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Northamptonshire Archaeology

Iron Age and Roman landscape
at Victoria Park, Irchester
Northamptonshire,
Updated Project Design, Assessment Report
September 2004 to May 2005



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**IRON AGE AND ROMAN LANDSCAPE
AT VICTORIA PARK, IRCHESTER, NORTHAMPTONSHIRE
UPDATED PROJECT DESIGN, ASSESSMENT REPORT
SEPTEMBER 2004 TO MAY 2005**

Abstract

Northamptonshire Archaeology was commissioned by ProLogis Developments Ltd to undertake archaeological work ahead of the commercial development of Victoria Business Park to the south-west of Wellingborough, Northamptonshire. The development was located adjacent to the Roman town of Irchester, a central walled area beyond which lies further settlement and enclosures. The work comprised a detailed watching brief that extended from farmland lying immediately to the west of the Roman walled town to the east side of Whitworths Victoria Mill. Two specific areas of identified archaeological potential interest were targeted for open excavation, an Iron Age enclosure and the defences at the south-west corner of the Roman town.

The results of the project identified an Iron Age and Roman landscape, with some Saxon and later activity. The Iron Age activity included two ditched enclosures, one of which was probably a small farmstead, from which a quantity of middle to late Iron Age pottery was recovered.

The Roman archaeology was more extensive, with the investigation of the south-western corner of the Roman town revealing substantial remains of the town's defensive stone wall and three defensive ditches. The partial exposure of Roman town's extra-mural settlement to the west of the town revealed the remains of buildings sited adjacent to a metalled road. Other features such as ditches, pits and wells were identified. The majority of the Roman pottery appears to date from the 1st to the 3rd centuries AD.

A single Saxon sunken-featured building contained early to middle Saxon pottery dated to between 450 and 850 AD. Later activity included the remains of the medieval and post-medieval ridge and furrow cultivation system. The most recent events relate to the 19th century ironstone quarrying and a tramway system, with the quarry backfilling during the 20th century returning the land to agriculture.

1 INTRODUCTION

ProLogis Developments Ltd was granted planning permission to develop land to the west of the Roman walled town at Irchester, Northamptonshire (Ref WP/2002/0665F approved on 25/5/04) (NGR SP 910 668, Fig 1). It was recognised that the development could affect archaeological remains in the area and included an Archaeological Mitigation Strategy prepared by Northamptonshire Archaeology and issued on 30 June 1995 as part of an accompanying Section 106 Agreement (NA 1995). The Strategy was intended to define the objectives for the preservation of archaeological deposits or, where that could not be achieved, the necessary works required to record the remains.

The area concerned comprised three arable fields planned for road construction and development as a business park (Fig 2). The original document was developed in support of applications for both Scheduled Monument Consent and planning consent, and identified

measures appropriate for the scheduled area (Area 2A) and the non-scheduled land (Areas 2B and south-west of the walled town). In the scheduled area the proposed works comprised road construction on an embankment within the field to the west of the Roman walled town with development beyond to the west.

The development area covered by the Archaeological Mitigation Strategy and the supplementary note (NA 2004b) comprised land lying immediately to the west of the Roman walled town at Irchester, Northamptonshire. The planned development area is bounded by the flood plain of the River Nene to the north, Whitworths Victoria Mills to the west, the A45 trunk road to the south and the Roman walled town to the east. Its central point is at grid reference SP 910 668.

The Roman walled town and the area surrounding it to the west, east and north-east are a Scheduled Ancient Monument (SAM No NN83). The planned development area comprised three arable fields (Fig 2, Fields 1 - 3); the easternmost of these (Field 1) lies within the scheduled area and was partly affected by planned road construction and development (Area 2A).

A detailed examination of the character, extent and state of preservation of the Roman town, including Iron Age enclosures and extra-mural settlement was undertaken for the Mitigation Strategy. The results of recent evaluation were examined as this provided further information on the extent of former remains. The archaeological fieldwork consisted of detailed archaeological watching brief and areas of open excavation undertaken between September 2004 and May 2005.

The archaeological works conformed to the requirements of a Mitigation Strategy issued by Northamptonshire Archaeology (NA 2004a) and agreed with the Northamptonshire Planning Archaeologist and the regional English Heritage Inspector.

2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

The remains at Irchester have attracted interest from antiquarians and archaeologists for over 300 years. Recently, the specifically Roman town evidence has been assessed as part of the Northamptonshire Extensive Urban Survey (Taylor 2000) and the Chester Farm Heritage Park project (Meadows 2006)

2.1 Prehistory

The flood plain below the site is crossed by a series of palaeochannels from late glacial or early post-glacial courses of the Nene (Meadows 1997), although there is no known archaeological activity connected to these features. The earliest material recovered dated to the later prehistoric period and although several flint axes have been recovered to the east in Ditchford, it is the Bronze Age that provides the earliest human evidence at Chester Farm. A ring ditch on the flood plain incorporated Beaker sherds, suggesting an early Bronze Age date (Meadows 1997, Chapman 2003). A flint scatter was recovered in fields to the west of the Roman town (Dix 1991) and several stray flint finds were recorded by Baker (1882, 87).

2.2 Iron Age and Roman settlement

The Iron Age, in particular the middle to late Iron Age, saw a significant increase in the archaeological evidence for settlement in the vicinity of the site. A number of ditches, pits

and enclosures have been discovered to the south of Chester Lodge on the route of the present A45 (Hall and Nickerson 1967). This extensive occupation did not have an apparent focus, although that could lie beneath the Roman walled town, which itself has produced some evidence for Iron Age occupation (Taylor 2000, 9).

Roman town development began in the 1st century AD, initially as an unenclosed settlement, which was subsequently partially enclosed within an earthen rampart to which was added a stone wall and defensive ditches (Knight 1967, 106-111; Hall and Nickerson 1967, 75-77). The enclosed area covers approximately 8ha with at least a further 14ha of extra-mural settlement or suburbs. The 19th-century excavations carried out by Reverend Baker revealed high quality buildings within the Roman town, including possible temples (Baker 1882).

The Roman town possessed a dendritic street pattern which clearly pre-dated the construction of the town defences. There is possible evidence from geophysical survey to suggest a road running adjacent to the eastern defences of the town, (Yates and Butler 2005). An eastward route from the town possibly led to a large extra-mural cemetery destroyed by ironstone quarrying in the 19th century. The Royal Commission on Historical Monuments England (RCHME 1979, 190) shows a speculative route which, whilst possible, has no supporting evidence on the ground.

The extent of occupation directly south of the town is unclear although Roman structures were found during A45 road improvements in 1962-3 (Hall and Nickerson 1967). To the south of the road extensive ironstone quarries have removed any archaeological evidence immediately opposite to the walled town and to the west. In a recent geophysical survey, however, an area of unquarried ground was found to the south of the A45 and slightly east of the walled town (Butler 2004). Substantial enclosures and possible structures were noted in the eastern part of this survey bounded by a possible road flanked by ditches, which may be a continuation of the road located adjacent to the east side of the town. To the west of the road there appears to have been only limited activity, perhaps suggesting a poly-focal character to the southern suburbs of the town.

2.3 Post-Roman occupation

Evidence for early post-Roman activity is confined to a putative 5th-century structure (Knight 1967, 111-113) on the land at Chester Farm. The establishment of the settlement at Chester on the Water may have occurred during the late Saxon or medieval period, probably without any direct continuity with the former Roman town, although there are no documentary references to the hamlet until 1236, when it is mentioned in medieval tax returns (RCHME 1979, 91-6, fig 89 and plates 3, 4(a) & 32). This hamlet was initially surveyed in the 1970s (Brown 1978) and was resurveyed as part of the Chester Farm Heritage Park project (Yates and Butler 2005).

3 LOCATION AND TOPOGRAPHY

The development area is located within the floodplain and on the southern slopes of the River Nene valley, over three fields of mixed arable and pasture between the Whitworth factory in Wellingborough to the west, the Roman town of Irchester to the east, the A45 to the south and the River Nene to the north. It occupies an area of 32.5 hectares, stretching for approximately 1km east-west. The land originally gently sloped down from the road at 62m OD to the floodplain at 41m OD and formed part of the eastern valley side of the River

Nene. At the east end of the development area, a shallow dry valley, or 'slade' that would have formed a natural defensive scarp to the town defences was also included in the development.

The geology of the site comprises Northampton Sand and Ironstone underlying the upper part of the development, with areas of overlying Lower Estuarine Series and Upper Estuarine Limestone. The Upper Lias Clay forms the geology in the lower part of the site (BGS 1987). The trial excavation indicated that in places the lower edges of the slope are covered by hill-wash material.

In addition to the archaeological work the extent of previous ironstone quarrying was plotted by visual examination, from quarrying records and by trial excavation. These showed that the quarrying was limited to a small area at the south-east end of the proposed development area.

4 METHODOLOGY

As a result of the evaluation, the proposals for preservation of archaeological remains in certain areas and recording of the archaeological remains in other areas were as follows:

4.1 The Scheduled Area (Field 1)

The design for a 'left in left out' junction off the A45 road created an embanked road that curves through the centre of the Field 1 before turning a right-angle in the north-west corner of the field to continue westwards across the proposed business park development within Field 2 and most of Field 3 (Fig 2, Plate 1). The road was granted Scheduled Monument Consent on 22 May 2002 (HSD9/2/1485 (pt5)) and its realignment agreed by English Heritage on 10 March 2003.

No groundworks were undertaken within the Scheduled Monument eastwards from the easternmost boundary of the recent quarrying. Works required to improve highway safety by providing improved forward visibility on the eastbound carriageway of the A45 as part of the development access were carried out wholly within the boundaries of the existing A45 public highway (south-west corner of the Roman town).

The method of construction of the road remained the same as that envisaged in the Mitigation Strategy, thus preserving archaeological remains beneath a low embankment.

The upper 150mm of vegetation/topsoil material was removed utilising a Low Ground Pressure (LGP) tracked dozer, with care taken to avoid pushing excessive amounts of material and risking distortion of the underlying remaining topsoil and subsoil. Once areas had been stripped, they were delineated with bunting and suitable signage to avoid any trafficking prior to the filling operation.

Underlying archaeology was delineated and protected by first laying a suitable geotextile (Terram 1000 or similar). Fill material for the road embankment was derived from selected materials excavated from other areas of the development site. To avoid rutting or distortion of the subsoil, the first two layers (each layer being approximately 200mm thick) of fill material was placed under a strict method of working whereby materials were pushed forward by a LGP dozer, with the dozer always running on at least one layer of fill material, and with fill material delivered by dump trucks that avoided running directly upon the subsoil or geotextile layer. The precise method of working for the foregoing operations was discussed and agreed on site on a daily basis with the monitoring archaeologist.

The outer fence line that separated the development road from land to the east was located at the base of the embankment and the individual postholes were cut through existing topsoil into the top of the natural ironstone to a maximum depth of approximately 750mm. This work was monitored by an archaeologist.

The toe of the earthworks slope drainage was achieved by means of a shallow scrape or swale, which did not generally penetrate beyond *c* 300mm below the existing ground level. The adoption of such an approach to the toe of the earthworks slope drainage was subject to the approval of the adopting Highway Authority. Archaeological watching brief was carried out during this work.

4.2 Area to west of access road

A roughly semicircular area of land within the Scheduled Ancient Monument was isolated to the west of the road access road. Trial excavation undertaken in April 2003 did not reveal any significant archaeological remains within this area (Taylor 2003) and on the basis of this work Scheduled Monument Consent was granted to allow development up to the road (HSD9/2/5147 issued on 1 September 2003). Archaeological watching brief was undertaken within this area.

4.3 Area 2B and south-west corner of the Roman walled town

The Mitigation Strategy identified three areas of archaeological work in Fields 2 and 3 to the west of the Scheduled Monument. These comprised the excavation of an Iron Age enclosure and parts of the extra-mural Roman settlement, as well as a watching brief with contingency on the remaining areas. The watching brief was carried out as identified in the Mitigation Strategy, but it was possible to preserve most of the extra-mural settlement beneath the road embankment and other infill material used to create the platforms for the main buildings. In addition to these areas, works were undertaken to improve highway safety by providing improved forward visibility on the eastbound carriageway of the A45. This was achieved by cutting back the highway verge slope close to the south-west corner of the walled town, but not encroaching within the Scheduled Area, to create a vertical side supported by a retaining wall. Part of the defences of the Roman town within the A45 highway corridor were exposed and recorded as a contingency for small scale excavation.

Area 2B extra-mural settlement

The protection of Iron Age and Roman remains beneath the proposed road embankment and to the south by further raising the existing ground level was undertaken in a similar method to that envisaged for the road construction within the Scheduled Area. The method of construction of the new buildings and car parks, foundations and groundworks were designed to minimise their impacts on the archaeological remains. Spur roads leading off the access road were cut into made ground in the area of the extra-mural settlement. Balancing ponds to the north of the road were designed to be contained within made ground. Archaeological watching brief was carried out during initial groundworks associated with this part of the development.

A single drain within a trench up to 1.5m wide, facilitating the diversion of an existing highway drain, was cut across the extra-mural settlement (Fig 6). In addition a small pumping station was constructed adjacent to the balancing pond with groundwork. These works were monitored through watching brief and archaeological features were excavated.

Further drainage or service trenches that were cut across the extra-mural settlement were monitored through watching brief for archaeological features. Recording of remains was

specified in the Mitigation Strategy. The developers' design was to minimise such works wherever practicable.

South-west corner of the walled Roman town

The area lying within the A45 highway corridor was cut back to form a vertical face to reveal significant remains at the south-west corner of the walled Roman town (Fig 9, Plate 3, 4, 5 and front piece). Excavation and recording of remains was carried out within the detailed watching brief and the contingency for small-scale salvage excavation, as specified in the Mitigation Strategy.

4.4 Daily Working strategy

The open excavation of the Iron Age enclosure was carried out within an enclosed area with a 360° excavator to the archaeological level, followed by manual excavation and recording, as agreed by the Mitigation Strategy.

Where archaeology was exposed during the groundworks in the detailed watching areas, under the agreement with the developer a 360° excavator or a grading machine was used to clean the area, which was then fenced off and sufficient time allowed to excavate and record the archaeology.

Where significant deposits were present as indicated by associated dating evidence and/or structural form, and their physical preservation was not threatened by aspects of the development, they were not investigated other than to make a record of their presence, position and height in relation to Ordnance Datum. Where remains occurred at an interface which was directly threatened by the development and their preservation *in situ* could not be achieved, such deposits were excavated by hand, insofar as they were under direct threat. All excavation and recording was carried out in accordance with the general method statement.

