway, and probable field boundaries, and their dating to the Iron Age, possibly extending into the beginning of the Romano-British period, does help in the further interpretation of the results of the geophysical survey, and also the interpretation of the aerial photographs, in particular those anomalies interpreted as settlement enclosures.

### 10 PUBLICATION PROPOSAL

### 10.1 Place of publication

- 10.1.1 The significance of the results obtained from the programme of fieldwork on the Site warrants their publication in an appropriate academic journal. As this significance is largely local, it is proposed that the results be submitted for publication as a short note in the county archaeological journal *Oxoniensia*.
- 10.1.2 The publication will include a text based on the results as presented in this report, accompanied by a brief report on the pottery; other finds and environmental data will be incorporated into the structural text as appropriate. The text will be supported by illustrations and photographs. The



text will be up to a maximum of 7000 words, with up to four figures, and up to three plates.

### 10.2 Report synopsis

10.2.1 The following table presents the report synopsis:

Section heading	Pages (max.)	Illust.
Summary	0.5	
Introduction	0.75	1
Geology and topography	0.25	
Archaeological background	0.75	
Fieldwork methodology	0.25	
Results	2.50	2
Pottery	1	1
Other finds summary	0.25	
Environmental summary	0.25	
Discussion	1.25	
Acknowledgements	0.25	

### 11 RESOURCES AND PROGRAMME

### 11.1 Designated project team

11.1.1 The team will consist of internal Wessex Archaeology staff. The postexcavation project will be managed by Lorraine Mepham, and the following staff will be scheduled to undertake the work, as outlined in the Task List (see below).

Name	Position
Lorraine Mepham	Senior Project Manager
Steve Thompson	Project Officer
Helen MacIntyre	Archive Supervisor
Julie Gardiner	Reports manager
ТВС	Illustrator
Karen Walker	Principal, Operations

### 11.2 Management structure

- 11.2.1 Wessex Archaeology operates a project management system. The team will be headed by a Senior Project Manager who will assume ultimate responsibility for the implementation and execution of the project specification as outlined in the Updated Project Design, and the achievement of performance targets, be they academic, budgetary, or scheduled.
- 11.2.2 The Senior Project Manager may delegate specific aspects of the project to other key staff, who both supervise others and have a direct input into the compilation of the report. They may also undertake direct liaison with external consultants and specialists who are contributing to the publication report, and the museum named as the recipient of the project archive. The



Post-Excavation Manager will have a major input into how the publication report is written. They will define and control the scope and form of the post-excavation programme.

### 11.3 Performance Monitoring and Quality Standards

11.3.1 The Post-Excavation Manager will be assisted by the Reports Manager (Julie Gardiner), who will help to ensure that the report meets internal quality standards as defined in Wessex Archaeology's guidelines. The overall process will be monitored by the Principal, Operations (Karen Walker).

### **11.4** Tasklist for analysis and publication

11.4.1 The table below lists the tasks, the personnel and scheduled work duration required to meet the post-excavation project objectives.

Task No.	Task	Grade	Name	Days
1	General management	SPM	L. Mepham	1
2	Site narrative	PO	S. Thompson	3
3	Figures	DO	Illustrator	3
4	Pottery analysis & report	SPM	L. Mepham	1
5	Other finds & environmental	SPM	L. Mepham	0.25
6	Discussion		S. Thompson	1
7	Report editing	Pub.	J. Gardiner	0.5
		manager		
8	Archive preparation	PS	H. MacIntyre	0.25
9	Security copy preparation	PS	H. MacIntyre	0.25
	/checking			
10	Security copying	Ext	-	(£75)
11	Archive deposition	PS	H. MacIntyre	0.5 day
-	Journal costs	-	-	(£600)
-	Box storage grant	-	-	(£200)

### 12 STORAGE AND CURATION

### 12.1 Museum

12.1.1 It is recommended that the project archive resulting from the excavation be deposited with Oxfordshire Museum Service. The Museum has agreed in principle to accept the project archive on completion of the project, under the accession code **OXCMS:2009.11**. Deposition of the finds with the Museum will only be carried out with the full agreement of the landowner.

