



Northamptonshire
County Council

Northamptonshire Archaeology

Excavation of a late Iron Age enclosure
at Nova MK1, Milton Keynes, Buckinghamshire
April – June 2007
Assessment report and updated project design



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Report 07/168

Northamptonshire Archaeology

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QUALITY CONTROL

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OASIS REPORT FORM

PROJECT DETAILS		
Project name	Excavation of a late Iron Age enclosure at Nova MK1 Milton Keynes	
Short description (250 words maximum)	Northamptonshire Archaeology carried out an open area excavation of 0.5ha of land at Magna Park, Wavenden, Milton Keynes on behalf of CgMs Consulting and their client Fen Farm Developments Ltd. Geophysical survey and trial trenching had identified an enclosure of Iron Age date. The settlement comprised a sub-square enclosure measuring <i>c</i> 37m by <i>c</i> 38m. Some of the smaller ditches may predate the enclosure and a small quantity of pottery has been dated to the middle Iron Age. Other ditches, both internal and external, are probably contemporary with the main enclosure. In addition, there was a scatter of pits and gullies within the enclosure and also to the east and south. The pottery dates the main period of occupation to the late Iron Age/early Roman period, specifically the early/middle 1st century AD. Artefacts, including flint, pottery, fired clay, querns, metal work, animal bones and plant macrofossils were retrieved from the site. This report assesses the potential of these findings in the context of the original aims and objectives of the project, suggests further avenues of research based upon the scope of the findings and presents an updated project design for subsequent post-excavation work.	
Project type (eg DBA, evaluation etc)	Excavation	
Site status (none, NT, SAM etc)	None	
Previous work (SMR numbers etc)	Geophysical survey NA (Butler 2006), Trial trenching NA (Patenall 2007)	
Current Land use	Arable	
Future work (yes, no, unknown)	Unknown	
Monument type/ period	Iron Age/early Roman	
Significant finds (artefact type and period)	Pottery, bracelet fragment, querns	
PROJECT LOCATION		
County	Buckinghamshire	
Site address (including postcode)	Magna Park, Milton Keynes	
Study area (sq.m or ha)	<i>c</i> 0.5ha	
OS Easting & Northing (use grid sq. letter code)	SP 91031 38398	
Height OD	<i>c</i> 68m	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Milton Keynes Council	
Project Design originator	CgMs Consulting	
Director/Supervisor	Paul Mason	
Project Manager	Adam Yates/Tony Walsh (NA) Simon Mortimer (CgMs)	
Sponsor or funding body	Fen Farm Developments Ltd	
PROJECT DATE		
Start date	30/4/07	
End date	28/6/07	
ARCHIVES		
	Location (Accession no.)	Content (eg pottery, animal bone etc)
Physical	2007.71	
Paper	2007.71	
Digital	2007.71	
BIBLIOGRAPHY		
	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Serial title & volume	NA Report 07/168	
Author(s)	Paul Mason	
Date	July 2008	

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EXCAVATION OF A LATE IRON AGE ENCLOSURE

AT NOVA MK1, MILTON KEYNES

APRIL – JUNE 2007

ASSESSMENT REPORT AND UPDATED PROJECT DESIGN

Abstract

Northamptonshire Archaeology carried out an open area excavation of 0.5ha of land at Magna Park, Wavenden, Milton Keynes on behalf of CgMs Consulting and their client Fen Farm Developments Ltd. Geophysical survey and trial trenching had identified an enclosure of Iron Age date. The settlement comprised a sub-square enclosure measuring c 37m by c 38m. Some of the smaller ditches may predate the enclosure and a small quantity of pottery has been dated to the middle Iron Age. Other ditches, both internal and external, are probably contemporary with the main enclosure. In addition, there was a scatter of pits and gullies within the enclosure and also to the east and south. The pottery dates the main period of occupation to the late Iron Age/early Roman period, specifically the early/middle 1st century AD.

Artefacts, including flint, pottery, kiln furniture, querns, metal work, animal bones and plant macrofossils were retrieved from the site. This report assesses the potential of these findings in the context of the original aims and objectives of the project, suggests further avenues of research based upon the scope of the findings and presents an updated project design for subsequent post-excavation work.

1 INTRODUCTION

Northamptonshire Archaeology were commissioned by CgMs Consulting, on behalf of their client Fen Farm Developments Ltd, to undertake an archaeological excavation of 0.5ha land on the western periphery of the Magna Park development, Wavenden, Milton Keynes (Fig 1; NGR SP 91031 38398). Geophysical survey and trial trench excavation of the site had revealed evidence for a sub-square enclosure with associated features dating to the late Iron Age period (Butler 2006, Patenall 2007).

Fieldwork began on Monday 30th April 2007 and continued until 28th June, during which time two small extensions to the original area were made at the request of Nick Crank, Archaeological Officer for Milton Keynes Council.

1.1 Archaeological background

A geophysical survey undertaken by Northamptonshire Archaeology (NA), comprising magnetic susceptibility reconnaissance and detailed gradiometer areas (Butler 2006), identified a possible sub-rectangular enclosure in the northern part of the application area. Subsequent trial trench evaluation (Burrow 2006) confirmed the presence of the enclosure and revealed evidence for mid to late Romano-British occupation on the site.

Between August and September 2006, a further phase of trial trenching was carried out in the area of the proposed balancing ponds and the widening of the A421 to the south (Taylor 2006). The trenches in the balancing pond area confirmed the presence of a large rectilinear enclosure and associated ditches corresponding to the results of the geophysical survey. In the

northern corner of the enclosure there was evidence of occupation comprising the remains of a possible roundhouse and some small pits.

Mitigation excavation, extending over 4.48ha, was undertaken in the area of the proposed balancing ponds at the north-east corner of the development area. It involved the strip, map and sample excavation of the settlement and field enclosure features found in the earlier phases of trial trenching. A Bronze Age pit were found which contained parts of ten fired clay cylindrical loomweights (Taylor *et al* 2008). There was evidence for at least two phases of rectilinear field systems, laid out either side of a wide trackway or possible droveway. At the south was a Romano-British farmstead, enclosed within a series of ditches and paddocks. The farmstead was reorganised at least once, upon a more regular and larger scale. Buildings found included at least three roundhouse gullies. The later reorganisation included the construction of a rectangular building based upon beam slot foundations.

In February/March 2007 Northamptonshire Archaeology carried out a second phase of archaeological evaluation of land in the western part of the development site (Patenall 2007). The trial trenching revealed evidence for Iron Age enclosures including the sub-square enclosure which forms the focus of the present study. The other was a small isolated enclosure situated approximately 400m to the south-east.