All works were conducted in accordance with the Institute of Field Archaeologists *Standards and Guidance for Archaeological Excavations* (1994, revised 1999) and the *Code of Conduct* of the Institute of Field Archaeologists (1985, revised 2002).

All records and materials will be compiled in a structured archive in accordance with the guidelines of Appendix 3 in the English Heritage procedural document, *Management of Archaeological Projects* (1991).

5 ORIGINAL OBJECTIVES

The detailed objective of examining the pre-Roman background and assessing its relationship to the Roman settlement can be directly related to the national archaeological objective of examining the changeover between the pre-Roman and Roman periods (English Heritage 1991, 36 - Processes of change - Briton into Roman [*c* 200BC - AD200]). Of particular relevance would be whether the pre-Roman settlement was purely an agricultural settlement or whether there was any evidence of a high-status or even proto-urban settlement and whether there was continuity from the pre-Roman into the Roman period or a gap in the occupation.

The detailed objective of examining the nature of the Roman settlement to the west of the walled town, particularly as to whether it formed a purely agricultural settlement or whether there is evidence of industrial processes or some other form of settlement, can be related to

the national archaeological objective to examine towns and their hinterlands (English Heritage 1991, 38 - Towns and their hinterlands).

The condition of individual archaeological features is likely to be fair/poor due to arable farming (Fields 2 & 3). The survival of archaeological deposits relating to the extra-mural occupation over a large area without significant later intrusions, however, increases the importance of their recording as there ought to be the potential to gather evidence of the function of the extra-mural settlement, its field systems and its transport network.

The value of investigating the extra-mural settlement at Irchester is increased due to the survival of the Roman walled town and the potential for study of the interrelationship between the two.

Roman towns have been widely studied and their extra-mural settlements are not rare. They are, however, vital to an understanding of the Roman period in Britain and the study of extra-mural settlements is less advanced than the study of the interior of walled towns.

6 SUMMARY OF ARCHAEOLOGICAL RESULTS

The phasing of the site is based on stratigraphic relationships and overall site layout, as well as initial spot dates assigned to the pottery assemblage. Within the development area a number of sites were identified, dating from the Iron Age to the Roman period. The detailed watching brief undertaken over the development area to the west of the Roman town identified part of the area of the extra-mural settlement area and smaller groups of individual Roman features. They had a disconnected and fragmented distribution, indicating areas of probable low level activity. Some Saxon to medieval and post-medieval activity was also identified (Fig 2).

6.1 Iron Age settlement

The Iron Age enclosure

On the south side of the development area (Field 2, Figs 2 and 3) on an area of roughly level ground on the valley side (54m OD), were the remains of a large sub-square or sub-rectangular enclosure. Its southern side was probably destroyed by 19th-century ironstone quarrying. The enclosure measured at least 42m by 45m, with a broad 15m wide entrance on the north-east side. The lack of internal features makes its purpose uncertain.

The Iron Age farmstead

A small Iron Age farmstead was located to the western end of the development area, adjacent to the A45 road (Field 3, Figs 2 and 4). The site consisted of a large sub-rectangular ditched enclosure that measured 23m east-west and at least 25m north-south, with an entrance on the west side. A linear ditch and gully extended to the north and east respectively at right-angles from the north-east corner of the enclosure. In the area to the north of the enclosure ditch the remnants of a possible roundhouse was located, together with a group of 24 pits. To the east of the north aligned ditch and the pit group there was a small sub-square enclosure, with a centrally located tree-hole.

Iron Age pits and postholes

A group of probable Iron Age pits and postholes were in a hollow on the valley side, in an area between the two enclosures (Field 2, Figs 2 and 5). The group of postholes covered an area approximately 13m east to west and 3m wide, with the two pits 5m to the south-west of them. The postholes did not make any clear structural pattern.

6.2 The Roman town of Irchester

The extra-mural settlement

The extra-mural settlement area extended from the west of the walled town for at least 500m across Field 1 and apparently terminating at the western boundary of Field 2 (Figs 2 and 6). This area of the settlement has been located from cropmarks and geophysical survey work (cf Dix and Masters 1992). The extra-mural settlement area was probably established prior to the construction of the town defences as the geophysical survey showed the defensive ditches clearly truncated the existing land plots, boundaries and roads.

The extra-mural settlement appears to follow a road on an east west-orientation which divides at the eastern boundary of Field 2 to form a fork to the north-west and the south-west. Between the road fork, further land plots were identified, at what appeared to be the western limit of the extra-mural settlement. A recording action was undertaken on part of this area that was exposed during the new road building scheme which included five drainage trenches and a pipeline trench.

The area exposed by the road development produced a glimpse of the occupation and activities at the periphery of the extra-mural settlement. An area, measuring approximately 80m by 40m, was exposed below the subsoil from the stripping in the line of the new road in drainage trenches and pipe trench. The only features excavated were along the line of the pipe trench where they would be destroyed, otherwise they were only recorded in plan, as the features would be sealed by make-up for the new road. The extra-mural settlement is probably much more extensive, as can be seen on the geophysical plots, but is sealed by the surrounding subsoil.

The features exposed displayed a fragment of the Roman settlement, with north-south aligned land plots containing the remains of stone and timber buildings, facing on to a north-west to south-east aligned road. Related to the buildings were internal stone structures, surfaces, ditches, pits, postholes and a well. These features demonstrate the site was a well-established settlement, which corresponded with much of the results of the geophysical survey.

Roman road

The route of the Roman road was identified in all of the drainage trenches either as remnants of surface or the roadside gullies. It meandered gently over a distance of 160m in a north-east to south-west alignment, corresponding closely to the route of the road identified in the geophysical survey. The road surface, 6-7m wide, consisted for the most part of a thin fragmented layer of small pebbles, gravel rounded limestone and ironstone chips. The roadside gullies were narrow and V-shaped.

Stone structures

Adjacent to the roadside, mainly to the north side, were the remains of stone-walled buildings that probably formed houses or workshops. Much of the structural remains that were visible survived as fragments. The walls comprised generally unmortared roughly worked limestone and ironstone blocks, up to 0.2m in height.

The outline of an almost complete building was identified that comprised partly stone walls and partly robber trenches. The building was 24m long and 8m wide and aligned approximately north-south, with the south end forming a frontage lying oblique to the Roman road 3m away. A gap in the south wall facing the road may have been an entrance. The remains of pebble and limestone surfaces were found inside and outside the building. The building contained two small sub-rectangular stone structures and associated burnt, ashy spreads.

A well, close to the west side of the building, contained high quality Roman pottery dating to the early 2nd century, as well as remnants of leather shoes and other organic material. The well was oval in shape, with an east-west length of 5-6m and 3.5m wide, with a depth of 1.3m.

Timber structures

Located in one of the drainage trenches there were two adjoining sub-rectangular occupation layers of sandy-loam that contained pottery, ceramic roof tile, animal bone and oyster shell. The layers were flat and level and extended for a total length of 10m in a north-south alignment and up to 2m from the east trench section. A large cobble may have been a post-pad and the occupation layers may have formed the internal surfaces of a timber-beamed structure.

Plot boundaries

The buildings appeared to be located in separate land plots that were approximately square to the north side of the Roman road, which corresponded with plots defined by boundary ditches or walls. The plots were up to 20m wide and extended for at least 45m north from the road frontage.

Pits, posthole and, gullies

Within the area of the exposed extra-mural settlement the other features included eight pits, two postholes, and a gully.

Roman ditches and small enclosure

Two linear parallel ditches were located to the west side of the Field 1 adjacent to the present field boundary with a similar south-east to north-west alignment (Fig 2). The two ditches lay 2m apart and were both steep-sided with a narrow flat base, 0.6m-0.7m wide and up to 0.25m deep. The west ditch was 48m long, and the east side ditch measured up to 66m in length, both shallowing at the terminals. The north-west corner of a probable small enclosure was approximately 50m to the south-east of the two parallel ditches. The enclosure consisted of a shallow ditch 0.65m wide and up to 0.25m deep. The north side ditch extended 10m from the corner to the edge of the subsoil strip and the ditch forming the west side had a length of 6m, shallowing at the edge of the ironstone quarry.

Cremation

A small, shallow pit [90] containing a small quantity of burnt bone and charcoal was approximately 50m to the north-west of the Iron Age enclosure in Field 2 (Figs 2 and 3).

Roman well and sub-rectangular enclosure

The stone-lined well and the remains of a small sub-rectangular enclosure were located in the central part of Field 3, on the upper valley slope (Figs 2 and 7, Plate 2).

The well lining comprised 24 courses of roughly faced limestone blocks creating an internal diameter of 0.65 m, with a flat limestone slab forming a base at the depth of 2.3m. The whole well was set within a large sub-circular construction trench cut into the natural ironstone. The base of the well contained silty clay, overlaid by a sticky clay that included the remains of a small horse or pony, which probably marked the demise of the well's use. The rest of the well was filled with loamy clay.

The remains of a small sub-rectangular enclosure or structure were *c* 12m to south-east of the well and measured at least 9m by 4.5m and was aligned north-west to the south-east. The structure comprised linear U-shaped gullies. The north-west side was formed by a shallow U-shaped slot. There was no evidence of a side to the south-west.

Ditch and pit group

A group of four linear ditches and seven pits were in Field 3 to the north of the well, approximately 80m down the valley side in an area where the sub-soil thinned out (Figs 2 and 8). Two of the ditches were parallel and aligned approximately north-west to south-east and might have been the alignment of a track or drove-way. A third ditch lay 30m to the west of these with an east-west orientation and approximately 60m to the north of these ditches was a fourth shallow north-south aligned ditch.

The north-west end of the eastern ditch cut a large pear-shaped pit while other pits were also present in the area, as well as two pottery vessels and four Roman coins.

Pit

A single large oval pit was located furthest to the west of the development in Field 3 (Fig 2). It was aligned north-east to the south-west, measuring 2.6m in length and 1.6m wide. It was fairly shallow with a depth of 0.3m. The pit was Roman in date, from which an iron key was also recovered.

The south-west corner of the Roman town

A section of the defensive town wall that formed part of the south-west corner and the south side of Irchester Roman town, together with an internal turret and the three parallel defensive ditches were exposed during the improvement scheme for a new access road into the development area (Figs and 9).

Pre-town wall features identified include a buried soil that was cut by features that included a pit and two ditches, of which one was directly overlaid by the town wall foundations (Fig 9).

The town wall

The town wall foundation trench cut the buried Roman soil into which two courses of compact and pitched limestone slabs were placed, which measured up to 2.7m wide and to 0.45m in height (Fig 9). Overlying the foundation two courses of the town wall survived to a height of 0.2m, which formed the face of the town wall (Plate 3, 4, 5 and front piece). A layer of pitched limestone fragments formed the central packaging of the wall. On the north side of the wall a soil layer overlaid construction debris and probably formed the internal ground level of the walled town and a metalled surface may have formed an external ground level.

The turret

The turret foundation trench, which also cut the buried soil, contained two courses of unmortared limestone slabs overlaid by a wall, surviving to 0.42m in height. The wall was constructed of up to three courses of roughly rectangular or square-faced limestone blocks heavily mortared with a very sandy-gravelly mix, with a central packing of smaller pitched limestone fragments (Fig 9, Plate 5). The full width of the rear wall was not visible but the side wall was 0.95m wide. The internal distance between the rear wall and the town wall was 2m with an internal length of at least 4m. On the west side of the turret, two flat and level limestone blocks may have been a possible entrance step or the base of a stairway in the turret partly set into the fabric of the town wall.

Surface layers

Abutting the side turret wall was a 0.1m thick layer containing limestone fragments. Overlying this layer was a dark brown soil that formed a flat and level surface 0.2m thick. This layer was probable used as a make-up and levelling material, creating a ground surface within the town interior.

Demolition and robber layers

Overlying and sealing the structures and surfaces at the south-west corner there were a series of demolition materials, between 0.5m to 1.4m in depth. These layers were overlaid or truncated by recent deposits which were sealed by the present top soil and subsoil.

Defensive ditches

Surrounding the town walls and parallel to its route were three defensive ditches, all of which were all visible in section on the west side of the wall, aligned approximately north-west to south-east. The inner ditch could still be traced continuing around the south side of the town wall. The distance from the outer edge of the town wall to the west side of the outer ditch was 27m with spacing between the wall and the three ditches. The ditches were cut directly into the natural as any topsoil or subsoil appears to have been removed, maybe to stop silting of the ditches, but it is possible the landscape had been stripped at a later date.

The inner ditch was by the far the largest with a broad profile, 10m wide and 2m deep, with a level 4m wide berm from the town wall. The middle ditch was the smallest, 1.8m wide and 0.7m in depth, creating a near V-shaped profile, with 2.5m of level ground between it and the inner ditch. A possible ditch recut occurred on the west side. The distance between the middle and outer ditch was 4.5m. The outer ditch was concave-shaped and at least 2.7m wide and 1.25 m deep, with a smaller ditch recut on the east side.

The inhumations

Disarticulated human remains of up to six individuals were recovered from the inner defensive ditch on the south side of the town, probably dating to the 3rd century AD.

6.3 Saxon and later features***Saxon sunken-featured building***

A shallow sub-rectangular feature, aligned east-west was located less than 20m to the north of the Iron Age enclosure (Field 2, Figs 2 and 3). The feature measured 2.8m by 2.2m, cut into ironstone with steep sloping sides onto a level but uneven base, to a depth of 0.15m.

The primary fill was considerably mixed, containing a moderate amount of Roman pottery, but significantly a number of early/middle Saxon pottery sherds were also recovered, dating to between AD450 and 850. The upper fill was fairly sterile. This appeared to be an isolated Saxon sunken-featured building.

Ridge and furrow

Medieval activity appeared to be confined to the remains of ploughing in the form of ridge and furrow. This was clearly identified towards the south sides of Fields 2 and 3, where it was orientated south-west to the north-east.

Nineteenth-century ironstone quarries and railway

In the 19th century extensive ironstone quarrying was carried out in this area now crossed by the A45 road. Part of this quarrying lies within the southern edge of the development area along the south edge of Field 2, extending partially into Field 1. In recent times the quarry in Field 2 was probably fully backfilled to its original ground level, as the fill contained modern building debris.

Associated with the 19th-century quarry was a series of tramways, identified in the form of tramway sleeper impressions in the natural ground filled with ashy granular ballast. A length of the tramline was identified passing east-west through the extra-mural settlement, and a patchy element of another possible tramline was seen traversing south-east to the north-west across Field 3.

Quarry Pit

A large oval feature was located approximately 40m to the north-west of the Iron-Age enclosure (Figs 2 and 3). It measured 4.5m in length and 3m wide, with steep to near vertical sides to a depth of 1.5m. The feature was cut into the natural ironstone and filled with a considerable amount of it. No finds were recovered.

