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Bicester

Oxfordshire

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Bicester Eco Development, Bicester, Oxfordshire

Archaeological Evaluation Report

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Summary

Oxford Archaeology South (OAS) was commissioned by Hyder Consulting (UK) Ltd, on behalf of A2Dominion, to undertake an evaluation of the site of the proposed Bicester Eco Development to the north-west of Bicester, Oxfordshire (centred on SP 56700 24200) in advance of submission of an Outline Planning Application for proposed development.

The work took place between 12th August and 25th October 2013. A total of 529 trenches were excavated across the area. Of these trenches, 130 had features of archaeological origin, including 26 that had only furrows or modern features.

*Evidence was found for activity from several periods. The earliest was represented by a single feature containing pottery sherds (Peterborough ware) of middle Neolithic date (*c. *3400-2500 BC). The presence of isolated features or small clusters features widely dispersed in the landscape is typical of this period.*

*A number of archaeological features were in a small valley on the eastern side of the site. While these were undated, the presence of burnt stones and charcoal forming low mounds sealed beneath a deposit of colluvium (hill-wash deposits) is significant. Such 'burnt mounds' are widely known (although unusual in Oxfordshire) and generally date to the Bronze Age (*c. *2400-700 BC) and may be the remains of prehistoric saunas or, alternatively, specialised cooking sites. A number of pits and a sinuous ditch in the same valley may represent further activity of the same date.*

*There were five widely-separated locations which produced substantial quantities of early-middle Iron Age pottery (*c. *700-100BC), as well as a number of other features which produced single sherds or features in which the pottery was found in association with later material. Such a dispersed pattern of activity is somewhat unusual for this period but may suggest that the site lies in the hinterland of a more substantial settlement located elsewhere.*

There were two main areas and one subsidiary area of Roman activity (AD 43-410) revealed by the evaluation. The two main areas of activity are typical of Roman rural settlements in Oxfordshire (and elsewhere) in terms of the types features and range of artefacts present. They are potentially noteworthy, however, in terms of their chronological range, spanning, as they did, the whole Roman period. Such continuity, with some evidence of expansion in the late Roman period, is perhaps unusual. The third, smaller area of activity contained material of largely early Roman date and may have been a small, outlying farmstead. Human remains were found in all three areas.

Geophysical anomalies suggesting the presence of ridge and furrow agriculture were fairly widespread across the site and furrows were also present in a number of trenches. This suggests that much of the site was under arable cultivation during the medieval period (and later). No evidence of medieval or later settlement was recorded on the site, aside from the extant farmhouses themselves.

There were a large number of undated features present across the site. Most of these were ditches and it is likely that these were boundary and drainage ditches associated with the agricultural use of the site. While these could be of almost any date from the later prehistoric period onwards, it is, perhaps, most likely that they are of medieval or later date.

1 INTRODUCTION

1.1 Project details

1.1.1 Oxford Archaeology South (OAS) was commissioned by Hyder Consulting (UK) Ltd, on behalf of A2Dominion, to undertake an evaluation of the site of the proposed Bicester Eco Development to the north-west of Bicester, Oxfordshire (Fig. 1).

1.1.2 The work was undertaken in advance of submission of an Outline Planning Application. A brief was set by Richard Oram of Oxfordshire County Council detailing the Local Authority's requirements for a staged archaeological evaluation of the site necessary to inform the planning process. The first stage of works, geophysical survey, was completed prior to the evaluation.

1.1.3 A Written Scheme of Investigation (Oxford Archaeology 2013a) was submitted to, and approved by, Richard Oram of Oxfordshire County Council for the second stage of works, evaluation trenching. This document reports the results of those investigations.

1.1.4 It was further agreed that two fields, where access for evaluation trenching was limited due to ecological constraints, should be subject to additional geophysical survey. A Written Scheme of Investigation (Oxford Archaeology 2013b) for these additional works was submitted to, and approved by, Richard Oram of Oxfordshire County Council and the results are summarised in Section 4, below

1.1.5 All work was undertaken in accordance with the Institute for Archaeologists' '*Standard and Guidance for archaeological field evaluation*' (revised 2008) and local and national planning policies.

1.2 Location, geology and topography

1.2.1 The proposed development site is located to the north-west of Bicester (centred on SP 56700 24200).

1.2.2 The site is underlain by various formations and members of the Great Oolite Group, of Mid-Jurassic age, which are dominated by limestones with subordinate mudstone beds. The majority of the site is covered by the Cornbrash Formation which forms a broad south-east sloping plateau.

1.2.3 The rest of the site is covered by the White Limestone Formation, which forms a broad plateau towards the north-west of the site. The White Limestone Formation is overlain by the Forest Marble Formation. The Forest Marble Formation forms a narrow outcrop between the White Limestone and Cornbrash Formations, and also crops out on the flanks of the stream valleys. The streams are flanked by narrow tracts of alluvium of late Quaternary age, up to 150m wide.

1.2.4 The topography of the site is generally flat with heights ranging between 83 and 97m OD across the site.

1.3 Archaeological and Historical Background

1.3.1 The archaeological and historical background to the site has been described in a desk-based assessment (Hyder Consulting 2011) and is not reproduced here. A brief summary is given below, followed by a more detailed description of previous investigations within the site, to set the context for the evaluation.

1.3.2 The site is located in an area which has seen little archaeological investigation prior to the current project but its archaeological potential is demonstrated by a number of recorded monuments within the immediate vicinity. The proposed site is adjacent to the C10th/C11th Church of St Lawrence, restored and partly rebuilt 1874 by Henry Woodyer (PRN 5106). A post-medieval fishpond survives to the south of the church (PRN 5107) and a large depression to the NE has been recorded as an, earlier,

medieval fishpond (PRN 13743). Home Farm, to the SW of the church is a listed C17th Farmhouse (PRN 17289) and it is likely that the church would have once been accompanied by medieval, post-medieval and possibly late Saxon settlement.

1.4 Archaeological investigations within the site

Exemplar Site

1.4.1 Evaluation trenching was carried out on an area of land forming the north-eastern part of the site (the *Exemplar Site*), for which planning permission has been granted. The evaluation (Oxford Archaeology 2010) revealed a small number of ditches, of probable agricultural origin, but no significant archaeological remains were present.

South-eastern area

1.4.2 Three fields in the south-eastern corner of the site are the subject of a separate planning application and have already been evaluated. A geophysical survey (Northamptonshire Archaeology 2012) and evaluation trenching (Northamptonshire Archaeology 2013) were undertaken and revealed a small group of Iron Age features and a series of probable enclosures of Roman date.

Aerial photographic assessment

1.4.3 An assessment of cropmarks visible on aerial photographs has been carried out (Airphoto Services 2010). This revealed a number of areas across the site where cropmarks representing archaeological features are visible (Fig. 2a-d). There is an area of ditches and enclosures at the south of the site at Himley Farm. There is also evidence of a ring ditch, which may be the remains of a Bronze Age barrow (Oxfordshire Historic Environment Record (OHER) no 13907). An extensive complex of features, including ditches, pits, possible tracks and enclosures are visible as cropmarks close to Hawkswell Farm (OHER no 15958). They are probably the remains of a prehistoric or Romano-British settlement and may relate to Iron Age settlement recorded at Slade Farm, 400m to the south of the site. Further cropmarks identified during the air photo survey within the area may also date to this period. Evidence of medieval ridge and furrow agriculture was also recorded.

Geophysical survey

1.4.4 A magnetometer survey of the site has been carried out (Northamptonshire Archaeology 2011). Alternate lines of grids, each 30m wide, were surveyed across the site resulting in a 50% sample coverage of the area.

1.4.5 A large number of magnetic anomalies representing subsurface features were detected, including several concentrations of features (Fig. 2a-d), enhancing and extending the evidence from the aerial photographic assessment.

1.5 Acknowledgements

1.5.1 A2Dominion funded the project and Jenny Wylie of Hyder Consulting acted as consultant for the project. Richard Oram, the Planning Archaeologist at Oxfordshire Council Council, monitored the work. The fieldwork was conducted by Vix Hughes assisted by Alex Latham, Kevin Moon, Jim Mumford, Ian Cook, Vicky Skipper, Lee Sparks, Nick Swift, Alice Rose, Felicia Fricke, Lee Grana, Tom Rose-Jones, Chris Richardson, Natalie Anderson, James Archer, Grace Rowe and Victoria Green. The report was written and compiled by Vix Hughes, illustrated by Tom Black, Gary Jones, Emily Plunkett and Julia Collins and archived by Nicola Scott. The project was managed for OA by Ken Welsh, who also edited the report.

1.5.2 Thanks also go to the various landowners and tenant farmers at the site, without whose co-operation and assistance the project would not have been possible.

2 Evaluation Aims and Methodology

2.1 General aims

2.1.1 The general aims of the evaluation were:

(i) To determine the location, extent, date, character, condition, significance and quality of any archaeological remains within the development;

(ii) To assess vulnerability/sensitivity of any exposed remains;

(iii) To provide sufficient information on the archaeological potential of the site to enable the archaeological implications of the proposed development to be assessed

(iv) To assess the impact of previous land use on the site;

(v) To inform a strategy to avoid or mitigate impacts of the proposed development on surviving archaeological remains;

(vi) To disseminate the results through the production of a site archive for deposition with the Oxfordshire Museum Service and to provide information for accession to the Oxfordshire HER.

2.2 Specific aims and objectives

2.2.1 The specific aims and objectives of the evaluation were:

(vii) To investigate and characterise various anomalies identified through geophysical survey and aerial photographic assessment that may represent archaeological features;

(viii) To examine areas identified by the geophysical survey as being blank;

(ix) To determine the potential of the site to provide palaeoenvironmental and/or economic evidence, and the forms in which such evidence may survive.

2.3 Site specific methodology

2.3.1 It was proposed to excavate an array of 541 trenches, each 50m long, representing a 2% sample of the site, excluding areas of existing woodland, hedgerows and buildings. A number of trenches could not be excavated, largely due to ecological constraints, and, in the event, a total of 529 trenches were excavated. The trenches were located to investigate geophysical anomalies and cropmarks. Trenches were also located in apparently blank areas where no geophysical anomalies or cropmarks were recorded.

2.3.2 The trench locations are shown in Figures 2a-d; the position of several trenches was adjusted in order to avoid services, structures, electric fences and other unforeseen obstacles.

2.3.3 Each trench was excavated using an appropriate mechanical excavator fitted with a toothless bucket. A total of four excavators were in use across the project and each excavator was under the direct supervision of an archaeologist.

2.3.4 Machining continued in spits down to the top of the undisturbed natural geology or the first archaeological horizon depending upon which was encountered first. Once archaeological deposits were exposed, further excavation proceeded by hand.

2.3.5 The exposed surfaces were sufficiently cleaned to establish the presence/absence of archaeological remains. A sample of each feature or of each feature or deposit type, for example pits, postholes, and ditches, was excavated and recorded. In the event of the identification of an exceptional number and complexity of archaeological deposits, sample excavation was more circumspect and aimed to be minimally intrusive.

2.3.6 Two fields in the south of the site (Fig. 2a) contained ponds with breeding populations of great crested newts. It was agreed with the Oxfordshire Planning Archaeologist, and

in consultation with Hyder's ecologist, to carry out only limited trenching in these fields and to supplement the results with further detailed geophysical survey. The results of this additional survey are summarised in Section 4, below, and the full report is contained in Appendix A.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 A general description of the ground conditions encountered and the distribution of archaeological deposits is given below. This is followed by a trench by trench description of the trenches which contained archaeological remains. Full trench descriptions and a context inventory are contained in Volume 3.

3.1.2 The trenches were numbered from 1-558. However, the following trenches were not excavated: 134, 138, 140, 142-144, 147-151, 153, 156-168, 301, 371 and 374-375.

3.2 General soils and ground conditions

3.2.1 The underlying geology consisted of a pale yellow to grey clay-rich cornbrash. There were also frequent patches of brownish orange silty clay and less frequent patches of yellower silty clays and grey clays. The geology lay, in most cases, directly below the ploughsoil which was, on average, 0.3m thick.

3.2.2 A stony subsoil was present in disparate locations and was, in places, quite extensive.

3.2.3 The ground and light conditions were generally good, with archaeological features being readily visible.

3.3 General distribution of archaeological deposits

3.3.1 Of the 529 trenches excavated, 130 contained significant archaeological features, approximately 24.5% of the total.

3.3.2 The archaeological remains were cut from immediately beneath the topsoil, or subsoil if present, into the underlying geology, unless otherwise stated.

3.3.3 One trench, Trench 97, contained a feature of probable Neolithic date.

3.3.4 Nine trenches; 48, 81, 86, 322, 378, 394, 462, 471 and 553, had features that contained early to middle Iron Age pottery.

3.3.5 A total of 32 trenches (76, 80, 99, 100, 105, 106, 112, 114, 115, 117, 123, 174, 175, 176, 177, 178, 179, 183, 290, 302, 322, 323, 377, 378, 379, 422, 502, 503, 504, 505, 507 and 512) contained significant features of Roman date.

3.3.6 A total of 26 trenches (45, 101, 137, 139, 226, 228, 257, 266, 267, 270, 271, 274, 297, 298, 305, 306, 307, 308, 342, 364, 368, 395, 397, 405, 408 and 409) contained only furrows which were of probable medieval to early post-medieval date.

3.3.7 A total of 11 trenches (82, 117, 189, 224, 276, 280, 283, 295, 310, 391 and 429) contained only features of post-medieval date. In addition

3.3.8 A total of 51 trenches (13, 36, 47, 55, 69, 70, 75, 79, 92, 93, 98, 119, 121, 124, 169, 170, 172, 180, 195, 200, 203, 204, 238, 256, 272, 273, 278, 293, 294, 300, 304, 316, 343, 348, 382, 390, 403, 404, 407, 414, 418, 431, 435, 436, 439, 450, 457, 501, 506, 529 and 556) contained only undated features.

3.3.9 Some of the undated features could be associated spatially with dated features: for example, the features in Trench 98 are likely to be of Roman date since they lies within an area of Roman activity. Other features, such as a large probable quarry in Trench 313, can potentially be dated to the post-medieval period by comparison to cartographic sources.

3.3.10 The trenches that contained no significant remains, and which are not discussed below, were as follows: 1-12, 14-35, 37-44, 46, 49-54, 56-68, 71-74, 77, 78, 83-85, 87-91, 94-96, 102-104, 107-109, 111, 113, 116, 118, 120, 122, 125-133, 135, 136, 141, 145, 146, 152, 154, 155, 171, 181, 182, 184-188, 190-194, 196-199, 201, 202, 205-223, 225, 227, 229-237, 239-255, 258-265, 268, 269, 275, 279, 281, 282, 284-289, 291, 292, 296, 299, 303, 309, 311, 312, 314, 315, 317-321, 324-341, 344-347, 349-363, 365-367,

369, 370, 372, 373, 380, 381, 383-389, 392, 393, 396, 398-402, 406, 410-413, 415-417, 419-421, 423-428, 430, 432, 434, 437, 438, 440-449, 451-456, 458-461, 463-470, 472-500, 508-511, 513-528, 530-552, 554, 555, 557 and 558.

3.4 Trenches 13 and 36 (Fig. 4)

Trench 13 (Fig. 23)

3.4.1 The trench contained ditch 1303 (Plate 1) which contained fill 1304 which produced no artefacts.

Trench 36 (Fig. 23)

3.4.2 An E-W aligned ditch or field boundary (3602) contained one fill (3603) which produced no artefactual material. The ditch was on the same alignment as a geophysical anomaly,although offset to the south (see also Trench 55).

3.5 Trenches 45, 47, 48, 55, 69, 70, 75 and 76 (Fig. 5)

Trench 45 (Fig. 23)

3.5.1 Trench contained two furrows, one of which (4503) was fully recorded. Its single fill (4504) contained no artefactual material. A second furrow was located further to the east.

Trench 47 (Fig. 23)

3.5.2 Trench contained a ditch, 4703, aligned NE-SW. The single fill (4704) contained no artefactual material. The feature corresponded to a geophysical anomaly.

3.5.3 A furrow was located to the west of the ditch.

Trench 48 (Fig. 24)

3.5.4 Trench contained a large pit, 10m across and more than 1m deep (Plate 2). Three interventions were excavated; one at each end (4802 and 4808) and one in the middle (4804). A sequence of three fills (4805, 4806 and 4807) was recorded in the central intervention. Fill 4805 contained 73 sherds of pottery, animal bone and flint, fill 4806 contained eight sherds of pottery and animal bone and fill 4807 contained six sherds of pottery and animal bone. All of the pottery dates to the early to middle Iron Age. A soil sample from this feature produced no significant charred remains. The feature corresponded to a geophysical anomaly.

3.5.5 No evidence of the geophysical anomaly, which was present in Trench 47, was seen.

Trench 55 (Fig. 24)

3.5.6 Trench contained one NW-SE aligned ditch, 5502, which was of a similar size and continued along the same alignment as the one seen in Trench 36 to the west. The single fill (5503) contained no artefactual material. The feature corresponded to a geophysical anomaly.

Trench 69 (Fig. 24)

3.5.7 The trench contained two E-W aligned ditches; an irregular, shallow ditch (6904) at the southern end, and a deeper more regular ditch (6906) in the centre. Each ditch contained a single fill, neither of which produced any artefactual material.

Trench 70 (Fig. 25)

3.5.8 The trench contained a ditch (7003), aligned NE-SW. The single fill (7004) contained no artefactual material.

Trench 75 (Fig. 25)

3.5.9 The trench contained a single E-W aligned ditch (7502). The single fill (7503) contained no artefactual material. The feature corresponded to a cropmark visible on aerial photographs.

Trench 76 (Fig. 25)

3.5.10 The trench contained two parallel ditches (7603 and 7605), aligned NW-SE. Both ditches contained a single fill. The fill (7604) of the north-eastern ditch (7605) contained three sherds of 2nd century or later pottery. The features corresponded cropmarks visible on aerial photographs.

3.6 Trenches 79, 80, 81, 82, 86 and 97 (Fig. 6)

Trench 79 (Fig. 25)

3.6.1 The trench contained a line of three possible postholes (7905, 7907 and 7909), on a N-S alignment, as well as an irregular pit (7911) which contained heat-affected clay. None of the fills contained any artefacts.

Trench 80 (Fig. 26)

3.6.2 The trench contained two N-S aligned ditches, 8004 and 8006. Both features contained single fills. Fill 8005, of ditch 8006, contained a single sherd of Roman pottery and animal bone.

3.6.3 There was also a possible posthole (8008, not illustrated) which contained a fragment of animal bone.

Trench 81 (Fig. 26)

3.6.4 A ditch terminus 8102 was aligned NW-SE. The single fill contained no artefactual material. The adjacent ditch terminus (8104) had a single fill that produced no finds. Overlying both features was a layer or upper depression infill, 8107. This layer contained 45 sherds of early to middle Iron Age pottery and animal bone.

Trench 82 (Fig. 26)

3.6.5 The trench contained a pit, 8203, which cut through the subsoil. The single fill (8204) contained ceramic building material of medieval or post-medieval date, and three struck flints of broadly Mesolithic/Neolithic date.

Trench 86 (Fig. 26)

3.6.6 The trench contained a pit (8602) with a single fill (8603), which contained three sherds of probable Iron Age pottery. It was cut by a possible ditch, 8604, although this was irregularly shaped and its single fill (8605) contained no finds.

Trench 97 (Fig. 27)

3.6.7 Ditch 9703 was NE-SW aligned and was probably a field boundary belonging to an earlier field system (Plate 4). The single fill (9704) contained 22 sherds of middle Neolithic pottery including a number of distinctive Peterborough ware sherds. Typically such as assemblage would be more common in a pit.

3.7 Trenches 92, 98 - 101, 105, 106, 110, 112, 114, 115, 169, 170, 172 - 180, 183 and 195 (Fig. 7)

Trench 92 (Fig. 27)

3.7.1 A pit, 9203, had a single heat-affected fill (9202), but produced no artefacts (Plate 3).

Trench 98 (Fig. 27)

3.7.2 The trench contained two features; a small cremation burial and a posthole. Four sherds of 3rd-4th century AD pottery were recovered from a subsoil (9801) which overlay the features.

3.7.3 The cremation (9803) was very shallow and its single fill (9804) contained burnt fuel residue and fragments of calcined human bone.

3.7.4 Posthole 9805 had a single fill (9806) which contained no artefactual material.

Trench 99 (Fig. 27)

3.7.5 The trench contained a NW-SE aligned ditch (9903) (Plate 5) and a pit (9905). Both features had single fills. Fill 9904 in pit 9905 contained 20 sherds of pottery of 3rd - 4th century date, along with animal bone.

Trench 100 (Fig. 28)

3.7.6 The trench contained a wide E-W aligned ditch, 10002 at its northern end, and a possible hollow way or eroded trackway, 10005, towards the south.

3.7.7 The ditch (Plate 6) contained two fills (10003 and 10004) which both contained pottery; the upper fill (10003) also contained animal bone. The pottery from the upper fill was of 3rd - 4th century date, while the 85 sherds of pottery from the lower fill was of 2nd century or later date.

3.7.8 The hollow way, 10005, was nearly 5m wide with a broad shallow U-shaped profile (Plate 7). There appeared to be evidence of wear or erosion on the underlying cornbrash, not seen commonly in the base of other features. The single fill (10006) contained no artefactual material.

Trench 101 (Fig. 28)

3.7.9 A single N-E aligned furrow, 10103, was present towards the centre. The single fill (10004) contained five fragments of medieval to post-medieval ceramic building material.

Trench 105 (Fig. 28)

3.7.10 The trench contained two ditches, almost perpendicular to one another. Ditch 10504 was N-S aligned and its single fill (10503) contained a sherd of Roman pottery and animal bone.

3.7.11 Ditch 10506 was aligned E-W and its single fill (10505) contained seven sherds of 4th century AD pottery and animal bone.

Trench 106 (Fig. 28)

3.7.12 There were three furrows (10604, 10606 and 10608), aligned E-W. Each feature had a single fill; a sherd of possible Roman pottery was recovered from furrow 10608.

Trench 110 (Fig. 29)

3.7.13 A single ditch (11002), aligned N-S, was visible at the eastern end. The ditch contained two fills of which the upper fill, 11003, contained pottery of 1st century AD date and animal bone.