The pottery from the evaluation indicated that the enclosures dated to the first half of the first century AD. The ditches of the main enclosure contained generally large unabraded pottery sherds thought to be indicative of a nearby settlement. In contrast, the isolated enclosure produced only a relatively small amount of smaller and more abraded sherds, suggesting that it was located away from the principal area of occupation and was possibly used to hold livestock.

1.2 Topography and geology

The Magna Park development site occupies *c* 99ha of land in the northern part of Wavenden parish on the east of Milton Keynes. It is bounded to the south by the A421 Standing Way and to the west by the A5130. To the north and east are further arable fields and drainage ditches.

The archaeological site occupied an area of *c* 0.5ha in the western part of the Magna Park development on land sloping gently from south-west at *c* 68mOD to the north-east at *c* 67mOD (Fig 1).

The geology of the site comprises glacial till overlying Oxford Clay and Kellaways beds (www.bgs.co.uk). At the time of the excavation the ground was covered with the remnants of a rape seed crop mixed with weeds, amongst which were the trial trenches which had been left open from the earlier evaluation.

1.3 Original objectives and methodology

Aims and objectives

The project aims as defined in the approved specification (CgMs 2007, 4-5) were to investigate the origin and development of domestic occupation by

- analysing the distribution of material culture
- investigating the form and function of structural features
- comparing the assemblages of rubbish disposal deposits by period

to investigate the origin and development of the agricultural landscape by

- determining the phasing of the extant enclosures by excavation
- investigating the changes in landscape flora by environmental sampling
- considering the wider geological/hydrological landscape as a mechanism for catalyzing settlement

and to investigate the palaeo-economy and industry through time by

- examination and comparison of faunal remains
- analysis and comparison of soil samples from industrial contexts
- identifying possible crop regimes and staple food stuffs from environmental sampling

In addition, it was anticipated that as the nature of the archaeological remains became apparent during the excavation, a series of site specific research aims will be drawn from the Eastern Counties research frameworks documents prepared by Glazebrook (1997) and Brown and Glazebrook (2000). These papers have since been superseded by Buckinghamshire's Historic Environment Resource Assessment (2nd draft) in which regional research frameworks for the Iron Age are considered (Kidd 2007). The potential of the excavated evidence to address the issues set out in this document is considered below in section 2.4.

Excavation methodology

The topsoil and subsoil were removed by a 360° mechanical excavator fitted with a toothless ditching bucket to reveal archaeological features cut into the natural substratum. A metal detector survey was undertaken at an early stage of the fieldwork to pre-empt unauthorised detecting and to ensure maximum recovery of artefactual material.

Hand excavation and recording proceeded following the methodologies set out in the project specification (CgMs 2007) and comprised cutting sections across all ditch systems and the sectioning of pits and postholes. Environmental samples were taken from contexts fulfilling the criteria set out in section 2.0.11 of the specification and targeted on specific contexts following a site visit by Dr Dominique de Moulins, English Heritage Advisor for Archaeological Science.

2 ASSESSMENT OF ARCHAEOLOGICAL EVIDENCE

2.1 Summary of excavated evidence

The archaeological evidence is principally associated with an enclosure identified by geophysical survey (Butler 2006) and trial excavation (Patenall 2007). The full extent of the main enclosure was uncovered (Fig 2). A stand of trees and public right of way prevented further investigation to the east.

The features had been truncated to a degree by later agricultural practices, including medieval ridge and furrow cultivation which was visible as a series of linear 'shadows' aligned across the site from south-west to north-east. At a later date, ceramic land drains had been inserted on the same alignment and an iron duct, containing an electricity cable, crossed the site from east to west.

Preliminary analysis of the stratigraphic and ceramic sequence suggests that excavated remains represent four narrow phases of activity spanning the middle/late Iron Age to early Roman periods, perhaps with some features being retained over multiple phases. The site

appears to have been abandoned in the late 1st/early 2nd century.

Mid-late Iron Age

A group of features on the eastern periphery of the site, including pits, postholes and gullies (G/PG1) evidently continued beyond the limit of the excavation. The ceramic evidence suggests that they are of late Iron Age date. A north-east to south-west aligned gully (G2) present to the north-west and cut by the later enclosure is also thought to be of late Iron Age date.

A very small assemblage of residual pre-1st century AD pottery was recovered from features associated with the later enclosure ditch. All of these sherds were found in the eastern part of the site, in the vicinity of the Iron Age activity and may have been introduced when the earlier remains were disturbed during the cutting of the ditch.

Early-mid 1st century

An enclosure (E1) measuring *c* 60m north to south by *c* 40m east to west, and with an internal area of 2400 sq m was defined by a ditch, typically measuring 1.00m wide and 0.50m deep (Plate 3). It appears to have had an entrance in its south-east corner and a smaller opening in its north-east corner. Both of these areas were later truncated by the larger enclosure ditch. An internal division was created by three gullies (G3-5) which intersected at the terminus of the earlier Iron Age gully (G2), suggesting that this was not only still visible but was, perhaps, incorporated into the morphology of the enclosure.

Mid-late 1st century AD

The main period of settlement was centred on a sub-square enclosure (E2), measuring *c* 37m north to south by *c* 38m east to west with an internal area of *c* 1406 sq m. The substantial enclosing ditch was up to *c* 2.20m deep and *c* 3m wide (Plates 1 and 2). There was no break in the ditch circuit to mark the location of an entrance. One possibility is that the complexity of the south-eastern corner derived from successive refashioning and slight relocations of an entrance. A pair of gullies in this location (G6, G7) may be part of an entrance arrangement, or alternatively be related to an internal structure. Elements of the earlier ditch system (E1), including the principal ditch may have been retained and incorporated into this enclosure.

There are several small pits and gullies within the main enclosure, including one running parallel to the northern arm of the enclosure ditch (G10), perhaps flanking a bank.

A small rectangular enclosure (E3) measuring *c* 8m x 7m was attached to the outer edge of the ditch. Further appendages to the main enclosure ditch, in the form of ditches and gullies, were present at its south-east corner (G8, G9), its north-east corner (D1) and south-west corner (D2).

To the south of the enclosure there was a pair of pits (PG2) that contained a quantity of late Iron Age/early Roman pottery as well as burnt cobbles and dark organic fills (Plate 4).

Late 1st-2nd century

Just beyond the south-west corner of the enclosure a large pit (PG3) cut through earlier ditches. It produced a sherd of Roman pottery dating to the 2nd century – the latest sherd recovered from the entire site. A pair of parallel gullies (G11, G12) appears to approach this pit from the south-west corner of the site.

2.2 Summary of artefactual evidence

The following comprise the principal author's summaries extracted and condensed from the specialist reports. Full versions may be found in appendices.

Flint

There are three waste flakes. None of the flakes are diagnostic and are therefore undated.