### 12.2 Preparation of Archive

12.2.1 The complete site archive, which will include paper records, photographic records, graphics, artefacts and ecofacts, will be prepared following the Oxfordshire Museum Service's 'Requirement for transferring archaeological archives', and in general following nationally recommended guidelines (Walker 1990; SMA 1995; Richards and Robinson 2000; Brown 2007).

- 12.2.2 All archive elements are marked with Oxford Museum Service accession code, and a full index will be prepared. The archive comprises the following:
  - 11 cardboard boxes or airtight plastic boxes of artefacts & ecofacts, ordered by material type
  - 2 document cases of paper records & A3/A4 graphics
  - 1 document case of photographs

### 12.3 Conservation

- 12.3.1 No immediate conservation requirements were noted in the field. Finds which have been identified as of unstable condition and therefore potentially in need of further conservation treatment comprise the three metal objects.
- 12.3.2 Metal objects have been X-radiographed as part of the assessment phase, as a basic record and also to aid identification. On the basis of the X-rays, the range of objects present and their provenance on the Site, these objects are not considered to warrant any further conservation treatment.

### 12.4 Discard Policy

- 12.4.1 Wessex Archaeology follows the guidelines set out in *Selection, Retention and Dispersal* (Society of Museum Archaeologists 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis. In this instance, no discard is considered appropriate, and all finds will be retained for long-term curation.
- 12.4.2 The discard of environmental remains and samples follows the guidelines laid out in Wessex Archaeology's 'Archive and Dispersal Policy for Environmental Remains and Samples'. The archive policy conforms with nationally recommended guidelines (SMA 1993; 1995; English Heritage 2002) and is available upon request.

### 12.5 Copyright

12.5.1 The full copyright of the written/illustrative archive relating to the Site will be retained by Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The recipient museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms with the Copyright and Related Rights regulations 2003.

### 12.6 Security Copy

12.6.1 In line with current best practice, on completion of the project a security copy of the paper records will be prepared. Such security copies have traditionally been in the form of microfilm, master copies being retained by the National Archaeological Record (English Heritage), and this is in accord with the Oxfordshire Museum Service's requirements.



12.6.2 However, current practice is transferring to digital scanning as a security copy. If the Museum is in agreement, this will be employed for this project, presenting the copy as part of the archive in the form of a PDF file.



### 13 **REFERENCES**

- Booth, P. and Hayden C., 2000. A Roman Settlement at Mansfield College, Oxford, Oxoniensia 55, 291-331
- **Brown, D.H., 2007**. Archaeological archives; a guide to best practice in creation, compilation, transfer and curation. Archaeological Archives Forum
- **Dodd, A., (ed.), 2003.** Oxford Before the University, Oxford Archaeology & English Heritage
- **English Heritage, 2002.** Environmental Archaeology; a guide to theory and practice of methods, from sampling and recovery to post-excavation. Swindon, Centre for Archaeology Guidelines
- Halstead, P., 1985. A study of mandibular teeth from Romano-British contexts at Maxey, in F. Pryor and C. French, *Archaeology and Environment in the Lower Welland Valley Vol. 1*. East Anglian Archaeol. Rep. 27, 219-24
- Hambleton, E., 1999. Animal Husbandry Regimes in Iron Age Britain: A Comparative Study of Faunal Assemblages from British Archaeological Sites. Oxford: Brit. Archaeol. Rep. 282
- Hassall, T., 1986. Archaeology of Oxford City, in G. Briggs, J. Cook and T. Rowley (eds), *The Archaeology of the Oxford Region*, Oxford Univ. Dept. for External Studies, 115-34
- Hibbert, C., 1988. Encyclopaedia of Oxford, London: Macmillan
- Kerney, M. P., 1999. Atlas of the Land and Freshwater Molluscs of Britain and Ireland. Colchester: Harley Books
- Letts, J., 1993. The charred plant remains, in A Mudd, Excavations at Whitehouse Road, Oxford 1992, Oxoniensia, 58, 71-8
- Maltby, J.M., 1985. Assessing variations in Iron Age and Roman butchery practices: the need for quantification, in N.J.R. Fieller, D.D. Gilbertson and N.G.A. Ralph, *Palaeobiological Investigations: Research Design, Methods and Data Analysis.* Oxford: Brit. Archaeol. Rep. (Int. Ser.) 266, 19-32
- MoLAS [Museum of London Archaeology Service], 2007a. Radcliffe Observatory Quarter (Radcliffe Infirmary Site), Oxford, Draft Strategic Environmental Assessment, Technical Annex 2: Archaeology
- MoLAS [Museum of London Archaeology Service], 2007b. Radcliffe Infirmary Site, Oxford, Archaeological Evaluation Report