Trench 112 (Fig. 29)

3.7.14 A single E-W aligned ditch, 11204, was visible at the northern end of the trench (Plate 8). The ditch had four fills (11206, 11208, 11205 and 11203). Fill 11208 contained six sherds of late 1st century AD or later date, fill 11205 contained 35 sherds of mid-late 1st century AD date and fill 11203 contained 45 sherds of late 1st-mid 2nd century AD date. Fills 11205 and 11203 also contained animal bone.

Trench 114 (Fig. 29)

3.7.15 The trench contained a possible holloway, four ditches, a stone-lined well and a posthole.

3.7.16 Posthole 11402 contained fill 11401 which produced two sherds of Roman pottery.

3.7.17 Hollow way 11405 was 5m wide and contained a single fill (11404) which produced 66 sherds of early-mid 2nd century AD pottery as well as animal bone. The feature was similar to the hollow way in Trench 100 to the south-west.

3.7.18 Feature 11407 (Plate 9) contained a single fill, 11406, which produced eight sherds of pottery dated to the 13-14th century. It also contained 58 sherds of Roman pottery indicating that it may have cut through an earlier feature.

3.7.19 Adjacent to furrow 11407 was ditch 11415. It contained fill 11414 which produced six sherds of pottery dated to the 1st century.

3.7.20 Ditch terminus 11418 contained fill 11417 which produced five sherds of pottery dated to the late 1st century.

3.7.21 Ditch 11412 (Plate 10) was 2.9m wide and at least 1m deep and contained fill 11411 which produced eleven sherds of pottery of 2nd century or later date. It was cut by the construction cut (11413) for a well (11410).

3.7.22 Well 11410 (Plate 11) was of stone construction and was 0.5m wide and at least 1m deep. Although the eastern side had been dismantled or damaged, more than 12 courses of limestone slabs were exposed, forming a curving lining. The lining was of dry bonded structure and a sherd of pottery of 2nd century or later date was recovered from it. Within the well was a stone rich fill (11409) which produced four sherds of pottery of 2nd century or later date. A soil sample taken from this fill contained a small assemblage of amphibian, vole and other rodent bones. Overlying the upper well fill and the remainder of the ditch was fill 11408, which contained 11 sherds of pottery of 2nd century or later date and a small quantity of animal bone.

3.7.23 The depth of features 11410 and 11412, and the instability of their fills, meant that no section was drawn.

Trench 115 (Fig. 30)

3.7.24 Ditch 11504, aligned N-S, contained fill 11505 which produced a sherd of Roman pottery.

Trench 169 (Fig. 31)

3.7.25 Ditch 16903, aligned E-W, contained fill 16902 which produced no artefactual material (Plate 14).

Trench 170 (Fig. 31)

3.7.26 Six fragments of fired clay from an oven or hearth were recovered from the topsoil.

3.7.27 A small pit, 17003, had a single heat-affected fill (17002) which contained no artefactual material.

Trench 172 (Fig. 31)

3.7.28 The trench contained two parallel NW-SE ditches (Plate 15), 17202 and 17204. They demarcated a trackway which was seen to continue to the north-west, as a geophysical anomaly, through Trenches 178, 177 and 173. The ditches did not contain any artefactual material but are of probable Roman origin.

Trench 173 (Fig. 32 and Plate 16)

3.7.29 The trench contained a re-cut ditch, a posthole 17309 and two possible foundation trenches / ditches. The features corresponded to geophysical anomalies. In addition, there were small spreads of dark-hued material towards the southern end of the trench which, in consultation with the County Archaeologist, were left unexcavated.

3.7.30 Ditch 17303 was aligned roughly N-S with a return to the east. The fill, 17302, produced 36 pottery sherds dated to the late 1st to 2nd century. The feature may be the remains of a foundation trench rather than a ditch.

3.7.31 Ditch 17307 (Plate 17) was over 7.8m wide. It had a single fill (17305) which contained 187 sherds of pottery dated to the late 3rd century. The ditch was re-cut by ditch 17306 which was filled by 17304. Fill 173904 produced 293 sherds of pottery, dated to mid 4th century, and 48 iron hobnails. In addition there were two copper coins, one dated to AD 364-378, and the other to AD 350-364. The full depth of the features was difficult to determine within the confines of the trench.

3.7.32 A small posthole (17309) contained one fill (17308) which produced six sherds of pottery dated to the late 1st to 2nd century.

3.7.33 To the south was the rectilinear ditch, 17311. Although very shallow, the feature was clear in plan and the fill (17310) contained 60 sherds of pottery dated to the 2nd century. The feature may be the remains of a foundation trench rather than a ditch.

Trench 174 (Fig. 33)

3.7.34 Ditch 17404 (Plate 18), aligned E-W, contained fill 17405 which produced five sherds of pottery of late 2nd century date and animal bone.

3.7.35 Ditch 17406, aligned NW-SE, did not produce any artefacts.

Trench 175 (Fig. 33)

3.7.36 The trench contained two ditches and a layer filling a shallow depression in the natural cornbrash.

3.7.37 Ditch 17502 was aligned NE-SW and its fill (17503) contained 3rd-4th century pottery.

3.7.38 Ditch 17504 was aligned E-W and its fill (17505) contained 3rd-4th century pottery.

3.7.39 The ditches were cut into deposit 17506 which may have be a small area of subsoil preserved in a shallow depression. It produced a sherd of 2nd century or later pottery.

Trench 176 (Fig. 34)

3.7.40 The trench contained a ditch, a posthole and a pit.

3.7.41 Ditch 17602, aligned NW-SE, had a single fill, 17603, which contained pottery dated to the mid 3rd century or later, animal bone and metal fragments.

3.7.42 A possible posthole 17604, had a single fill which contained no artefactual material.

3.7.43 Pit 17606 had a single fill 17607 which contained pottery dated to the 2nd century or later, animal bone and metal fragments.

Trench 177 (Fig. 34 and Plate 21))

3.7.44 The trench contained two parallel E-W ditches (17702 and 17704) (Plates 19 and 20). They demarcated a trackway which was seen to continue through Trenches 172, 173 and 178.

3.7.45 Each ditch had a single fill. Fill 17703 in ditch 17702 contained 2nd-4th century pottery and animal bone. The features correspond to geophysical anomalies.

Trench 178 (Fig. 34)

3.7.46 The trench contained three ditches 17803, 17805 and 17807.

3.7.47 Ditch 17803 was aligned E-W but did not contain any artefactual material.

3.7.48 Ditch 17805 was aligned N-S but did not contain any artefactual material.

3.7.49 Ditch 17807, aligned NW-SE, had one fill (17808) which contained pottery dated to the mid 3rd century onwards, a fragment of oven furniture, ceramic building material and animal bone.

Trench 179 (Fig. 35)

3.7.50 Posthole 17902 did not contain any artefactual material.

3.7.51 Ditch 17904, aligned E-W, contained fill 17905 which produced a sherd of Roman pottery.

Trench 180 (Fig. 35)

3.7.52 Pit 18002 Plate 22), 0.7m deep and 1.62m wide, contained a sequence of five fills, one of which (18005) contained animal bone.

Trench 183 (Fig. 35)

3.7.53 A large pit (18303) contained two fills (18302 and 18304). The lower fill (18302) contained 32 sherds of pottery dated to between AD 325 and 400, ceramic building material of probable medieval to post-medieval date, animal bone and metal.

Trench 195 (Fig. 36)

3.7.54 A single ditch or field boundary, 19503, aligned NNE-SSW, was present. The single fill contained no artefactual material.

3.8 Trenches 117,119, 121, 123 and 124 (Fig. 8)

Trench 117 (Fig. 30)

3.8.1 Pit 11702 was approximately 7m wide and at least 0.7m deep. It contained at least three fills (11703, 11704, 11705) but, due to its depth, was not fully excavated. Fill 11704 contained post-medieval pottery, ceramic building material, metal and glass fragments. The other two fills contained no artefactual material. The feature corresponded to a geophysical anomaly.

Trench 119 (Fig. 30)

3.8.2 The trench contained three ditches (11903, 11905 and 11907) and a furrow (11909).

3.8.3 Ditch terminus 11903, aligned NE-SW, had a single fill 11902, that contained a fragment of unidentifiable ceramic building material.

3.8.4 Ditch 11905 was aligned E-W and its single fill contained no artefactual material (Plate 12).

3.8.5 Ditch 11907 was aligned NE-SW and its fill (11906) contained a metal object.

3.8.6 The furrow was aligned from E-W.

Trench 121 (Fig. 31)

3.8.7 Two possible ditches, 12102 and 12106, both aligned E-W, were excavated. Each contained a single fill, neither of which contained any artefactual material.

Trench 123 (Fig. 31)

3.8.8 A single NW-SE aligned ditch (12303) (Plate 13) produced a sherd of 1st century AD or later pottery from the fill, 12304.

Trench 124 (Fig. 31)

3.8.9 Ditch 12404, aligned E-W, had one fill which contained no artefactual material.

3.9 Trenches 137, 139, 200, 203 and 204 (Fig. 9)

Trench 137

3.9.1 The trench contained two unexcavated E-W aligned furrows.

Trench 139

3.9.2 The trench contained three E-W aligned furrows, parallel with each other, of which two (13903 and 13905) were excavated. Neither fill contained any artefactual material.

Trench 200 (Fig. 36)

3.9.3 The trench contained two curving ditches (20003 and 20008), and a third ditch 20005, which was cut by 20010.

3.9.4 Ditch 20003 was slightly curved, aligned N-S, and the single fill contained no artefactual material.

3.9.5 To the west (18.5m) was a slightly curved ditch (20008), aligned NW-SE. The single fill contained no artefactual material (Plate 23). Ditches 20003 and 20008 may correspond to a circular cropmark, although they are considerably offset.

3.9.6 Ditch 20005 was aligned NE-SW. It did not contain any artefactual material. It was cut by ditch 20010.

3.9.7 Ditch 20010 was aligned NE-SW. It had vertical sides and may have been the cut for a land drain although none was present.

Trench 203 (Fig. 36)

3.9.8 Ditch 20303 was aligned N-S. The single fill (20304) contained an iron nail. It was cut by furrow 20305 to the east.

3.9.9 Furrow 20305 was aligned NW-SE and contained one fill, which produced no artefactual material.

Trench 204 (Fig. 37)

3.9.10 Ditch 20403 (Plate 24) was aligned N-S and the single fill contained no artefactual material.

3.9.11 Feature 20405, aligned NNW-SSE, was a probable furrow. The single fill contained no artefactual material.

3.10 Trenches 256, 266, 267, 270, 271, 272, 273 and 274 (Fig. 10)

Trench 256 (Fig. 37)

3.10.1 The trench contained a ditch, 25603, aligned NW-SE. The single fill (25602) contained no artefactual material. It corresponded with a geophysical anomaly and a cropmark.

Trench 266

3.10.2 The trench contained a furrow (26603), aligned NE-SW. The fill contained no artefactual material.

Trench 267 (Fig. 37)

3.10.3 The trench contained two parallel furrows, aligned NE-SW.

3.10.4 Furrow 26702 had three fills (26703, 26704 and 26705). Fill 26703 contained a fragment of clay pipe and a fragment of wine bottle.

3.10.5 Furrow 26706 was not excavated.

Trench 270

3.10.6 The trench contained two unexcavated NE-SW aligned furrows.

Trench 271

3.10.7 Two parallel NW-SE aligned furrows were present. Furrow 27103 was filled by 27102 which contained a fragment of clay pipe.

Trench 272

3.10.8 The trench contained a small pit (27204), which contained no artefactual material.

3.10.9 There was also a furrow which was not excavated.

Trench 273 (Fig. 37)

3.10.10 Ditch 27302, was aligned E-W. Its fill (27303) contained a fragment of ceramic building material.

Trench 274

3.10.11 Three furrows, aligned NE-SW, were present within the trench. They were not excavated

3.11 Trenches 276, 277, 278, 280, 290, 293 and 294 (Fig. 11)

Trench 276 (Fig. 38)

3.11.1 Tree throw-hole 27603 contained fill 27604 which produced several fragments of animal bone.

3.11.2 Ditch 27605 was aligned NW-SE and its single fill contained no artefactual material.

3.11.3 Ditch 27607 (Plate 25) was aligned E-W and its fill (27608) contained four sherds of medieval pottery.

3.11.4 Ditch 27609 was aligned NW-SE and its fill (27610) contained a sherd of Roman pottery and animal bone.

Trench 277 (Fig. 38)

3.11.5 Ditch 27703, aligned NW-SE, contained no artefactual material.

Trench 278 (Fig. 38)

3.11.6 A row of four postholes, aligned E-W, was present at the western end of the trench (Plate 26).

3.11.7 The postholes (27802, 27804, 27806 and 27808) each had a single fill, none of which contained any artefactual material. The postholes were all of similar dimensions.

Trench 280 (Fig. 38)

3.11.8 Ditch 28003 (Plate 27), aligned N-S, had one fill (28004) which contained a sherd of post-medieval pottery.

3.11.9 Posthole 28005 contained no artefactual material within its fill (28006). It did contain charcoal from the sample taken, although this could not be identified to species.

Trench 290 (Fig. 39)

3.11.10 Ditch 29003 (Plate 28), aligned E-W, contained a sequence of seven fills (29010, 29008, 29009, 29006, 29007, 29005 and 29004). Fill 29009 contained 36 sherds of mid-late 1st century AD pottery and animal bone, fill 29006 contained 28 sherds of mid-late 1st century AD pottery and animal bone, fill 29007 contained six sherd of late 1st century AD pottery and fragments of oven furniture, and fill 29005 contained 27 sherds of mid 3rd century or later pottery, fragments of fired clay and animal bone.

Trench 293 (Fig. 40)

3.11.11 The trench contained three possible ditches (29303, 29305 and 29309), all aligned E-W, and a possible posthole 29307. No artefactual remains were present

3.11.12 Ditch 29303 had one fill which contained no artefactual material. The relationship of ditch 29303 to ditch 29305 was unclear. Ditch 29305 was cut by ditch 29309.

3.11.13 The possible posthole 29307 was cut by 29305. It was irregular in shape and may have been of natural origin.

Trench 294 (Fig. 40)

3.11.14 The trench contained two features: ditch terminus 29403, aligned NE-SW, and ditch 29405, aligned NW-SE. Both features were regular in plan and profile but the single fills within each were sterile and very similar to the natural silt.

3.12 Trenches 189, 224, 226, 228, 295, 297, 298, 300 and 302 (Fig. 12)

Trench 189 (Fig. 36)

3.12.1 Ditch 18902, aligned NW-SE, contained fill 18903 which produced a sherd of post-medieval pottery.

Trench 224

3.12.2 There was one linear feature, 22403, which was probably a recent drainage feature.

Trench 226

3.12.3 The trench contained two furrows, aligned SW-NE, which were not excavated.

Trench 228

3.12.4 The trench contained a N-S aligned furrow. The single fill contained no artefactual material.

Trench 295

3.12.5 There were three NE-SW aligned furrows. A drainage ditch, 29503, contained three fills, 29504-29506, the lowest of which, 29504, contained post-medieval pottery.

Trench 297

3.12.6 Three furrows (29703, 29705 and 29709), aligned NE-SW, were present. The fill (29706) of furrow 29705 contained metal fragments.

Trench 298

3.12.7 Feature 29804 was a probable NE-SW aligned furrow. Its fill contained no artefactual material.

Trench 300 (Fig. 40)

3.12.8 The trench contained an unexcavated furrow, aligned NE-SW, and a narrow ditch (30003), aligned N-S. Its fill, 30004, contained no artefactual material. The feature corresponded to a geophysical anomaly.

Trench 302 (Fig. 40)

3.12.9 The trench contained two intercutting ditches (Plate 29), 30203 and 30205 . The relationship between these two features was uncertain due to the similarity of their fills.

3.12.10 Ditch 30203 was aligned E-W and terminated within the trench. The single fill contained a single sherd of 1st century AD pottery.

3.12.11 Ditch 30205 was N-S aligned and the single fill yielded no artefactual material.

3.13 Trenches 238, 257, 304 - 308, 310 and 313 (Fig. 13)

Trench 238 (Fig. 37)

3.13.1 A shallow ditch, 23804, aligned E-W, had a single fill (23803) that contained no artefactual material.

Trench 257

3.13.2 The trench contained a furrow, aligned N-S, which was not excavated.

Trench 304 (Fig. 40)

3.13.3 The trench contained ditch 30403, aligned NE-SW. The single fill contained no artefactual material.

Trench 305

3.13.4 The trench contained two furrows, aligned E-W. They were not excavated.

Trench 306

3.13.5 Trench contained two E-W aligned furrows, one of which was excavated (30604). Its fill contained fragments of glass and metal.

Trench 307

3.13.6 The trench contained two furrows, aligned E-W. They were not excavated.

Trench 308

3.13.7 The trench contained a furrow, aligned E-W. It was not excavated.

Trench 310 (Fig. 41)

3.13.8 The trench contained a ditch terminus (31003), aligned N-S. The fill (31002) contained clay pipe fragments and a sherd of 18th century pottery.

Trench 313

3.13.9 Trench contained a large area of backfilled subsoil, 31302, probably a quarry shown on the 1st edition OS mapping.

3.14 Trenches 283, 316, 322, 323 and 348 (Fig. 14)

Trench 283 (Fig. 39)

3.14.1 The trench contained a ditch (28302), aligned N-S, which had two fills (28303 and 28304). Both fills contained metal fragments and fill 28304 contained a sherd of post-medieval pottery and a fragment of fired clay.

Trench 316 (Fig. 41)

3.14.2 The trench contained ditch 31605 (Plate 30), aligned E-W, which contained a sequence of four fills (31604, 31606, 31603 and 31602). The upper fill (31602) contained a complete brick. The feature corresponded to a geophysical anomaly.

Trench 322 (Fig. 41)

3.14.3 The trench contained two ditches (Plate 31). The features corresponded to geophysical anomalies.

3.14.4 Ditch 32203 was aligned WSW-ENE and contained fill 32202 which produced 61 sherds of middle Iron Age pottery.

3.14.5 Ditch 32205 was aligned NE-SW. The single fill, 32204, contained two sherds of late 1st century AD pottery.

Trench 323 (Fig. 42)

3.14.6 The trench contained a ditch, two pits and a cremation burial.

3.14.7 Ditch 32302 (Plate 32) was aligned N-S and contained two fills (32303 and 32304). The upper fill 32304 contained animal bone and 44 sherds of mid 2nd century pottery.

3.14.8 To the west was a cremation pit (32305). The fill (32306) contained over 1kg of burnt human bone, from two adult individuals, as well as charcoal and two sherds of pottery of 1st century AD date.

3.14.9 To the east of the ditch were two heavily truncated pits, 32307 and 32309 (Plate 34). They each had a single fill but neither contained any datable artefactual or burnt material, only animal bone fragments.

Trench 348 (Fig. 42)

3.14.10 The trench contained a ditch (34802), aligned N-S, which had one fill (34803) that contained no artefactual material (Plate 35).

3.15 Trenches 342, 343, 391, 394, 395, 397, 405, 407, 408 and 409 (Fig. 15)

Trench 342

3.15.1 There was one furrow 34204, aligned E-W. The single fill (34203) contained fragments of metal and post-medieval pottery.

Trench 343 (Fig. 42)

3.15.2 Ditch terminus 34305, aligned E-W, contained fill 34304 which produced no artefactual material.

Trench 391

3.15.3 The trench contained a furrow (39102), aligned N-S.

Trench 394 (Fig. 43)

3.15.4 Three ditches were present at the northern end of the trench.

3.15.5 Ditch 39403 (Plate 41), aligned NW-SE, had a single fill (39402) which contained a sherd of middle to late Iron Age pottery.

3.15.6 Ditch 39405 (Plate 42) was E-W aligned and had a single fill (39404).

3.15.7 Ditch 39407 was on the same alignment and had a single fill (39406). Neither fills contained any artefactual material.

Trench 395

3.15.8 There were four unexcavated furrows, three aligned NW-SE and one aligned NE-SW.

Trench 397

3.15.9 The trench contained a furrow (39704), aligned NE-SW. Its fill contained a sherd of Romano-British pottery.

Trench 405 (Fig. 44)

3.15.10 The trench contained six furrows, aligned NNE-SSW, one of which was excavated (40503). The fill (40502) contained a sherd of post-medieval pottery.

Trench 407 (Fig. 44)

3.15.11 Ditch 40702 was aligned N-S while ditch 40705 (Plate 44) was aligned NNW-SSE. Both features had a single fill, neither of which contained any artefactual material.

Trench 408

3.15.12 The trench contained three evenly spaced furrows, aligned NNE-SSW. They were not excavated.

Trench 409

3.15.13 The trench contained six evenly spaced furrows, aligned NNE-SSW. They were not excavated.

3.16 Trench 368 (Fig. 16)

Trench 368

3.16.1 The trench contained four furrows, aligned N-S. They were not excavated.

3.17 Trench 364 and 471 (Fig. 17)

Trench 364

3.17.1 The trench contained four furrows, aligned N-S. They were not excavated.

Trench 471 (Fig. 48)

3.17.2 Pit 47102 contained a single fill (47103) which produced a sherd of pottery dated to the middle Iron Age.

3.17.3 Ditch 47104 (Plate 54) was aligned N-S. Its fill (47105) contained no artefactual material.

3.18 Trenches 377-379, 382, 390, 422, 501-507 and 512 (Fig. 18)

Trench 377 (Fig. 42)

3.18.1 The trench contained five ditches and two pits.

3.18.2 Ditch 37702 was aligned NE-SW and had two fills. Fill 37703 contained 14 sherds of Roman pottery and one post-medieval sherd. It was overlain by 37704 which contained one sherd of Roman pottery, bone and metal fragments. The feature corresponded to a geophysical anomaly.

3.18.3 Ditch 37705 was aligned NE-SW and had a one fill (37706) which contained animal bone.

3.18.4 Ditch 37707 (Plate 36) was aligned NE-SW and had a one fill (37708) which contained animal bone. The feature corresponded to a cropmark.

3.18.5 Ditch 37717 was aligned N-S had a single fill (37718) which contained animal bone and metal. The feature corresponded to a cropmark.