Pottery

A total of 3193 sherds of pottery, weighing 44.816kg was recovered from 153 contexts. It was scanned by context and quantified by sherd count and weight per context. As an additional measure, vessels identifiable to form (mostly rim sherds) were recorded for each context by fabric. A list of fabrics present within each context and context dating, expressed as a *terminus post quem* were also recorded.

The condition of the pottery is typically good, with surfaces and inclusions well-preserved. Some substantially complete vessels were recovered.

Pottery from 22 contexts and amounting to 391 sherds has been assigned a provisional middle to late Iron Age date. Material from a further 27 contexts was identifiable as of Iron Age date, and is considered to be residual in later deposits.

The Iron Age pottery consists of handmade material in coarse shell-tempered, grogged/argillaceous or quartz-sand-tempered fabrics. Identifiable forms consist of rounded/globular-bodied, slack-shouldered or neck-less, barrel-shaped jars and one curved-sided bowl. Also present are lug-handles of Iron Age type. Decoration is scarce, comprising occasional vertical scoring and one instance of an incised geometrical motif.

By far the largest proportion of the assemblage relates to the late Iron Age/early Roman period. Included are some substantial and well-preserved context groups and a number of largely complete vessels. Wheelthrown grog-tempered and grog/sand-tempered fabrics in the 'Belgic' tradition dominate, with smaller quantities of shell-tempered and Romanised reduced sandy and oxidized fabrics also present.

Fired clay

Twenty-three fragments of fired clay are probably mainly either from oven/kiln plates or floor.

Querns

There are two fragments from querns in Hertfordshire Puddingstone.

Other finds

Three metallic small finds were recovered by metal detector. A decorated terminal fragment from a Roman copper alloy armlet was recovered from a subsoil deposit in the base of a furrow. Two pieces of lead shot were recovered from topsoil deposits.

2.3 Summary of environmental evidence

The following comprise the principal author's summaries extracted and condensed from the specialist reports. Full versions may be found in appendices.

Animal Bone

There are 769 fragments of animal bone, of which 40% were identified to species. The majority of bones were from cattle, the next most common species being sheep/goat. Pig, horse and dog were also recorded, but in far smaller numbers.

Small mammal, fish, bird and amphibian bones were largely absent; taphonomic conditions may not favour the preservation of these small bones.

Plant macrofossils

Bulk soil samples, varying from 10 - 60 litres in volume, were taken from twenty-one contexts across the site. A sub-sample of 10 litres was taken from each context and wet sieved; twelve

produced organic flots which were collected in a 500 micron mesh sieve. The dried flots, including two samples collected during the evaluation stage of the project, were scanned under a binocular microscope at magnifications up to x 16 and both charred and de-watered macrofossils were recorded.

Cereal grains/chaff, seeds of common weeds and wetland plants and tree/shrub macrofossils were present throughout, although mostly at very low densities. Preservation was poor to moderate, with a high density of the charred grains being severely puffed and distorted, probably as a result of combustion at very high temperatures. De-watered seeds of weeds, wetland/aquatic plants and tree/shrub species occurred at a slightly higher density within six assemblages. Charcoal was present in most of the samples but at low densities.

Molluscs

Molluscs were not present in the processed bulk samples. Three 0.50m monoliths were taken from ditch fills for mollusc analysis but have not been processed because their potential is thought to be negligible – contexts from two of the three features targeted were bulk sampled and did not contain shells.

2.4 Statement of potential

The excavated evidence

Further analysis of the stratigraphy and morphology, integrated with an appraisal of the ceramic dating, will enable phasing and dating of the enclosure and internal and external features. The radiocarbon dating of organic material holds the potential to tighten/corroborate the site chronology. The use of such methods has been advocated as a priority for the region's archaeological sites, many of which 'defy close dating' (Kidd 2007, 17).

The spatial distribution of features coupled with ceramic analysis has the potential to facilitate the grouping of physically distinct features, such as pits, and may provide hitherto undetected evidence for structures and also allow comment to be made regarding the division of internal space. When combined with a study of the material and environmental remains associated with them the different classes of features may provide evidence for the range of activities taking place within and without the enclosures.

If structural elements can be identified they will form a major contribution to the limited corpus of knowledge of the late Iron Age in Buckinghamshire. To date few contemporary buildings have been identified. Comparison with the physical characteristics of contemporary sites, on both a local and regional scale, will potentially facilitate a greater understanding of its place within the regional settlement hierarchy.

Comparison between the physical and material aspects of this site and those of the nearby Romano-British site, 910m to the north-east (Taylor *et al* 2008) has the potential to characterise the changes in settlement morphology, and perhaps function, during the Iron Age/Roman transition within a local setting.

Artefactual evidence

Flint

The three undated waste flakes are undiagnostic and assumed to be residual. As such they hold no potential to address the objectives of the project. No further work is required.

Pottery

The earliest material consists of handmade pottery in the Middle Iron Age tradition. Some of this pottery was found within features whose later fills included wheelthrown 'Belgic' pottery. This being the case, there is potential for examination of an important technological transition.

The remaining portion of the assemblage is notably homogeneous, comprising largely a mix of 'Belgic' grogged wares and contemporary shell-tempered types. This group conforms to what is known for the period in the wider region and as an assemblage compares with previously published material from within the Milton Keynes area including Caldecote (Marney 1989, 90-94), Walton (*ibid.* 7-9); Cotton Valley (*ibid.* 9-12) and Wavendon Gate (Parminter 1996, 176-80). The composition of this assemblage indicates the majority probably dates to the period *c* AD25–70/80 and thus spans the Iron Age to Roman transition. The presence of some, more specific, 'date markers' as outlined above, indicate that a proportion of the group relates to the immediately post-conquest period. It is hoped that additional analysis of the pottery in combination with stratigraphic analysis might further help separate earlier material from later groups and increase understanding of ceramic use across this important cultural transition.

An aspect of the assemblage, which merits fuller examination at the analysis stage, is its relationship with a smaller group from the earlier phase of excavation at Magna Park (Taylor 2007). At present it appears there is little overlap between the two assemblages, with that of the other site being consistently later and seemingly relating a shift of activity during the late 1st century AD.

The assessment has revealed no indications of specialist use or 'high-status' from within this group as might be inferred from continental imports or local copies. This is a feature shared with the neighbouring assemblage.

Fired clay

If the fragments of fired clay can be attributed to securely dated contexts they could be used to infer the pottery production was taking place nearby. This will enable further comment to be made regarding the site's material culture, trade links and craft/industrial activities. The presence of two possible industrial features to the south of the enclosures forms a particularly relevant aspect of this avenue of study.