Drain

A short 2m length of a linear feature aligned approximately north-south was identified in the cut of the east-west modern drainage ditch on the north side of A45 road in Field 2 (Fig 2). The feature was steep-sided, 0.4m wide and 0.4m deep, forming a U-shaped cut. The feature probably functioned as a drain as it was filled with loosely packed and roughly worked shaped limestone blocks, 0.1m to 0.25m in size, sealed by a make-up or topsoil. No dating material was recovered from the feature.

6.4 The finds**Worked flint** by Yvonne B Wolfram-Murray

A total of 80 pieces of flint were recovered. Almost a third of the assemblage comes from the topsoil or the subsoil. The remaining flints are also residual coming from Roman and Iron Age contexts. The characteristics of the assemblage in terms of the domination of the flakes, the cores, the scrapers and the plano-convex knife indicate a late Neolithic/early Bronze Age component, with the exception of the Mesolithic blade.

Iron Age pottery by Jane Timby

Some 632 sherds of Iron Age pottery are present from 61 individual contexts. Most of these are handmade shelly wares accompanied by small amount of grog-tempered, grog and shell-tempered or sandy ware. Particularly large groups were recovered from contexts (429) pit [428] with 52 sherds and (493) ditch [492] with 157 sherds, although the latter is largely from just two vessels.

Featured sherds were moderately limited but vessels include round-bodied or slightly shouldered globular jars with everted rims and vessels with expanded or undifferentiated rims. Two vessels had notched upper rim surfaces (fill 436 Iron Age enclosure ditch [435] and fill 432 of ditch [430]) but no other decorated material was present. Surface finishes include burnishing and very occasionally rough scoring.

The Iron Age material provisionally appears to span the middle Iron Age through into the late Iron Age. The later vessels include the grog, and grog and shell-tempered wares alongside the shelly ware.

Roman pottery by Jane Timby

Roman wares of some 2464 sherds occur for the bulk of the assemblage, 78.5% by sherd count, from a total assemblage comprising 3140 sherds of pottery weighing 53.5kg, but small quantities of later prehistoric (632 sherds, see above), Saxon, medieval and post-medieval sherds are also present. In addition a few pieces of ceramic building material (CBM), and fired clay was included with the pottery.

In general terms the assemblage was in very good condition, reflected in the overall average sherd weight of 17g. The sherds were of mixed condition; the earlier material being generally more fragmented whilst the Roman wares include some very large fragments with some reconstructible profiles. In the main surface treatments have been preserved although ground conditions appear to have affected some of the colour-coated wares.

At this stage no detailed research work has been carried out to specifically compare the assemblage with other material from the immediate locality. The assemblage has also been assessed without any knowledge of the site layout, stratigraphy or feature types unless noted on the finds bags.

Following a comment on the methodology used, the assemblage is briefly described by broad period.

Methodology

The assemblage was sorted into broad fabric groups based on inclusions present, the frequency and grade of the inclusions and the firing colour. Known regional or traded wares were coded following the system advocated for the National Roman reference collection (Tomber and Dore 1998). The sorted assemblage was quantified by sherd count and weight for each recorded context.

The dating is purely based on the ceramic material without knowledge of the stratigraphic relationships. In many cases the dating is slightly uncertain, particularly where contexts have produced unfeatured local wares or just single sherds, which could date to anytime after the earliest known production date.

The pottery appears to span the 1st to later 3rd century, probably showing continuity from the Iron Age occupation but no clear evidence of a later Roman presence. Much of the material appears to date to the 2nd century.

The group is overwhelmingly dominated by local wares, accompanied by modest amounts of continental and regional imports.

Continental imports are represented by 102 sherds of samian (4% of the total Roman assemblage), one sherd of Gallo-Belgic terra nigra, two sherds of imported whiteware, one sherd of Central Gaulish black slipped ware and just six sherds of amphora.

The terra nigra sherd is from a platter, probably in the Cam 12-14 range and post-conquest in date. Both this sherd and the whiteware came from pit [197] context (199).

The samian includes both South and Central Gaulish wares, with just one decorated sherd in the latter. The rest are mainly plain wares, predominantly dishes Drag 31 and cups form 33. Two incomplete stamps were noted.

The amphora sherds are all Baetican Dressel 20 type; four were unstratified finds.

Regional imports appear to be limited to two sherds of Oxfordshire white ware mortarium and probably a few plain white wares and four sherds of Dorset black burnished ware.

An unusual glazed bowl imitating a samian bowl (Dragendorff 37) with a dark grey sandy fabric came from context (279) well [263]. This is a British product dating to a short period of experimentation with glazes in the early 2nd century, but the precise source of this particular vessel is unknown.

The local wares largely comprise three fabrics: shelly wares, both handmade and wheelmade, grog-tempered wares and grey sandy wares in the Lower Nene Valley tradition. The shelly wares account for approximately 19% of the group, the grog-tempered wares for 17% and the grey sandy wares for 27%. Lower Nene Valley colour-coated wares are also quite well represented with some 288 sherds, 11.7% of the assemblage.

The colour-coated sherds are predominantly from beaker forms with both bag-shaped and indented types. Ranges of decorative styles are present including barbotine scrolls, scales, stripes and hunt scenes. The only other rim is from a box lid with rouletted decoration.

Other distinct wares present include seven sherds of Lower Nene Valley whiteware mortaria.

An unusual flat 'vessel' with concentric ridging and heavily burnt in part in a local oxidised grog-tempered fabric may be part of a mould for pewter of similar plates. This came from context (310) ditch [309].

Roman finds by Tora Hylton

Sixty-five objects date to the Roman period, and of that number, 29 were recovered from stratified archaeological deposits and 36 were recovered from topsoil and subsoil deposits using a metal detector. Stratified Roman finds were recovered from the extra-mural settlement, the defensive ditch close to the town wall and a series of discrete features uncovered during the detailed watching brief.

All of the small finds have been entered on to an Access database. A basic catalogue has been compiled, comprising material type and object identifications, together with stratigraphic information. Each object has been described and measured and a descriptive catalogue is retained in the archive.

All the iron objects (including nails and small fragments) were submitted for X-ray. This was undertaken by David Parish, Dip.Cons. of the Buckinghamshire County Museum Conservation Service. This not only provides a permanent record, but it enabled identification and revealed technical details not previously visible.

The assemblage is dominated by 33 coins (see report by Ian Meadows), the remainder are items for personal use (jewellery; Colchester brooch, two silver finger rings, an armlet fragment), building equipment (structural fittings) and a small group of tools which provide evidence for spinning, farming and the processing of grain (querns reported on by Andy Chapman).

A Colchester brooch was recovered from the defensive ditch (13) adjacent to the Town Wall. Although incomplete, half the spring and the pin are missing, the stylistic traits indicate that this example is clearly post-conquest and dates to *c* 35/45-55/60 (D Mackreth pers com). In addition, a hinge pin with vestige of a projecting stop was recovered from layer (11) during the detailed watching brief, for a similar example from Exeter, see Allason-Jones 1991 (fig 109, 17).

Fragments from two silver finger rings were recovered from topsoil deposits. One is small and plain with a raised sub-square bezel; it is probably a child's ring. The other is crudely manufactured and comprises an elongated bezel representing two confronted stylised devolved serpent's heads with a centrally placed raised element between. It displays similarities to Johns Type Biii (1997, 36); such representations on items of jewellery are common during the Roman period and represent health and healing, rebirth and the spirits of the departed (Johns 1998/2000, 7). For a discussion on bracelets and rings in the form of snakes see Johns 1996 (334).

A fragment from an armlet measuring just 16mm in length, was recovered as a residual find, from a Saxon pit. The armlet is a ribbon-strip type and ornamented with two zones of transverse grooves. The zones are differentiated by the spacing between the grooves, those 2mm apart, have a centrally placed dot in the interspaces and those 1mm apart are plain. A similar motif can be seen on an armlet from Colchester (Crummy 1983, fig 44, 1687).

Building equipment

With the exception of ceramic roof tile (report by Pat Chapman), there are very few items which relate to buildings. Items include a U-shaped drop hinge, from the subsoil, with one short arm and one perforated long arm which terminates in a pointed terminal. For a similar example see Manning 1985 (fig 31, 1a). Also six nails came from a series of features recorded during the detailed watching brief. Nails with identifiable heads are represented by Mannings Type 1b (ibid, fig 32), which were presumably used for furniture or light structural fixings.

In addition, a barb-spring padlock key was recovered from pit [5]. The stem is flat-section, tapered and terminates in a delicate hook (cf. Manning 1985, plate 43, 71-73) and a small tessera manufactured from red ceramic tile and displaying significant signs of wear on the upper surface, was recovered from the Saxon sunken-featured building.

Tools

Tools are represented by a knife from the extra-mural settlement, layer (237), and a pruning hook and spindle whorl from subsoil deposits. The knife is incomplete, the end of the tang is missing, the shape of the blade may be compared to Mannings Type 13 (1985, fig 28), a small general purpose knife, with the tang inline with the back of the blade and the cutting edge horizontal. Knives of this type are not uncommon, but often the end of the tang is coiled, like an example from Gadebridge Park (Manning 1974, fig 72, 406).

The pruning hook is small and displays similarities to Rees Type 1a, the most common type (1979, 461). It has a short gently curving blade with open socket, rather like an example from Pitney, Somerset (ibid 1979, fig 195c). Although prune/small hooks may have been used for agricultural/horticultural purposes, the small size of this example, suggests that its function may well have been more general purpose.

Finally a discoid spindle whorl manufactured from lead was recovered, its presence attesting to the hand activity of spinning.

Other objects worthy of note include a fragment from a strap junction and a piece of vessel glass. The harness junction, from the subsoil, is cast and comprises a fragment of a ring with triangular cross-section, the outer face is convex and the two inner sides concave. Attached to the outer surface is a rectangular loop with squared cross-section and bevelled edges. A similar example has been recorded from Wavendon Gate, Milton Keynes (Hylton 1996, fig 60, 39). Finally a body sherd from a squared bottle in blue/green glass was recovered from fill (276) of a pit [275] in the extramural settlement.

Leather shoe

Fragments of one possibly two leather shoes were recovered from the fill of well (263). The pieces are fragmentary and prone to crumbling and disintegration, therefore very little of the original shoe survives. One shoe was recovered lying on a sub-rectangular limestone slab (221 x 155mm) and all that remains is the heel seat with vestige of the curved vertical edge and part of the sole. The vertical edge survives to a height of 20mm and the width of the seat (81mm) suggests that originally the shoe would have been for use by an adult. The heel seat is made up of one complete layer but with vestiges for another two layers evident above. In addition, there is one very thin and fragile single layer from the sole, it is furnished with a small number of equidistant nail holes and survives to a length of c190mm.

There is also part of a sole (toe end and waist), consisting of at least three layers. The sole appears to be slightly thickened around the outer edge with a series of equidistant nail holes placed c 15mm apart around the periphery and in the centre of the sole. Although incomplete the overall length of the sole is 130mm and 70mm wide.

Because of the fragmentary and degraded nature of the leather, the pieces will not be retained and no further work is required.

Roman coins by Ian Meadows

A total of 35 coins were recovered from the excavations and watching brief. Most of these were, however, recovered in unstratified contexts and in many instances by metal detection. All except two were copper alloy, the other two were of base silver. The assemblage as a whole ranges in date from the early 2nd century to the third quarter of the 4th century. Of the total assemblage only six came from stratified contexts, and one, SF 14, was residual in a Saxon pit [88].

Ceramic tile by Pat Chapman

This small assemblage of 24 fragments of tile weighs 2941g. The roof tiles comprises five tegulae fragments, two with cutaways surviving, and one imbrex fragment. The thicker sherds could be floor tile or hypocaust tile, but the fragments are very small. The small and scattered nature of this assemblage only indicates the presence of tiled buildings somewhere in the neighbourhood. The roof tile fragments had quite thin bodies, indicating that the tiles were probably not very large.

Querns by Andy Chapman

There are three fragments of worked stone from flat rotary querns of the standard type in use in the Roman period (Watts 2002).

Substantial fragments of both the upper and lower stones from a single rotary quern were recovered from layer (237) within the extra-mural settlement. They are both in a conglomerate (puddingstone) with a coarse, gritstone-like matrix containing well-separated pebbles, predominantly of quartz, which measure up to 35mm in length. The lower stone in particular is poorly cemented, and has fragmented. The upper stone is 410mm in diameter and the central eye is a simple circular opening 60mm in diameter. About a quarter of the stone survives, but this does not include a handle socket. The stone is 45mm thick at the circumference and 25mm thick at the eye, with a well-worn, slightly concave grinding surface, while the upper surface is lightly worn, with faint traces of tooled dimples surviving. The lower stone has fragmented, leaving a remnant of a central spindle socket at least 57mm deep. The stone is 120mm thick at the centre and tapers to 90mm thick a little short of the outer edge, which has been lost.

The fill (360) of well [305] contained a small fragment from the circumference of an upper stone in Millstone Grit. It is 600-700mm in diameter and 50mm thick, and the worn grinding surface retains remnants of tooled dimples set at intervals of 17-20mm centre-to-centre.

Fired clay by Pat Chapman

This is a small assemblage of 42 pieces of varying sizes, weighing 1878g, from nine contexts. Some of these fragments were made from a friable red brown clay with dense shell, such as those from pit [197], which were originally from one large piece at least 50mm thick with one roughly smoothed surface, while fragments from fill (418) of pit [417] were up to 50mm thick with a brown smooth surface and wattle impressions. Fragments from fill (269) of pit [268] had one flat surface and were sandy with frequent large flint inclusions and some worn wattle impressions. There were a few small hard fragments which had been blackened, one from fill (88) of a Saxon, sunken floored building [87] was flat with stem impressions. These are debris from a range of structures.

Metalworking debris by Andy Chapman

A very small quantity of metalworking debris was recovered from features of Iron Age, Roman and Saxon date.

From features of Iron Age date, there was a single lump of general ferrous slag, weighing 85g, from the fill (370) of gully [369], and smaller individual pieces from the fill (62) of ditch [61], weighing 10g, and the fill (513) of pit [512], weighing 5g. The two smaller pieces have quite fluid surfaces, but the very small quantity recovered, 100g in total, could only relate to iron smithing being carried out on small scale.

From the Roman features there was a single lump, but fragmented, of light and vesicular fuel ash slag, weighing 82g, which could have come from any high-temperature fire.

The fill (88) of the early/middle Saxon sunken-featured building, contained five small fragments of miscellaneous ferrous or fuel ash slag, with a total weight of 15g.