3.18.6 Ditch 37714 (Plate 38) was aligned NE-SW and had two fills (37715 and 37716). Fill 37716 contained two sherds of 4th century pottery and animal bone. The feature corresponded to a cropmark.

3.18.7 Pit 37709 (Plate 37) had two fills (37710 and 37711). Fill 37711 contained seven sherds of 2nd century or later pottery and animal bone.

3.18.8 The second pit, 37712, had a single fill (37713) which contained three sherds of 4th century pottery, 14 iron hobnails, a fragment of oven furniture and animal bone.

Trench 378 (Fig. 43)

3.18.9 Ditch 37803, aligned E-W, had two fills (37804 and 37805). Fill 37805 contained late 5 sherds of later prehistoric pottery and 21 sherds of 1st century AD pottery and animal bone (Plate 39). The feature corresponded to a cropmark.

Trench 379 (Fig. 43)

3.18.10 Ditch 37903 (Plate 40), aligned N-S, had a single fill (37902) that contained animal bone and four sherds of mid 3rd or later century pottery.

Trench 382

3.18.11 The trench contained a posthole (38202) which was heavily truncated and contained no finds.

Trench 390 (Fig. 43)

3.18.12 The topsoil (39000) produced seven sherds of mid 3rd or later century pottery.

3.18.13 Ditch 39002, aligned E-W, had a single fill (39003) which contained a small plain copper alloy ring that was not closely datable.

3.18.14 To the north was a NW-SE aligned ditch, 39005, which had a single fill (39004) devoid of finds.

Trench 422 (Fig. 45)

3.18.15 Feature 42203 (Plate 46) was a broad shallow depression rather than a pit. The fill (42202) contained 64 sherds of mid 4th century AD or later pottery, a nail and a hobnail, animal bone and a single human tooth. The feature might have been the base of a midden deposit although a soil sample from it did not produce any evidence to support this interpretation.

3.18.16 Ditch 42205 was aligned N-S. No artefactual material was present.

3.18.17 Feature 42207 was an irregular, probably natural, feature. No artefactual material was present.

Trench 501 (Fig. 49)

3.18.18 The trench contained three shallow ditches (50103, 50105 and 50107), all aligned E-W, none of which contained any artefactual material.

Trench 502 (Fig. 49)

3.18.19 A curvilinear ditch (50205) had a single fill that was devoid of artefactual material.

3.18.20 Ditch 50209 (Plate 55) was aligned NE-SW. The fill (50208) contained two sherds of 2nd century pottery. The feature corresponded to the geophysical anomaly and cropmark.

3.18.21 Ditch 50211 was aligned NE-SW and lay 1.5m to the west. The single fill was devoid of artefactual material.

3.18.22 Pit 50207 had one fill (50206) that contained two sherds of pottery dated to the late 1st century AD or later.

3.18.23 In addition an area of heat-affected, disturbed cornbrash (50203) contained a fragment of animal bone and a fragment of pottery of second century AD or later date.

Trench 503 (Fig. 50)

3.18.24 The trench contained three ditches, all were aligned NW-SE.

3.18.25 Ditch 50307 (Plate 56) contained fill 50308 which produced a sherd of 1st century AD pottery. It was cut by ditch 50305.

3.18.26 Ditch 50305 contained fills 50306 and 50313. Fill 50313 contained 27 sherds of mid 3rd century pottery, a fragment of bangle of typical 4th century type and a copper alloy coin dated to AD 388-402.

3.18.27 Ditch 50309 contained fills 50310, 50311 and 50312. Fill 50312 contained a range of material including a sherd of prehistoric pottery, 50 sherds of Roman pottery and six sherds of 18th century pottery. There was also a copper alloy coin dated to AD 364-367. It is likely, therefore, that this upper fill has been disturbed by later ploughing.

3.18.28 Ditch 50304 cut through the subsoil and is therefore likely to be of later origin. However, it contained 41 sherds of late 2nd-mid 3rd century AD pottery.

Trench 504 (Fig. 51)

3.18.29 Ditch 50403 (Plate 57), aligned NW-SE, contained fill 50404 which produced four sherds of pottery dated to the 2nd century onwards, animal bone and an iron nail. The feature corresponded to a cropmark.

3.18.30 Ditch terminus 50405, aligned NW-SE, contained fill 50406. No artefactual material was present.

3.18.31 Ditch 50407, aligned NW-SE, contained fill 50408. No artefactual material was present. The feature corresponded to a cropmark.

Trench 505 (Fig. 51)

3.18.32 Pit 50503 was extremely shallow. Its fill (50502) contained two sherds of Roman pottery and a sherd of 18th century pottery.

3.18.33 Ditch 50505 (Plate 58) was aligned NW-SE and its fill (50504) contained four sherds of 2nd century AD or later pottery. The feature corresponded to a cropmark.

3.18.34 Ditch 50507 (Plate 59) was aligned E-W. No artefactual material was present.

Trench 506 (Fig. 51)

3.18.35 Ditch 50602, aligned NW-SE, was extremely shallow and contained no artefactual material.

Trench 507 (Fig. 51)

3.18.36 Human remains, consisting of the femurs and partial tibia and fibula shafts of a neonate, were recovered from the topsoil, presumably disturbed by ploughing from a nearby archaeological feature.

3.18.37 Pit 50710 contained fill 50709 which produced seven sherds of mid 3rd century AD pottery and a fragment of oven lining.

3.18.38 A possible trackway visible as cropmarks corresponded to land drains which crossed the trench at this location.

Trench 512 (Fig. 52)

3.18.39 Ditch 51204 (Plate 60), aligned E-W, contained fill 51203. It produced eight sherds of mid 3rd century AD pottery. The feature corresponded to a geophysical anomaly.

3.19 Trenches 414, 418, 429, 431, 435 and 439 (Fig. 19)

Trench 414 (Fig. 44)

3.19.1 Ditch 41402 was aligned NW-SE. No artefactual material was present.

Trench 418 (Fig. 45)

3.19.2 Ditch 41803 was aligned WSW-ENE. No artefactual material was present.

Trench 429 (Fig. 45)

3.19.3 Ditch 42903, aligned N-S, contained fill 42902 which produced a post-medieval glass fragment. The feature corresponded to a geophysical anomaly.

Trench 431 (Fig. 46 and Plate 47)

3.19.4 This trench lay towards the base of a shallow valley and contained colluvial deposits washed downslope.

3.19.5 At the base of the trench was a layer of sterile colluvium (43102). Overlying this was a burnt deposit (43103), which formed a low mound,. The deposit was a dark bluish grey-black clayey silt with frequent burnt stone fragments and frequent charcoal and ashy/soot inclusions. A soil sample from this layer contained a significant quantity of charcoal, but only a few charred plant remains.

3.19.6 To the north was a second possible mound (43104) composed of almost identical burnt material (Plate 48). The feature corresponded to a geophysical anomaly.

3.19.7 Sealing both of these deposits was a colluvial deposit, 43101, which lay below the topsoil.

Trench 435 (Fig. 47)

3.19.8 Ditch terminus 43502 (Plate 49) was aligned NW-SE. No artefactual material was present.

Trench 439 (Fig. 47)

3.19.9 The trench contained a cluster of four pits (43902 43905, 43907 and 43909) (Plate 52).

3.19.10 They were all of similar dimensions. Each pit had a single fill but none produced any artefactual material other than fragments of fired clay. Soil samples were taken from each pit but these contained almost no charred remains. The features corresponded to a geophysical anomaly.

3.20 Trenches 403, 404 and 436 (Fig. 20)

Trench 403 (Fig. 44)

3.20.1 The trench contained ditch 40303, aligned NNW-SSE. No artefactual material was present. The feature corresponded to the geophysical anomaly.

Trench 404 (Fig. 44)

3.20.2 The trench contained ditch 40403 (Plate 43), aligned NNW-SSE. No artefactual material was present.

Trench 436 (Fig. 47)

3.20.3 This trench lay on the edge of a shallow valley (see Trench 431, above) and contained colluvial deposits washed downslope.

3.20.4 Colluvial deposit 43612 overlay the natural geology (43606) and dipped visibly downslope from west to east. It was overlain by further colluvial deposits 43611, 43603, 43602 and 43613.

3.20.5 Sealed beneath the colluvium was a ditch, 43604 (Plates 50 and 51). An extension to the trench demonstrated that the ditch was sinuous in plan rather than curvilinear. The ditch contained fill 43605 that contained no artefactual material.

3.21 Trenches 450, 457 and 462 (Fig. 21)

Trench 450 (Fig. 48)

3.21.1 Ditch 45004 (Plate 53) was aligned E-W. No artefactual material was present. The feature corresponded to a geophysical anomaly.

Trench 457 (Fig. 48)

3.21.2 Posthole 45703 had a single fill (45702), which was devoid of any artefactual material.

Trench 462 (Fig. 48)

3.21.3 At the eastern end of the trench was a short length of ditch (46206), the fill of which (46205) contained a fragment of iron and animal bone.

3.21.4 A small pit (46204) lay partially within the trench. Its fill (46203) contained three sherds of middle Iron Age pottery.

3.22 Trenches 529, 553 and 556 (Fig. 22)

Trench 529 (Fig. 52)

3.22.1 The trench contained ditch 52903, aligned E-W. It contained fill 52902 which produced animal bone. The feature corresponded to a geophysical anomaly and a cropmark.

Trench 553 (Fig. 53)

3.22.2 Ditch 55302, aligned E-W, contained three fills (55303, 55304 and 55305). Fill 55304 contained 18 sherds of middle Iron Age pottery and a single sherd of Romano-British pottery. The feature corresponded to the geophysical anomaly.

Trench 556 (Fig. 53)

3.22.3 Ditch 55602 was aligned NE-SW. No artefactual material was present. The feature corresponded to a geophysical anomaly.

3.23 Finds summary

3.23.1 A moderate quantity of artefactual material was recovered from the features recorded in the evaluation. The range of material included pottery, fired clay, ceramic building material (CBM), flint, stone, metal, slag, glass and animal bone. A fuller description of the finds can be found in Appendix B.

3.23.2 The presence of the pottery is interesting and provides important dating evidence for any settlement activity. The assemblage is suggestive of scattered, low density, rural activity from the Neolithic onwards.

3.23.1 The evaluation produced 2080 sherds (18,069g) of pottery, mostly of later prehistoric and (particularly) Roman date but including middle Neolithic sherds from one context, a single possible early Anglo-Saxon sherd, a few medieval fragments and a modest quantity of post-medieval/modern sherds

3.23.2 Middle Neolithic pottery was identified in a single context (9704).

3.23.3 Iron Age pottery occurred in 15 context groups, of which four locations, Trench 48 (87 sherds), Trench 81 (45 sherds), Trench 322 (61 sherds) and Trench 553 (18 sherds) together account for nearly 92% (by sherd count) of all the Iron Age pottery recovered.

3.23.4 A total of 1738 sherds (weighing 15,743g) of Roman pottery was recovered during the evaluation. The assemblage included both fine wares, largely of the Oxford industry, and course wares. The only imported wares were a few sherds of samian. Both early and late Roman material was present, suggesting some continuity of activity although there was a lack of specifically middle Roman material, perhaps reflecting a lack of diagnostic material rather than a hiatus in occupation.

3.23.5 The post-Roman assemblage included a single sherd of possible Anglo-Saxon pottery, 19 sherds of 13th-16th century medieval pottery and 71 sherds of 17th century or later pottery. Most is derived from the topsoil.

3.23.6 Thirty fragments (1428g) of fired clay were found from the features in 12 trenches. The assemblage indicates the presences of hearths or ovens, possibly with shallow truncated bases surviving in some areas together with oven/hearth furniture of probably late Iron Age – early Roman date.

3.23.1 Ceramic building material (CBM) amounting to 123 fragments (3888g) was recovered from 55 trenches. Roman tile (nine fragments weighing 453g) was recovered from five trenches (111, 273, 377, 397, 503) with only three pieces recovered from ditches, the remainder being found in the topsoil

3.23.2 The post-Roman CBM (109 fragments, 3429g) ranges from medieval to 20th century. It is very dispersed across the project area with no significant concentrations. The character of the assemblage is typical of a ploughsoil assemblage comprising material that has become incorporated during arable cultivation from manuring or material relating to agricultural improvement such as field drainage or general maintenance such as metalling of farm tracks. The remaining five fragments were undatable.

3.23.1 A small collection of nine pieces of clay pipe was recovered from eight contexts. The size and condition of the material is typical of casual loss and field scatters.

3.23.2 The evaluation produced a very small assemblage of 18 glass fragments, including 12 sherds of vessel glass (largely wine bottles), four pieces of window glass, a single bead, and a piece of glass waste. All are of post-medieval date.

3.23.3 The evaluation produced a small assemblage which comprises 134 metal objects (152 fragments) including 132 pieces of iron and two pieces of copper alloy. The most numerous iron finds are hobnails, of probable Roman date, and nails. There was also a horseshoe and a knife which are probably of 19th century or later date.

3.23.4 The six copper alloy finds comprise four coins, all of 4th century AD date. There is also a small plain ring (context 39003), not closely datable, and a fragment of a 4th century Romano-British bracelet (context 50313).

3.23.5 The evaluation produced 27 fragments of slag from Trenches 175, 278 and 378.

3.23.6 There were two un-urned cremations; an individual of around 7 to 10 years in Trench 98; and the remains of two adult individuals within the same cremation in Trench 323. In addition, human remains were recovered from the topsoil of Trench 507. The remains comprised the left and right femur and partial, unsided tibia and fibula shafts, of a neonate who had been still born, or who had died during or shortly after birth. A single human tooth was recovered from pit fill 42202.

3.23.1 The evaluation produced seven fragments of worked flint from six contexts. Technologically, three pieces, from Trenches 48 and 82, may be broadly dated to the Mesolithic or Neolithic periods. Beyond this, the assemblage simply attests to human presence in the landscape during the prehistoric period.

3.23.2 Nine items of worked stone were found. These include a roof 'tile', a socketed block, a fragment of a shale spindle whorl and a perforated stone.

3.23.3 A total of 1288 hand-collected animal bone fragments were recovered from the site. The assemblage came from features preliminarily dated to the Iron Age, Roman and post-medieval periods, the majority of the bones being Roman. The assemblage contains bones from cattle, sheep/goat, pig, horse, dog, fox and domestic fowl. Cattle and sheep/goat are the most numerous animals in the Iron Age and Roman assemblages. Their predominance is typical for sites of these periods and suggests the importance of secondary products such as dairy, wool and the use of cattle for traction.

3.23.4 The majority of flots from the 21 soil samples were rich in modern plant material. On the whole, charcoal, while well-preserved where present, was small, in most cases being <4mm and therefore unsuitable for C14 dating or species identification.

4 Additional Geophysical Survey

4.1 Introduction

4.1.1 Additional geophysical survey was undertaken in two fields (Fig. 2a) where ecological constraints limited the number of trenches which could be excavated. The survey was designed to provide full coverage of the two fields. The full report is included at Appendix A but a short summary is provided below.

4.2 Results

4.2.1 A relatively low number of geophysical anomalies were recorded in the two fields (Fig. 54)

4.2.2 In the northern field, a semi-circular anomaly, possibly representing part of a small enclosure ditch, was recorded. A short linear anomaly to the north-west of this may be a further spur ditch. Further short lengths of linear anomaly and a number of possible land drains were also recorded. Remnant ridge and furrow was recorded in the southern part of the field.

4.2.3 In the southern field, a probable former field boundary was recorded along with a parallel ditch-like feature. Further short lengths of linear anomaly were also recorded.

4.2.4 The low density of anomalies in the southern field is, to some extent, confirmed by the results of the six trenches which were excavated in this field, none of which contained any archaeological features.

5 Discussion

5.1 Reliability of field investigation

5.1.1 The trenches were excavated in reasonable conditions throughout the evaluation and archaeological features were generally easily identifiable.

5.1.2 There was a general correspondence of archaeological features to geophysical anomalies to features, most of which were of archaeological origin. However, there was a tendency for irregular isolated anomalies to be of natural origin. The geophysical survey was able to identify linear features which, on excavation, were usually proven to be relatively shallow ditches. It did also on several occasions identify linear banding of natural siltier deposits within stonier geology as possible archaeological features. In some case the geophysical anomalies were field drains or pipes.

5.1.3 Where trenches were positioned in areas identified by the geophysical survey as being blank, few archaeological features were present. Occasional features were found but these were often of natural origin.

5.1.4 It is therefore felt that the recorded density and distribution of archaeological features provides a generally accurate representation of the evaluation area as a whole.

5.2 Evaluation objectives and results

5.2.1 The location, extent, date, character, condition, significance and quality of archaeological remains within the development was determined. Most of the features encountered were linear in nature although both small and large discrete features were also present. The majority of features for all periods were shallow and of limited extent. Periods represented were: Neolithic, probable Bronze Age, early-middle Iron Age, Roman, medieval and post-medieval. A fuller characterisation follows below in the phased interpretation section.

5.2.2 The vulnerability/sensitivity of the remains encountered is quite high. There was clear evidence of features being truncated through modern ploughing and the remains were in some cases very sensitive to damage, including the two cremations excavated.

5.2.3 In a number of cases features were anticipated to be present form the geophysical survey but no corresponding features could be detected. It is probable that they may be extremely shallow and ephemeral in nature.

5.3 Interpretation

Introduction

5.3.1 Evidence was found for scattered activity dating to the prehistoric period: a single feature contained pottery dating to the Neolithic period, a small group of trenches contained deposits which, while undated, may date to the Bronze Age, and a scatter of features, including a substantial enclosure, contained material of early-middle Iron Age date.

5.3.2 There were two main areas of Roman activity, well represented by the geophysical survey, as well as a third, less extensive area.

5.3.3 The locations of the main areas of prehistoric and Roman period activity are shown on Figure 55.

5.3.4 Medieval and post-medieval activity was primarily related to the agricultural use of the area and was widespread across the site.

Neolithic

5.3.5 Trench 97 contained a feature which produced sherds of middle Neolithic date, including 13 sherds of Peterborough ware. The association of this material with a linear feature is a little unusual and might possibly suggest that the sherds were redeposited. However, dispersed isolated features, or small clusters of features, containing Peterborough ware pottery have been found with increasing regularity across many parts of the country so the presence of this material is not unusual and further isolated features containing similar pottery could well exist elsewhere on the site.

5.3.6 Little can be said about the significance of this feature beyond the fact that it clearly attests to the use of this landscape during this period.

Undated (probable Bronze Age)

5.3.7 Three trenches, 431, 436 and 439, contained features that, although undated, may be of Bronze Age date.

5.3.8 Trench 431 contained an extensive deposit of burnt stones and charcoal, forming a low mound, sealed beneath a layer of colluvium (hill wash). A second similar, though smaller, feature was also present in the trench. The features were located in a shallow valley close to an existing stream. Features such as this are usually interpreted as burnt mounds and where they have been excavated are generally of Bronze Age date (Champion 1999, 102-103).

5.3.9 As in this case, burnt mounds are generally located adjacent to streams, and are often associated with a hearth and a watertight pit or trough. The purpose of these features is obscure but it has been suggested that they mark the sites of saunas or, alternatively, specialised sites for the cooking of food.

5.3.10 If these are burnt mounds of Bronze Age date then they form part of a very small group of such features that have been found within Oxfordshire. The Oxfordshire Historic Environment Record (OHER) contains only two entries identified as burnt mounds. One is at Yarnton (OHER PRN 16388.03), where two areas of burnt mound deposits were recorded, and the second is a possible burnt mound found at St Helen's Avenue in Benson (OHER PRN 16138).

5.3.11 To the north in Trench 439, at the crest of the same small valley, was a tight cluster of four well-defined pits. Further south, and buried beneath colluvium on the side of the

valley, was a sinuous ditch. There was no means of dating these features but they may be broadly contemporary with the burnt mound activity.

Early – middle Iron Age

5.3.12 Eight trenches, 48, 81, 322, 378, 394, 462, 471 and 553 had features that contained early to middle Iron Age pottery. However, only four, or perhaps five, of these (Trenches 48, 81, 322, 553 and perhaps 462) contained significant groups from stratigraphically secure deposits. The nature of the fabrics and the type of temper used in the later prehistoric pottery is indicative of a date range of broadly early-middle Iron Age, and perhaps more likely middle Iron Age rather than earlier.

5.3.13 The nature of the activity is difficult to determine given the paucity of remains and their dispersed distribution. However, in the case of Trench 553, the ditch from which the pottery was recovered forms part of a large enclosure (some 75m by 45m) recorded both as a geophysical anomaly and as a cropmark. Within the enclosure are a number of other anomalies which may represent contemporary features. A second, smaller, cropmark enclosure exists some 200m to the south. A ditch was present in a trench (Trench 529) positioned to investigate this anomaly but only animal bone was recovered.

5.3.14 Similarly, Trench 462 was located to investigate two small sub-circular enclosures. However, the revealed archaeological features bore little resemblance to the recoded anomalies.

5.3.15 The pottery from Trench 48 was recovered form a single large pit, evident as a geophysical anomaly, which also contained animal bone but little in the way of charred plant remains. No other features of this date were recorded in the vicinity so the function of this pit remains unclear.

5.3.16 In Trench 81, two ditches were overlain by a deposit which filled a shallow hollow and which contained a significant quantity of early-middle Iron Age pottery as well as animal bone. Again, no other features of this date were recorded in the vicinity although Trench 86, to the east, contained a small pit which produced three small sherds of pottery of possible Iron Age date.

5.3.17 Trench 322 contained a ditch with a significant quantity of early-middle Iron Age pottery. It corresponded to a geophysical anomaly which and may form a small enclosure.

5.3.18 The pottery from Trench 378 came from a feature which also contained early Roman material. It is likely, therefore, to be redeposited within this feature and nothing further can be said about the nature the activity here. Trenches 394 and 471 produced single sherds of pottery only.

5.3.19 Overall, the evidence for this period seems to indicate dispersed utilisation of the landscape, although the enclosure in the vicinity of Trench 553 may represent a more substantial focus. To some extent, this is unusual, more typical of the pattern seen in earlier periods, perhaps indicating that a more extensive settlement exists. The broad dating of the pottery means that it is not possible to suggest whether or not the activity represented is contemporary or sequential.

Roman

5.3.20 A total of 32 Trenches contained significant features of Roman date. There were two main areas (labelled Areas A and B on Fig. 55) and one subsidiary group of trenches (Trenches 290, 322 and 323) containing features of this date.