Querns

There are only two fragments from querns, both made from Hertfordshire Puddingstone. Querns of this type are common finds in late Iron Age and early Roman contexts. No further work is required.

Other finds

A Roman bracelet fragment, dated to the late 1st to early 2nd century, was found in a furrow and therefore peripheral to the settlement. The two lead pistol shot found in topsoil are post-medieval in date and are therefore considered irrelevant to the aims and objectives of this project.

Environmental evidence

Animal bone

Although the assemblage is small, further basic analysis of the animal bone assemblage has some potential to elucidate aspects of the site's economy. The opportunity to establish mortality profiles of the cattle and sheep assemblages will enable comment on the nature of the practices of animal husbandry that took place. When combined with further stratigraphic analysis, patterns of industrial, butchery or domestic practices may be highlighted. Comparison with contemporary sites in the area is important as few have produced significant assemblages of animal bone. Where such assemblages have been excavated they provide evidence for a pastoral economy, based on specialised cattle/horse ranching; a marked contrast with those from sites in the south of the county which are more indicative of mixed agriculture (Kidd 2007, 10). The assemblage may thus help to shed further light on the regional character of animal husbandry, butchery practices, and economy.

Further potential for study is offered by the opportunity to compare the animal bone with the assemblage retrieved from the nearby Romano-British site allowing comment on transitions and developments in the pastoral economy to be made.

Plant macrofossils

The analysis of the sub-samples taken from the bulk soil samples suggests that even if the whole sample were to be processed, in most cases the final assemblages would still be too small to warrant further analysis. Exceptions to this are samples 3 and 5, both taken from deposits present in the main enclosure ditch.

Further processing and analysis of these samples together with the information gathered from the assessment have the potential to enable some comment to be made on the range of flora growing in the locality and by inference the character of the landscape in which the site was set. Comparison with assemblages taken from nearby sites of Iron Age and Romano-British date may bolster the environmental potential of the assemblage.

Molluscs

The processed soil samples failed to produce a single mollusc shell. Although monoliths were taken for the purpose of mollusc analysis their potential is thought to be negligible – contexts from two of the three features targeted were analysed with the bulk samples and did not contain shells. Molluscs from other Iron Age sites in the county have been used to study changes in the landscape flora and ‘consistently indicate open grassland environments’ (Kidd 2007, 4). The evidence from this site appears to offer little potential to contribute to this apparently static picture.

2.5 Storage and curation

Excavation archive

The site archive is currently stored at the offices of Northamptonshire Archaeology. Following the completion of the project it is envisaged that it will eventually be deposited with Buckinghamshire County Museum Service.

Table 1: Quantification of site records

Contexts	530
Plans	18
Section drawings	145
Photographs b&w (films)	6
Photographs colour slide (films)	6
Environmental samples: bulk	21
Environmental samples: monoliths	3

3 UPDATED PROJECT DESIGN SPECIFICATION

3.1 Background

The original objectives of the project, as expressed in the original project design, are set out above in section 1.3.

The project has recovered the plan of the site and assembled a body of evidence that will allow stratigraphic relationships between the main physical components of the site to be established. Assemblages of artefactual material comprising flint, pottery, kiln furniture, querns, metal finds and environmental evidence comprising animal bone, plant macrofossils and charcoal have been recovered, quantified and assessed to establish their potential to address the aims and objectives of the project and contribute to regional research.

3.2 Summary statement of potential

The stratigraphic and morphological evidence, integrated with an appraisal of the ceramic dating, will allow the phasing and dating of the enclosure and potentially some of the smaller internal and external features. An appraisal of the site with all of the associated artefactual and environmental evidence should help clarify the function of the enclosure. The assessment of the pottery assemblage indicates potential to examine changes in production over the Late Iron Age/Romano-British transition and offer comment on the relative status of those that occupied the site. Aspects of the agricultural regime, food consumption and economy, on a local and regional level might be addressed by further study of the environmental evidence. The same data sets could be used to determine the broad characteristics of the local environment and its place in wider landscape.

3.3 Aims and Objectives

Aims and objectives of post-excavation research

To establish the morphology, function and dating of the site

The dating of the enclosure and the associated ditches is fundamental in enabling a basic understanding of the site before more specific research themes can be addressed. Specific attention also needs to be paid to groups of features, such as pits and gullies that may provide evidence for structures. This is important because, to date, few buildings of the late Iron Age have been recognised in the county (Kidd 2007, 11).

The abandonment in the late 1st century requires clarification through the effective use of ceramic dating. Attempts will be made to identify the catalyst for the abandonment which will include an appraisal of the evidence retrieved from the nearby Romano-British site (Taylor 2007) and an assessment of the prevailing social, economic and political climate of the region.

To establish the context of the site in the wider historic landscape

The site falls within a wider historic landscape that has been the subject of much recent fieldwork including geophysical survey (Butler 2006), trial excavation (Burrow 2006, Patenall 2007) and open area excavation (Taylor 2007). Previous archaeological work in the area, such as that undertaken at Wavenden Gate (Williams 1996) is also directly relevant to this site. Interpretative analysis needs to consider the immediate historical landscape characterised by these studies and also focus on its context within the region.

To investigate diet, economy, trade and industry

The economic resources of the site, as reflected by the animal bone and plant macrofossil assemblages, should be studied with the aim of establishing whether the site is a 'typical' clay site with a pastoral economy based on specialised cattle/horse ranching, as observed elsewhere in the north of the Buckinghamshire, a nearby example being the Iron Age site at Wavenden Gate (Williams 1996). Its assemblages should be contrasted with those from sites in the south of the county which are more indicative of mixed agriculture (Kidd 2007, 10).

Trade during the Iron Age period has not been studied in any detail in Buckinghamshire and

evidence for industry is sparse (Kidd 15). The pottery retrieved from the site, comprising mainly locally produced wares, offers little opportunity to expand our knowledge of trade but instead to examine the changes in the local mode and form of pottery production that spanned the Iron Age/Romano-British transition.

The diet of the inhabitants of the site can be inferred through a study of animal bones and plant remains. Further work will be undertaken and comparative study made to ascertain whether the range of foodstuffs is typical of the period. The apparent absence of bird and fish bones seemingly corroborating their status as ‘taboo’ species (Kidd 2007, 6) will be tested by examining the assemblages retrieved from the sieved soil samples.

To investigate the local palaeo-environment

Observations regarding the character of the local environment as indicated by the range of species present in the plant macro-fossil assemblage from the site will be augmented with the results taken from nearby sites with the aim of forming an appraisal of the changes in flora throughout the Iron Age and Roman periods.