- MoLAS [Museum of London Archaeology Service] 2008a. Rainwater Attenuation Scheme Oxford University Parks, Oxford, Archaeological Desk-Based Assessment. June 2008
- MoLA [Museum of London Archaeology] 2008b. Rainwater Attenuation Scheme Oxford University Parks, Oxford, Written Scheme of Investigaton, November 2008
- **OA** [Oxford Archaeology], 1993. excavation of a Bronze Age barrow at the proposed centre for Gene Function, South Parks Road, Oxford 2002, unpub. client rep.
- Payne, S., 1973. 'Kill-off patterns in sheep and goats: the mandibles from Asvan Kale', *Anatolian Studies* 23, 281-303
- Parkinson, A., Barclay, A. and McKeague, P., 1996. The Excavation of Two Bronze Age Barrows, Oxford, *Oxoniensia* 61, 41-64
- **PCRG 1997.** The Study of Later Prehistoric Pottery: general policies and guidelines for analysis and publication, Prehistoric Ceramics Research Group Occas. Papers 1/2 (revised ed.)
- Radford, D., 2008. Oxford City Council Planning Control and Conservation Brief for an Archaeological Excavation at Oxford University Parks, Rainwater Attenuation Scheme
- Richards, J. and Robinson, D., 2000. Digital Archives From Excavation and Fieldwork: a guide to good practice. Archaeology Data Service
- **SMA, 1993.** Selection, Retention and Dispersal of Archaeological Collections. Society of Museum Archaeologists
- **SMA, 1995.** *Towards an Accessible Archaeological Archive.* Society of Museum Archaeologists
- Robinson, M.A. and Wilson, R., 1987. A survey of environmental archaeology in the South Midlands, in H.C.M. Keeley (ed.), *Environmental Archaeology: a Regional Review*. London: HBMCO Occasional Paper 1, 16-100
- Stace, C., 1997. New Flora of the British Isles, Cambridge: Cambridge University Press (2nd ed.).
- Stevens, C.J., 2003. An investigation of agricultural consumption and production models for prehistoric and Roman Britain, *Environmental Archaeology* 8, 61-76
- Victoria County History (VCH), 1979, A History of the County of Oxford. The City of Oxford, iv. Oxford University Press



### Walker, K., 1990. Guidelines for the Preparation of Excavation Archives for Long-Term Storage. UKIC Archaeology Section

### 13.1 Online resources

http://www.tvas.co.uk/news/oxford-2.html Thames Valley Archaeological Services (TVAS) website. Henge at Keble College.



### APPENDIX 1: GROUP NUMBERS AND ASSOCIATED CUTS AND FILLS

GROUP NUMBER	CUT NUMBER	FILL NUMBER
Ditch 501	103	104
		105
	108	109
		110
	115	116
	129	130
		131
	134	135
	174	179
		384
Ditch 502	167	168
	195	196
		197
	213	212
Ditch 503	221	222
		223
	281	282
		283
	333	334
		335
	352	353
		354
		355
	365	366
		367
		368
		369
		370
Ditch 504	243	244
		245
		246
Ditch 505	331	332
		358
	343	347
		344
	362	363
		364
Ditch 506	215	216
		217
	227	228
		229
	240	241
<b>-</b>		242
Ditch 507	234	235
	314	315
	0000	316
<b>- - - - - - - - - -</b>	338	
Ditch 508	264	265
	200	273
	268	269
ļ		270
	320	321



Ditch 509	247	248
		249
		250
		252
	260	261
Ditch 510	262	263
	284	285
	292	293
	324	325
Ditch terminus 511	165	166
		194
	177	178
	202	203
Medieval features 512	117	125
		118
	119	126
		120
	123	124
	127	128
	132	133
	157	158
	169	170
	182	183
	226	214
	230	231
	288	289
	294	295
Post-hole structure 513	271	272
	279	280
	290	291
	296	297
	307	308
	317	318
	328	329