5.3.21 Area A is located on the western side of the site and Area B is located in the northern part of the site, with the subsidiary group lying in between. Only occasional features of Roman date were present outside of the main concentrations.

5.3.22 The small focus of Roman activity centred on Trenches 290, 322 and 323 contained only a limited number of features but produced a substantial quantity of pottery, largely of early Roman date. It is not clear what form the activity took, but the presence of fragments of oven furniture in Trench 290 and a cremation burial in Trench 323 could indicate a small-scale domestic settlement, perhaps an outlying farmstead.

Area A

5.3.23 This area was only partially subject to geophysical survey which limits the overall interpretation. The evidence visible indicates a probable trackway, marked by a pair of parallel ditches, running SE-NW which then turns west, probably continuing through Trenches 114 and 105.

5.3.24 There was a concentration of features, both in the trenches and in the area covered by the geophysical survey, within the area adjacent to the northern part of the trackway and this seems to form the focus of the activity. There were very few postholes but this may be a result of the stony nature of the natural geology and truncation by later ploughing. However, a number of small rectilinear features in Trench 173 could be the remains of foundation trenches or beam slots for small structures. Certainly, the range and quantity of artefacts present (including pottery, fragments of oven furniture, animal bone, metal finds and a spindle whorl), and the presence of a well are consistent with domestic occupation. The relative absence of imported pottery, and the lack of evidence of metalworking or other industry, suggests that the settlement was a small agricultural settlement of relatively low status.

5.3.25 The cremation burial in Trench 98, while undated, is likely to be of Roman date and could form part of a small cemetery set apart from the main focus of occupation.

5.3.26 It appears, however, to have been relatively long-lived. While there is little to suggest a pre-conquest origin, there is certainly a significant quantity of early (1st-2nd century) material. Although distinctively middle Roman material is generally absent, there is no reason to believe that the settlement did not continue in this period, albeit perhaps at a reduced level. The wider distribution of late Roman pottery indicates that activity became more extensive during this period.

Area B

5.3.27 The geophysical survey and cropmark evidence in this area appears to show a series of enclosures of varying dimension and shape The features revealed during the evaluation were generally linear, forming the boundaries of enclosures. There were a few pits but postholes and other structural evidence was almost entirely absent, perhaps because of the solid nature of the bedrock and the degree of plough truncation.

5.3.28 The range and quantity of artefactual material was present was similar to that from Area A, again suggesting an agricultural settlement of relatively low status. The fragmentary remains of a human neonate were present in the topsoil of Trench 507, presumably deriving from a plough-damaged feature in the vicinity, and a single human tooth was found in a late Roman pit in Trench 422, perhaps from an earlier burial. It is likely, therefore, that further burials, both disturbed and *in situ,* may be found in Area B.

5.3.29 The pottery assemblage indicates that this settlement existed alongside the settlement in Area A and, indeed, followed a very similar trajectory of development throughout the Roman period.

5.3.30 While both of these settlements are typical of Roman rural settlements in Oxfordshire (and elsewhere) in terms of the types features and range of artefacts present, they are potentially noteworthy in terms of their chronological span. Detailed comparison with other sites in the region has not been attempted at present, given the limited pottery

assemblage recovered during the evaluation. However, the continuity, and perhaps expansion, of activity through the entirety of the Roman period at both sites is perhaps unusual (pers comm Paul Booth).

Medieval to post-medieval

5.3.31 Geophysical anomalies suggesting the presence of ridge and furrow agricultural were fairly widespread across the site and furrows were also present in a number of trenches. This suggests that much of the site was under arable cultivation during the medieval period (and later).

5.3.32 Evidence of post-medieval agricultural practices was recorded to a limited degree across the sites, as the remnants of field boundary ditches in a small number of trenches and from elements of land management, whether it be drainage ditches or boundaries.

5.3.33 No evidence of medieval or later settlement was recorded on the site, aside from the extant farmhouses themselves.

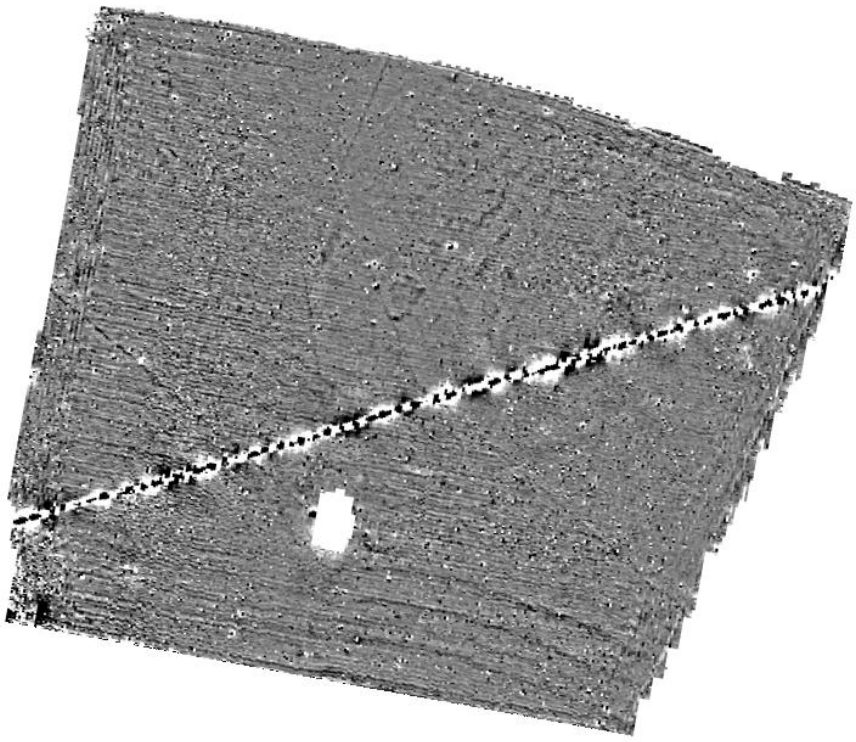
Undated features

5.3.34 There were a large number of undated features present across the site. Most of these were ditches and it is likely that these were boundary and drainage ditches associated with the agricultural use of the site. While these could be of almost any date from the later prehistoric period onwards, it is, perhaps, most likely that they are of medieval or later date.

APPENDIX A. ADDITIONAL GEOPHYSICAL SURVEY

Northamptonshire Archaeology

Further archaeological geophysical survey of land at the proposed Bicester Eco Development Bicester, Oxfordshire November 2013



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Report 13/258

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QUALITY CONTOL

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Checked by	Mark Holmes	*MH*	16/12/13
Verified by	Pat Chapman	*PC*	16/12/13
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OASIS REPORT FORM

PROJECT DETAILS	**OASIS No. 166867**	
Project title	Further archaeological geophysical survey of land at the proposed Bicester Ecotown, Bicester, Oxfordshire	
Short description	Northamptonshire Archaeology was commissioned by Oxford Archaeology, on behalf of their clients to conduct an archaeological geophysical survey of land at the proposed Bicester Ecotown, Bicester, Oxfordshire. A magnetometer survey was undertaken over an area of 12ha. The survey identified a small number of linear ditch anomalies and a former field boundary.	
Project type	Geophysical survey	
Previous work	Northamptonshire Archaeology 2012; Airphoto Services 2011; Oxford Archaeology 2010	
Current land use	Arable Land	
Future work	Unknown	
Monument type and period		
Significant finds	None	
PROJECT LOCATION		
County	Oxfordshire	
Site address	Bucknell Road	
Easting Northing	SP 5621 2352	
Area (sq m/ha)	12ha	
Height aOD	90 aOD	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	Richard Oram, Oxfordshire County Council	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Ian Fisher	
Project Manager	Mark Holmes (NA), Ken Welsh (OA)	
Sponsor or funding body	Oxford Archaeology (OA)	
PROJECT DATE		
Start date	05/11/2013	
End date	16/12/2013	
ARCHIVES	**Location (Accession nos.)**	**Contents**
Physical		
Paper		Site survey records
Digital		Survey data
BIBLIOGRAPHY		
Title	Further archaeological geophysical survey of land at the proposed Bicester Ecotown, Bicester, Oxfordshire	
Serial title & volume	Northamptonshire Archaeology Report 13/258	
Author(s)	Charlotte Walker	
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FURTHER ARCHAEOLOGICAL GEOPHYSICAL SURVEY OF LAND AT THE PROPOSED BICESTER ECO DEVELOPMENT BICESTER, OXFORDSHIRE NOVEMBER 2013

Abstract

Northamptonshire Archaeology was commissioned by Oxford Archaeology to conduct an archaeological geophysical survey of the proposed Ecotown development area at Bicester, Oxfordshire. A magnetometer survey was undertaken over an area of 12ha and identified a small number of linear ditch anomalies and a former field boundary.

1 INTRODUCTION

Northamptonshire Archaeology was commissioned by Oxford Archaeology (OA), on behalf of Hyder Consulting, to conduct a magnetometer survey on land for the proposed Bicester 'Eco Town', Bicester, Oxfordshire (NGR SP 5621 2352). The proposed Eco Town is located to the north-west of Bicester (Fig 1).

The fieldwork was carried out in November 2013, to augment a previous survey undertaken in 2011-2012 (NA 2012) and covered approximately 12ha. It comprised the 'infilling' of areas previously not surveyed within two separate land parcels; fields E2, E9 and E10. This was undertaken in order to inform the future mitigation strategy for the site, since trial trench evaluation was not feasible within these two fields. The work conformed to a specification prepared by Northamptonshire Archaeology (NA 2013) as a condition of a planning application for development of the land.

2 BACKGROUND

2.1 Location and geology

The site is located on the western edge of Bicester and lies at 90m aOD. To the north, south and west the field is bounded by hedgerows to further open fields. The eastern boundary is formed by a thicker tree line to further fields.

The site slopes slightly from north-west to south-east and is primarily situated on cornbrash limestone formations interspersed with forest marble formation of interbedded limestone and mudstone (BGS 2013).

2.2 Historical and archaeological background

The archaeological and historical background of the site has been described in a desk-based assessment (Hyder Consulting 2011).

The site is located in an area which has seen little archaeological investigation prior to the current project but its archaeological potential is demonstrated by a number of recorded monuments within the vicinity. There is an area of ditches and enclosures at the south of the site at Himley Farm. There is also evidence of a ring ditch, which may be the remains of a Bronze Age barrow (Oxford Historic Environment Record (OHER) no 13907).

An extensive complex of features, including ditches, pits, possible tracks and enclosures are visible as cropmarks close to Hawkswell Farm (OHER no 15958). They are probably the remains of a prehistoric or Romano-British settlement and may relate to Iron Age settlement recorded at Slade Farm, 400m to the south of the site. Further cropmarks identified during the air photo survey within the area may also date to this period (Airphoto Services 2010).

Geophysical survey, which was undertaken across the entire Bicester 'Eco Town' area, confirmed and expanded upon the presence of these features (Butler and Walker 2012). Particular concentrations of features were located to the north of the current site in Block B (Fig 1). These included sub-rectangular and sub-circular ditched enclosures, curvilinear ditches and pits, likely to be of late prehistoric or Roman date. Other foci of archaeological features were detected in Block A and Block C. Of particular interest was a possible, long curving droveway or crowding alley in Block C.

To the north of the site lie the remains of a deserted medieval settlement at Caversfield. There is a 10th/11th-century church at Caversfield and a post-medieval fishpond to the south of the church. A large depression to the north-east has been recorded as an earlier, medieval fishpond (OHER no 13743). There are several areas where eroded ridge and furrow earthworks still survive. These represent the remains of the medieval open field system of agriculture. Close to a small watercourse within the site are a number of upstanding ridges which may be the remains of post-medieval water meadows (Airphoto Services 2010).

A trial trench evaluation was undertaken in 2010 by Oxford Archaeology in fields at Home Farm, at the northern part of the site (exemplar site). Of seventy trenches, only six contained any features (OA 2010). These were all linear and were interpreted as agricultural boundaries, although they were ambiguous and may equally have been natural in origin.

Further evaluation trenching of the site is ongoing, with preliminary results indicating that the first stage of geophysical survey provided a reasonably reliable representation of the archaeological features and deposits within the site. Six trenches have already been excavated in Block E10, but no archaeological features or deposits were present in any of them (OA 2013). Evaluation trenching undertaken in fields immediately to the east and south of the current site found evidence of Iron Age and Roman activity (Walker 2013).

The specific area covered in this survey has already been partially surveyed. The data from this supports the evidence drawn from aerial photography to show the presence of two ditches following a north-west to south-east orientation (Butler and Walker 2013). Little else is evident in the field aside from a modern pipeline running south-west to north-east.

3 METHODOLOGY

The survey was conducted with Bartington Grad 601-2, twin sensor array, vertical component fluxgate gradiometers (Bartington and Chapman 2003). These are standard instruments for archaeological survey and can resolve magnetic variations as slight as 0.1 nanoTesla (nT).

A system of 30m grids contiguous with the previous survey was established within the areas to be surveyed. The grids were established with a tape measure and optical square and were tied in to the Ordnance Survey National Grid. The gradiometers were carried at a brisk but steady walking pace through each grid square, collecting data along 1m spaced traverse lines. Measurements were automatically triggered every 0.25m along the traverses, giving a total of 3600 measurements per square.

All fieldwork methods complied with the guidelines issued by English Heritage and by the Institute for Archaeologists and with the agreed method statement for this project (EH 2008; IfA 2011; NA 2013).

The survey data was processed using Geoplot 3.00v software. Striping, caused by slight mismatches in sensor balance, was removed using the 'Zero Mean Traverse' function and destaggering of the data was performed as necessary.

The processed data is presented in this report in the form of grey-tone plots, at a scale of +/- 4nT black/white. The plots have been scaled, rotated and resampled (georectified) for display against the Ordnance Survey base mapping (Fig 2). An interpretative overlay has been produced and is shown in Figure 3. The raw data is available in Figure 4.

Field numbers used in the earlier report have been retained for this stage of reporting.

4 SURVEY RESULTS

Magnetic anomalies detected by this stage of the geophysical survey represent subsurface features, as follows:

- Ditches – linear positive anomalies;
- Remnant medieval ridge and furrow - repeated parallel weakly positive linear anomalies;
- Ferrous pipelines – linear chains of alternating intense positive/negative anomalies;
- Land drains/other pipes – linear positive anomalies;
- Iron debris - 'dipolar' paired intense positive/negative anomalies, small if on the surface (eg nails, horseshoes), broader by size and depth of burial. The smaller dipolar anomalies are very common and so are not generally illustrated in the interpretation diagram.

In the central northern part of the field, was a semi-circular anomaly, possibly representing part of a small enclosure ditch. A short linear anomaly to the north-west of this may be a further spur ditch. Two further short lengths of ditch, aligned south-east to north-west were located *c* 70m to the north-west.

Remnant medieval ridge and furrow aligned roughly parallel to the southern boundary of field E2, was located at the south.

A ferrous pipeline, aligned north-east to south-west, crossed field E2 and was probably the same one as previously found in E1, the field immediately to the west (Butler and Walker 2013).

Cropmark evidence (APS 2010) shows two features arcing across the field from the south-eastern corner to the west. The northern most of these was mapped as far as the ferrous pipeline, beyond which it changed alignment, becoming more northerly. The continuous linear nature of these anomalies, coupled with their relatively low magnetic response, perhaps suggest that they are land drains rather than ditches.

The eastern part of an anomaly at the south of field E2, thought to have been a ditch when located in the previous survey, proved to be part of the ridge and furrow cultivation. To the west was a further linear anomaly, aligned north-west to south-east. It is possible that this feature is associated with the pond, from which it appears to originate and as such it possibly represents a pipe or land drain rather than a ditch.

Linear anomalies on the eastern and western boundaries represent modern agricultural ploughing practices.

In Fields E9 and E10 was an anomaly possibly representing a former field boundary, aligned north to south. A parallel anomaly located to the east of this may represent a ditch with further possible short lengths of ditch at the west and east.

There was an extensive area of disturbed ground around the western side of a pond at the south of the survey area. This may be caused by the spoil from its excavation.

5 CONCLUSION

The survey has detected a small number of possible short ditches, which might represent a low level of prehistoric or Roman activity in Block E2, possibly field systems associated with nearby settlement. No other significant archaeological features were identified.

Many of the cropmarks identified by the aerial photograph survey are not apparent on the survey results.

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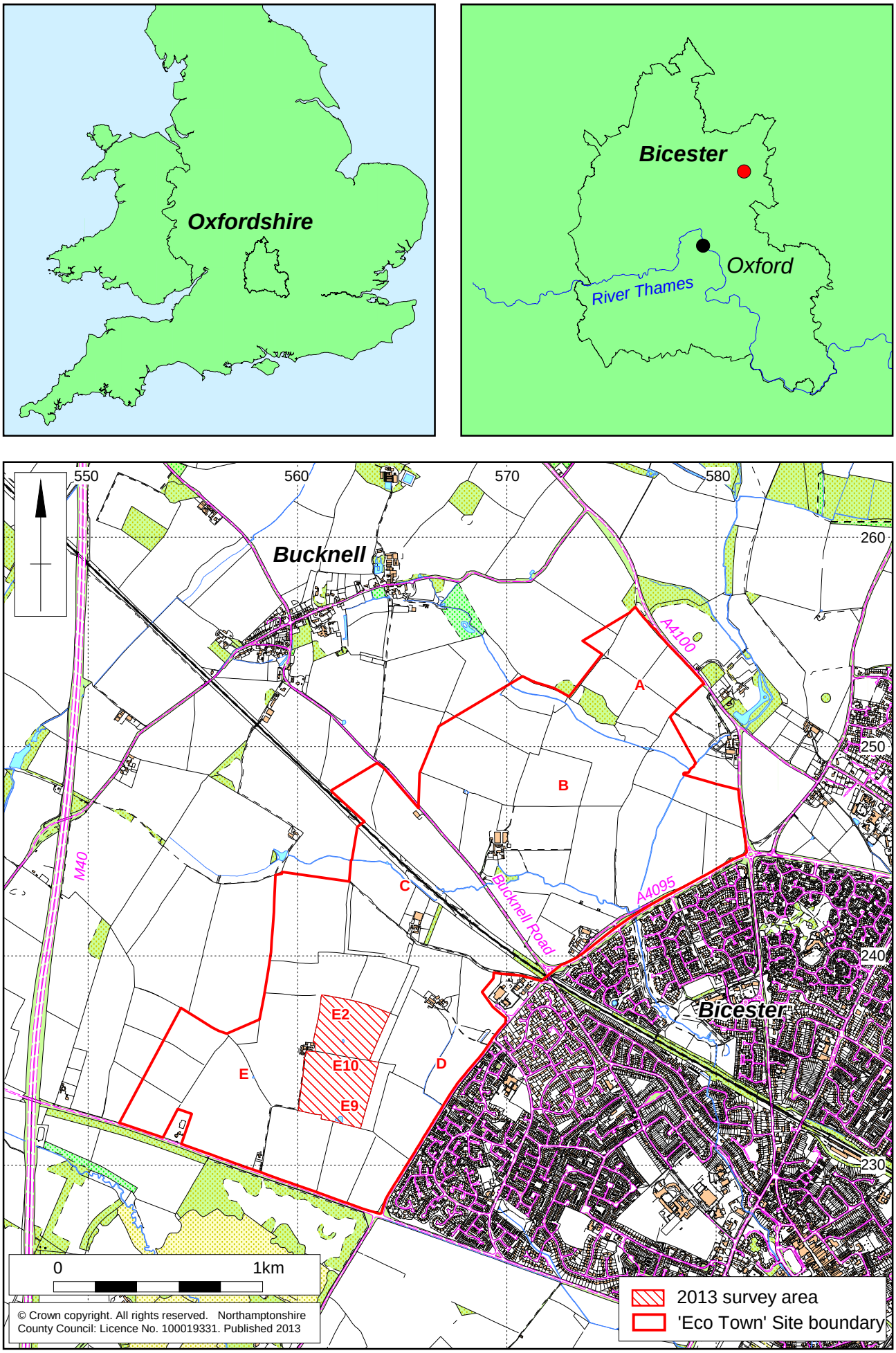
A service of Northamptonshire County Council 16 December 2013