3.4 Publication and presentation

A client report, combining the results of this study with the other archaeological fieldwork projects undertaken at Magna Park, will be prepared and distributed in accordance with the instructions set out in the project specification (CgMs 2007). A summary note with a general plan will be submitted to CBA South Midlands for inclusion in their archaeological notes section, and details of the project will be passed on to the OASIS database.

A publication report will be prepared for publication in Records of Buckinghamshire or an alternate publication following consultation with the Archaeological Officer for Milton Keynes Council.

Client report synopsis

INTRODUCTION

- Background
- Geology and topography
- Original aims and objectives
- Methodology

PREHISTORIC ACTIVITY

- A Bronze Age pit
- The finds
 - Worked flint
 - Loomweights
 - A Bronze Age dagger
- The environmental evidence
 - The animal bone
 - The charcoal

A LATE IRON AGE/EARLY ROMAN ENCLOSURE

- The excavated evidence
 - Mid-late Iron Age

Early-mid 1st century

Mid-late 1st century

Roman abandonment

Later activity

The finds

Flint

Iron Age pottery

Fired clay

Other finds

The environmental evidence

Animal bone

Plant macrofossils

Conclusions

A LATE IRON AGE/ROMAN DROVEWAY AND SETTLEMENT

The excavated evidence

Late Iron Age/early Roman droveway (1st to early 2nd centuries)

Roman settlement and droveway (2nd to 3rd centuries)

Later Roman settlement and droveway (3rd century)

The finds

Roman pottery

Building materials

Querns

Metalwork

The environmental evidence

Animal bone

Molluscs

Plant macrofossils

Charcoal

Conclusions

DISCUSSION

Morphology, function and dating

Diet and economy

Trade and industry

The wider Iron Age landscape

Palaeoenvironment

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3.5 Methods statement

Stratigraphy and morphology

The site archive, comprising written records, scale drawings and photographs will be used to establish a stratigraphic sequence for the site. All of the excavated evidence will be used to study the function of the enclosure, individual features and groups of features. Comparative work, taking into account contemporary sites on both a regional and national scale, will be an important aspect of this work. Enclosures with similar proportions and utilising deep perimeter ditches have been excavated in Northamptonshire eg Wooton Hill Farm (Jackson 1990, 3-21).

Dating

Animal bones will be taken from the contexts at the chronological extremes of the stratigraphic sequence and submitted for radiocarbon dating. The results will be used to bracket the ceramic dates, the earlier order of which require tightening.

Artefactual data

Flint

The results of the assessment will be incorporated into the final report and discussed alongside the assemblage retrieved from the Romano-British site.

Pottery

Full characterisation of the assemblage, to include recording of pottery to the standards issued by the Prehistoric Ceramic Research Group (1997) and Study Group for Roman Pottery (1993), will result in a publication report accompanied by presentation of data as tables. Quantification by fabric and vessel form (utilising pre-existing fabric coding schemes), and as an additional measure Estimated Vessel Equivalents (Rim EVEs), will facilitate intra and inter-site comparisons. Recording of attributes such as sooting, repair or adaptation and use wear will permit investigation of pottery function. Analysis will be undertaken in combination with site's stratigraphic sequence. To this end it is recommended that analysis be undertaken utilising stratigraphic data and incorporating final site phasing. A representative section of the pottery will be drawn.

Querns

The results of the assessment will be incorporated into the final report and discussed alongside the assemblage retrieved from the Romano-British site.

Fired clay

The results of the assessment will be incorporated into the final report and discussed alongside the assemblage retrieved from the Romano-British site.

Roman finds

The results of the assessment will be incorporated into the final report and discussed alongside the assemblage retrieved from the Romano-British site.

Environmental data

Animal bone

The data will be contextually phased and the material gained from the sieving of environmental samples will be included in the catalogue. Further analysis will be carried out to facilitate comparison with other sites in the region.

Plant macrofossils

The remainder of samples 3 and 5 will be processed and plant macrofossils submitted for analysis. Charcoal, if present, will also be sent to a suitably qualified specialist for identification. The results of this work will be integrated with those of the assessment and be incorporated into the final report and discussed alongside the assemblage retrieved from the Romano-British site.

3.6 Resources and programming*Staffing and equipment*

Overall project management will be undertaken by Adam Yates and Tony Walsh, Senior Project Officers, Northamptonshire Archaeology. Authorship will be undertaken by Paul Mason and Edmund Taylor, Project Officers, Northamptonshire Archaeology. Illustrations will be prepared by Jacqueline Harding, Illustrations Manager, Northamptonshire Archaeology.

Specialist reports will be prepared as shown below:

The pottery	by Ed McSloy (Cotswold Archaeology)
The animal bone	by Matilda Holmes (freelance)
The plant macrofossils	by Val Fryer (freelance)
Radiocarbon dating	by Beta Analytic Inc, Miami, Florida, USA

Table 2: Proposed tasks

No	Task	Performed by
1	Project management	AY/AW
2	Write site narrative	PM
3	Illustrations	
3.1	Plans	JH
3.2	Sections	JH
3.3	Pottery	EM
4	Specialist analysis:	
4.1	Pottery	EM
	Animal bone	MH
	Plant macrofossils	VF
	Radiocarbon dating	Beta Analytical
5	Integration of reports	PM
6	Comparative work	PM/ET
7	Discussion/Conclusion	PM/ET
8	Final internal editing	AY/TW/AC

Timetable*Table 3: Proposed post-excavation work programme*

	Aug 2008	Sept 2008	Oct 2008	Nov 2008	Dec 2008	Jan 2008	Feb 2009
Stratigraphic analysis							
Production of site narrative							
Specialist analysis							
Illustration							
Integration of reports							
Comparative work							
Discussion							
Internal editing							
Submission of draft							

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APPENDICES 1 - 7: SPECIALIST REPORTS

APPENDIX 1: FLINT

by Y B Wolfram-Murray

A total of seven pieces of flint was recovered; three waste flakes and four natural flakes and nodules. They are residual finds originating from late Iron Age/early Roman contexts. The raw material of the worked flint is of a vitreous flint ranging from a dark honey to grey in colour. The cortex on one of the flint flakes is a light brownish grey and the patination on two flakes is milky white, the flint appears to be of local gravel origin. There are two whole flakes from gully [145] (E1) and ditch [284] (E1) that are unused, ranging in length of 85mm to 90mm, and one large flake from ditch [138] (E2) that is 149mm in length, that shows a sign of usage, the left edge of this flake has numerous small removals. It is not possible to assign a period to these flakes as they are not diagnostic.

There is no recommendation for further work on this assemblage.

APPENDIX 2: POTTERY

by *E R McSloy (Cotswold Archaeology)*

Methodology

The pottery was scanned by context and quantified by sherd count and weight per context. As an additional measure, vessels identifiable to form (mostly rim sherds) were recorded for each context by fabric. A list of fabrics present within each context and context dating, expressed as a *terminus post quem* were also recorded. Pottery records have been placed on an Access database.