# Table 1: All finds by context (number / weight in grammes)

	<b>Other Finds</b>				1 iron			1 glass			1 shell; 9 stone			1 clay pipe					1 iron; 1 stone	1 stone						
	Slag	3/10																	1/14	1/1				2/39		
Med/PMed	Pottery								2/1					3/19											1/16	
IA/FRB	Pottery	1/4			1/1		1/14			1/4	37/712	1/9	43/474		11/69	2/2	3/18			111	1/24		1/13	3/230		4/64
	Flint			4/12		1/2									2/1											
Fired	Clay												2/83										1/4	7/14		
	CBM															1/17										
Animal	Bone	9/65	3/8	29/84						2/17	23/355	28/491	75/275	4/53				1/44	5/205	7/94	3/44	3/136	6/378	12/212		
	Context	110	112	113	116	118	135	147	158	159	166	176	181	183	188	190	194	205	211	217	222	223	228	229	231	235

_																												_
	<b>Other Finds</b>			3 human bone	2 human bone					1 clay pipe; 1 glass	1 iron								1 stone									
	Slag																			1/83			1/6					
Med/PMed	Pottery									1/1	2/23																	
IA/ERB	Pottery		1/8			2/6							1/11	7/108	3/27	6/111		2/58	1/2	4/53	3/28	3/39	11/198	2/17	1/3	2/21	3/28	
	Flint																										1/4	1/1
Fired	Clay					1/33										1/24			2/6	4/119	1/62		1/23					
	CBM											4/1258																
Animal	Bone	1/60	1/28	3/143	2/28	26/635	1/1	2/42	1/5		1/1		1/7	12/444	2/87	16/501	1/3		3/28	24/317	8/136	22/261	10/118			2/106	1/46	
	Context	241	244	245	246	250	259	261	270	272	275	278	283	285	293	310	313	315	316	319	323	330	332	335	339	344	354	355



	Other Finds										
	Slag								1/178		10/331
Med/PMed	Pottery						3/21	2/31			13/118
IA/ERB	Pottery		6/51	2/33	5/75					1/2	177/2528
	Flint										8/26
Fired	Clay		6/175	8/33	10/43						42/679
	CBM							1/15			6/1290
Animal	Bone	6/41	42/413	2/96	28/280	2/3		5/50	4/24		444/6365
	Context	361	364	366	370	376	385	386	387	388	TOTALS



Date Range	Ware type	No. sherds	Weight (g)
Iron Age/RB	Calcareous wares	100	1249
	Grog-tempered wares	69	1206
	Sandy wares	7	63
	RB greyware	1	10
	sub-total IA/RB	177	2528
Medieval	All wares	5	42
Post-Medieval	All wares	8	76
	TOTAL	190	2646

### Table 2: Pottery ware totals

# Table 3: Number of identified specimens present (or NISP) by chronological period

Species	Middle	Late	Iron	Roman	Medieval	Modern	UD	Total
	Age	Age	Age					
cattle	10	34	1		1		10	56
sheep/goat	10	30	2		2		5	49
pig	2	4					10	16
horse	1	5		1			3	10
duck		3						3
Total identified	23	76	3	1	3	0	28	134
% Total identified	7	23.4	1	0.3	1	0	8.6	41.3
bird	1							1
small mammal	1	1						2
mammal	59	73	13		1	5	36	187
Total unidentifiable	61	74	13	0	1	5	36	190
% Total								
unidentifiable	18.9	22.9	4	0	0.3	1.5	11.1	58.7
Overall total	84	150	16	1	4	5	64	324
% Overall total	26	46.2	5	0.3	1.2	1.5	19.8	100