Saxon, medieval and post-medieval finds

Saxon and later pottery by Paul Blinkhorn

A small assemblage (20 sherds, 120g) of early/middle Saxon (c AD450 – 850) hand-built pottery was recovered from context 88, the probable sunken-featured building. The following fabrics were noted:

F1: Moderate sandstone up to 2mm, rare calcareous material and red ironstone up to 1mm. 5 sherds, 82g.

F2: Rare to sparse quartz up to 0.5mm, few other visible inclusions apart from sparse silver mica < 0.1mm. 5 sherds, 21g.

F3: Sparse to moderate lumps of angular granite up to 2mm. 10 sherds, 17g.

The Saxon fabrics are well-known in the region. The granitic ware, almost certainly from a source in or near the Charnwood Forest in Leicestershire, is well-known throughout the region, with large quantities of the material noted at, for example, Orton Hall Farm near Peterborough (Mackreth 1978). Sandstone- and fine quartz-tempered Anglo-Saxon pottery has a similar distribution.

The entire assemblage comprises plain bodysherds, apart from a single small rimsherd in fabric 2. It is from a jar, with a simple upright and slightly everted profile. The original rim diameter was 120mm, and it is 4% complete. Such undecorated sherds as these are impossible to date other than within the early to middle Saxon periods. The assemblage is fragmented, and the sherd size generally small, and suggests that the pottery is a product of secondary deposition. This is often the case with assemblages from sunken-featured buildings, and suggests that the hollows were used for refuse disposal from elsewhere once the building had fallen from use.

A total of 19 sherds are medieval or later. Eight medieval pieces came from context (10), the remaining 11 sherds are post-medieval coming from topsoil and subsoil horizons.

Other finds Tora Hylton

All the post-Roman finds are unstratified, they include a buckle with a D-shaped frame and narrow off-set bar, a small triangular hooked tag and a fragment from a crotal bell.

6.5 The environmental evidence

Animal bone by Philip L Armitage

Over 1,085 hand-collected and sieved bone elements were submitted for identification and interpretation. 350 (32.3% of the total) of these are identified to taxon/species and 735 (67.7%) remain unidentified owing to the absence of diagnostic features. The disproportionately high percentage frequency of unidentified bone probably reflects the generally poor conditions for preservation throughout the site and the quantities of very small “scrappy” fragments derived from the sieved samples (comprising 28% of the total unidentified material).

Over half (54.5%) of the total unidentified fragments are from the Iron Age deposits (with the largest proportion from pits). Unidentified bone fragments from the Roman deposits make up 33.9% of the total, with the balance (11.6%) originating from the Saxon sunken-featured building [87].

Nine species are represented: in order of abundance these are domestic cattle, sheep, domestic pig, horse, dog, house mouse, domestic fowl, blackbird, and common frog. No fish or reptile bones were identified.

Tables summarizing the anatomical distributions of the species identified by period and assemblage group were prepared and can be found in Appendix 1 together with the full report. The site archive contains data on epiphyseal fusion in the cattle, sheep and pig bones, together with the metrical data collected.

Special mention should be made of the following specimens:

The skeletal remains (45 elements) of an adult horse from the stone-lined Roman well (contexts 346 & 347) comprising the skull (fragmented), 1 lower jawbone (fragmented), 6 cervical vertebrae, 5 thoracic and 3 lumbar vertebrae, 24 ribs (anciently and recently fragmented), pieces of 1 scapula, 1 humerus, 1 innominate bone, 1 metapodial bone, and the R and L femora.

The head of a juvenile pig from Iron Age farmstead pit fill (519), which is represented by parts of the skull (including the right & left maxillae) together with the paired (R and L) lower jawbones – with dentition comprising dp4 (wear stage e/f, system of Grant 1982), first molar erupted but not yet in wear, and second molar only just erupting.

Taphonomic modifications

Preservation

Overall, the preservation of the Victoria Park animal bone is generally assessed as fair to medium – although several deposits did yield relatively well-preserved bones.

Burnt bones

Overall, the incidence of burnt bone is relatively low.

Dog gnawing

Throughout the site the frequency of dog-gnawed bone is relatively low.

Defleshing & skinning marks

Twelve bone elements from Iron Age deposits exhibit knife cut marks

Butchery

Evidence of butchery is scanty, and comprises four chopped cattle bone elements all from Roman extra-mural settlement deposits.

Environmental evidence by Val Fryer

Samples for the retrieval of the plant macrofossil assemblages were taken, and seventeen were submitted for assessment.

The samples were bulk floated by Northamptonshire Archaeology and the flots were collected in a 500 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16, and the plant macrofossils and other remains noted. Nomenclature within the tables follows Stace (1997). With the exception of sample 8, which contained waterlogged/de-watered remains, all plant macrofossil were charred. Modern contaminants including fibrous roots, seeds and moss were present throughout.

Iron Age

Of the twelve samples from features of probable Iron Age date, only one appears to contain an assemblage indicative of a specific activity. Sample 3, from a pit within the enclosure at the southern edge of the study area, contains a very high density of wheat (largely spelt) glume bases in addition to a number of segetal weed seeds. It would appear most likely that this material is, at least in part, derived from a small deposit of burnt cereal processing waste. Similar material also occurs within samples 13, 14 and 19, but at a far lower density, and in these instances it is probably indicative of either scattered or wind-blown material, which accidentally became incorporated within the feature fills. The remaining assemblages contain insufficient material to enable accurate interpretation of the contexts.

Roman

Sample 8, from the fill of a well within the extra-mural settlement of the Roman town, is important as it contains the only possible indicators of the local environment. It would appear that the area around the well may have been grassed, although the presence of seeds of colonising weeds and shrubs (including fool's parsley (*Aethusa cynapium*), hemlock, willow herb (*Epilobium* sp.), dead-nettle (*Lamium* sp.) nettles and bramble) may indicate a degree of dereliction, possibly as the well went out of use. The damp surroundings of the well appear to have formed a micro-habitat capable of sustaining a limited range of wetland plants.

Although the assemblages from samples 9, 10 and 11 are limited, they may possibly indicate that specific activities occurred within different parts of the site. Samples 9 and 10, from fills within a pit [197] close to the Roman town wall, contain assemblages which are grain dominant. Chaff is scarce, and although weed seeds are recorded, many are large, and of a similar size to the grains (for example the large number of corn gromwell seeds within sample 9). As these would not have been removed during the initial winnowing of the crop, they frequently occur as contaminants of batches of prime grain, where they would either have been tolerated (providing they did not detract from the quality of the flour) or removed by hand prior to the utilisation of the cereal. Conversely, the assemblage from sample 11 (from a feature situated well to the west of the settlement area) contains few grains but a higher density of chaff, possibly indicating that the processing of cereals used within the walled town occurred well away from the main focus of settlement.

Inhumations by Teresa Hawtin

Summary report

Macroscopic osteological analysis was undertaken on three groups of disarticulated human remains. The remains were associated with a Roman ditch, probably dating to the 3rd century AD. A minimum number of five individuals were present, increasing to six if Burial 3 was excavated from a clearly separate context from Burial 2. One juvenile of 6-8 years, two possible females, one aged 17-35 years and one mid-adult, two possible males, one aged 20-30 years and one adult, and two further adults, one a possible male, were identified. This suggests that there was no segregation within the cemetery in which these

individuals were originally interred. Some common dental pathologies, such as caries and dental calculus, indicated a low level of dental hygiene, but no other pathological conditions were identified within the assemblage apart from slight enamel hypoplasia. The lack of complete long bones meant that no metric analysis was possible, and only common non-metric traits, such as cranial ossicles and accessory cranial foramina, were identified. The lack of further information pertaining to the context of these disarticulated deposits or the site as a whole limits the amount of interpretation possible. For the full report see Appendix 2.

The cremation by Andy Chapman

The small, shallow pit [90], c 50m to the north-west of the Iron Age enclosure in Field 2, contained a small quantity of burnt bone and charcoal that appears to represent the residue of a cremation deposit largely lost to truncation. A total of 9g of burnt bone, white in colour is present. It all comprises very small fragments typically less than 5mm in length, with much of the material evidently from fragmented long bones. There are no evident skull or tooth fragments. None of the fragments are specifically diagnostic of species, and it can only be assumed that the bone is most probably human. A total of 3g of charcoal is present, in small fragments typically less than 5mm long, but with a few slightly larger pieces.

6.6 Quantification of archive (trial trenching and open area)

Site Records

Plans:	35
Sections:	158
Contexts:	530
Slides:	15 Films
B&W:	15 Films

Finds (by box unless stated otherwise)

Pottery:	12
Ceramic tile, Fired clay:	1
Animal bone:	8
Querns:	3 items
Shell, slag, flint:	1
Mortar, wood:	1
Small Finds:	38 items
Coins:	33 items
Leather shoes:	2 (including fragments)
Inhumations:	6 individuals
Cremation:	1 cremation
Bulk soil samples:	18

7 STATEMENT OF POTENTIAL

7.1 Iron Age

Three Iron Age sites were identified, comprising two substantial enclosures and a small group of postholes and pits, located to the west of the Roman town of Irchester, high up on the north facing valley side of the River Nene. The enclosures lay approximately 550m apart with the smaller group of features located between them. These features, together with those identified during the construction of the A45, shows a densely occupied Iron Age

landscape following the route of the River Nene. While the eastern enclosure and small group of pits/postholes are of only limited significance the western enclosure appears to have elements of structured activity within separate spatial zones which would repay more detailed examination.

7.2 Roman

The Roman activity has significant potential, especially in relationship to the development of the Roman town of Irchester, from the exposure of part of the extra-mural settlement, an element of the early pre-walled town and the excavation of the town's defences at the south-west corner of the town. The general spread of the other Roman features across the site, although not of great importance in themselves, together demonstrate the extent of Roman land use and possible activities undertaken in these areas, and their relationship with the Roman town.

The extra-mural settlement

The part of this settlement area exposed by the new road development, illustrated that it was a well-established and substantial area of occupation, with its extent probably defined by the geophysical survey (cf Dix and Masters 1992). The preservation of the archaeological fabric was sufficient to allow features and structures to be easily identified. Ploughing may have caused limited degradation, but the low level of the *in situ* stone work and debris spread indicate possible robbing and deliberate levelling.

The evidence shows there were probable phases of development adjacent to the Roman road, with the remains of stone and timber buildings set within land plots. The potential of the evidence from the structures, related features and the finds could show if any industrial, agricultural or domestic activities occurred here.

The Roman pottery spot dating indicates the extra-mural settlement to be of a predominately 1st to 3rd-century AD date with a significant number of finds from the 2nd century. The coinage appears had a similar period of dating. This would suggest an early date for the development of the settlement, with the decline and abandonment in the 3rd century. The probable decline of the extra-mural settlement area may correspond to the construction of the defences since they cut across the road from the core of the town.

Other Roman features

The distribution of the smaller groups of features across the landscape beyond the town and extra-mural settlement show a well-developed Roman landscape, although it had a fragmented nature, partially due to the depth of the stripping process and the extent of the subsoil that remained.

A number of linear ditches, gullies and a possible Roman drain were identified throughout Fields 1 to 3. They were fragmented and widely distributed, but with a possible south-east to north-west alignment. They could not be shown to form part of a continuous field system and may have had localised functions.

The south-west corner of the Roman town

The south-west corner of the town defences were first exposed during the construction of the A45 between Little Irchester and Rushden in 1962-63 with further work undertaken in 1981-82 when the road was widened (Knight 1967, Hall and Nickerson 1967 and Windell 1984). These excavations recorded the presence of the town wall, an internal corner tower and bank, as well as three defensive ditches. The relationship and date of these features was equivocal and has since been the subject of reappraisal which suggests that the wall and bank were built together in about AD 170 rather than seeing the wall as a later introduction

(Woodfield 1992). Comparing the sequence at Irchester to other towns Mrs Woodfield goes on to suggest that there was a planned defensive line extending from Alchester and Towcester to Great Casterton and further to the east into Essex.

The work carried as part of the present development exposed a larger area of the south-west corner of the town defences and allowed the excavation of a length of the wall foundation. Examination of the stratigraphy and associated finds will help to determine the form and date of the defences and thereby contribute to the wider debate into the nature of late 2nd-century Roman society

7.3 The finds

The worked flint Yvonne B Wolfram-Murray

Recommendations for further work on the assemblage would be to fully describe and draw the plano-convex knife and mace for publication.

The Iron Age and Roman pottery Jane Timby

Potential and recommendations

This is a good-sized assemblage from a small Roman town that has seen little systematic excavation in recent times and no detailed publication of any pottery. Previous work has established a pre-Roman origin to the settlement (Burnham and Wachter 1990, 145) but details seem vague.

The proportion of samian present would seem commensurate with a settlement of this size but the low incidence of other imports is perhaps surprising. The apparent absence of clear 4th-century pottery is also odd since the town was clearly still in existence at this time. The most obvious explanation is that this part of the town declined and went out of use after the construction of the town defences which may have led to a revised street pattern.

It is recommended that the prehistoric and Roman pottery is analysed in detail and a publication report prepared accompanied by appropriate illustrations. The analysis needs to be undertaken with full site details, a site plan and provisional site phasing.

If a detailed report is required on the samian this should go to an appropriate specialist.

Further work (prehistoric and Roman)

Detailed analysis (sherd count, weight and estimated vessel equivalence) and database for the prehistoric and Roman wares and preparation of database: 6 days

Update database with site information: 0.5 days

Illustration of c 30 items: 3 days (author)

Prepare report (journal) with catalogue: 2.5 days

Total: 12 days

Roman finds Tora Hylton

Further work

Proposed Illustration Catalogue

Brooch, copper alloy, SF 45, Context (192), Defensive ditch [13]

Finger ring, silver, SF 50, Context 10, Subsoil, Unstratified

Finger ring, silver, SF 60, Unstratified

Knife, iron, SF 37, Context (237), Extramural settlement

Pruning hook, iron, SF 39, Context (10), Subsoil, Unstratified

Roman coins Ian Meadows

The coins have little value to add to the understanding of the site or its development and contribute little to dating and therefore require no further work. A complete list will be added to the final report.

Ceramic tile Pat Chapman

No further work is required on the assemblage.

Fired clay Pat Chapman

No further work is required on the assemblage.

Querns Andy Chapman

No further work is required on the assemblage.

Metal working debris Andy Chapman

No further work is required on the assemblage.

Saxon and medieval pottery Paul Blinkhorn

No further work is required on this assemblage.

Saxon and medieval finds Tora Hylton

No further work is required on the assemblage.

Animal bone Philip Armitage

The full report is included as Appendix 1. No further work is required.