Pottery amounting to 3193 sherds (44816g) was recovered from 153 contexts, all of which consist of the fills of cut features (Table 1). Smaller quantities of pottery probably date to the Middle or Late Iron Age. The bulk of the pottery is characteristic of the Late Iron Age/Early Roman periods (the early to middle 1st century AD). The condition of the pottery is typically good, with surfaces and inclusions well-preserved. Some substantially complete vessels were recovered, for example from a gully (G10) and ditches [108] (E1) and [453] (D2). Average sherd weight (14.04g) is moderately high for an assemblage of this date and is consistent with lower levels of disturbance.

A quantity of fired clay occurring alongside the pottery received for assessment has been quantified (g), but not further described.

Range and Variety*Middle/Late Iron Age*

Pottery from 22 contexts and amounting to 391 sherds (5828g) has been assigned a provisional Iron Age date. Material from a further 27 contexts was identifiable as of Iron Age date, and is considered to be residual in later deposits.

The Iron Age pottery consists of handmade material in coarse shell-tempered, grogged/argillaceous or quartz-sand-tempered fabrics. Identifiable forms consist of rounded/globular-bodied, slack-shouldered or neck-less, barrel-shaped jars and one curved-sided bowl. Also present are lug-handles of Iron Age type. Decoration is scarce, comprising occasional vertical scoring and one instance of an incised geometrical motif.

Fabrics, forms and other characteristics compare to material from the wider south-east Midlands region and from the Milton Keynes area. There are close affinities with the large Middle/late Iron Age group from Pennyland (Knight 1993, 219–38), and comparable dating, equating to *c* 300–100/50+ BC is suggested. No evidence was identified at the assessment stage for a truly transitional ‘Earliest Belgic’ ceramic phase of the kind identified by Knight (1984). There is, however, some evidence for continuity of activity across this ceramic transition, seen in ditch sections [372] and [443] of the main enclosure ditch (E2) producing ‘Iron Age’ and ‘Belgic’ pottery from successive fills.

Late Iron/Early Roman

By far the largest proportion of the assemblage, approximately some 2600 sherds, recovered from relates to this period. Included are some substantial and well-preserved context groups and a number of largely complete vessels. Wheelthrown grog-tempered and grog/sand-tempered fabrics in the ‘Belgic’ tradition (Thompson 1982) dominate, with smaller quantities of shell-tempered and Romanised reduced sandy and oxidized fabrics also present (Table 2).

Using numbers of identifiable forms as a measure, grogged (fabric 46) or grog with quartz (fabric 46qr), together account for 67% of the Late Iron/Early Roman assemblage. No attempt is made at this stage to apply Thompson’s form classifications to the Belgic type wares

(Thompson 1982). It is clear, however, that a relatively restricted range is represented, with necked jars/bowls and carinated bowls/cups most common (Table 3). The more elaborately cordoned forms which can characterise late Belgic groups are absent.

Shell tempered-wares represent 27% of the assemblage (as a proportion of identifiable vessels). Most vessels are channel-rimmed jars, a well-known regional type and particularly common along the Ouse Valley (Friendship Taylor 1999). A variant form with oblique fingernail slashes to the outer part of the rim, which is considered a post-conquest type (Friendship Taylor 1999, 13), is commonly represented (Table 3).

Romanised reduced sandy or oxidized fabrics represent an uncommon element within the assemblage and continental imports are entirely absent. Two sherds from pits (PG2) possibly representing a single collared flagon in Verulamium region whiteware, are the sole representatives of regional wares from this period. A date within the 50s or 60s is likely for this vessel form (Davies *et al* 1994, 41).

Coarser reduced sandy wares occur as necked jars/bowls which exhibit strong Belgic influence. Fine greywares, occurring for example as a small, globular beaker from ditch [108] (E1) only rarely, are representative of more distinctly Romanised tradition.

Statement of potential and recommendations for further analysis

Earliest material present consists of quantities of handmade pottery in the Middle Iron Age tradition. The most significant aspect of this relatively small group is its occurrence (in part) within features, the later fills of which include wheelthrown 'Belgic' pottery. This being the case, there is potential for examination of an important technological transition.

The remaining portion of the assemblage is notably homogeneous, comprising largely a mix of 'Belgic' grogged wares and contemporary shell-tempered types. Compositionally this group conforms to what is known for the period in the wider region (Waugh *et al* 1975; Thompson 1982) and as an assemblage compares with previously published material from within the Milton Keynes area (Marney 1989; Parminter 1996, 176–80). The composition of this assemblage indicates the majority probably dates to the period *c* AD25–70/80 and thus spans the Iron Age to Roman transition. The presence of some, more specific, 'date markers' as outlined above, indicate that a proportion of the group relates to the immediately post-conquest period. It is hoped that additional analysis of the pottery in combination with stratigraphic analysis might further help separate earlier material from later groups and increase understanding of ceramic use across this important cultural transition.

An aspect of the assemblage which merits fuller examination at the analysis stage is its relationship with a smaller group from an adjoining area and previously described (McSloy in Taylor forthcoming). At present it appears there is little overlap between the two assemblages, with that previously described being consistently later and seemingly relating a shift of activity during the late 1st century AD. The assessment has revealed no indications of specialist use or 'high-status' from within this group as might be inferred from continental imports or local copies. This is a feature shared with the neighbouring assemblage.

Recommendations

Full characterisation of the assemblage is recommended to include recording of pottery to the standards issued by the Prehistoric Ceramic Research Group (1997) and Study Group for Roman Pottery (1993), with a publication report accompanied by presentation of data as tables. Quantification by fabric and vessel form (utilising pre-existing fabric coding schemes), and as an additional measure Estimated Vessel Equivalents (Rim EVEs), will facilitate intra and inter-site comparisons. Recording of attributes such as sooting, repair or adaptation and use wear will permit investigation of pottery function. As noted above, the homogeneity of the assemblage means that it would benefit from analysis in combination with stratigraphic analysis. To this end it is recommended that analysis be undertaken utilising stratigraphic data and incorporating final site phasing. A representative section of the pottery should be drawn.