UD = undated

# Table 4: Assessment of the charred plant remains and charcoal

					_												
	Other			Moll-t (A), Sab (C), fish scale (C), coal			Moll-t (C)	Moll-t (B)	Moll-t (A)		Moll-t (B), coal	Moll-t (A)			Moll-t (B)		Moll-f (A)
FortureContextSampleVoiFlort SizeRootsGrainChartChartedChare	Charcoal 4/2 mm			0/1 ml			0/1 ml	0/1 ml	0/<1 ml		1/<1 ml	0/1 ml			0/1 ml		2/1 ml
	Charred Other notes			-			Polygonaceae	-	-		-	-			Avena/Bromus		Avena/Bromus, Vicia/I athvrus
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Charred Other						C	-				-			С		C
FeatureContextSampleVolFlot SizeRootsGrainChaffPit	Cereal Notes			Indet. grain frags	Age			Indet. grain frags	?F-t wheat +?Barley grain frags	0	1	Indet. grain frags					Indet. grain frags
FeatureContextSampleVolFlot SizeRootsGrain MidlPit1813276080CPit1801813276080CPit1801813276080CPit2462094580-Enclosure Dicth group 5042462094580-Pit2452186080CCPit2452186080CCPit3102584080CLatePit12693080CCPit12693080CCPit1162092020CS033192693080CLateIte186188285080CDitch2851620207C186188282080C186188281670C1861620207070C1861882167070C18618816707070C1871670707070C	Chaff	le Iron Age			Late Iron A		1	ı	1		I	I	i Iron Age		-		I
FeatureContextSampleVolFlot SizeRootsPit1801813276080Pit1813276080Forcis1813276080Pit2462094580Pit2452186080Pit2452186080Pit2452186080Pit2452186080Pit2442291075Pit2433102584080Pit102693080Pit102693080Pit1620999Pit1620999Pit285169980Pit28516999Pitch28516999Pitch285162099Pitch285162099Pitch186188289Pitch2851620970Pitch2851620970Pitch2851620970Pitch2851620970Pitch2851620970	Grain	Midd		C	Middle/		-	С	В		-	C	Late		-		С
FeatureContextSampleVolFlot SizePit18018132760Pit18018132760Iso18132760Iso246209452432452186024324521860Pit24521860Pit24324521860Pit31025910PitIterthow1826930Iterthow1882860Iterthow1882860Iterthow1882860Iterthow1882860Iterthow18628850Iterthow18628850Iterthow1882850Iterthow18628760Iterthow186285167Iterthow18618828Iterthow186285167Iterthow18618827Iterthow186167070Iterthow186167070Iterthow186167070Iterthow186167070Iterthow186167070Iterthow1861670 </td <th>Roots %</th> <td></td> <td></td> <td>80</td> <td></td> <td></td> <td>80</td> <td>80</td> <td>75</td> <td></td> <td>80</td> <td>80</td> <td></td> <td></td> <td>80</td> <td></td> <td>20</td>	Roots %			80			80	80	75		80	80			80		20
Feature         Context         Sample         Vol           Pit         180         181         3         27           Pit         246         20         9         9           180         181         3         27         9           180         181         3         27         9           180         245         21         8         9           243         245         21         8         9           243         245         21         8         9           Pit         310         26         9         9           Pit         186         188         26         9         9           Tree throw         186         285         16         9         9           Ditch         284         285         16         9         9	Flot Size (ml)			60			45	60	10		40	30			50		20
Feature         Context         Sample           Pit	Io (E)			27			6	8	0		8	6			8		00
Feature         Context           Pit         Context           Pit         180           180         181           245         245           243         246           243         246           243         245           Pit         244           Pit         310           309         310           Tree throw         319           Ditch         186	Sample			ę		04	20	21	22		25	26			2		16
Feature       Pit       180       180       180       180       180       186       186	Context			181		itch group 50	246	245	244		310	319			188		285
	Feature		Pit	180		Enclosure D		C/C	2 7 1 1	Pit		308		Tree throw	186	Ditch	284