Environmental evidence Val Fryer

Conclusions and recommendations for further work

In summary, although the evidence is a little sporadic, it would appear that the production and processing of cereals (principally wheat) was of some local importance during both the Iron Age and Roman periods, with the occupants of the Roman walled town possibly relying on batches of prime grain, which had been processed away from the settled area. During the Roman period, much of the area around both the walled town and the extra-mural settlement was probably covered by short-turfed grassland, although in specific instances, areas were either very damp or possibly overgrown with colonising weeds and/or shrubs.

Five of the assemblages studied (samples 3, 8, 9, 10 and 11) do contain sufficient material (ie 200+ specimens) for further quantitative analysis. However, the features from which the samples were taken are dispersed across a wide area, and any information gained from further analysis would probably contribute little additional data towards the overall interpretation of the Iron Age and Roman landscapes.

Therefore, at this stage, no further work is recommended. If, however, further excavations are undertaken within the Victoria Park area, it is clear that the potential for plant macrofossil analysis is extremely high, and a comprehensive strategy for sampling and analysis should be included within the site brief as a matter of some urgency.

Inhumations Teresa Hawtin

The full report is included as Appendix 2. No further work is required.

Cremation Andy Chapman

No further work will be required.

8 PROGRAMME OF WORK

Tabulated below is the programme of work required for the analysis of the site records and finds, and for the preparation and publication of a report on the findings, and the creation of a site archive for long-term deposition.

Task	Personnel
Analysis of plan & stratigraphic records	Stephen Morris
Archaeological Background and SMR research	Tora Hylton
Structural Site Narrative	Stephen Morris
Flint report	Y. B. Wolfram-Murray
Iron Age and Roman Pottery	Jane Timby
Saxon Pottery	Paul Blinkhorn
Small finds	Tora Hylton
Coins	Ian Meadows
Ceramic building material	Pat Chapman
Animal bone	Philip Armitage
Shell	Karen Deighton
Querns	Andy Chapman
Environmental evidence	Val Fryer
Fired Clay	Pat Chapman
Slag	Andy Chapman
Inhumations	Teresa Hawtin
Integration of specialist reports	Stephen Morris
Report compilation & Discussion	Stephen Morris
Illustrations	Drawing Office
Final Editing	Andy Chapman, Pat Chapman
Preparation of Archive	Theodora Anastasiadou-Leigh

9 **REPORTING**

A report will be submitted for publication in the county archaeological journal Northamptonshire Archaeology.

Report Synopsis:

**Iron Age and Roman landscapes at Victoria Park
Irchester, Northamptonshire**

by

Stephen Morris

Abstract

Brief summary of archaeological site

Stephen Morris

Introduction

Stephen Morris

Background

Topography and geology

Steve Critchley &

Stephen Morris

Archaeological Background

Stephen Morris

Methodology

The excavated evidence

Stephen Morris

Summary of site chronology

Iron Age settlement

The Iron Age enclosure

The Iron Age farmstead

Iron Age pits and postholes

The Roman town

Settlement pre-dating the town wall

The town wall

The extra-mural settlement

Other Roman activity

Field 1

Field 2

Field 3

Saxon sunken-featured building

Later activity

Medieval ridge and furrow

19th-century ironstone quarries and railway

Recent land-filling

The worked flint

Y. B. Wolfram-Murray

The Iron Age pottery

Jane Timby

The Roman pottery

Jane Timby

The Roman finds	Tora Hylton
<i>The coins</i>	Ian Meadows
<i>The querns</i>	Andy Chapman
<i>The ceramic building material</i>	Pat Chapman
<i>The fired clay</i>	Pat Chapman
<i>The slag</i>	Andy Chapman
<i>The leather shoes</i>	Tora Hylton
The Saxon pottery	Paul Blinkhorn
The inhumations	Teresa Hawtin
The cremation	Andy Chapman
The animal bone	Philip Armitage
The environmental evidence	Val Fryer
Medieval and post-medieval finds	Tora Hylton
Discussion	Stephen Morris
<i>The Iron Age Settlement</i>	
<i>The Roman Settlement</i>	

Bibliography

Illustrations

Fig 1:	General site plan
Fig 2:	Irchester, Victoria Park
Fig 3:	Geophysical survey
Figs 4-6:	Iron Age features; plans and sections
Figs 7-9:	Extra-mural settlement
Figs 10-11:	Roman features; plans and sections
Figs 12-13:	The south-west corner of the Roman town; plans and sections
Fig 14:	Saxon sunken-featured building
Fig 15:	Iron Age pottery
Fig 16:	Roman pottery
Figs 17-18:	Other finds

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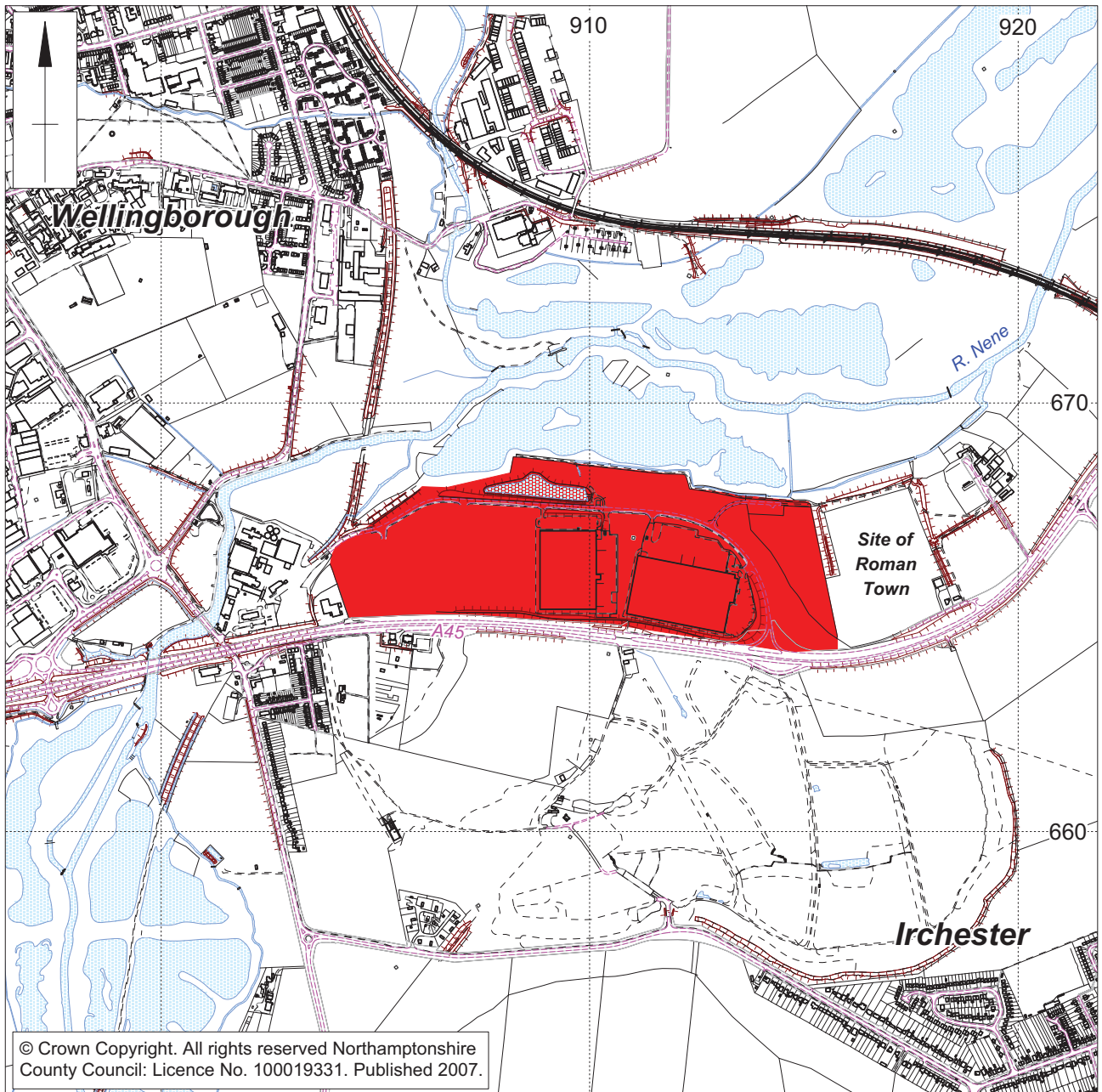
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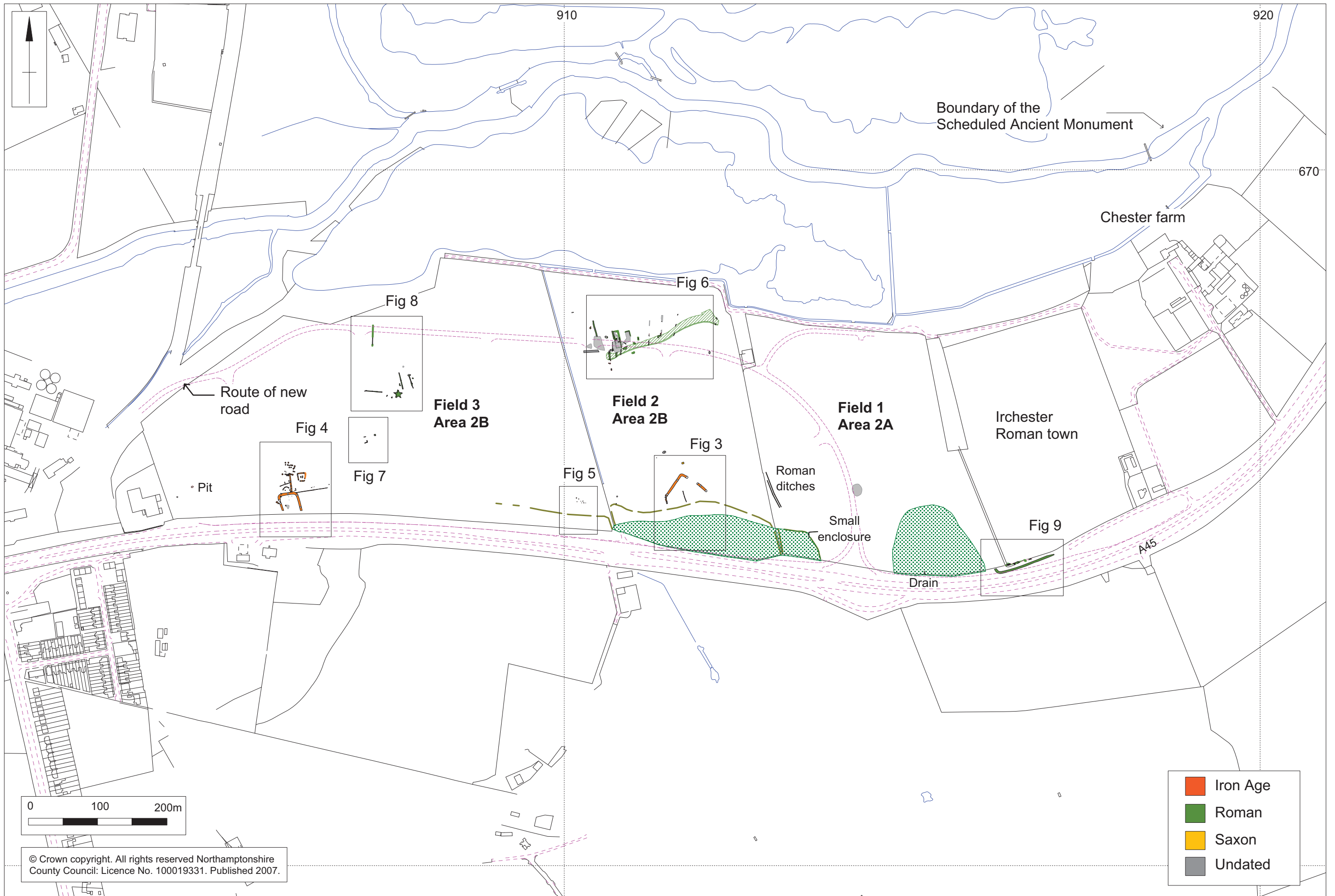
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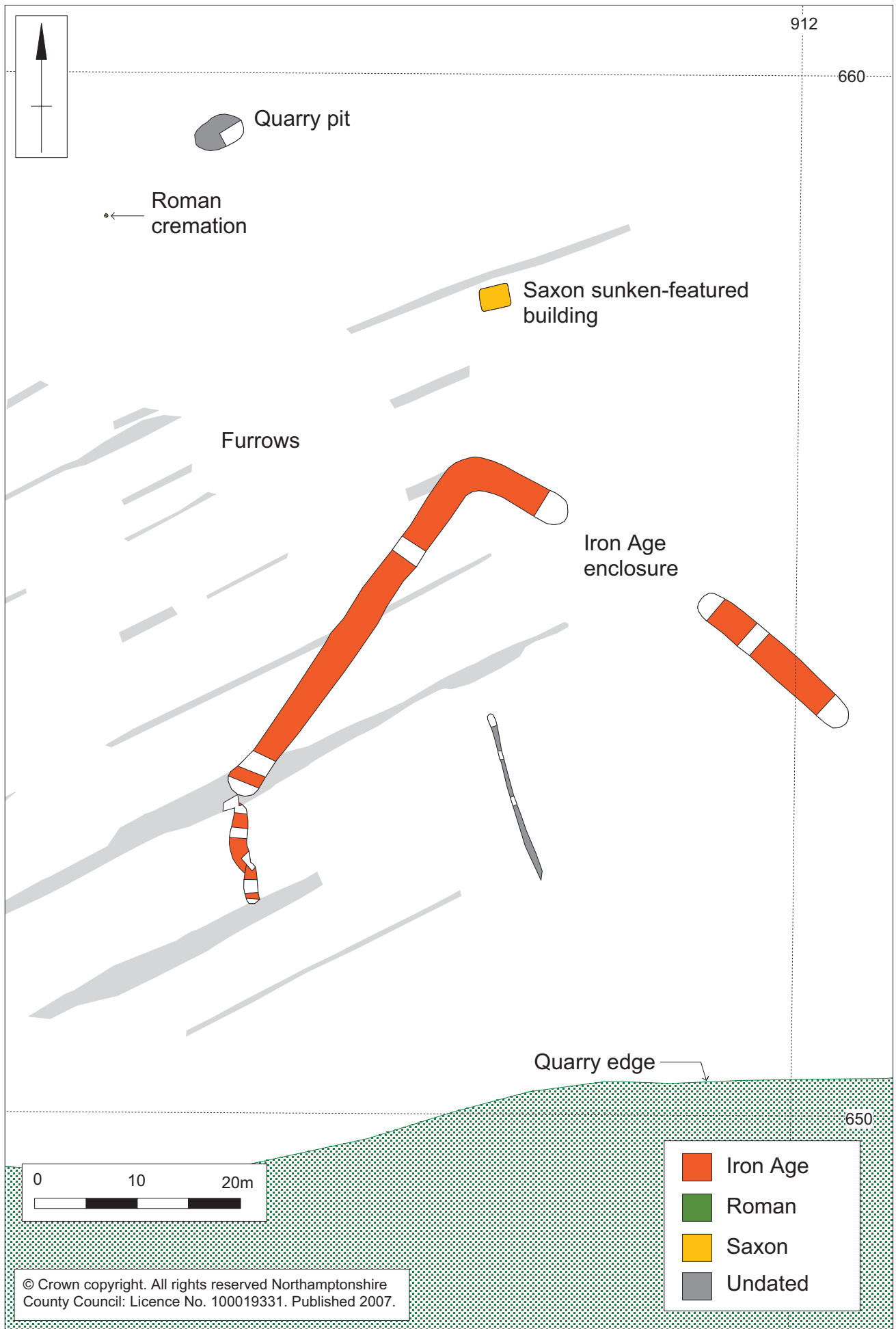