Table 1: Pottery by feature type

Feature type	Count	% Count	Weight (g)	% Weight
Ditch	1788	56%	29607	66.1
Gully	612	19.2	6873	15.3
Pit	481	15.1	5730	12.8
Posthole	14	0.4	167	0.4
Southern pit group (PG2)	298	9.3	2439	5.4
Total	3193		44816	

Table 2: Pottery fabrics summary

Class	MK Code	NRF Code*	Description	No. id. forms
Iron Age Fabrics	-	-	Handmade, coarse fossil shell inclusions	13
	-	-	Handmade, sandy fabric	9
	-	-	Handmade, coarse/medium grog	8
'Belgic' Grog	46	-	Standard grogged	53
	46qr	-	Grog with quartz	17
	45	-	Grog with shell	-
Shell-tempered	1	-	General shell-tempered	28
Reduced wares	9	-	Unclassified, prob. local	4
	-	-	Fine grey	1
Oxidised (orange-firing)	-	-	Unclassified oxidised	-
	-	-	'Silty wares'	-
White/cream wares	4g	VER WH	Verulamium region white-ware	2
	18	-	LNV? white/cream	-

*National Roman Fabric Reference Collection (Tomber and Dore 1998)

Table 3: Identifiable forms (Late Iron Age/Early Roman)

Form	Fabric						
	46	46qr	1	Misc sandy grey	Fine grey	4g	Total
Flagon, collar-rim						2	2
Butt-beaker/girth beaker copies	4	1					5
Globular beaker					1		1
Jar/bowl, necked	13	3					16
Jar, neck-less	3	3		1			7
Jar, large, neck-less	4		3				7
Jar, channel-rimmed		1	1				12
Jar, channel-rimmed, slashed	1		1				15
Jar, medium-mouthed, necked	12	2		1			15
Jar, narrow-mouthed	2	1					3
Bowl/cup carinated	10	3					13
Bowl, necked	2	3					5
Misc bowl	1						1
Lid/cover	1						1
Platter				1			1

APPENDIX 3: QUERNS

by Andy Chapman

There are two fragments from querns, both of which are in Hertfordshire Puddingstone; comprising largely rounded flint pebbles, measuring from 5mm to 40mm in diameter, in a light grey matrix. Puddingstone querns appear to occur largely in late Iron Age and early Roman contexts (Watts 2002, 32).

The smaller piece, up to 105mm in diameter, has rounded edges from secondary damage but retains part of a heavily worn surface, and is from the circumference of an upper or runner stone. It comes from the fill (146) of a small gully [145] lying to the south of the enclosure, and contemporary with/pre-dating the small outer ditch system (E1).

The larger piece comprised *c* 20% of a lower stone at least 250mm in diameter. Part of the convex upper surface survives along with part of a conical central spindle socket, 50mm deep. The outer edges have been subject to much secondary damage, but a small part of the outer circumference probably survives. This stone comes from the fill (354) of a large pit [353] (PG3) lying beyond the south-west corner of the main enclosure.

No further work is required.

APPENDIX 4: OTHER FINDS

by Tora Hylton

There are three other finds. A terminal fragment from a copper alloy armlet was recovered from subsoil deposits (context 2) and two pieces of lead shot were located in topsoil deposits (context 1).

The armlet is Roman; it comprises a parallel-sided strip measuring 28 x 18mm and it is ornamented with central panel of incised chevrons giving the impression of plating. The terminal of the armlet is decorated with two transverse rows of ring-and-dot, flanked by a single row of short incisions. Generally armlets of this type are recovered from late 1st to early 2nd-century deposits. Similar examples have been recovered from the close by Wavendon Gate, Milton Keynes (Hylton 1996, fig 58, 13), Colchester, Essex (Crummy 1983, fig 40, 1586) and Verulamium, St Albans (Waugh and Goodburn 1972, fig 32, 30).

The two spheres of lead shot measure 10-13mm in diameter, this suggests that they would have been for use with pistols rather than muskets.

No further work is required.

APPENDIX 5: FIRED CLAY

by Pat Chapman

This assemblage of 23 fragments of fired clay weighs 3169g. These few remnants have been scattered along the southern end of the enclosure ditch, the gullies close to the ditch and a pit c 18m to the south of the enclosure.

The fragments comprise mainly large thick flat pieces, up to 120mm by 100mm and ranging from 20mm to 60mm thick. They have been roughly shaped, with surviving edges being straight rather than curved. The surfaces have been roughly smoothed but remain uneven and some have stem and seed impressions. The fabric is very hard and occasionally granular, indicative of having been subjected to high temperatures and generally reddish orange to brown with black cores. One fragment is red with a band of brown adjacent to the blackened end, as if it had been lining a stokehole.

One fragment, from context (294) (G7), has an impression with a diameter of 15mm, which might have been from a wattle, but the top edge is smoothed so the hole might have been created as a vent.

These fragments are probably from either the floor of a kiln or oven, or are parts of oven/kiln plates.

No further work is required.

Table 1: Quantification of kiln furniture

Context/feature	Number	Weight (g)	Description
105 / pit 103	2	521	35mm thick
254 / enclosure ditch 252	2	352	28mm thick, 2 joining
264 / gully 263	1	124	21mm thick
294 / gully 321	3	184	20mm thick, 2 joining 1 piece possible wattle impression
351 / gully 349	1	13	fragment
381 / enclosure ditch 379	8	728	35mm thick
420 / gully 419	2	878	60mm thick
445 / enclosure ditch 443	4	369	1 piece 12-25mm thick,
Totals	23	3169	

APPENDIX 6: ANIMAL BONE

by *Matilda Holmes*

Methodology

Bones were identified using the author's reference collection, and further guidelines from Hillson (1992) and Schmidt (1972). Due to anatomical similarities between sheep and goat, bones of this type were assigned to the category 'sheep/goat', unless a definite identification using guidelines from Prummel and Frisch (1986) or Payne (1985) could be made. Bones that could not be identified to species were, where possible, categorised according to the relative size of the animal represented (small – rodent /rabbit-sized, medium – sheep /pig/dog-sized, or large – cattle/horse-sized). Ribs and vertebrae (with the exception of 1st and 2nd cervical and sacrum) were not identified to species.

Tooth wear and eruption were noted using guidelines from Grant (1982) and Silver (1969), as were bone fusion (Amorosi 1989, Silver 1969), metrical data (von den Driesch 1976), anatomy, side, zone (Serjeantson 1996), pathology, butchery, bone working and condition (Lyman 1994) of the bones.

All the animal bones were hand collected, no sieved samples were noted and all fragments were recorded. Due to the absence of contextual dating at this stage, the potential of the material will be assessed as a complete assemblage of Late Iron Age date.

Taphonomy and Condition

The bones were in fair to poor condition, and very fragmentary. There were a large number of fresh breaks to the bones, but this was probably due to the friable nature of the bone caused by soil conditions rather than over enthusiastic handling as 274 fragments were able to be conjoined to make 20 more complete fragments, many of which had been separated pre excavation.

Taphonomic factors affecting the material were recorded including burnt, gnawed, butchered and recently broken bones. Nearly 2% of the fragments recorded had been burnt, 6% had been gnawed by dogs and 10% were observed to have been affected by butchery methods. No articulated or associated bones were noted.