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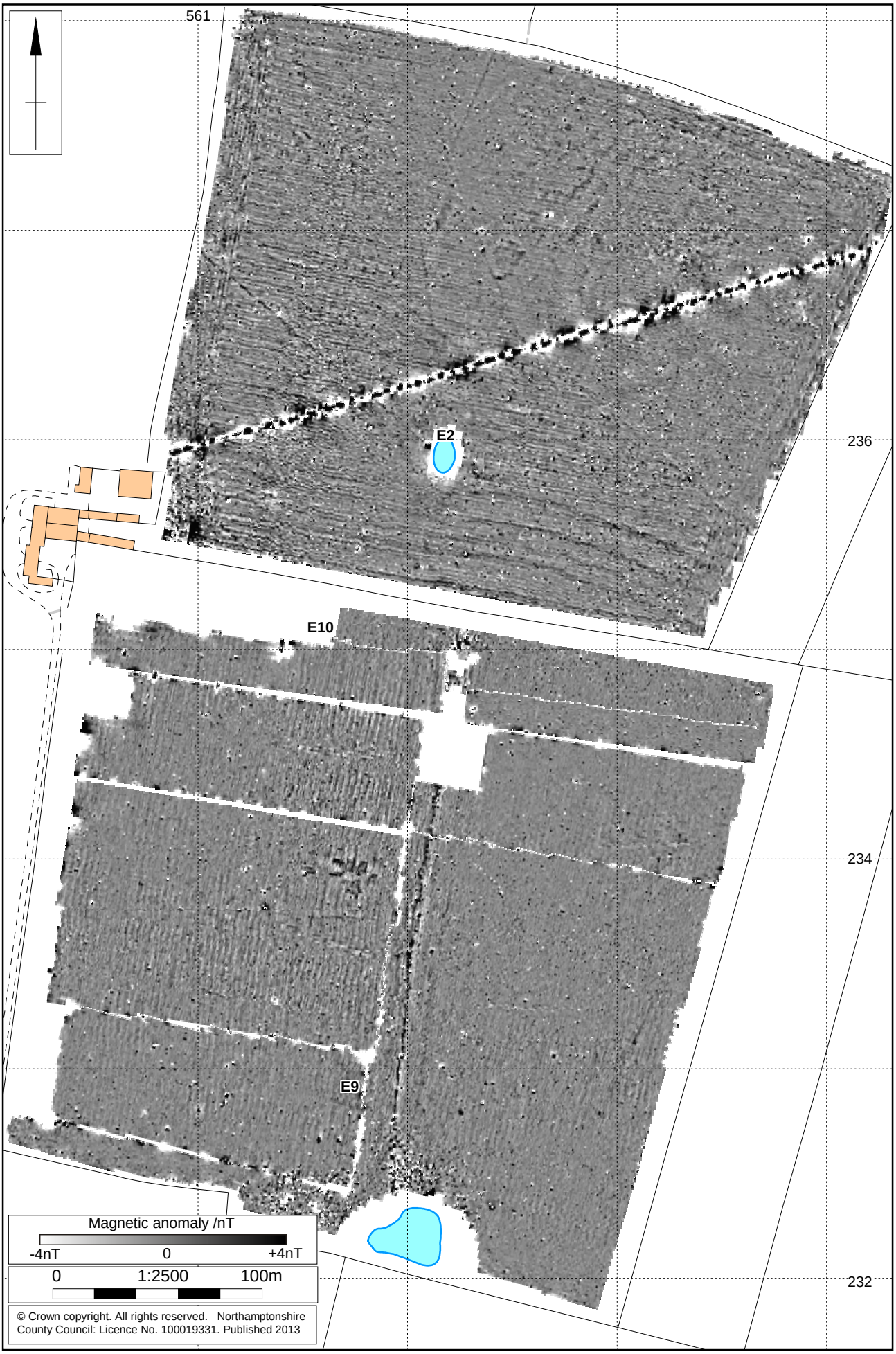
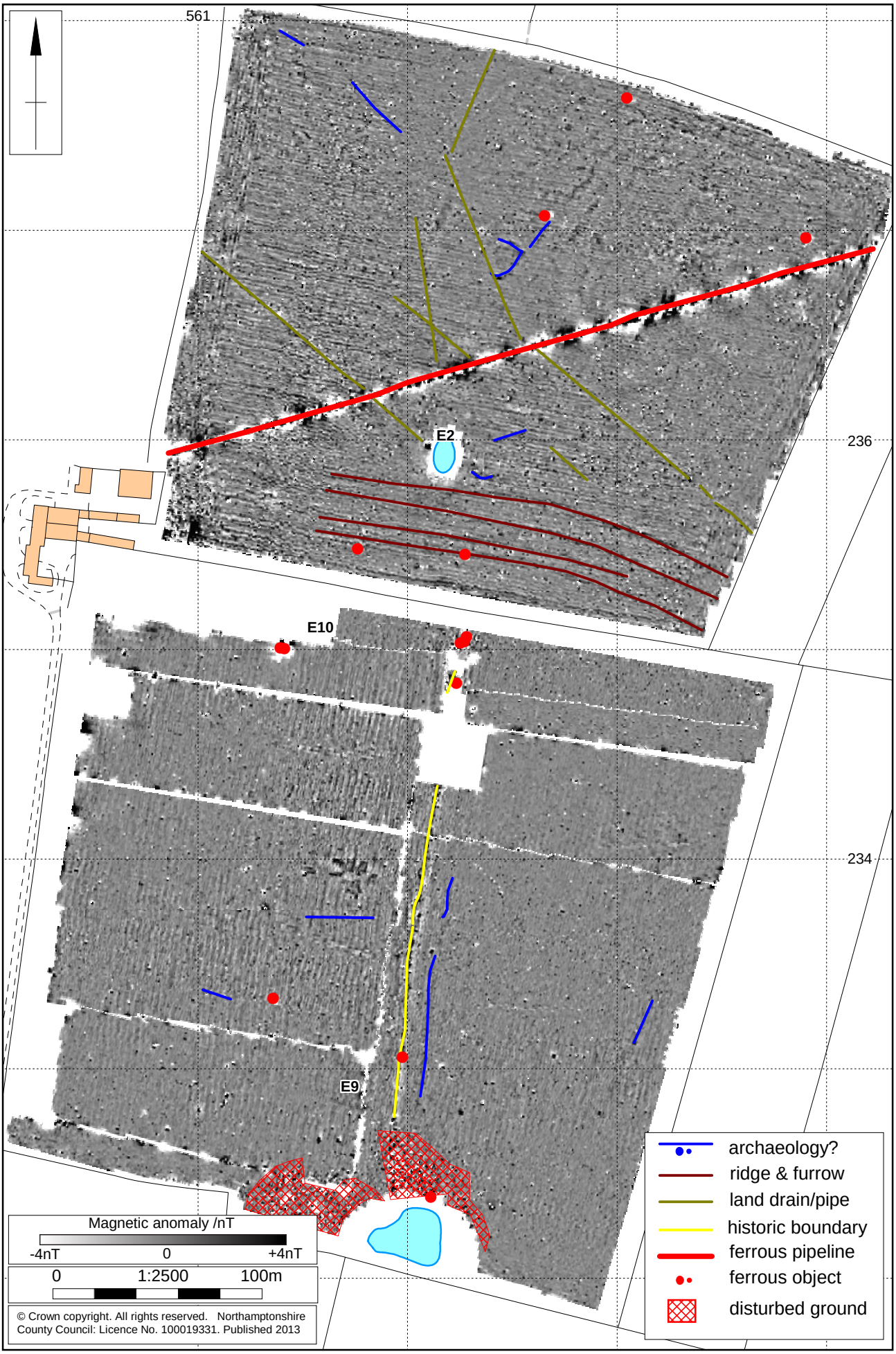
Site Location Fig 1



1:2500 (A4)

Survey results: Block E2, E9 and E10 Fig 2



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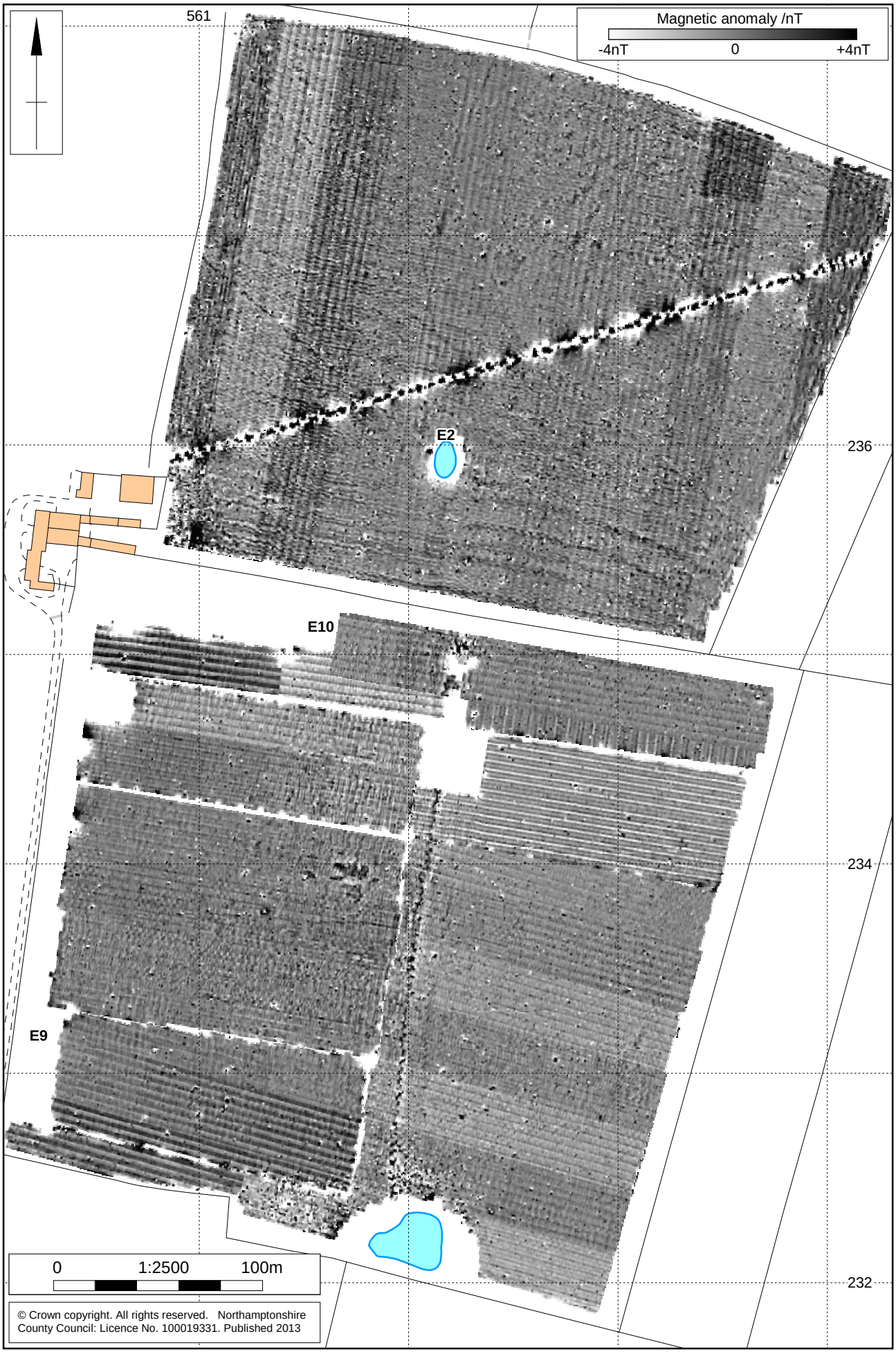
Survey results and interpretation: Block E2, E9 and E10 Fig 3



1:2500 (A4)

Survey raw data: Block E2, E9 and E10 Fig 4

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APPENDIX B. FINDS REPORTS

B.1 Pottery

by Paul Booth

Introduction and methodology

B.1.1 The evaluation produced 2080 sherds (18,069g) of pottery, mostly of later prehistoric and (particularly) Roman date but including middle Neolithic sherds from one context, a single possible early Anglo-Saxon sherd, a few medieval fragments and a modest quantity of post-medieval/modern sherds. The pottery was scanned quite rapidly and quantified by period for each context group (Table 1). The material was recorded by Paul Booth, incorporating identifications and dating of the post-Roman pottery by John Cotter. The fabrics of the later prehistoric pottery (probably all of middle to late Iron Age date) were recorded in terms of the principal inclusions present. General ware codes were noted for the Roman material, using a modified form of the standard OA recording system terminology (Booth 2011), cross-referenced to the national Roman pottery fabric codes (Tomber and Dore 1998) where appropriate. Medieval pottery was defined in terms of the Oxford coding system (Mellor 1994) and standard terms (eg 'pearlware') were used for the post-medieval material. In addition to recording by fabric, broad vessel types were also quantified by count of rim sherds, with occasional note made of more specific types where these were of significance for dating. The detailed records are contained in the project archive and a breakdown by fabric type or group for each context is not shown in Table 1. An assessment of the date of each context group, a terminus post quem, is presented in Table 1. It should be noted that these dates are based upon the pottery alone and many of the 'Roman' contexts, for example, can be assigned a later date on stratigraphic criteria or on the basis of the presence of other material such as post-medieval ceramic building material.

B.1.2 The condition of the material was variable within all chronological groupings. Many of the sherds appeared to be moderately worn, with variable preservation of surfaces. This was in part a consequence of soil conditions, but although some of the material from ploughsoil contexts was more abraded than that from other contexts only a very few sherds were noted as extremely worn, presumably as a result of repeated redeposition. The mean sherd weights (MSW) were quite low. The prehistoric pottery was typically well fragmented (MSW 6.1g) and the MSW for the Roman material was only 9.1g. That for the post-medieval pottery was slightly higher, but this reflects the relatively robust nature of much of that material – typified by glazed red earthenwares. Medieval sherds had the lowest mean weight, a mere 2.7g.

Table 1: Quantities of pottery by period and context

	Prehistoric		Roman		Medieval		Post-medieval			
Context	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	Pottery context date	Comment
500							1	11	17C+	
3901							1	19	19C+	
4000							1	16	19C	
4805	73	311							E-MIA	
4806	8	43							E-MIA	
4807	6	34							E-MIA	
4900							1	21	17C+	
6100							4	15	19C+	
6700							1	19	17C+	
6800							2	12	19C+	
7604			3	31					2C+	
8005			1	2					1C?	
8107	45	184							E-MIA	
8603	3	2							IA?	
9704	22	121							Middle Neolithic	Peterborough ware
9801			4	87					3-4C?	
9904			20	149					3-4C	
10003			3	20					3-4C?	
10004			85	1626					2C+	
10006			2	4					Late 1C+	
10504			1	4					RB	
10505			7	78					4C	
10607			1	1					RB?	worn

	Prehistoric		Roman		Medieval		Post-medieval			
Context	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	Pottery context date	Comment
11003	2	10	17	76					1C	
11203			45	347					Late 1C-mid 2C	
11205			35	652					Mid-late 1C	
11208			6	71					Late 1C+?	
11302							1	18	17C+	
11400			2	36					RB	
11401			2	5					RB	
11403			17	66					2C+	
11404			66	285					Early-mid 2C	
11406			58	248	8	26			13-16C	
11408			11	61					2C+	
11409			4	12					2C+	
11410			1	6					2C+	
11414			6	100					1C	
11417			5	21					Late 1C+	
11505			1	1					RB	
11800							1	12	17C+	
12100							1	6	1750-1780	
12304			1	2					1C+	
14600							1	4	17C+	
17000			24	87	4	6			13-15C	
17004			1	16					1C	
17300			72	456					Mid 3C+	
17302			36	342					Late 1-2C	

	Prehistoric		Roman		Medieval		Post-medieval			
Context	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	Pottery context date	Comment
17304			293	2399					Mid 4C+	
17305			187	1759					Late 3C+	
17308			6	26					Late 1-2C	
17310			60	479					2C	
17405			5	15					Late 2C+	
17500			1	20					2-4C	
17503			7	135					3-4C	
17505			6	199					3-4C	
17506			1	11					2C+	
17600			2	26					Late 1C+	
17601			2	8					RB	
17603			5	39					Mid 3C+?	
17607			9	40					2C+	
17700			4	15					2-4C	
17703			4	8					2-4C	
17800			3	15			1	6	17C+	
17808			6	26					Mid 3C+	
17903			1	2					RB?	
18000			1	2	1	2			EAS?	Small coarse sand-tempered sherd
18300			1	25					2-4C	
18302			32	681					325-400	
18903							1	37	18C+	
22409							1	2	17C+	
25200							1	15	17C+	

	Prehistoric		Roman		Medieval		Post-medieval			
Context	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	Pottery context date	Comment
25300							3	21	19C+	
26600							2	16	17C+	
27300							2	26	17C+	
27608					4	10			13-16C	
27610			1	4					RB?	
28000							1	2	18C+	
28004							1	2	17C+?	
28304							1	7	17C+	
28500							2	10	17C+	
29000			1	7					RB	
29005			27	108					Mid 3C+?	
29006			28	230					Mid-late 1C	
29007			6	44					Late 1C	
29009			36	302					Mid-late 1C	
29504							1	1	17C+	
30204			1	23					1C	
31002							2	5	17C+	
32200	1	4					1	24	17C+	
32202	61	527							MIA	
32204			2	54					Late 1C	
32300			1	31					RB	
32301			4	35					2C+?	
32304			44	256					Early-mid 2C	
32306	1	1	1	23					1C	

	Prehistoric		Roman		Medieval		Post-medieval			
Context	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	Pottery context date	Comment
32400							1	31	17C+	
33400							2	7	17C+	
34100							1	6	17C+	
34203							1	1	17C+	
37200			3	101					2-4C	
37700			28	131			2	23	17C+	
37703			14	84			1	3	17C+	
37704			1	4					RB?	
37711			7	41					2C+	
37712			7	65					Mid 3C+	
37713			3	17					4C	
37716			2	9					4C	
37800			13	117					4C	
37805	5	21	21	209					Late 1C?	
37902			4	91					Mid 3C+	
38600							2	8	17C+	
39000			7	67					Mid 3C+	
39201			1	45					Mid 3C+	
39402	1	1							M-LIA?	
39703			1	3					RB	
39908					1	5			15-16C	
40100							3	55	19C+	
40300							2	15	17C+	
40502							1	12	17C+	

	Prehistoric		Roman		Medieval		Post-medieval			
Context	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	Pottery context date	Comment
42202			64	412					Mid 4C+	
43000							1	5	19-20C	
43800			1	9					Mid 3C+	
45600							5	52	19C+	
45800							2	3	17C+	
46203	3	11							MIA?	
47003	1	13							MIA?	
49200					1	3			14-16C	
50000							1	10	17C+	
50100			1	12					RB?	But possibly CBM?
50203			1	3					2C+	
50206			2	5					Late 1C+	
50208			2	19					2C+	
50300			31	450					Late 3C+	
50303			41	246					Late 2-mid 3C	
50308			1	4					1C	
50311			1	4					RB	
50312	1	30	50	453			6	29	17C+	
50313			27	197					Mid 3C+	
50400			13	183					Mid 3C+	
50404			4	6					2C+	
50502			2	38			1	5	17C+	
50504			4	20					Late 1C+	
50700			1	52					2-4C	

	Prehistoric		Roman		Medieval		Post-medieval			
Context	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	No. sherds	Weight (g)	Pottery context date	Comment
50709			7	112					Mid 3C+	
51000			2	28					2C+	
51201			2	13					2C+, poss mid 3C+	
51203			8	73					Mid 3C+	
51500			1	44					Mid 3C+	
52600							2	15	17C+	
53100			1	13					Mid 3C+	
54100			1	4					RB	
55304	18	231	1	1					MIA	1 RB frag probably intrusive
55500							1	31	17C+	
55802							1	36	17C+	
TOTAL	252	1546	1738	15743	19	52	71	728		
MSW		6.1		9.1		2.7		10.3		
% of site total	12.1	8.6	83.6	87.1	0.9	0.3	3.4	4		

The assemblage: early prehistoric

B.1.3 Early prehistoric pottery was identified in a single context (9704) in a possible linear feature. Of the 22 sherds (121g) in this context all but one tiny fragment were in flint-tempered fabrics – the only instance of this kind of tempering in the entire assemblage. There were two main groups; 13 sherds (64g) with coarse flint and unidentified voids were unoxidised and comprised decorated rim and body sherds of a Peterborough ware bowl. The second group, comprising 8 sherds (55g), was in a similar fabric but without the voids; the exterior surfaces were oxidised and there was no decoration, but the similarity of general fabric character strongly suggests that these sherds were contemporary with the Peterborough ware. A broad middle Neolithic date is certain for this material, but the association with a linear feature is a little unusual and might possibly suggest that the sherds were redeposited.

B.1.4 ***The assemblage: later prehistoric***

B.1.5 The later prehistoric pottery occurred in a fairly wide range of hand made fabrics. These were defined in terms (usually) of their two most common inclusion types (listed in order of frequency), though detailed fabric description was not undertaken. Inclusion types were identified by letter codes, as follows: A – quartz sand; C – calcareous grit; G – grog; L – limestone; N – none; P – clay pellets; S – shell; V – organic; Z – uncertain voids. A numeric code defines the relative coarseness of the fabric, on a scale of 1 (very fine) to 5 (very coarse). Fabrics in the upper part of this range were common here. The following discussion is based largely on consideration of the principal inclusion type. In some cases sherds, particularly groups of small fragments, were defined only in these terms. The fabrics present were as follows (Table 2):

Table 2: Quantification of later prehistoric pottery fabrics

Fabric	no. sherds	Weight (g)	Rim sherds
A unspecified	1	8	
AL3	1	1	
AS3	1	1	
CS5	1	21	1
L unspecified	38	101	1
LA4	8	45	
LAG4	9	50	
LAV4/5	12	155	1
LG4, LGA, LGZ4	4	32	
LS5	3	51	
LVA3	3	11	
LV4/5	55	459	1
S unspecified	39	100	2
S5, SN4, SN5	21	174	1
SA4	15	122	1
SAGV4, SGA4	2	29	
SC4/5	4	13	
SPV4	3	9	1

Fabric	no. sherds	Weight (g)	Rim sherds
SV4	5	30	1
VAL4	2	4	
Z, ZA	3	9	
TOTAL	230	1425	

B.1.6 The dominant fabric groups are those tempered with limestone and shell (in some cases the shell was probably fossil and therefore itself derived from limestone), suggesting that most of this pottery is probably from fairly local sources. Overfired sherds in fabric SA4 from contexts 4805 and 4806 certainly suggest local production if their condition was not a consequence of (perhaps accidental) refiring. The absence of sand tempering as a significant tradition is notable and is paralleled for example at nearby Whitelands Farm (Brown 2011a, 201). It marks a contrast with assemblages from the upper Thames Valley to the west and may also have an implication in terms of chronology, since sand tempering was particularly important in the middle Iron Age in this region. Shell tempering is a dominant regional tradition in the early Iron Age, for example, but its significance in this respect in this part of the county is much less clear, and shell and limestone traditions probably remained important here through the middle Iron Age as well as earlier. The difficulty of close dating is exacerbated by a lack of diagnostic sherds. Only ten vessels were represented by rims and almost all of these were small sherds, probably from simple ovoid or barrel shaped jars. Two rims, one each in fabric S (unspecified) and SV4, had fingertip impressions on the top of the simple upright rim, but this was the only decoration noted on any of the later prehistoric sherds. Much of this pottery can therefore only be dated as broadly early-middle Iron Age, but a subjective impression is that more is likely to have been of middle Iron Age date than earlier. There is, however, little indication of close spatial associations of any of this material with pottery of late Iron Age/early Roman date (context 37805 is perhaps the only example of such an association), which might suggest that middle Iron Age activity was restricted chronologically as well as spatially (see further below).