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Scale 1:15,000

Site Location Fig 1





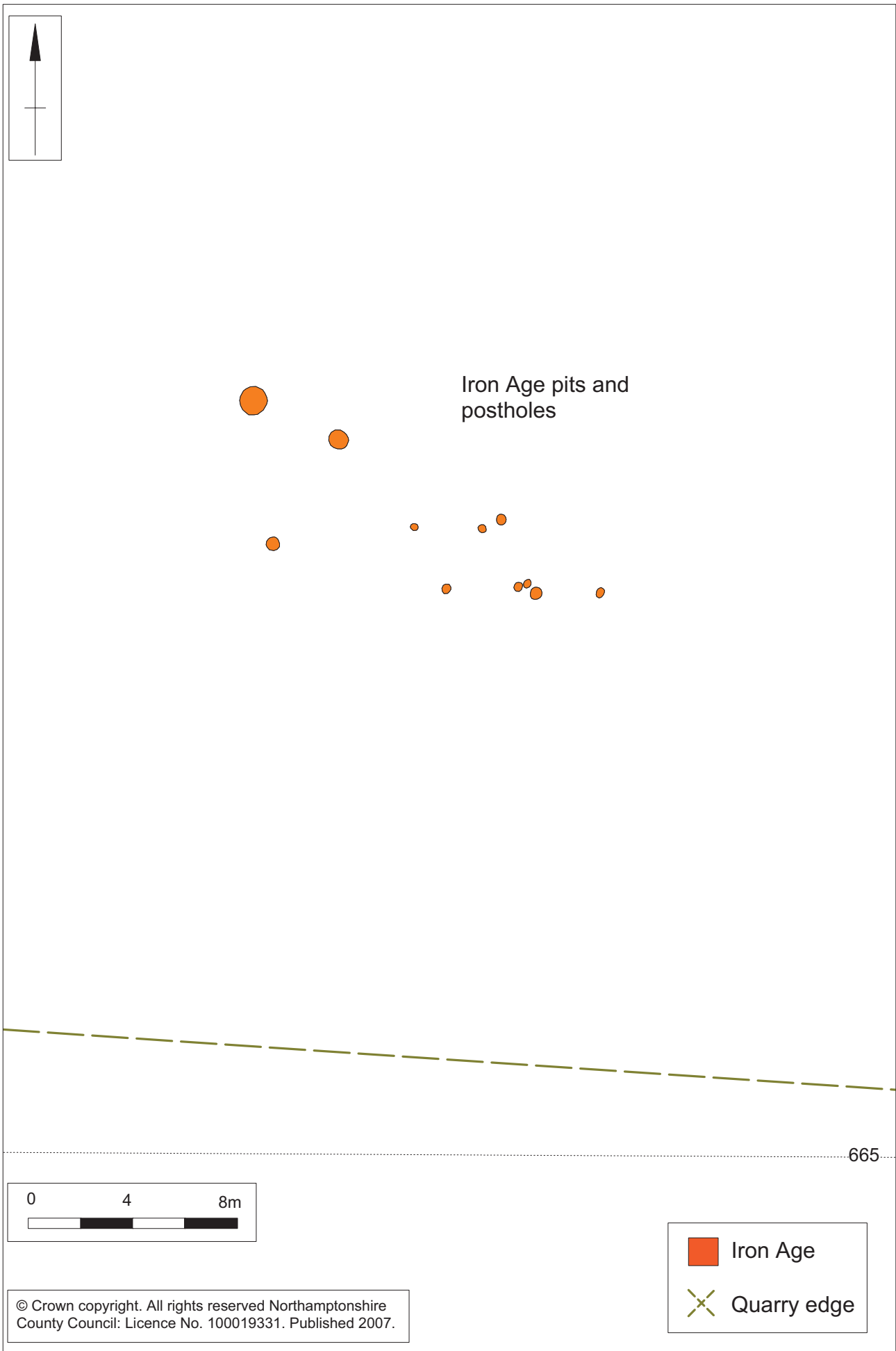
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The Iron Age enclosure Fig 3



Scale 1:500

The Iron Age farmstead Fig 4

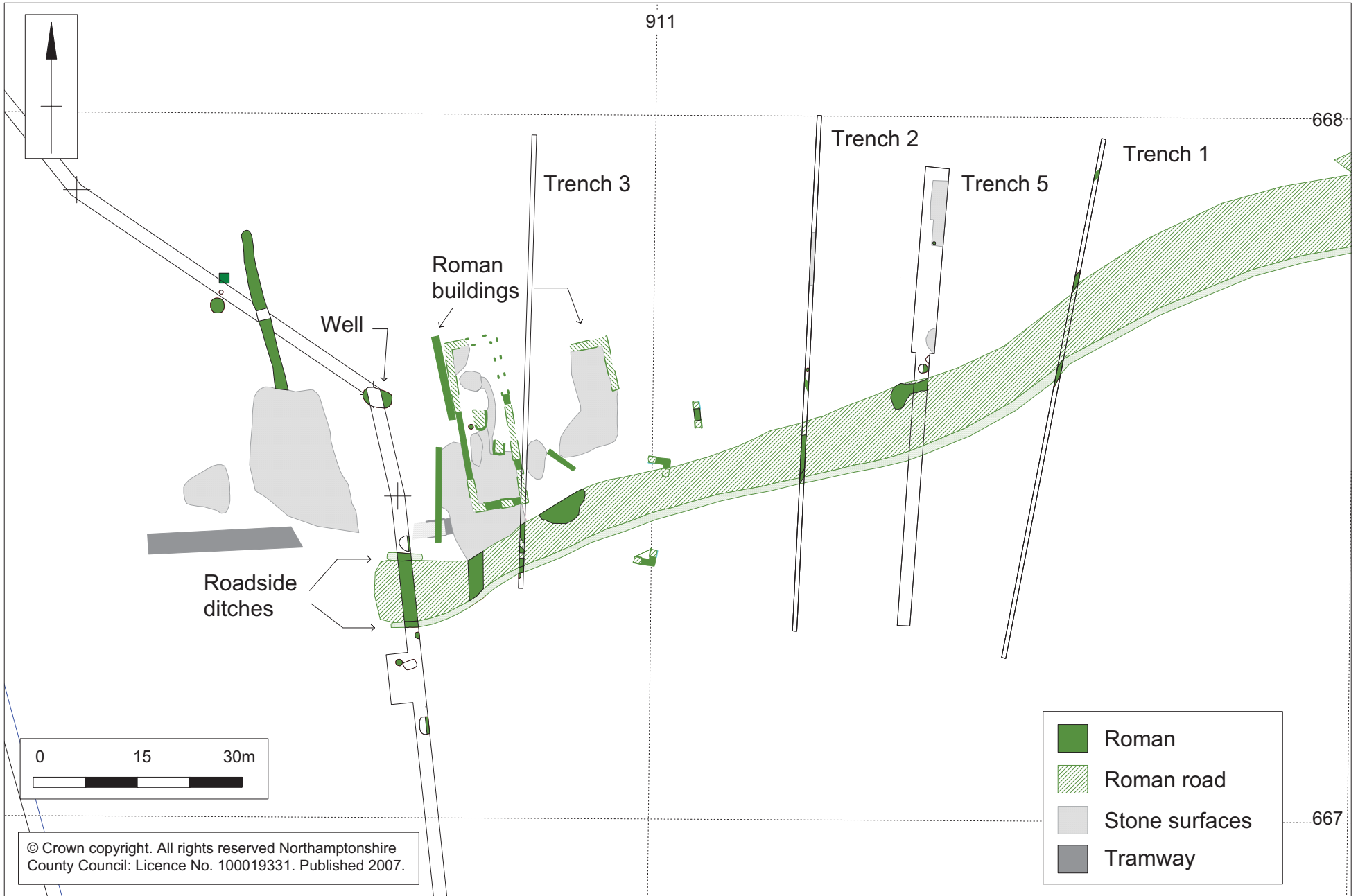


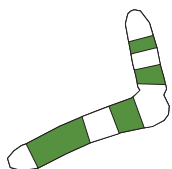
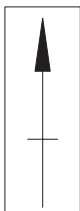
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Iron Age pits and postholes Fig 5

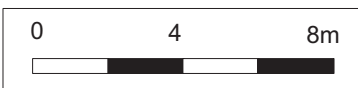
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The extra-mural settlement Fig 6

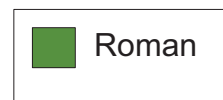




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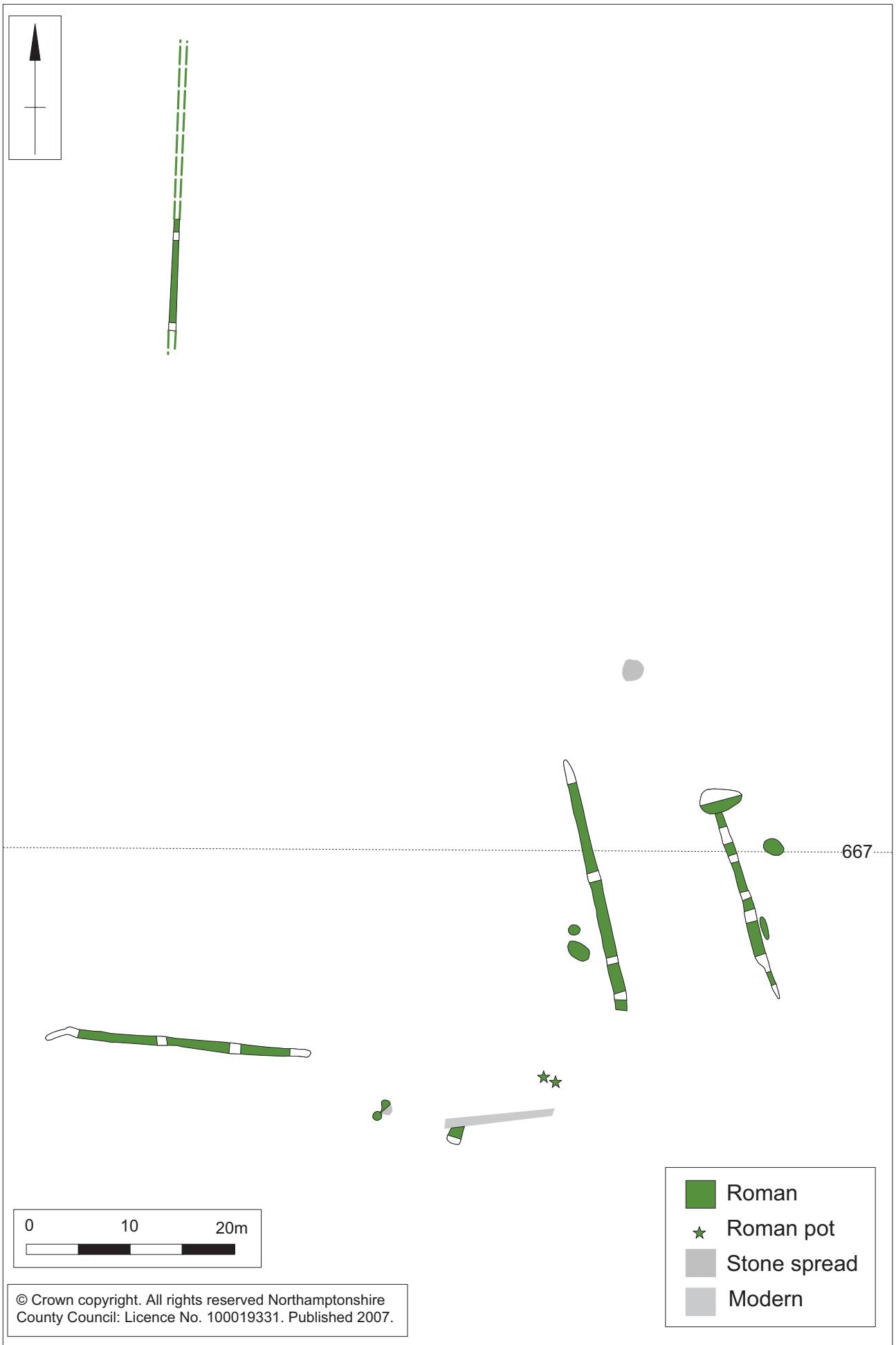


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Roman sub-rectangular enclosure and well Fig 7