Feature	Context	Sample	Vol (i)	Flot Size (ml)	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Charred Other notes	Charcoal 4/2 mm	Other
					Late li	ron Age /	Early Rom	iano-British				
Enclosure [	Ditch group 5	11										
165	166	33	6	10	80	-	ı	-	С	Avena/Bromus	0/1 ml	Moll-t (C)
177	178	32	6	50	80	-	I	-	-	I	1/1 ml	Moll-t (A)
					Late Ir	on Age / E	Early Rom	ano-British?				
Ditch group	506											
								?F-t wheat +?Barley		Corylus avellana shell		
331	332	28	6	35	80	ပ		grain frags	c	frag	1/1 ml	Moll-t (C)
202	229	29	8	3	50		ı	-			0/<1 ml	Moll-t (A)
177	228	30	6	15	80	-	ı	-	-	I	1/1 ml	Moll-t (A)
Ditch group	507											
247	250	19	10	50	80	С	I	Indet. grain frags	-	1	0/<1 ml	Moll-t (B)
314	316	11	6	10	50	S		Indet. grain frags	C	Polygonaceae	1/1 ml	Moll-t (C)
Ditch												
175	176	31	6	15	70	С	I	?F-t wheat grain frags	-	-	0/1 ml	Moll-t (A)
						n	ndated					
Enclosure [	Ditch group 5	03										
221	223	13	28	60	80	С	I	?F-t wheat grain frags	-	1	2/1 ml	Moll-t (A), coal
352	355	27	10	40	80	C		?F-t wheat grain frags	-	-	1/1 ml	Moll-t (C)
365	366	17	6	20	80	-	ı	-	-	-	0/1 ml	Moll-t (C), coal

Г			r								r			r		r
	Other	Moll-t (B)		Moll-t (A)	Moll-t (A), coal			Moll-t (C)	Moll-t (C)	Moll-t (B), coal	Moll-t (C)		Moll-t (A)	Moll-t (B), coal	Moll-t (B), coal	Moll-t (B), Sab (C),
	Charcoal 4/2 mm	1/<1 ml		1/1 ml	0/1 ml		-	0/<1 ml		0/<1 ml			5/5 ml	1		V/V
	Charred Other notes	Grape pip		Stem frags	-		-	-	I	-	1		<i>Corylus</i> <i>avellana</i> shell frag	Avena/Bromus		
	Charred Other	С		С	-		-	-	-	-	-		U	C	ı	
	Cereal Notes	Indet. grain frags		I	?F-t wheat +?Barley grain frags				ı		Indet. grain frags		Indet. grain frags	?F-t wheat grain frags	?Ft wheat grain frags	Indet. grain
-	Chaff	I					-	-		,	1			1	ı	
	Grain	C		-	C		-	-			С		U	С	U	(
	Roots %	70		60	60		80	80	80	60	80		35	80	80	Ċ
-	Flot Size (ml)	7		20	20		40	40	30	2	50		60	40	40	c
	Vol (I)	6		10	20		4	9	6	8	5		9	8	Ø	C
	Sample	18		23	24		7	8	6	10	12		~	4	5	7
	Context	370	508	265	321	up 513	280	297	308	318	329		113	211	253	010
-	Feature		Ditch group	264	320	Posthole grc	279	296	307	317	328	Pits	11	210	254	272

Key:  $A^*$  = exceptional,  $A^{**}$  = 100+,  $A^*$  = 30-99, A = >10, B = 9-5, C = <5 sab = small animal bones, Moll-t = terrestrial molluscs



Site locaton and areas of excavation and watching brief

Figure 1



Phase plan of archaeological features within the excvated area

Figure 2









	Date:	20/12/10	Revision Number:	0
Archaeology	Scale:	Main Fig. 1:25 @ A3	Illustrator:	RG
This material is for client report only © Wessex Archaeology. No unauthorised reproduction.	Path:	Y:\71081\\excavation_and	J_WB\10_12_16\71081_s	ection.ai

Figure 3



Plate 1: View of group 510 from the north-east



Plate 2: North facing section of ditch 108 (Gp. 501) and overlying deposits 101 & 102



Plate 4: South-east facing section of ditch 215 (Gp. 506)



Plate 5: Oblique view of south facing section of Gp. 511 and west facing section of ditch 175



Plate 6: View of north-west corner of the site from the south

	This material for client repo	ort only © Wessex Ar	chaeology. No unauthorised reproduction	
	Date:	23/12/10	Revision Number:	0
Wessex	Scale:	NTS	Illustrator:	RG
LLL Archaeology	Path:	Y:\71081\\	\excavation_and _WB\10_12_16\71081_A3	B_Photo.ai



Plate 3: North facing section of ditch 352 (Gp. 503) cutting tree throw 356

Figure 4	





WESSEX ARCHAEOLOGY LTD. Registered Head Office: Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB. Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk With regional ofices in Maidstone, Sheffield and Edinburgh For more information visit www.wessexarch.co.uk



Registered Charity No. 287786. A company with limited liability registered in England No. 1712772