The assemblage: Roman

B.1.7 The Roman fabrics were defined in terms of OA ware codes, as mentioned above. These were mostly applied at an intermediate level of precision (eg fabric R30 – moderately sandy reduced coarse wares). The wares are grouped into major categories for analytical purposes, as set out in the OA documentation (Booth 2011). The wares present are as follows (Table 3):

Table 3: Quantification of Roman wares

Ware	Summary description	No. sherds	Weight (g)	No. vessels (rim count)
S30	Central Gaulish samian ware	17	49	3
F30	Mica dusted fine oxidised ware	1	4	1
F50	Red-brown colour-coated ware unsourced	3	16	
F51	Oxfordshire red-brown colour-coated ware	93	864	23
OF	Possible Oxfordshire red-brown colour-coated ware	6	48	3
F52	Nene valley colour-coated ware	9	112	1
F61	?South-western brown slipped ware	1	8	

M22	Oxfordshire white mortarium	16	851	8
M31	Oxfordshire white-slipped mortarium	2	31	1
M41	Oxfordshire red colour-coated mortarium	14	136	3
W10	Fine/slightly sandy white wares	17	90	3
W11	Oxfordshire parchment ware	2	44	1
W20	Sandy white wares	47	492	2
W23	Oxfordshire burnt white ware	2	13	
Q10	Oxidised white slipped wares	2	13	
Subtotal	*Fine and specialist wares*	236	2771	49
E20	Fine sand tempered 'Belgic type' wares	9	50	3
E30	Coarse sand tempered 'Belgic type' wares	8	61	
E80	Grog-tempered 'Belgic type' wares	95	804	8
O/O50	Oxidised coarse wares unspecified	2	5	1
O10	Fine (sandy) oxidised wares	202	805	12
O20	Coarse sandy oxidised ware	45	285	10
O30	Medium/fine sandy oxidised wares	6	25	
O37	Medium/fine sandy oxidised ware, West Oxfordshire?	3	62	1
O40	Severn Valley ware	8	102	1
O60	Calcareous-tempered oxidised wares	1	16	1
O80	Coarse grog-tempered oxidised wares	155	2132	7
O81	Pink grogged ware	92	2010	5
R10	Fine (sandy) reduced wares	351	2301	24
R20	Coarse sandy reduced wares	36	212	2
R21	Coarse sandy fabric (Young 1977, 202, fabric 2)	1	33	
R30	Medium sandy reduced wares	197	1506	27
R37	Medium/fine sandy reduced ware, West Oxfordshire?	11	128	1
R50	Black-surfaced medium sandy ware (cf Young 1977, 203, fabric 5)	1	11	
R90/99	Coarse grog-tempered reduced wares	45	1005	4
R96	Grog-tempered reduced fabric, West Oxfordshire?	5	81	2
B10	Black-burnished type ware, source uncertain	4	93	1
B11	Black-burnished ware, Dorset BB1	38	186	5
C10	Shell-tempered wares, various sources	163	915	24
X	Misc unassigned (from soil samples)	27	144	
TOTAL		1738	15743	188

B.1.8 The fine and specialist ware component of the assemblage which is identifiable to source consists very largely of products of the Oxford industry (fabric F51 (and probably

OF) and all the mortarium fabrics). The only other significant fine ware is Nene Valley colour-coated ware (F52), while a few sherds of samian ware (probably all Central Gaulish) were the only imported pieces in the entire assemblage; they included two decorated fragments. The sources of the white wares are less clear – they may have been mostly Oxford products, but this is not certain.

B.1.9 The coarse wares include a range of material with different chronological emphases. The E wares are characteristic of the 1st century AD and were in production and use both before and after the Roman conquest. They were complemented and superseded from the mid-late 1st century onwards by both oxidised and reduced coarse wares, although coarse fabrics in the O80 and R90 groups, both typically used for large storage jars, could date from as early as the inception of the E ware range. The E wares are sufficiently numerous to indicate at least limited activity within the site in the 1st century. The dominant reduced coarse wares (31.1% of sherds) were in circulation thereafter and neither R10 nor R30 groups is chronologically diagnostic in terms of fabric alone. Most of the vessels in these fabrics are likely to have been Oxford products, but the fabrics are rarely sufficiently distinctive, even when examined closely, for this to be certain. The presence of material from other more local sources is possible, but not demonstrable. The oxidised coarse wares present slightly different issues. Sherds in fabric O10 are again likely to have included many Oxford products, but this code is also used for a number of otherwise undiagnostic fine oxidised fragments (the MSW of O10 was a mere 3.9g) which could have included eroded fine wares (such as F51 – the code OF was used where this identification was fairly certain based on the presence of distinctive forms) and even eroded fine red earthenwares of post-medieval date. A similar caveat might apply to some sherds in the O20 group as well. A distinctive component of the oxidised wares was fabric O81, pink grogged ware, with a known source at Stowe in Buckinghamshire. This tended to be most widely distributed in the 3rd and 4th centuries in the form of large thick-walled jars (Booth and Green 1989), but the present assemblage consists mainly of thinner sherds from other jar types for which a wider 2nd-4th century date range is possible; at a distance of *c* 20km from Bicester this was in effect almost a local producer.

B.1.10 Another significant component of the coarse ware range on the site consisted of shell-tempered wares (C10). This group was not subdivided at this stage, but is likely to have included vessels in several different traditions of varying date, including early and middle Roman period production in or close to the upper Thames valley, but all with very similar if not effectively identical fabrics. A very small number of C10 sherds could be assigned with some confidence to the industry at Harrold, Bedfordshire (Brown 1994), products of which are most likely to be of 4th century date in this region. The majority of the black-burnished ware here is probably also of later Roman date, but this material was poorly represented, the site lying fairly close to the eastern margin of its distribution in quantity (cf Allen and Fulford 1996).

B.1.11 Some 188 vessels were represented by rim sherds. Jars were dominant, as is usual in rural assemblages, but even including uncertain jar/bowl types only amounted to 57.4% of the assemblage. Since early Roman rural assemblages in the region are typically much more comprehensively dominated by jars, this figure is indicative of the later Roman date of the majority of the pottery (Booth 2007). This point is emphasised by the relative frequency of vessels in fabric F51 (and OF) – these were entirely bowls and (mainly) dishes, with the common Oxfordshire form (Young 1977) C45 being particularly well-represented. A few of the Oxfordshire vessels were of types that can be dated specifically to the 4th century rather than the wide AD 240-400 range of the commonest types such as C45 and C51, and it is notable that the only Nene Valley vessel represented by a rim sherd was a bead and flanged bowl from context 17305, almost

certainly of 4th century date. Few individual vessels were of note, however. The early pottery included a butt beaker rim in fabric E80 from context 11404, and a decorated body sherd of another early beaker in fabric O10 came from context 29006. Base sherds of a cheese press in fabric R10 came from 2nd century context 17310, and another relatively unusual grey ware form was a handled jug in fabric R10 from the late Roman context 17304 in the same trench. A further R10 sherd from the topsoil in this trench had been reworked as a disc with a drilled central hole, but seems rather large to have been used as a spindle whorl. Samian ware vessels represented by rims were cup forms 35 and 33 and an uncertain bowl (probably form 37 or 38). The absence of form 18/31 and 31 dishes is notable.

The assemblage: post-Roman

B.1.12 The post-Roman pottery is for the most part unremarkable. One tiny fragment (*c* 1.5g) from context 18000 was in a coarse black sand-tempered fabric that had some characteristics of early Anglo-Saxon pottery, but the identification is not certain (compared, for example, to that of early Anglo-Saxon pottery from nearby Alchester; Evans 2001, 382; cf Brown 2011b), and the significance of a single unstratified fragment is rather doubtful. Nineteen sherds (52g) were certainly of medieval date. These were mostly products of the Brill-Boarstall industry, including glazed and unglazed vessels of 13th-16th century date (Oxford fabric OXAM). Context 27608 also produced a small worn fragment of Oxford fabric OXAQ. The post-medieval pottery is dominated by a range of oxidised earthenwares, mostly brown glazed. Many of these are also likely to have been Brill-Boarstall products. The majority have potentially wide date ranges of 17th-19th centuries.

Distribution and chronology

B.1.13 The distribution of the pottery across the site shows distinct spatial and chronological patterning. The single incidence of Neolithic pottery (in Trench 97) has been noted above. Iron Age pottery occurred in 15 context groups, of which ten are potentially dated by the material, but at least four of these are very small groups and of doubtful stratigraphic integrity. This leaves Iron Age context groups in four locations, Trench 48 (three groups, 87 sherds, 388g), Trench 81 (45 sherds, 184g), Trench 322 (61 sherds, 527g) and Trench 553 (18 sherds, 231g) which together account for nearly 92% (by sherd count) of all the Iron Age pottery recovered. The four locations are all discrete. The pottery does not provide sufficiently close dating for it to be possible to determine if these represent separate locations of contemporary activity or sequential activities.

B.1.14 The pattern of distribution of the Roman pottery is inevitably more complex. For present purposes small groups of material have been ignored, although they may have been significant in relation to particular features. The main early Roman (1st-2nd century) groups, possibly including a little pre-conquest material, are found in three areas of quite different sizes. In the western part of the site Trenches 100, 110, 112, 114, 173, 176 and 177 all contain groups of this date and are arguably sufficiently close to one another for the early Roman activity within them to be seen as related. Trench 173, in particular, also produced late Roman pottery groups as well as two late Roman coins. Further north-east, Trenches 290 and 323, on either side of the railway line, produced mid-late 1st century and early-mid 2nd century assemblages respectively, while some 700m east of here Trench 378 produced a single ?late 1st century group (with a little middle Iron Age pottery as well); late Roman pottery was also collected from this trench.

B.1.15 Late Roman pottery was more widely distributed across the site, which complements the suggestion (above) that the larger part of the Roman assemblage was of this date. An

arbitrary selection of groups of at least five sherds usually dated from the mid 3rd century onwards showed that such groups existed in Trenches 99, 105, 173, 175, 176, 178, 183, 290, 377, 422, 503, 507 and 512, while in addition assemblages of this date were recovered from topsoil in Trenches 378, 390, 503 and 504. What this shows is that late Roman groups occur within all three areas with significant early Roman assemblages, though the overlap of early and late features is far from complete within them. With the exception of the small area represented in the late Roman period only in Trench 290, the evidence indicates more widespread activity in the occupation complexes in the western (Trenches 99, 105, 173, 175, 176, 178 and 183) and north-eastern (Trenches 377, 378, 390, 422, 503, 504, 507 and 512) parts if the evaluated area. This suggests a degree of continuity and indeed expansion of activity within these areas, although there is a lack of clear cut evidence for groups of middle Roman date (the group from context 50303 was unusual in being specifically dated late 2nd-mid 3rd century). This may reflect an absence of particularly diagnostic material rather than discontinuity in occupation sequences, but features of the assemblage such as the relative absence of samian ware might possibly suggest a reduction in occupation levels in the middle of the Roman period – Antonine samian ware tends to be particularly characteristic of rural settlement assemblages in the region but is poorly represented here (Booth 2012; see also above). Overall, however, the broad correspondence of occupation location between the early and late Roman periods suggests some continuity of activity in these areas throughout the period.

Local Context

B.1.16 There are a number of published later prehistoric and Roman pottery assemblages from sites in the Bicester area. Early-middle Iron Age pottery is recorded from Alchester (Evans 2001) and Slade Farm (Woodward and Marley 2000), while the balance of fabrics, with an emphasis on grog tempering, suggests that assemblages from Bicester Fields Farm (Brown 1999) and Whitelands Farm (Brown 2011a) are mainly of late middle Iron Age and later date. At the latter site the pottery assemblage spans the conquest period and later, as is the case at Oxford Road (Booth 1996) and perhaps at Bicester Park (Timby 2008), while Roman activity at Alchester begins after the conquest and is better represented (in the northern extramural settlement area) from the 2nd century onwards (Evans 2001). Intensive late Roman occupation is best represented at Alchester (Evans 2001). Fourth century activity at Bicester Park and Whitelands Farm seems to have been rather limited and was completely lacking in other excavated assemblages from the Bicester area mentioned here. Sites in the vicinity of the present one therefore show a variety of trajectories of development and provide useful material for comparative purposes in the event of further analysis. Within the evaluated area comparison of the assemblages from the two principal foci of Iron Age and Roman occupation could be of particular interest, although the evaluation assemblages alone are too small to permit meaningful analysis. Wider regional comparisons have not been attempted at this stage, but frameworks for such analyses are in place (eg Booth 2004; 2007; 2012) and provide a secure basis for such work.

B.2 Fired Clay

by Cynthia Poole

Introduction and methodology

B.2.1 The evaluation produced a small assemblage of fired clay amounting to 30 fragments (471g), which was recovered from twelve trenches. The majority was found in pits and ditches with only a few pieces recovered from the ploughsoil.

Discussion

B.2.1 Fired clay was used for structures such as ovens, hearths and kilns over a considerable time from the prehistoric period to the medieval, when it gradually goes out of use being replaced by brick or tile, though clay continues in use for building daub, cob and similar uses. However it is unusual to find building daub without evidence of a burnt building. Much fired clay is inherently undatable except to this very broad date range and is dependent on associated datable artefacts for phasing. However, certain diagnostic forms, usually portable oven or kiln furniture are known from the middle Bronze Age onwards.

B.2.2 The clay fabrics used are either smooth clay (fabric A) or sandy clays (fabric Q), sometimes with clay pellets (fabric E) or mudstone inclusions (Q2). Only one example had added organic temper (fabric AV). The clay is all likely to be derived from locally available clay sources.

B.2.3 The assemblage does not contain any diagnostic forms, most pieces having only one or two flat moulded surfaces. Some pieces (50709, 29005) with finger marks and a poorly fired eroded back face are typical of oven lining or wall structure of any period. The large broken fragments without any evidence of a moulded surface recovered from the topsoil in Trench 170 have the appearance of *in situ* burnt clay natural forming the base wall or floor of the subsurface section of an oven or a hearth cut into the natural clay. It is unusual for such large pieces of fired clay to survive in the ploughsoil and it is likely that machining disturbed the base of such a feature surviving in the subsoil.

B.2.4 A high proportion of the assemblage appears to be fragments of oven furniture in the form or flat slabs 18-22mm thick, some with evidence of a straight edge or squarish corner. The general finish and form has most in common with late Iron Age-early Roman rectangular plates and discs, whilst one could be the edge of a triangular perforated brick, though no perforation survives.

B.2.5 The assemblage indicates the presences of hearths or ovens, possibly with shallow truncated bases surviving in some areas together with oven/hearth furniture of probably late Iron Age-early Roman date indicative of domestic activity.

Table 4 : Summary and quantification of the fired clay by context

Context	Number of Fragments	Weight (g)	Class	Fabric	Date	Comments
11406	1	6	Oven furniture	A	LIA-RB?	Possibly circular disc frag
11800	3	5	Indet	Q	PreH-Med	amorphous
17000	6	283	Oven/ hearth	Q	PreH-Med	Probably derived from subsurface in situ clay structure
17302	1	4	Indet	A	PreH-Med	Irregular rough surface
17304	3	63	Oven furniture	E	IA-RB?	Smooth moulded surface
17304	1	8	Indet	Q	PreH-Med	Irregular rough surface
17808	1	14	Oven furniture	A	IA-ER	Flat oven plate or disc
23703	2	4	Indet	Q	PreH-Med	amorphous
28304	1	11	Oven	E	PreH-Med	Two rough surfaces
29005	2	12	Indet	E	PreH-Med	Amorphous except for possible finger mark from moulding surface

29007	4	23	Oven furniture	Q2	IA-RB?	Square corner fragment, probably from rectangular oven plate.
37713	1	6	Oven furniture	A	IA-RB?	Rounded corner fragment possibly from oven plate or triangular brick
37900	1	12	Oven furniture	AV	PreH-Med	Fragment of flat slab
43906	2	4	Indet	A	PreH-Med	Small fragment with finger marks
50709	1	16	Oven lining	E	PreH-Med	Fragment with finger marks across moulded surface.
Totals	**30**	**471**				

B.3 Ceramic Building Material (CBM)

by Cynthia Poole

Introduction and methodology

B.3.1 Ceramic building material (CBM) amounting to 123 fragments (3888g) was recovered from 55 trenches (five fragments were too small to date). The assemblage is summarised by context in the table below. The majority of the tile was found in topsoil/ploughsoil, together with a few pieces in subsoil and colluvial deposits. Only 11% (by weight) was found in features, predominantly ditches with a small quantity in pits. The assemblage is very scrappy consisting of small fragments with a low mean fragment weight of 31g and variable rates of abrasion. The material is dominated by medieval – post-medieval tile with only a small quantity of Roman material identified. Fabrics have only been broadly characterised and no detailed descriptions made. The majority of the CBM is made in laminated clays containing red and cream clay pellets and frequent quartz sand, typical of fabrics found and presumably produced in the region.

The Roman tile

B.3.2 A small quantity of Roman tile (9 fragments weighing 453g) was recovered from five trenches (111, 273, 377, 397, 503) with only three pieces recovered from ditches, the remainder being found in the topsoil. Three pieces could be identified as *tegula*, whilst most pieces were plain flat tile between 17 and 26mm thick suggesting they also derive from *tegula*. Abrasion tended to higher levels, which is not unexpected for pieces in soils subject to cultivation over a long period of time.

The post-Roman tile

B.3.3 The post-Roman tile (109 fragments, 3429g) ranges from medieval to 20th century, though much is no more closely datable than medieval to post-medieval on account of the fragmentary and abraded character of the assemblage. Most was found in the topsoil apart from a scatter of small fragments in three pits and three ditches. Roof tile accounts for almost half of the CBM; probably all pegtile although only three had evidence of circular pegholes, measuring 12-14mm diameter. The roof tile measured from 10-16mm thick and in general had a fairly neat finish. The overall character of the roof tile suggests much of it is of late medieval to early post-medieval date. Only a couple of pieces were more typical of 18th-19th century tile. One curved tile may have been a 'half-round' ridge tile, though it could alternatively be a piece of field drain tile.

B.3.4 Several pieces of pipe were found, measuring 14-20mm thick and all 19th and 20th century in date. These were plain field drain pipes of circular section and glazed

stoneware sewer pipe. All were found in topsoil except one in ditch 29503. A few pieces of thicker flat tile (15-16mm) could be flat field drain tile rather than roof-tile.

B.3.5 Post-medieval brick (10 fragments, 802g) was found exclusively in the topsoil. The brick is mostly of 18th-19th century date together with three of 20th century date, including two Fletton bricks. All the pieces were fragmentary and no complete dimensions survived except for one of the Flettons measuring 67mm thick. This brick was frogged with just the tip of the first letter of a stamp surviving within it, possibly the M of MARSTON, used by the London Brick Company for bricks produced at its Marston works.

Discussion

B.3.6 The ceramic building material is very dispersed across the project area with no significant concentrations. The character of the assemblage is typical of a ploughsoil assemblage comprising material that has become incorporated during arable cultivation from manuring or material relating to agricultural improvement such as field drainage or general maintenance such as metalling of farm tracks.

B.3.7 The Roman tile is more limited in its distribution and may relate to an area of Roman settlement, though the degree of abrasion suggests that this is equally likely to relate to agricultural activities.

B.3.8 The assemblage has more in common with field walking assemblages, than excavated tile assemblages and appears to reflect the use of the ploughsoil rather than the character of any underlying archaeological features.

Table 5: Summary and quantification of the ceramic building material by context

Context	Number of Fragments	Weight (g)	Fabric Group	Class	Form	Date
5900	1	42	Sandy	Pipe	field drain	C19
6000	1	9	Sandy	Brick	Brick	C18-C19
6000	1	33	Sandy	Roof	flat	C18-C19
6000	1	13	Clay	Roof	flat	C18-C19
6300	1	11	Sandy	Roof	flat	Med-Pmed
6300	1	19	Clay	Brick	Brick?	C19-C20
6400	1	38	Sandy	Roof	flat	Med-Pmed
6700	1	22	Sandy	Roof	flat	Med-Pmed
6800	1	237	Clay	Pipe	drain	C19-EC20
7400	1	33	Sandy	Roof	flat	Med?
7400	1	32	Sandy	Curved	ridge?	Med-Pmed
8204	1	4	Sandy	Indet	Indet	Med-Pmed
10104	5	7	Sandy	Indet	Indet	Med-Pmed
11100	1	109	Sandy	Tile	Flat	RB
11704	2	16	Sandy	Tile	Flat	Pmed
11900	3	37	Sandy	Tile	Flat	Pmed
11902	1	2	Sandy	Indet	Indet	U
13200	1	11	Sandy	Tile	Flat	Med-Pmed

Context	Number of Fragments	Weight (g)	Fabric Group	Class	Form	Date
15200	1	30	Sandy	Tile	Flat	Pmed
17000	1	261	Fletton	Brick	Brick	C20
17200	2	64	Sandy	Roof	flat	LMed-EPM
17800	1	5	Sandy	Roof	flat	Med-Pmed
18302	1	27	Sandy	Roof	flat	Med-Pmed
23803	2	3	Sandy	Indet	Indet	U
24002	2	428	Sandy	Roof	flat	EPM
24100	1	44	Sandy	Roof	flat	Med-EPmed
24900	2	20	Sandy	Roof	flat	Med-EPmed
25000	1	66	Sandy	Roof	flat	Med-EPmed
25200	2	29	Sandy	Roof	flat	LMed-EPM
26600	1	10	Sandy	Roof	flat	Med-Pmed
27300	1	22	Sandy	Roof	flat	Pmed
27303	1	15	Sandy	Tile	flat	?RB
27400	1	17	Sandy	Roof	flat	Med-EPmed
28500	3	28	Sandy	Brick	Brick	Pmed
29505	16	188	Silty	Pipe	field drain	C19
31300	1	7	Sandy	Roof	flat	Med-Pmed
32500	1	28	Clay	Brick	Brick	Lpmed
33600	1	21	Sandy	Roof	flat	Med-Pmed
37700	1	8	Sandy	Tile/FC	indet	RB?
37700	1	65	Sandy	Tile	Flat	RB
37700	2	77	Sandy	Roof	Tegula	RB
37704	2	1	Sandy	indet	CBM/FC	U
37800	1	51	Sandy	Brick	Brick	Pmed
39100	2	25	Sandy	Tile	flat/roof	Med-Pmed
39103	2	5	Sandy	Tile	indet	Med-Pmed
39700	1	13	Sandy	Tile	indet	RB?
39703	3	38	Sandy	Roof	flat	Med
40900	1	23	Sandy	Brick	Brick	Med-Pmed
43900	5	61	Gritty	Pipe	water/field drain	C20
45600	1	12	Sandy	Roof	flat	Med-Pmed
45800	1	34	Sandy	Roof	peg	Med-EPmed
45800	1	23	Sandy	Roof	flat	Pmed
45800	4	36	Sandy	Roof	flat	Med-Pmed
46000	1	22	Sandy	Roof	flat	Pmed

Context	Number of Fragments	Weight (g)	Fabric Group	Class	Form	Date
47100	5	240	Sandy	Pipe	field drain	Mid-late C20
47100	1	35	Sandy	Roof	flat	Med-Pmed
48400	1	93	Stoneware	Pipe	sewer	C19
49300	1	8	Sandy	Roof	flat	Med-Pmed
49700	2	43	Sandy	Roof	flat	Med-Pmed
50000	1	383	Fletton	Brick	frogged	C20
50000	2	116	Sandy	Roof	peg	EPmed
50000	1	23	Sandy	Tile	flat	Med-Pmed
50312	1	14	Sandy	Indet	brick?	Pmed
50312	1	14	Sandy	Roof	peg	Med-EPmed
50312	1	14	Sandy	Flat tile	Flat tile	RB
50312	1	152	Sandy	Roof	Tegula	RB
51000	1	70	Clay	Roof	flat	M-L C20
51800	1	29	Sandy	Roof	flat	Med-EPmed
52400	1	20	Sandy	Roof	flat	Med-EPmed
52900	2	42	Sandy	Roof	flat	Med-EPmed
53900	1	54	Sandy	Roof	flat	Pmed
55500	1	27	Sandy	Roof	flat	Med-EPmed
55500	1	20	Sandy	Roof	flat	Med-EPmed
55802	1	9	Sandy	Roof	flat	Med-EPmed

B.4 Clay Pipe

by John Cotter

Introduction and methodology

B.4.1 A small collection of 9 pieces of clay pipe weighing 32g was recovered from 8 contexts. This has been catalogued and recorded on an Excel spreadsheet. The catalogue records, per context, the spot-date, the quantity of stem, bowl and mouth fragments, the overall sherd count, weight, and comments on condition and any makers' marks or decoration present.