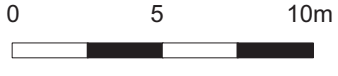
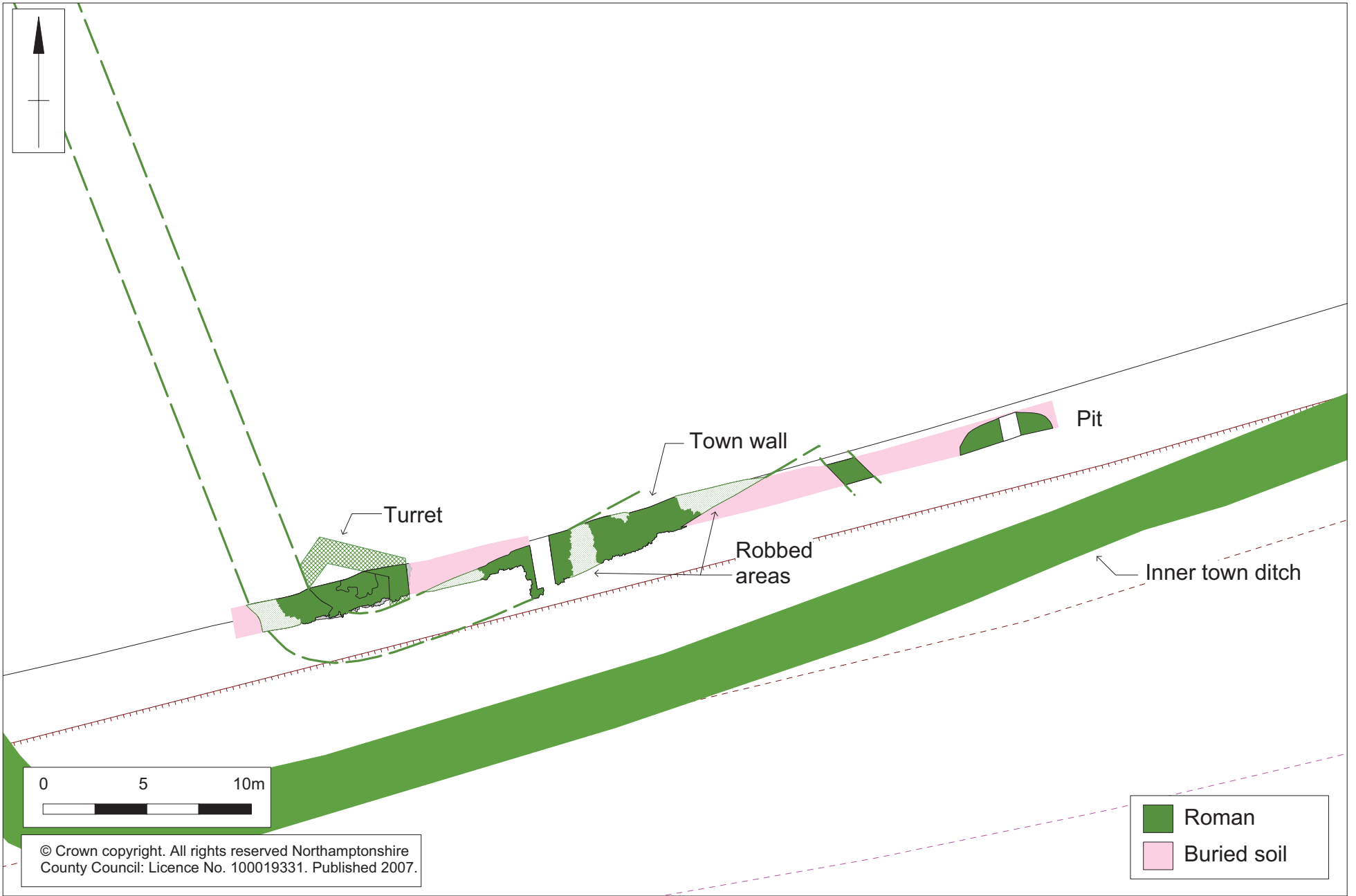


Scale 1:500

The Roman pit and ditch group Fig 8

Scale 1:250

The south-west corner of the Roman town Fig 9



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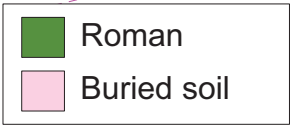




Plate 1: New road, joining the A45. Facing west towards Wellingborough



Plate 2: Roman well [305] and well trench (341). Facing north



Plate 3: Two courses of town wall foundation (124) and wall course (294). Facing west



Plate 4: Foundation (286) of the south wall of the Roman town. Facing east



Plate 5: East facing view of the south-east corner of Irchester Roman town, displaying wall courses [295] and wall foundation [137] (in foreground). Turret wall [287] and internal floor (296) (in middle ground). In the background, pre-wall ground surface (129) and section through wall foundations (124).

THE MAMMALIAN, BIRD AND AMPHIBIAN BONES by Philip L. Armitage

INTRODUCTION

Over 1,085 hand-collected and sieved bone elements were submitted for identification and interpretation. 350 (32.3% of the total) of these are identified to taxon/species (Table 1) and 735 (67.7%) remain unidentified owing to the absence of diagnostic features. The disproportionately high percentage frequency of unidentified bone probably reflects the generally poor conditions for preservation throughout the site and the quantities of very small “scrappy” fragments derived from the sieved samples (comprising 28% of the total unidentified material) (Table 2).

Over half (54.5%) of the total unidentified fragments are from the Iron Age deposits (with the largest proportion from pits). Unidentified bone fragments from the Roman deposits make up 33.9% of the total, with the balance (11.6%) originating from the Saxon sunken-featured building.

Nine species are represented: in order of abundance these are domestic cattle, sheep, domestic pig, horse, dog, house mouse, domestic fowl, blackbird, and common frog. No fish or reptile bones were identified in the Victoria Park faunal material.

The species identified are listed as follows:

Mammals

horse *Equus caballus* (domestic)
cattle *Bos* (domestic)
sheep *Ovis* (domestic)
pig *Sus* (domestic)
dog *Canis* (domestic)
house mouse *Mus musculus*

Birds

domestic fowl *Gallus gallus* (domestic)
Turdidae cf. blackbird *Turdus merula*

Amphibians

Common frog *Rana temporaria*

Tables summarizing the anatomical distributions of the species identified by period and assemblage group were prepared and form part of the site archive. The site archive also contains data on epiphyseal fusion in the cattle, sheep and pig bones, together with the metrical data collected.

Special mention should be made of the following specimens

The skeletal remains (45 elements) of an adult horse from the Roman well (contexts 346 and 347), comprising the skull (fragmented), 1 lower jawbone (fragmented), 6 cervical vertebrae, 5 thoracic and 3 lumbar vertebrae, 24 ribs (anciently and recently fragmented), pieces of 1 scapula, 1 humerus, 1 innominate bone, 1 metapodial bone, and the R and L femora.

The head of a juvenile pig from Iron Age farmstead pit fill (519), which is represented by parts of the skull (including the right and left maxillae) together with the paired (R and L) lower jawbones – with dentition comprising dp4 (wear stage e/f, system of Grant 1982), first molar erupted but not yet in wear, and second molar only just erupting.

TAPHONOMIC MODIFICATIONS

Preservation

Overall, the preservation of the Victoria Park animal bone is generally assessed as fair to medium – although several deposits did yield relatively well-preserved bones. Apart from the group of bones from context (279) described below, all of the Victoria Park animal bones are white, beige, or yellowish brown in colour. Those from well fill (279) (Roman extra-mural settlement) however are stained a distinctive dark brown, as frequently noted in bones from water lain or waterlogged deposits rich in organic matter. Many of the bones from throughout the Victoria Park site exhibit root etchings on the bone surface.

The incidence of sub-aerial weathering before burial appears to be relatively low in the Victoria Park bones; however, among the specimens examined are those exhibiting the effects of leaching and cortical erosion, probably resulting from contact with groundwater during burial. Clusters of such bones showing the effects of weathering/leaching/erosion/abrasion are recorded in assemblages from the following deposits: Iron Age enclosure ditch (fills 35, 45 and 70), town wall ditch fill (194), extra-mural settlement pit fills (276 and 281), and Saxon sunken-featured building fill (88).

In general, the conditions following burial appear to have resulted in a tendency for many bone specimens to have become brittle and therefore greatly susceptible to fragmentation either *in situ* or during archaeological excavation. The high levels of fragmentation over the site meant that special measures had to be adopted in order to more precisely quantify the bone elements/fragments represented. For the purposes of establishing NISP values for the assemblages from both the Iron Age and Roman deposits, fragments of shafts and/or epiphyses recognized as deriving from the same bone element were counted as a single “unit”. A similar procedure was adopted where loose teeth could be matched with pieces of mandible.

Burnt bones

Overall, the incidence of burnt bone is relatively low (2.3% of the total NISP), with two clusters noted in the assemblages examined: Roman town wall pit fill (199) yielded 9 burnt very “scrappy” mammalian bone fragments, and Saxon sunken-featured building fill (88) also produced 12 burnt very “scrappy” mammalian bone fragments in addition to two burnt sheep bones (1 astragalus and 1 thoracic vertebra).

Dog gnawing

Throughout the site the frequency of dog-gnawed bone is relatively low (1.7% of the total NISP), and there are no apparent clusters of such bones in any period or deposit. A single bone element, a sheep radius from town wall pit fill (199) appears to have been chewed by a cat.

Defleshing and skinning marks

Twelve bone elements from Iron Age deposits exhibit knife cut marks (9 cattle, 2 pig and 1 horse) and four bone elements (all of them from cattle) from the Roman deposits show similar evidence. Virtually all these marks indicate defleshing of food bones. However the several knife cut marks on the medial surface (distal end) of the horse tibia from Iron Age farmstead ditch fill (432) is probably evidence of skinning rather than indicative of the consumption of this animal. Hide removal is further indicated by knife scoring marks across the surface of the piece of frontal bone from a cattle skull recovered from Iron Age farmstead ditch fill (431).

Butchery

Evidence of butchery is scanty, and comprises four chopped cattle bone elements all from Roman extra-mural settlement deposits: 1 ulna (floor surface 219), 1 innominate bone (well fill 264), and 2 thoracic vertebrae (well fill 279).

DESCRIPTIONS OF THE SPECIES

Horse

Stature (withers height) in the horse represented by the partially complete skeleton in the fill of the Roman well contexts (346 & 347) is estimated at 123.5cm (“pony-sized”), based on the greatest length (GL) measurement (352 mm) taken on the femur (after the method of Kiesewalter 1888). A much taller horse, with an estimated withers height of 137.8 cm, is represented by a metacarpus from the extra-mural settlement floor deposit (220). This animal had “slightly slender legs” as indicated by the calculated slenderness index value of 14.6 (system of Brauner 1918).

The presence of a deciduous premolar tooth in ditch fill 380 suggests the breeding of horses at the Iron Age Farmstead, while a lower molar tooth of a Roman horse (town wall context 177) shows evidence this animal suffered successive periods of nutritional deficiency – as indicated by a series of horizontal lines on the crown surface (linear enamel hypoplasia).

Cattle

The keeping of short horned (SH) cattle (classification system of Armitage and Clutton-Brock 1976) in the locality, in the Iron Age and Roman periods, is attested by the identification of their horn cores from the following deposits:

- Iron Age Farmstead enclosure ditch fill 385 – portion of the skull (with R and L horn cores) of a juvenile SH male
- Iron Age Farmstead ditch fill 432 - horn core of an adult SH male
- Roman Extra-Mural Settlement well fill 265 – horn core of a young adult SH male

Estimates of stature (withers heights) can be made in two of the Roman cattle based on greatest length (GL) measurements taken on their limb bones (method of Fock 1966). An especially tall (127 cm) and robust ox is represented by a metatarsus (GL 233 mm) from

extra-mural settlement ditch fill (252), while a smaller beast (106 cm) is represented by a metacarpus (GL 173 mm) from the town wall ditch fill (177).

Sheep

Estimates of stature (withers heights) can be made in two of the sheep based on greatest length (GL) measurements taken on their limb bones (method of Teichert n.d.):

- Iron Age farmstead pit fill (445) – radius (GL 139.8 mm) withers height 56.2 cm
- Roman town wall pit fill (198) – metatarsus (GL 130.7 mm) withers height 59.3 cm

Both sheep are comparable in size to modern Soay sheep.

Pig

All bones examined appear to be from domestic pigs and no wild boars or sows are recognized. At least one male domestic pig is represented by a lower canine tooth (tusk) from Iron Age farmstead pit fill (418) (criteria of Mayer and Brisbin 1988).

Dog

Dog is represented by a single element, a left innominate bone from Iron Age farmstead pit fill (392).

House mouse

Iron Age farmstead pit fill (513), sieved sample <18>, yielded a tibia shaft identified as house mouse. This unwelcome rodent pest species has been recorded at other pre-Roman Iron Age sites in Britain – notably Gussage All Saints, Dorset (Harcourt 1979, 155).

Domestic fowl

Domestic fowl is represented by a synsacrum from Roman town wall ditch fill (351).

Blackbird

A carpometacarpus from Roman town wall pit fill (198), sieved sample <9>, is identified as belonging to the thrush family (probably blackbird).

Common frog

The Saxon sunken-featured building fill (88), sieved sample, <3> yielded an isolated femur of common frog.

DISCUSSION

Insights into the diet and economy of the Iron Age farmstead and the Roman town and extra-mural settlement are provided by the results of the analyses of the assemblages of mammal and bird bones from the Victoria Park excavations.

Dietary aspects

At the Iron Age Farmstead beef and mutton (with some lamb) were the most commonly eaten meats, supplemented by pork. Beef and mutton (with some lamb) again feature in the Roman diet but with a lesser quantity of pork. Evidence for the consumption of domestic fowl is limited to the Roman town. There is a surprising absence of any evidence for the exploitation of wild game or wildfowl. Fish bones are also noticeably absent from the assemblages analysed.

Livestock breeding

Although the large ox (withers height 127 cm) in the Roman deposits does not quite measure up to the statures of the large Roman cattle recorded from Porchester (129.6 cm), Great Holts Farm, Essex (130 cm), Corstopium (131.8 cm), and Gadebridge Park, Hemel Hempstead (136 cm) and the exceptionally massive beast from Vindolanda (144 cm) (Harcourt, 1974:256; Hodgson 1977: 19 – 20; Luff 1982: 156; Albarella 2003:198) it nevertheless is well outside the upper size-range of the majority of Roman cattle – and certainly very much larger than its Iron Age counterparts. According to Jewell (1963) the emergence of larger cattle in the Roman period was as a result of improved livestock rearing – a view also held by Armitage (1982). Other authors however dispute this idea of a local upgrading of the cattle and see these exceptionally large cattle as evidence of stock imported from elsewhere in the Roman Empire (see Albarella 2003: 196 – 198).

The slaughter patterns in the Iron Age and Roman sheep based on dental eruption and wear (Table 3) and epiphyseal fusion (archive) indicate the majority of animals were being kept primarily for their wool (and milk?) and only killed off for their meat after a productive life. A few lambs however were apparently also being killed – perhaps for feasting or at religious occasions?

APPENDIX 2 INHUMATIONS by Teresa Hawtin

INTRODUCTION

In May 2006 macroscopic osteological analysis was undertaken on three groups of disarticulated human remains recovered from Victoria Park in the Roman town of Irchester, Northamptonshire. The remains were associated with a Roman ditch, probably dating to the third century. A minimum number of 5 individuals were present, increasing to 6 if Burial 3 was excavated from a clearly separate context from Burial 2. One juvenile of 6-8 years, two possible females, one aged 17-35 years and one mid-adult, two possible males, one aged 20-30 years and one adult, and two further adults, one a possible male, were identified. This suggests that there was no segregation within the cemetery that these individuals were originally interred in. Some common dental pathologies, such as caries and dental calculus, indicated a low level of dental hygiene, but no other pathological conditions were identified within the assemblage apart from slight enamel hypoplasia. The lack of complete long bones meant that no metric analysis was possible, and only common non-metric traits, such as cranial ossicles and accessory cranial foramina, were identified. The lack of further information pertaining to the context of these disarticulated deposits or the site as a whole limits the amount of interpretation possible.