Discussion

B.4.2 In general the assemblage is very fragmentary and very worn or weathered - probably from prolonged exposure to the elements and perhaps the effects of repeated plough-damage. The size and condition of the material is typical of casual loss and field scatters. It comprises eight short pieces of pipe stem and a single very worn pipe bowl. The latter is datable to c 1750-1790 by reference to the local Oxford typology (Oswald 1984). The stems range in date from the 17th century to the 18th or early 19th century, although an 18th-century emphasis is apparent. Fuller details maybe consulted in the spreadsheet catalogue.

Table 6: Quantification of clay tobacco pipe by context

Context	Stem	Bowl	Number of sherds	Weight (g)	Comments	Spot date
11704	1		1	1	Short worn/discoloured stem frag. Slender. Narrow stem bore diameter c2mm	18-E19C?
26703	1		1	3	Short very worn/discoloured stem frag. Stem bore c2.5mm	L17-18C?
27102	1		1	2	Short worn/discoloured stem frag. Stem bore c2.5mm	L17-18C?
27300	1		1	4	Short very worn/discoloured stem frag. Fairly chunky type. Stem bore c2.5mm	L17-E18C?
31002	1		1	2	Short very worn/discoloured stem frag. Fairly chunky. Stem bore c3mm	17C
33600	1	1	2	11	Very worn, very brown discoloured bowl of St Ebbe's, Oxford, Type D (Oswald 1984, fig. 51.D) c 1750-90, with prominent square profile heel (circular in plan), rim missing, short section of stem attached, stem bore c2.25mm. Also 1x fairly fresh short stem frag of chunky type with stem bore c2.5mm - probably L17-E18C?	c1750-1790
40700	1		1	3	Short worn/discoloured stem frag. Fairly slender. Stem bore c2.5mm	18C?
40803	1		1	6	Short very worn/discoloured stem frag widening at one end towards bowl. Chunky type. Stem bore c2.5mm	18C?
Total	**8**	**1**	**9**	**32**		

B.5 Glass

by Ian R Scott

Introduction and methodology

B.5.1 The evaluation produced a very small assemblage of just 18 fragments, including 12 sherds of vessel glass, 4 pieces of window glass, a single bead, and a piece of glass waste (Table 7). The glass waste or melted glass (context 33600) is a thick flake in an opaque grey green metal which has clearly spalled from another fragment.

Table 7: Summary quantification of glass by Context and Vessel Type (fragment count)

Context	Vessel	Window	Bead	Waste	Totals
6700	1				1
11409			1		1
11704		2			2
22406	1				1

23204	1				1
26703	1				1
28303	1				1
33600		1		1	2
36100	2				2
37900	1				1
39908	1				1
42000	1				1
42902	1				1
45800		1			1
46700	1				1
Totals	12	4	1	1	18

Discussion

B.5.2 The four small pieces of window glass are all small and modern. The bead is a small wound annular bead in an opaque green metal. It is potentially Roman given the remainder of the finds from this context and is certainly not Iron Age or Saxon, and unlikely to be medieval. The vessel glass comprises nine sherds from wine bottles and three fragments probably from other types of bottles (Table 8). The wine bottles include a number of fragments from 18th century bottles (context 26703) or late 18th or early 19th century bottles (contexts 36100, 37900, 39908, 342002). There is no glass dating earlier than the 18th century.

Table 8: Glass Summary quantification of vessel glass by Context and Vessel Type (fragment count)

Context	**Wine Bottle**	**Bottle**	**Totals**
6700	1		**1**
22406	1		**1**
23204	1		**1**
26703	1		**1**
28303		1	**1**
36100	2		**2**
37900	1		**1**
39908	1		**1**
42000	1		**1**
42902		1	**1**
46700		1	**1**
Totals	**9**	**3**	**12**

B.6 Metal

by Ian R Scott (coins by Paul Booth)

Introduction and methodology

B.6.1 The evaluation produced a small assemblage which comprises 134 metal objects (152 fragments) (Table 10) including 132 pieces of iron and 2 pieces of copper alloy. The most numerous iron finds are hobnails and nails.

Ironwork

B.6.2 The ironwork includes a complete large post medieval horseshoe (context 23000) and a post medieval horseshoe nail (context 22409).

B.6.3 There are 72 hobnails with 48 from context 17304. This context also produced six nails, six nail stem fragments and small fragments of iron including small bits of bar and two small pieces of thin iron sheet. The hobnails are likely to be Roman in origin and their presence may indicate a cremation, or pyre material (or a discarded item of footwear). The nails found with the hobnails are probably Roman too. Other contexts with hobnails are 17305, 18302, 37704, 37713, 37718, 42202 and 50312. There is a small concentration (n = 14) in context 37713 and single hobnails in contexts 37704 and 37718.

B.6.4 The only household item is part of a post medieval whittle tang knife with a solid bolster and dropped blade edge (context 11704). It is probably a 19th century table knife. There is a small number of structural items including a nut and bolt (context 42000), a quantity of nails and some nail stem fragments. Most of the nails were found singly and although all are hand made they are probably all of 18th or more probably 19th century date. The only concentration of nails is the small group of probable Roman nails from context 17304, found in association with hobnails. There are numerous small miscellaneous fragments (eg. bar, rod, sheet, etc), some of which may be nail stem fragments rather than bar fragments. There are small number of objects or uncertain function.

B.6.5 With the exception of the hobnails and their associated nails there are no iron finds which need date before the 19th century.

Copper alloy

B.6.6 The six copper alloy finds comprise four coins, a small plain ring (context 39003) which is not closely datable, and a fragment of a Romano-British bracelet (SF 50302, context 50313). This is a light bangle of a type generally dated to the 4th century (Cool 1983, 158) and comprises a thin strip (width c 4mm) with incised parallel lines flanking a chased pattern along its centre line. One end of the strip is broken but would have ended in a hook and the other end is a pierced with an an eye to receive the hook. The four coins were all of Roman date and are listed below in Table 9.

Table 9: Catalogue of Roman Coins

Context	Date AD	Denomination / Size	Obverse	Reverse	Mint	Comments
17304	364-378	AE3 16mm	head r	GLORIA ROMANORUM	Lyons O F II / R S / LUGS.	not exactly in LRBC, probably AD 367-375
17304	350-364?	AE4 9mm	crude head r	unclear		almost certainly Fel Temp Rep imitation
50312	364-367?	AE3 19mm	DN VALEN S PF AUG	SALUS REIPUBLICAE	Arles OF III / CONT	as LRBC2, 485-6
50313	388-	AE4 11mm	head r	Victory l??		rev ID uncertain so date

Context	Date AD	Denomination / Size	Obverse	Reverse	Mint	Comments
	402?					not sure, definitely after AD 330

Discussion

B.6.7 The metalwork assemblage is very limited in quantity, and seems largely to date to the 19th century. It does however include a small group of hobnails, particularly those from context 17304 found in association with a small number of Roman nails, which may indicate a cremation burial or a deposit of pyre material. There is also the fragment of Romano-British bracelet from context 50313 to further hint at the presence of some Roman activity or occupation.

Table 10: Metal finds: Summary quantification by Context and Object Function (object count)

Context	Transport	Personal	Hobnails	Household	Structural	Nails	Misc	Query	Undiag	Totals
7200						1				1
10003						0 (1)	1			1
10004							1			1
11003								1		1
11403						1				1
11404						0 (1)				0
11406						0 (1)				0
11417							3			3
11704				1			1			2
11906						1				1
17300					1	1				2
17304			48			6 (6)	7			61
17305			3			2 (1)	1			6
17400								1		1
17505						0 (1)				0
17607						1 (1)				1
17703									0 (1)	0
17808							1			1
18302			3			0 (1)				3
20304						1 (2)				1
22409	1									1
23000	1									1
26704								1		1
27608						1				1

Context	Transport	Personal	Hobnails	Household	Structural	Nails	Misc	Query	Undiag	Totals
28303					1					1
28304					1	1		1	0 (1)	3
29101					1					1
29706						1				1
30603						1				1
34203						1				1
37200						1				1
37704			1			1		1		3
37713			14							14
37718			1				1	1		3
39003							1			1
39700						1				1
40300								1		1
42002					1					1
42200							1			1
42202			1			1		1		3
50312			1			1				2
50313		1								1
50404							2			2
50709						1				1
Totals	**2**	**1**	**72**	**1**	**5**	**25 (15)**	**20**	**8**	**0 (2)**	**134**

Nails: Figures in parentheses are nail stem(s) and are additional to nail and nail head counts
Undiagnostic: Figures in parentheses are undiagnostic fragments present.

B.7 Slag

by Geraldine Crann

Introduction and methodology

B.7.1 The evaluation produced 27 fragments of slag from three contexts which were spatially disperse, although of probable Roman date.

Table 11: Quantification of slag by context

Context	Weight (g)	Description
17500	63	A single piece of ferrous slag
27800	72	25 fragments of vesicular slag
37805	12	1 fragment vesicular slag

B.8 Human Bone

by Helen Webb

Introduction and methodology

B.8.1 Burnt and unburnt human remains were recovered from four trenches during the Bicester Eco Development archaeological evaluation. In Trench 323, an unurned cremation deposit (32306) was recovered from pit 32305. The pit was sub-circular in shape with a diameter of 0.65-0.70m and a maximum depth of 0.08m. As well as burnt bone, the pit fill contained a significant quantity (c. 40%) of charcoal.

B.8.2 A second unurned cremation deposit was recovered from Trench 98. This deposit (9804) was recovered from a circular pit (9803), which measured 0.3m in diameter and just 0.05m in depth. Charcoal was present but is far less frequent in this deposit (c. 5%). The very shallow depths of pits 32305 and 9803 are a reflection of the heavy ploughing that has occurred on the site from the medieval period to the present day.

B.8.3 In Trench 507 the partial remains of a very young juvenile skeleton were recovered from the topsoil (50700). The remains were not in articulation, probably having been dragged up into the topsoil from a grave disturbed by ploughing. Indeed, the topsoil across the site was noted to contain fragments of pottery and other artefacts, almost certainly representing the disturbance of features below the topsoil.

B.8.4 In Trench 422 a single human tooth was recovered from probable rubbish pit 42203, fill 42202. This partially exposed, roughly circular pit had an uneven base and edges which were hard to define. The maximum revealed width of the feature was 2.3m, with a maximum depth of 0.18m. The fill was very mixed and stony, and contained quantities of pottery and animal bone, as well as metal objects.

B.8.5 The artefacts recovered from fill 42202 date this feature to the Roman period. Two small fragments of pottery recovered from deposit 32306 are also probably Roman. No datable finds were recovered in association with cremation deposit 9804 or the disarticulated skeleton from topsoil 50700. However, given the proximity of these remains to other features of Roman date, it is provisionally suggested that these are also of Roman date.

B.8.6 All cremation deposits were subjected to whole earth recovery and processed by wet sieving. The deposits were then sieved to sort them into >10mm, 10-4mm and 4-2mm fractions. Cremated and unburnt human remains were examined in accordance with the recommendations set out by the IfA and BABAO (Brickley and McKinley 2004).

Trench 98

B.8.7 Table 12 presents a summary of cremation deposit 9804. This deposit comprised fragments of skull, including tooth crown and root fragments, vertebral arch and upper limb bone fragments. The total bone weight was just 42.2g, which includes an estimated weight of 8.5g for the bone within the unsorted 2-0.5mm residue (estimated by sorting a 5g sample, as described above). The level of fragmentation was high, with the largest proportion of fragments within the 4-2mm fraction. Just 14% of the fragments were over 10mm, and the largest was a 20mm long ulna shaft fragment. Whilst the majority of bone fragments were white in colour (c. 75%), grey, black and brown fragments were also present.

B.8.8 The minimum number of individuals represented in the deposit was one. Of the tooth root fragments present, one was a permanent mandibular incisor and another was probably a partial deciduous molar root. Assuming that both of these were from the same individual, this would suggest an age of around 7 to 10 years. The general size and thickness of the other identified fragments, including the skull vault, was in keeping with an older child. No pathology was observed.

Table 12: Summary of cremation deposit 9804

Skeletal region	>10mm fragments weight (g)	10-4mm fragments weight (g)	4-2mm fragments weight (g)	2-0.5mm residue weight (g)	Colour, MNI, Age, Sex, Pathology
Skull	0.5 (vault fragments)	2.0 (vault + tooth root/crown fragments)	0.4 (tooth root/crown fragments)	-	Predominantly white bone (75%), but some grey (15%), black (5%) + brown (5%) fragments
Axial	-	0.5 (vertebral arch fragments)	-	-	MNI = 1 Tooth root fragments inc. a permanent mandibular incisor + a probable deciduous molar – probably an older juvenile (7-10 years)
Upper limb	4.6 (ulna + radius shaft)	0.2 (?clavicle fragment)	-	-	No pathology observed
Lower limb	-	-	-	-	
Unid. long bone	0.9	3.4	0.5	-	
Unid. trabecular bone	-	-	-	-	
Unid. joint surface	-	-	-	-	
Unid. hand/foot	0.1	1.0	-	-	
Unid. other		5.8	13.8	est. 8.5	
(UNID TOTAL)	(1.0)	(10.2)	(14.3)	(est. 8.5)	
Total	**6.1**	**12.9**	**14.7**	**est. 8.5**	**42.2**

(Key: CV = cervical vertebra, MC = metacarpal, L = left, ??M = possible male, ??F = possible female)

Trench 323

B.8.1 A summary of cremation deposit 32306 is given in Table 13. This deposit comprised fragments from all parts of the skeleton including the skull (cranium, mandible and tooth roots), torso (ribs and vertebrae), upper and lower limbs, hands and feet. The deposit weighed a total of 1419.1g, but it should be highlighted that this includes an estimated bone weight of 385.8g for the bone within the 4-2mm fraction and 2-0.5mm residue, which were unsorted (ie the bone was not separated from the extraneous material). It was evident that a significant quantity of bone was present within these fractions, thus it was necessary to accurately estimate the total bone weights present. This was calculated by sorting a 10g sample and applying the proportion of bone present (est. 29% weight) to the total weight of the unsorted deposits (1330.3g).

B.8.2 Overall, the deposit was very mixed in colour, with roughly equal proportions of white, grey and black fragments and a small proportion of brown fragments. Whilst the level of fragmentation was high, the largest proportion of fragments in terms of overall weight, were over 10mm in size. The largest was a piece of cranial vault, at 56mm long. Whilst there were no obvious repeated elements, two adult individuals are thought to be represented in the deposit. Fragments of a left temporal bone exhibited a fairly long, robust mastoid process and a large petrous part, whilst the same regions of a right temporal bone were smaller and much more gracile. It is therefore estimated that the remains represent a possible male and a possible female. A fragment of orbit margin exhibited male morphology. No pathology was observed.

B.8.3 In addition to the total bone weight given above, 9.5g of burnt and 1.9g of unburnt animal bone was recovered. Most of these fragments were identified as juvenile sheep/goat bones. The burnt fragments were mainly blackish-brown in colour, indicating that they had not been subjected to a high heat (≤300ºC) (McKinley 2004a, 11), and it is likely that some of the burnt and unburnt bones are from a single animal (L Strid, pers. comm.). It is possible that more animal bone was present amongst the unidentified bone fragments.

Table 13: Summary of cremation deposit 32306

Skeletal region	**>10mm fragments weight (g)**	**10-4mm fragments weight (g)**	**4-2mm fragments weight (g)**	**2-0.5mm residue weight (g)**	**Colour, MNI, Age, Sex, Pathology**
Skull	139.7 (vault, mandible, maxilla, temporal + zygomatic fragments)	20.6 (vault, mandible + tooth root fragments)	0.2g (tooth root fragments)	-	Very mixed in colour (c. 30% white, 30% black, 30% grey, 10% brown).
Axial	26.5 (rib + vertebral fragments, CV2)	8.5 (rib + vertebral arch fragments)	-	-	MNI = 2 Probably x2 adults, ??M + ??F
Upper limb	78.1 (clavicle, humerus, radius + ulna shaft fragments, partial radial head, MC shaft)	3.0 (radius shaft, partial radial head, x2 hand phalanges)	-	-	No pathology observed
Lower limb	175.1 (pelvis, femur, tibia + fibula shaft fragments, near complete L patella, prox + dist femur joint surfaces, tarsals)	10.8 (pelvis, femur, tibia + fibula shaft fragments, foot phalanx)	-	-	
Unid. long bone	76.0	41.6	-	-	
Unid. trabecular bone	8.8	-	-	-	
Unid. joint surface	12.6	2.3	-	-	

Unid. hand/foot	0.9	10.6	-	-	
Unid. other	30.1	442.6	est. 190.1	est. 195.5	
(UNID TOTAL)	(128.4)	(497.1)	(est. 190.1)	(est. 195.5)	
Total	**547.8**	**485.5**	**est. 190.3**	**est. 195.5**	**1419.1**

(Key: CV = cervical vertebra, MC = metacarpal, L = left, ??M = possible male, ??F = possible female)

Trench 507

B.8.4 The human remains recovered from Trench 507 topsoil comprised the left and right femur and partial, unsided tibia and fibula shafts, of a young juvenile. The condition of the bones was good, with bone surfaces exhibiting only slight, patchy surface erosion (McKinley 2004b, 16). The length of the left femur suggested an age of 38 to 40 weeks gestation (Scheuer and Black 2000), so this was a neonate who had been still born, or who had died during or shortly after birth. No lesions of pathology were observed.

Trench 422

B.8.5 The single human tooth recovered from pit fill 42202 was a left mandibular third molar. A closed root apex and a minimal level of attrition indicated that the individual was over 15 years but probably less than 25 years (Moorrees et al 1963a; Brothwell 1981; Miles 1962). A small carious lesion was present on the occlusal surface of the tooth, in addition to a shallow, root surface caries at the cemento-enamel junction.

Discussion and recommendations

B.8.6 At 1419.1g, the total weight of cremation deposit 32306 was in keeping the expected range for a cremated adult, which is between 1000g and 2400g, with an average of c. 1650g (McKinley 2000a, 269). However, the minimum number of individuals represented within the deposit was two, both probably adult. Whilst this brings the total weight lower than expected, it should be reiterated here that the pit was just 0.08m in depth, probably having been heavily truncated by ploughing. Therefore, the original total weight is unknown. This also applies to cremation deposit 9804, which was recovered from an even shallower pit (0.05m). Only a very small quantity of bone was present in this deposit (42.2g) and although the remains are thought to be those of a juvenile, it is evident that only a very small proportion of the individual was represented. Whilst it is clear that truncation of both cremation deposits had occurred, it should of course be considered that the entire the cremated remains were never included within these deposits. For example, they may be a memorial deposit (e.g. cenotaph burials), whereby only a small token amount of the cremated bone is buried, or they may be deposits of pyre debris (McKinley 2004a, 10; McKinley 2000b). Redeposited pyre debris generally comprises a mixture of bone fragments and fuel waste, and deposit 32306 did contain a large proportion of charcoal.

B.8.7 The presence of two individuals within a cremation deposit, as in 32306, has been observed in other Romano-British cremation burials (McKinley 2000a, 372). In dual cremations and burials, the probability of a kin relationship, either familial or through friendship, is compelling (ibid, 372). The presence of burnt animal bone, including a young sheep/goat, within deposit 32306 indicates the presence of pyre goods. Burnt animal bone, often including sheep/goat, has been found in many Romano-British cremation deposits (McKinley 2000a; McKinley 2004c, 302; Philpott 1991, 196-200, Table 37).

B.8.8 The bone in both cremation deposits was a mixture of colours, ranging from white, grey, black and brown. Whilst deposit 9804 had a higher proportion of white bone, deposit

32306 had a fairly even mix of white, grey and black fragments, but fewer brown fragments. With white fragments indicating full oxidation (> c. 600ºC), the presence of non-white fragments indicates incomplete combustion. This suggests that exposure to heat had been limited. This may have been due to insufficient time/temperature afforded to the cremation process, or it may reflect a deliberate choice – perhaps limited exposure was considered to be sufficient (Barber 1990, 381; McKinley 1994, 79-80). This has been seen in other Roman contexts (McKinley 1994). It was interesting to note that the foot bones identified in deposit 32306 were predominantly brown in colour, indicating that the feet of at least one of the individuals represented were among the body regions least affected by the heat, perhaps because they were positioned close to the edge of the pyre.