AIMS AND METHODS

Aims

The aims of this analysis were:

- To ascertain minimum numbers of individuals (MNI)
- To compile inventories of each skeleton
- Assessment of completeness, preservation and fragmentation
- Estimation of age and sex
- Recording of metric variation and stature estimation
- Recording of non-metric variation
- Identification and description of pathological changes, trauma and other modifications

Standards

The work conformed to the relevant sections of the Institute of Field Archaeologists' *Guidelines to the Standards for Recording Human Remains* (Brickley & McKinley 2004) and English Heritage's *Human Bones from Archaeological Sites: Guidelines for Producing Assessment Documents and Analytical Reports* (Mays, Brickley & Dodwell 2004) and to the relevant sections of ASC's own *Operations Manual*.

Methods

The skeletons have been examined for several criteria: state of preservation, demographic attributes including age and sex, normal metric and non-metric variation, and state of health. Methodologies used will be detailed in the relevant sections.

SKELETAL COMPLETENESS AND PRESERVATION

Burials 2 and 3 were both considered to represent only one individual each, as no skeletal elements were duplicated. However, Burial 1 represented a minimum number of individuals (MNI) of 4, based on the fact that 4 left radii were present. Individuals of different ages and sexes were also identified within Burial 1.

Table 1 shows the completeness and levels of fragmentation and weathering of the skeletons and details any additional bones associated with them. Additional individuals are listed separately within Burial 1 wherever possible.

In this table the skeletons are split into sections: skull, thorax, abdomen, upper limb and lower limb. 'Thorax' includes the shoulder girdle as well as the ribs and cervical and thoracic vertebrae. 'Abdomen' includes the pelvic girdle and lumbar vertebrae. 'Upper limb' and 'lower limb' both consist of the relevant long bones, wrist/ankle bones and hand/foot bones. All figures are approximations.

All bones were assessed for preservation using the weathering stages given by Brickley & McKinley (2004: 15-17), and an average grade was assigned to each skeleton. In this system Grade 0 represents no perceptible damage and Grade 5+ represents extensive erosion.

Table 1: Level of completeness and fragmentation of skeletons

Skeleton number	Skull %	Thorax %	Abdomen %	Upper limb %	Lower limb %	Additional bones	Preservation
1	1x 20 1x15	<5	5	1x 50 1x 40 1x 25 1x 5	1x 40 1x 10	Numerous animal bones	Fragmentation: high Weathering: 2-3 (some grade 4) Bones appear bleached
2	20	10	5	10	10	Several animal bones, 1 pottery sherd	Fragmentation: high Weathering: 2-3 Bones appear bleached
3	40	5	0	0	0	None identified	Fragmentation: med Weathering: 2

All of the human remains analysed were highly fragmented, although the skull of Burial 3 was less severely damaged. All bones were also affected by surface erosion (weathering) to some extent, generally grades 2-3, with some bones present within Burial 1 showing slightly higher levels of weathering. No evidence of cut marks or animal gnawing were identified on the human bone.

It is unclear whether the bones present in Burial 3 were in close association with either of the other deposits. It is possible that Burial 3 could be part of one of the individuals present in Burial 2, and therefore an overall total MNI of 5 should be assigned to the assemblage. If Burial 3 was retrieved from a clearly separate context then the MNI can be increased to 6.

Burials 1 and 2 also included several fragments of animal bone, as well as one sherd of pottery in Burial 2, all of which were re-bagged and labelled accordingly. Cut marks (butchery marks) and animal gnawing were visible on some animal bones.

DEMOGRAPHIC ATTRIBUTES

Age

Wherever possible the human remains were assigned to age categories. In juveniles this was based on epiphyseal fusion (Scheuer & Black 2000) and tooth eruption (Ubelaker 1978). In adults ageing was based on examinations of auricular surface morphology (Lovejoy *et al* 1985; Buckberry & Chamberlain 2002), pubic symphysis morphology (Katz & Suchey 1986), cranial suture closure (Meindl & Lovejoy 1985), sternal rib end morphology (Schwartz 1995), or tooth wear (Miles 1962; Brothwell 1981), depending on which elements were available. Table 2 shows the results of this assessment. The four individuals identifiable within Burial 1 have been separated using the suffixes A, B, C and D.

Table 2: Demographic attributes of individuals within the sample

Skeleton number	Age	Sex
1A	6-8 years	Undeterminable
1B	17-35 years	Possible female
1C	Adult	Possible male
1D	Adult	Underterminable
2	20-30 years	Possible male
3	Mid adult	Possible female

Most individuals could be assigned to a broad age category, although these can only be considered to be guides as ageing of individuals with fewer skeletal elements present will be less accurate. Only two individuals could be accurately aged, including the juvenile present in Burial 1, the ageing of whom was based on dental eruption in a fragment of maxilla. The age estimation of Burial 2 was based on dental attrition and the epiphyseal fusion stage of the sternal end of the left clavicle.

Sex

The skeletons were also examined for sexually dimorphic characteristics, the results of which are shown in Table 2. This analysis was based on sexually dimorphic features of the skull and pelvis, such as the greater sciatic notch, mastoid process, mandible shape and overall robusticity (Schwartz 1995; Phenice 1969; Krogman & İşcan 1986; Ferembach *et al* 1980; Loth & Henneberg 1996).

The fragmentary nature of the skeletons meant that accurate sex estimation was difficult and only 'possible female' or 'possible male' descriptions could be assigned to any of the individuals. Based on these estimations it appears that the ratio of males to females is approximately 1:1, suggesting that there was no segregation within this cemetery.

Statistical analysis

Due to the small size of this collection and the disarticulated and fragmentary nature of these human remains, no meaningful statistical analysis is possible and it is unlikely that any significant patterns would be revealed.

HEALTH AND DISEASE

Dental pathologies

Dental pathologies, including ante-mortem tooth loss, caries, abscesses and periodontal disease, were recorded for each skeleton. Calculus and hypoplasia were recorded according to the stages illustrated by Knußmann (1988) and dental attrition was recorded after the system developed by Murphy (1959, reprinted in Smith 1984).

No teeth were present in Burial 3, but Burial 2 included an almost complete mandible and a single maxillary central incisor. Burial 1 contained both the juvenile maxilla previously mentioned and a partial adult mandible, although with only four teeth present and only two of those still in-situ.

The teeth of Burial 2 exhibited attrition at a level of 2-4 (on a scale of 1-8), which is commensurate with an age of 17-25 years. No ante-mortem tooth loss, abscesses or periodontal disease were identified, although small amounts of dental calculus adhering to the teeth suggests a low level of dental hygiene. This individual also displayed enamel hypoplasia at a level of 1-2 (on a scale of 0-5), increasing to level 3 in the maxillary incisor. This is a condition associated with episodes of childhood stress, nutritional deficiencies or illness during the period of enamel formation. The generally low grades of hypoplasia recorded here do not suggest any significant levels of disruption.

The juvenile maxillary teeth from Burial 1 exhibited a low level of dental attrition and small amounts of dental calculus, but no other pathological changes were identified. The adult mandibular teeth exhibited attrition of level 2-4, again suggesting an age of 17-25 years. This individual also had a small amount of dental calculus adhering to the teeth and one dental cary on the lateral side of the right canine, suggesting poor dental hygiene. Grade 2 hypoplasia was identified on the right canine and left second premolar.

Bone pathologies

The human remains were examined for any pathological or abnormal changes to the bones. The high fragmentation and levels of surface erosion of the skeletons is likely to have hindered the identification of some of the pathological changes that could have been present. No pathological changes or other abnormal changes were identified in any of the human remains analysed here.

Musculo-skeletal stress markers

The human remains within this collection are too fragmentary for any meaningful analysis of musculo-skeletal stress markers. However, the more severe examples of stress indicators were recorded according to the guidelines set out by Hawkey & Merbs (1995).

The only significant musculo-skeletal markers observed in this assemblage were in the clavicles of Burial 2. The insertion points of the costoclavicular ligaments, which attach the clavicle to the first costal (rib) cartilage, exhibited cortical defects (stress lesions) of level 3 (on a scale of 0-3) on both clavicles, being *c* 18mm long and *c* 3-4mm deep. This suggests that there was greater stress on this ligament than usual, and may relate to a previous injury.

NORMAL METRIC AND NON-METRIC VARIATION

Stature Estimation

Bones were reconstructed wherever practicable, but the absence of any complete long bones meant that metric analysis was not possible. No metric analysis of the reconstructed skull from Burial 3 was attempted because of the likelihood of inaccuracy.

Non-metric Traits

The skeletons were assessed for thirty cranial and thirty post-cranial non-metric traits, after the work of Berry and Berry (1967) and Finnegan (1978) respectively. Most congenital conditions generally cause little or no effect to the individual during life, however many of them are considered to be genetically inherited. Familial relationships can be proposed, but not proven unless DNA analysis is undertaken.

All of the non-metric traits observed were relatively common, such as the presence of cranial ossicles (islands of bone within the skull sutures) and accessory, or unusual location of, foramina in the skull of Burial 3. The right calcaneus of Burial 2 displayed a peroneal tubercle and double anterior calcaneal facet, but again these are quite common. Unfortunately too few skeletons are present or complete enough to warrant further statistical analysis of the significance of the prevalence rates.

CONCLUSIONS

Although the human remains were disarticulated and fragmented, the osteological analysis has revealed some information about the individuals concerned.

A minimum number of five individuals are present within the assemblage, although this increases to six if Burials 2 and 3 were from clearly distinct contexts. Although age and sex estimation were hindered by the disarticulated and fragmentary nature of the assemblage, it appears that an even number of males and females were represented, with two possible females, two possible males, and two undeterminable individuals, one of which is too young for sexually dimorphic characteristics to have developed.

Most of the individuals are adults, with two younger adults (a female aged 17-35 years and a male aged 20-30 years), one mid adult and two further adults whose ages cannot be estimated more accurately. One juvenile was identified, aged 6-8 years. The range of ages represented, and the fact that both males and females are present, indicates that there was no segregation within the burial ground in which these skeletons were originally interred.

Some common dental pathologies were identified, including dental calculus, enamel hypoplasia and a single dental cary, suggesting a low level of dental hygiene. The enamel hypoplasia was of low severity so no further inferences can be made about it. No other pathological changes were observed in any of the human remains.

One individual, Burial 2, had significant musculo-skeletal markers, in the form of cortical defects in both clavicles at the insertion points for the costoclavicular ligaments. This suggests increased stress on this ligament, possibly relating to an injury, but the fragmentary nature of the skeleton limits the interpretation of this observation.

The absence of complete long bones within this assemblage meant that no stature estimations could be attempted. The few non-metric traits that were observed were all relatively common, such as cranial ossicles and foramina variations, and no further analysis is possible.

The human remains analysed here would probably not benefit from further investigation. Their fragmentary nature, coupled with the fact that they have been disturbed and re-deposited in the past, limits the viability of any further scientific analysis.

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This report was prepared by Teresa Hawtin, who also undertook the osteological analysis, and was edited by Bob Zeepvat.

SUMMARY TABLES

Abbreviations used:

/	Lost post-mortem	a	Abscess
r	Root only	c	Caries
x	Lost ante-mortem	h	Hypoplasia & grade, after Knußmann 1988
e	Erupting	i	Impacted
np	Not present	ca	Calculus & grade (1 if not stated), after Knußmann 1988
u	unerupted	p	Periodontal disease
--	Jaw not present	w	Attrition grade, after Murphy 1959 (reprinted in Smith 1984)

Inhumation 1

MNI: 4

- Undeterminable juvenile aged 6-8 years
- Possible female aged 17-35 years
- Possible male adult
- Undeterminable adult

Burial type: Disarticulated deposit

Preservation: High fragmentation, weathering grade 2-4, bones appear bleached.

Few fragments of skull, including 75% adult female mandible; 50% juvenile maxilla (L). Fragments of 4 vertebrae; 2x L humeri (75%; 70%); 1x L ulna (75%); 4x left radii (85%; 50%; 15%; 15%); 4 rib heads; 1x right MC3; 1 hand phalanx; right & left os coxae (5%); 1x right femur (20%); right and left tibiae (25%; 30%); right MT4; various additional fragments.

Dentition:

Juvenile left maxilla:	Permanent second molar	e
	Permanent first molar	w1
	Deciduous second molar	w2 ca1
	Deciduous first molar	w1 ca1
	Permanent lateral incisor	e

Adult mandible:

8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
np	w3	w4	np	np	w3	np	np	np	np	np	np	w2	np	np	np
		ca1			ca2							ca1			
					h2							h2			

General pathology:	None identified
Non-metric traits:	None identified
Additional bones:	Numerous animal bones, 1 pottery sherd
Bone measurements:	None possible

Inhumation 2

Possible male, 20-30 years

Burial type: Disarticulated deposit

Preservation: High fragmentation, weathering grade 2-3, bones appear bleached.

Mandible and both clavicles almost complete; few vertebral fragments; partial manubrium; both scapulae fragmentary; left humerus, ulna and radius semi-complete; 7 rib heads plus fragments; right MC2; left MC3 & 4; 5 hand phalanges; fragments of os coxae and femora; right patella; 50% right tibia; 5% right fibula; right MT1 & 3; left calcaneus & MT3; numerous additional fragments.

Dentition:

h3
ca

np	np	np	np	np	np	np	np	w4	np	np	np	np	np	np	np	np
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8	
w2	w3	w4	w4	w4	w3	np	np	np	w4	w3	w2	w2	w4	w3	w2	
ca	ca	ca	ca	ca	ca2				ca2	ca2	ca	ca	ca	ca	ca	
			h1	h2	h2				h2	h2	h2	h1				

- General pathology: None identified
- Non-metric traits: R double anterior calcaneal facet; R peroneal tubercle
- Additional bones: Various animal bones and pottery sherd
- Bone measurements: Left clavicle 146mm
- Other: Both clavicles, cortical defect level 3 at insertion of costoclavicular ligament. Left measures 18mm long and >3mm deep (right damaged).

Inhumation 3

Possible female, mid adult.

Burial type: Disarticulated deposit

Preservation: Medium fragmentation, weathering grade 2

Cranium 40%; left clavicle 50%; fragments of vertebrae, humerus, ulna, radius and ribs.

Dentition: None present

General pathology: None identified

Non-metric traits: Ossicles in lambdoid suture, R parietal foramen, ossicles in coronal suture, mastoid foramina extra-sutural

Additional bones: None identified

Bone measurements: None possible