B.8.9 The unburnt human remains comprise a partial, disarticulated neonate skeleton and a single tooth. Aside from the osteological findings, very little can be stated about these remains given their contexts. No information pertaining to the burial of the neonate is available, given that the remains were recovered from the topsoil (50700), having been disturbed by ploughing. The tooth was recovered from a probable rubbish pit (42203), although the circumstances surrounding the deposition of the tooth in the pit remain unknown. It is possible that the tooth had been deliberately discarded into the pit having been lost antemortem, either by trauma, deliberate extraction or through pathology. The tooth did have carious lesions although macroscopically these did not appear to be severe. Alternatively, the tooth may have come from a disturbed burial somewhere in the vicinity.

B.8.10 Sufficient data have been obtained from all human bone deposits allowing, where possible, observations to be made regarding pyre technology, funerary rite and demography, thus no further osteological analysis is recommended. However, if further burials are recovered from this site in the future, the burials discussed here should be considered as part of the wider burial landscape.

B.9 Animal Bone

by Lena Strid

Introduction and methodology

B.9.1 A total of 1288 hand-collected animal bone fragments were recovered from this site (Table 14). The assemblage came from features preliminarily dated to the Prehistoric/Iron Age, Roman and post-medieval periods, the majority of the bones being Roman (Table 15). The bones from the post-medieval and undated assemblages are included in the tables but are not discussed further.

Description

B.9.2 The bone condition varied across the phases: the Prehistoric/Iron Age assemblage was mostly fair to very poor, whereas the Roman assemblage was mostly good to fair. A small number of bones had traces of gnawing by carnivores, probably dogs. Burnt bones were rare (Table 16).

B.9.3 The assemblage contains bones from cattle, sheep/goat, pig, horse, dog, fox and domestic fowl. Cattle and sheep/goat are the most numerous animals in the Prehistoric/Iron Age and Roman assemblages. Their predominance is typical for sites from these periods and suggests the importance of secondary products such as dairy, wool and the use of cattle for traction. However, due to the small sample size it is not possible to extrapolate on the frequency of cattle, sheep/goat and pig and their contribution to the economy and diet. Wild animals are generally rare on rural sites, domestic animals providing the bulk of the meat in the diet. The presence of fox suggests the utilization of fur for clothing.

B.9.4 With exception for the Roman assemblage, only a small number of bones could be attributed to minimum age at death (Table 17). The data from the Roman assemblage show a relatively large frequency of young cattle and sheep/goat slaughtered for meat. Only a single cattle mandible indicated an old animal. The adult sheep/goats had been slaughtered at a range of ages, from 2-3 years up to 4-6 years. Three sheep/goat teeth could potentially have come from animals of up to eight or ten years of age.

B.9.5 Generally in the Iron Age and Roman periods cattle were either killed as surplus animals after their first few winters or later on as adults past their prime as milk cows, breeders or draught animals. Sheep/goat also show a wide range of slaughter ages, but were rarely kept to an old age. This suggests that they were kept for a variety of products, possibly primarily meat (van Dijk and Groot 2013, 184). Pigs were raised for meat and due to their high fecundity and growth rate they were mostly killed as sub-adults after reaching maximum size. Horses were killed as adults, indicating their main use as riding or pack animals.

B.9.6 Butchery marks were noted on three cattle bones from the Prehistoric/Iron Age period and four cattle bones from the Roman period. The former represent sagittal division of the carcass, disarticulation of the hip joint and disarticulation of the meat-poor lower leg. The butchery marks in the Roman assemblage included disarticulation of the elbow joint and of the lower leg, as well as filleting of the shoulder and legs. The Roman assemblage also included portioned ribs of large and medium mammals. With exception of the cut marks from disarticulation of the lower leg, all Roman butchery marks were carried out by heavy cleavers. This has been considered an import from urban and military sites where it was a more efficient way of processing large quantities of meat than using knives for disarticulation of the joints (Maltby 2007).

B.9.7 Two sheep/goat mandibles, from the Roman period, showed evidence of oral infections, suggested by swelling of the horizontal ramus and patches of porous bone growth on the same, level with the fourth premolar and first molar. Oral pathologies are rather common in sheep/goat and may be connected to food lodged between the gums and tooth roots.

B.9.8 No further information can be gained from such small sample of bones. However, if further excavations take place on the site, the bones should be included in the full excavation report.

Table 14: Bone assemblage; quantification in fragments by context

Context	Quantity	Weight (g)
3770	1	1
4805	42	226
4806	25	72
4807	1	0
7400	1	20
7503	1	125
8004	1	14
8005	5	2
8107	49	271
9904	4	11
9906	4	85

Context	Quantity	Weight (g)
10003	5	5
10006	3	27
10504	9	1081
10505	1	3
11003	2	4
11203	12	121
11205	5	38
11400	3	3
11404	17	138
11406	7	16
11408	3	8
11409	2	146
11414	35	163
11417	1	0
17000	3	4
17300	4	18
17302	2	3
17304	314	2032
17305	32	380
17308	5	13
17405	11	102
17603	1	21
17703	26	47
17808	6	14
18005	23	5
18302	85	1307
23204	3	6
27604	1	4
27610	1	1
28304	1	0
29005	14	81
29006	9	42
29009	2	76
32306	16	10
32310	2	28
37700	2	31
37703	24	131
37704	18	20

Context	Quantity	Weight (g)
37706	2	2
37708	5	25
37711	2	20
37712	21	133
37716	3	18
37718	44	183
37800	8	57
37803	4	56
37804	8	87
37902	3	15
42202	8	49
46205	1	0
47701	2	31
50208	7	38
50209	1	47
50300	1	7
50303	1	96
50310	7	216
50311	1	18
50312	50	750
50313	21	189
50400	1	4
50404	1	0
50502	6	155
50504	19	37
50701	66	183
51200	1	120
51203	79	714
52902	21	103
55304	50	358
Totals	**1288**	**10667**

Table 15: Bone assemblage; quantification in fragments by period

Species	Prehistoric/ IA	Prehistoric/ IA?	Roman	Roman?	Post-medieval	Undated
Cattle	16		80	1	1	7
Sheep/goat	8		178*	8	1	2
Pig	4		12	2		1

Horse	1		13			2
Dog	1		9			
Fox	1					
Dog/fox			1			
Rabbit					1	
Domestic fowl			1			
Small mammal			2			
Medium mammal	13		103	12	3	4
Large mammal	20		109	6	9	8
Indeterminate	103	1	457	28	11	48
Total	**167**	**1**	**965**	**57**	**26**	**72**
Weight (g)	927	0	8504	323	265	648

*: incl. 65 bones from articulate sheep/goat skeleton

Table 16: Bone preservation and number of bones with traces of burning and gnawing

	N	0	1	2	3	4	5	Burnt	Gnawed
Prehist/IA	167		4.2%	40.7%	31.1%	24.0%		3	2
Prehist/IA ?	1		100.0%					1	
Roman	965	2.9%	12.0%	68.2%	8.0%	8.9%		8	26
Roman?	57	3.5%	7.0%	71.9%	14.0%	3.5%			2
Post-med	26	3.8%	11.5%	42.3%	26.9%	15.4%			1
Undated	72		6.9%	50.0%	2.8%	40.3%			1

Table 17: Tooth wear and estimated age of sheep/goat and pig, following Grant (1982), O'Connor (1988) and Payne (1973)

Phase	Species	dp4	M1	M2	M3	MWS	Estimated age
Prehist/IA	Sheep/goat	e				3-6	<2 years
Roman	Cattle	j				8-29	<30 months
		j				8-29	<30 months
		k				23-26	<30 months
					k	46-50	Senile
	Sheep/goat	f				4-12	<2 years
		g				5-22	<2 years
		g	e			11-21	<2 years
		h				9-24	<2 years
			g	b		20	1-2 years
			g	e	C-E	23-25	1-2 years
					b	28-32	2-3 years
			g	f	c	31	2-3 years

			g	g	f	35	3-4 years
				g	g	36-41	4-6 years
					g	36-46	4-8 years
					g-h	36-47	4-10 years
					g-h	36-47	4-10 years
Roman?	Cattle	k		f	C-E		8-18 months
	Sheep/goat		m	j	g	43	6-8 years
Undated	Sheep/goat		g	e	E	25	1-2 years

B.10 Shell

by Geraldine Crann

B.10.1 The evaluation produced 18 fragments of marine (oyster) and land mollusc, 12g from context 17304. The feature is of probable Roman date and the shell may represent food rubbish.

B.11 Flint

by Geraldine Crann

Introduction and methodology

B.11.1 The evaluation produced 7 fragments of worked flint. The size and nature of the assemblage, and its dispersed location across the spread of evaluation trenches, limits interpretation. Technologically, three pieces, from Trenches 48 and 82, may be broadly dated to the Mesolithic or Neolithic periods, beyond this the assemblage simply attests to human presence in the landscape during the prehistoric period. The flints from the evaluation should be fully integrated into any future analysis arising from further investigation on the site.

Table 18: Flint catalogue

Context	Description	Weight (g)	Date
4805	Flint blade, 5 sub-parallel dorsal scars	4	Mesolithic – early Neolithic
6901	Plough shattered fragment	22	
8204	Fine blade, patinated white, soft hammer lip	3	Mesolithic – early Neolithic
8204	Thin flake fragment, patinated white, soft hammer lip, broken in antiquity - dorsal end missing	7	Mesolithic – Neolithic
17304	Irregular flake, recent edge damage forms notch in right distal margin	7	-
42202	Plough or naturally shattered fragment	19	-
50313	Flake fragment, distal end snapped in antiquity, patinated mottled white	4	-

B.12 Stone

by Ruth Shaffrey

Introduction and methodology

B.12.1 A total of 175 fragments of stone were retained. These were briefly examined and where found to be worked, or used, examined with the aid of a x10 magnification hand lens.

Description

B.12.2 Nine items were found to be worked. These include five fragments of lava or fuel ash slag from 37709 and another similar fragment from 39703. These very small fragments look too fine to be fuel ash slag but do not look quite right for lava querns either, so the identification is uncertain.

B.12.3 A small fragment of shelly limestone with a wide perforation of 14mm is probably from a roof-stone although none of the original edges survive (17304, SF 17306).

B.12.4 A roughly cuboid block of very shelly limestone (17703, SF 17700) has shallow sockets (each roughly 20mm deep x 50mm diameter) set in opposing faces. The sockets are not deep enough for it to have been a pivot stone and the block has an unfinished look to it suggesting it was abandoned partway through working. Its function is unknown.

B.12.5 Approximately one third of a shale spindle whorl was found in context 17304 (SF 17305). It is bun shaped with a single circular groove around the perforation on the flat face. The perforation measures 6.5mm diameter and is a narrow hole suggesting an Iron Age or Roman, rather than later date.

B.12.6 A single perforated piece of shelly limestone was found in context 50312 (SF50300). It may be cut down from a roof-stone and worn into its current shape. It may have served as a pendant, although no wear marks from suspension are present.

APPENDIX C. ENVIRONMENTAL REPORTS

C.1 Environmental samples

By Sharon Cook

Introduction

C.1.1 Sampling was undertaken to determine whether environmental evidence (such as plant remains, animal bone, human bone and molluscs) are present, to determine the quality, range, state and method of preservation of any ecofactual evidence, to recover and identify any small artefacts and to make further recommendations about sampling for future excavations at the site.

Methodology

C.1.2 The samples were processed for charred plant remains (CPR) by water flotation using a modified Siraf style flotation machine. The flot was collected on a 250µm mesh and the heavy residue sieved to 500µm; both were dried in a heated room, after which the residue was sorted by eye for artefacts and ecofactual remains.

C.1.3 The dried flot was scanned for charred plant remains using a binocular microscope at approximately x10 magnification. All flots of <100ml were 100% scanned, for all larger flots 100ml was scanned.

C.1.4 Seed identifications were made with reference to Oxford Archaeology's reference collection. Nomenclature for the plant remains follows Stace (2010). Confirmation of plant identification was done by Kath Hunter. Animal bone identifications were carried out by Lena Strid. All finds have been added to the site compendium.

Results

C.1.5 The majority of flots from these samples were rich in modern plant material, this mostly consisted of fine plant roots although occasional straw was also present, this is a result of the features being fairly shallow when excavated. On the whole charcoal, while very well preserved where present, was small, in most cases being <4mm and therefore unsuitable for species identification. The exceptions for this are the samples from a post hole (sample 28000), a burnt mound (sample 43100) which contained good amounts of charcoal, and a cremation (sample 32300) which was extremely rich in charcoal showing that it can survive well on this site.

C.1.6 Charred grain and wild plant seeds were also present in a number of samples with the full listing being present in Tables 20 and 21 below (columns with no entries had only unidentifiable charcoal present). While it was possible to identify some grain to genus, the majority was in poor condition and therefore not further identifiable. The wild plant seeds were in variable condition and an effort has been made to identify those that were well preserved.

C.1.7 Snails were present in almost all samples. However, the depth of the features does make it likely that the majority of these are modern in date.

C.1.8 Animal bone was well preserved and has been listed below in Table 22. A single human tooth was present in sample 42200 and two well preserved cremations were also sampled.

Table 19:Summary of Environmental Samples

Trench Number	Sample Number	Context Number	Feature Type	Period	Sample Volume (litres)	Finds
48	4800	4805	Large Pit	Early Iron Age	40	P, BAB
98	9800	9804	Cremation	Roman	5	CB
100	10000	10004	Ditch	Roman	20	P, Fe, MB
114	11400	11409	Well	Roman	17	P, MB, AB, Bead
173	17300	17302	Ditch	Roman	26	P, BC
237	23700	23706	Pit	Undated	10	-
237	23701	23703	Burnt Deposit	Undated	1.5	BC
238	23800	23803	Ditch	Undated	20	CBM
280	28000	28006	Posthole	Undated	4	-
323	32300	32306	Pit	Roman	15	CB, MB
377	37700	37713	Pit	Roman	40	P, Fe, MB, BC
422	42200	42202	Pit	Possible Roman	40	P, MB, HB
431	43100	43103	Burnt Mound	Bronze Age	40	BS
435	43500	43501	Ditch	Undated	20	-
439	43900	43903	Pit	Prehistoric	40	-
439	43901	43904	Pit	Prehistoric	40	-
439	43902	43906	Pit	Prehistoric	40	BC
439	43903	43908	Pit	Prehistoric	40	-
502	50200	50203	Burnt Deposit	Roman	8	P, MB
503	50300	50312	Ditch	Roman	40	P, Fe, MB
512	51200	51203	Ditch	Roman	40	P, MB

Finds Key: AB = Amphibian Bone, BAB = Burnt Animal Bone, BC = Burnt Clay, BS = Burnt Stone, CB = Cremated Bone, Fe = Iron Object, HB = Human Bone, MB = Mammal Bone, P = Pottery

Discussion

C.1.9 While the shallowness of many of the excavated features indicated that there may be issues with the survival of environmental evidence, this does not appear to have been the case for all features. The existence of both wheat and barley within Roman features may indicate a varied crop regime which may be worth investigating further if the site goes to full excavation. The wild plant seeds are mostly common grassland plants. Unfortunately, the charcoal found in the majority of undated features is not suitable for C14 dating or species identification although sample <8000 did contain some fragments which are >4mm and may be of use.

Conclusions and Recommendations

C.1.10 Charred remains while not common in the samples investigated, are evidently well preserved at the site. Animal bone and snails are also preserved in good condition. Any future excavations should incorporate a sampling policy in accordance with the most recent sampling guidelines (eg Oxford Archaeology 2005 and English Heritage 2011). It is not recommended that further work should be carried out on these samples.

Sample No	***4800***	***9800***	***10000***	***11400***	***17300***	***23700***	***23701***	***23800***	***28000***	***32300***	***37700***	
Flot volume	10ml	10ml	40ml	15ml	25ml	10ml	10ml	100ml	25ml	700ml	150ml	
Latin Binomial												**English Common Name**
Cereal Grain												
Hordeum sp.					*							barley
Triticum sp. – indeterminate			**		***						*	indeterminate wheat
Cereal Grain – indeterminate					**					*	*	indeterminate grain
Cereal Chaff												
Triticum sp – glume wheat				*	**							glume wheat
Nutshell												
Corylus avellana			*									hazel
Indeterminate		*										unidentified nutshell
Legume – indeterminate					*							legume
Wild Plant Seed												
Anthemis cotula			*									stinking chamomile
Amaranthaceae	**											goosefoot family
Carex sp.			**									sedges
Caryophyllaceae					*							pink family
Chenopodium sp		*						**				goosefoot
Cyperaceae												sedge family
Lotus sp.												bird's-foot-trefoil
Montia fontana					*							blinks
Poaceae		*	*		**			*				grasses
Ranunculus sardous			*									hairy buttercup
Rumex sp			*									docks
Silene dioica					*							red campion
Veronica hederifolia	*											ivy-leaved speedwell
NID			*		**			*				unidentified wild plant seed

Sample No	*4800*	*9800*	*10000*	*11400*	*17300*	*23700*	*23701*	*23800*	*28000*	*32300*	*37700*	
Other												
Arrhenatherum elatius	*											onion couch grass

Table 20: Charred plant remains part 1

Key: * <5, ** 5-25, *** 25-100, **** 100+

Sample No	*42200*	*43100*	*43500*	*43900*	*43901*	*43902*	*43903*	*50200*	*50300*	*51200*	
Flot volume	300ml	200ml	100ml	30ml	60ml	150ml	150ml	15ml	100ml	100ml	
Latin Binomial											**English Common Name**
Cereal Grain											
Hordeum sp.		*									barley
Triticum sp – indeterminate											indeterminate wheat
Cereal Grain – indeterminate	*	*							*	*	indeterminate grain
Cereal Chaff											
Triticum sp – glume wheat		*								**	glume wheat
Nutshell											
Corylus avellana		*			*						hazel
Indeterminate											unidentified nutshell
Legume											legume
Wild Plant Seed											
Anthemis cotula											stinking chamomile
Amaranthaceae											goosefoot family
Carex sp.											sedge
Caryophyllaceae								*			pink family
Chenopodium sp											goosefoot
Cyperaceae	*										sedge family
Lotus sp.											bird's-foot-trefoil
Montia fontana											blink
Poaceae										*	grass family

Sample No	42200	43100	43500	43900	43901	43902	43903	50200	50300	51200	
Ranunculus sardous											hairy buttercup
Rumex sp											dock
Silene dioica											red campion
Veronica hederifolia	*									*	ivy-leaved speedwell
NID								*			unidentified wild plant seed
Other											
Arrhenatherum elatius – culm node											onion couch grass

Table 21: Charred plant remains part 2

Key: * <5, ** 5-25, *** 25-100, **** 100+

Sample	Context	Sheep	Pig	Cattle	Rodent	Amphibian	Large mammal	Medium mammal	Not Identified	Total
10000	10004	-	-	-	-	-	-	-	2	2
11400	11409	-	-	-	86 (not id'd to element)	40 (not id'd to element)	Bone fragment from juvenile.	1 rib (3 fragments)	3	100+
32300	32306	1 deciduous pre-molar	-	-	-	-	-	1 juvenile long bone		2
37700	37713	1 Pre -molar 1 3rd Mandibular molar	-	-	-	-	-	1 vertebrae	4	7
42200	42202	2 molars	-	-	-	-	-	1 long bone (3 fragments)	6	11
4800	4805	I incisor	-	-	-	-	-	-	1	2
50200	50203	-	-	-	-	-	-	1 rib	-	1
50300	50312	2 molar	1 incisor	1 molar, 1 1st phalanx	-	-	Long bone (6 fragments)	-	4	15
51200	51203	1 1st phalanx	-	1 ulna	1 watervole tooth, 1 femur	1 tibia/fibia	-	1 long bone	7	13

Table 22: Animal bone remains from samples

Appendix D. Bibliography and References

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Appendix E. Summary of Site Details

Site name: Bicester Eco Development, Bicester, Oxfordshire

Site code: BITO 13

Grid reference: SP 56700 24200

Type: Evaluation

Date and duration: 12th August and 25th October 2013

Area of site: 360 hectares

Summary of results: Evidence was found for activity from several periods. The earliest was represented by a single feature containing pottery sherds (Peterborough ware) of middle Neolithic date (c. 3400-2500 BC) . The presence of isolated features or small clusters features widely dispersed in the landscape is typical of this period.

A number of archaeological features were in a small valley on the eastern side of the site. While these were undated, the presence of burnt stones and charcoal forming low mounds sealed beneath a deposit of colluvium (hill-wash deposits) is significant. Such 'burnt mounds' are widely known (although unusual in Oxfordshire) and generally date to the Bronze Age (c. 2400-700 BC) and may be the remains of prehistoric saunas or, alternatively, specialised cooking sites. A number of pits and a sinuous ditch in the same valley may represent further activity of the same date.

There were five widely-separated locations which produced substantial quantities of early-middle Iron Age pottery (c. 700-100BC), as well as a number of other features which produced single sherds or where the pottery was found in association with later material. Such a dispersed pattern of activity is somewhat unusual for this period but may suggest that the site lies in the hinterland of a more substantial settlement located elsewhere.

There were two main areas and one subsidiary area of Roman activity (AD 43-410) revealed by the evaluation. The two main areas of activity are typical of Roman rural settlements in Oxfordshire (and elsewhere) in terms of the types features and range of artefacts present. They are potentially noteworthy, however, in terms of their chronological range, spanning, as they did, the whole Roman period. Such continuity, with some evidence of expansion in the late Roman period, is perhaps unusual. The third, smaller area of activity contained material of largely early Roman date and may have been a small, outlying farmstead. Human remains were found in all three areas.

Geophysical anomalies suggesting the presence of ridge and furrow agriculture were fairly widespread across the site and furrows were also present in a number of trenches. This suggests that much of the site was under arable cultivation during the medieval period (and later). No evidence of medieval or later settlement was recorded on the site, aside from the extant farmhouses themselves.

There were a large number of undated features present across the site. Most of these were ditches and it is likely that these were boundary and drainage ditches associated with the agricultural use of the site. While these could be of almost any date from the later prehistoric period onwards, it is, perhaps, most likely that they are of medieval or later date.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the Oxfordshire Museum Service in due course, under the following accession number: OXCMS:2013.102.

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