The absence of sieved samples may lead to a negative bias in the number and variety of small mammals, fish and bird bones recorded in the assemblage.

Basic description of findings

There were 769 fragments recorded, of which 306 (40%) were identified to species (Table 1). The majority of bones were from cattle (65%), the next most common species being sheep/goat (22%) of which no bones from goat were positively identified, although a deciduous 4th premolar was from a sheep. Pig, horse and dog were also recorded, but in far smaller numbers (5, 7 and 2% respectively).

The absence of small mammal, fish, bird and amphibian bones may be due to the lack of sieved material, although the poor environmental conditions may have adversely affected these small bones to the point where they did not survive.

There was a fair amount of ageing data observed, both from epiphyseal fusion of long bones and tooth wear and eruption, the latter being most informative as the highly fragmentary nature of the assemblage meant there were very few complete mandibles suitable for wear stages to be calculated. The metrical data may be useful for comparing sizes of animals with those from other sites, although there were few complete bones, and therefore little in the way of wither or shoulder heights likely to be calculated.

Potential of Material

The assemblage is small, but worthy of further basic analysis. Investigation into mortality profiles of the cattle and sheep assemblages should be attempted to help understand the animal husbandry and economy of the site. The nature of the site may also be inferred from the make up of the assemblage and any likely industrial, butchery or domestic deposits highlighted. Comparison with contemporary sites in the area is important, and may help to shed further light on animal husbandry, butchery practices, economy and uses of the site on a regional basis.

Data from this period should make a contribution to the knowledge of the regional economy, which is poorly understood at present, largely because of the unfavourable preservation of bones due to the underlying geology (Bryant 1997 and 2000).

Further Work

The data should be contextually phased and any further material gained from the sieving of environmental samples included in the catalogue. Further analysis as detailed above should be carried out in comparison with other sites in the region.

Table 1: Species Proportions (fragment count)

Species	n	%
Cattle	199	65
Sheep / Goat	67	22
Pig	15	5
Horse	20	7
Dog	5	2
Total Identified	306	
Unidentified Large Mammal	262	
Unidentified Medium Mammal	37	
Unidentified Small Mammal	1	
Unidentified Mammal	163	
Total	769	

APPENDIX 7: PLANT MACROFOSSILS AND OTHER REMAINS

by Val Fryer

Introduction and method statement

Twenty one soil samples for the retrieval of the plant macrofossil assemblages were taken mostly from the enclosure ditches, and fifteen were submitted for assessment, including three from the evaluation phase of work.

10 litre sub-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 are listed on Tables 1 and 2. Nomenclature within the tables follows Stace (1997). Both charred and de-watered macrofossils were recorded, the latter being denoted within the tables by a lower case 'w'. Modern contaminants, including fibrous roots and seeds, were abundant throughout and formed the major component of many of the assemblages studied; two samples (1 and Eval 2) contained only roots.

Results

Cereal grains/chaff, seeds of common weeds and wetland plants and tree/shrub macrofossils were present throughout, although mostly at very low densities. Preservation was poor to moderate, with a high density of the charred grains being severely puffed and distorted, probably as a result of combustion at very high temperatures.

Charred oat (*Avena sp.*), barley (*Hordeum sp.*), including a single asymmetrical lateral grain of six-row barley (*H. vulgare*) and wheat (*Triticum sp.*) grains were recorded, although rarely as more than one grain within an assemblage. A single spelt wheat (*T. spelta*) glume base was noted within sample 5.

Charred seeds of common field weeds were present at a very low density within four assemblages. Taxa noted included brome (*Bromus sp.*), black bindweed (*Fallopia convolvulus*), persicaria (*Persicaria maculosa/lapathifolia*), dock (*Rumex sp.*) and scentless mayweed (*Tripleurospermum inodorum*). A single charred sedge (*Carex sp.*) nutlet was recorded from sample 3. De-watered seeds of weeds, wetland/aquatic plants and tree/shrub species occurred at a slightly higher density within six assemblages although, at the time of writing, it was not known whether these were contemporary with the deposits from which the samples were taken, or more recent contaminants. Dry land taxa within these assemblages included musk thistle (*Carduus sp.*), thistle (*Cirsium sp.*) and stinging nettle (*Urtica dioica*), whilst the presence of seeds of gipsy wort (*Lycopus europaeus*), pond weed (*Potamogeton sp.*), water crowfoot (*Ranunculus subg. Batrachium*) and horned pond weed (*Zannichellia sp.*) indicated that, at some stage, the ditches held standing water. De-watered elderberry (*Sambucus nigra*) seeds were abundant within sample 8 and a single sloe (*Prunus spinosa*) fruit stone was present within sample 18.

Charcoal fragments were present at a low to moderate density throughout. Other plant macrofossils were generally rare, although the de-watered assemblages did contain a high density of root/stem fragments, pieces of twig and moss fronds. Possible fragments of charred heather (*Ericaceae*) stem were noted within the assemblage from sample 5.

Other remains were generally scarce. The small fragments of black porous and tarry material were probable residues of the combustion of organic remains (including cereal grains) at very high temperatures. De-watered caddis larval case fragments and arthropod remains were noted in samples 8, 15 and 18.

Conclusions

The low density of material noted within the charred assemblages is almost certainly derived from small quantities of either scattered or wind-blown refuse of probable domestic origin. Cereals appear to have been utilised by the occupants of the site, although the low density of chaff and weed seeds within the assemblages may indicate that the grain was not processed locally. However, it should be noted that the high temperatures to which the material was obviously subjected may have destroyed these more delicate plant remains. It is, perhaps, more likely that the cereal needs of the site were met by imported batches of semi-cleaned grain, as at the nearby Romano-British site (Fryer in Taylor forthcoming), where the occupants were probably following a largely pastoral economy.

If the de-watered assemblages are contemporary with the contexts from which the samples were taken, they appear to indicate that the enclosure ditches were reasonably well maintained, with only a minimal growth of colonising weeds on the banks and little or no shrubby overgrowth. The bases of the ditches were at least seasonally waterfilled, and probably quite muddy and stagnant.

Recommendations for further work

The above results are based on data retrieved from the processing and assessment of 10 litre sub-samples of the total material collected during excavation. The density of macrofossils is generally very low (mostly <50 specimens per assemblage) and even if the whole sample were to be processed, in most cases the final assemblages would still not be quantifiably viable (i.e.100+ specimens). Possible exceptions to this are samples 3 and 5, although analysis of two assemblages in isolation would provide very little additional data to that included within this assessment. Similarly, additional analysis of the de-watered assemblages from samples 8, 17, 18 and 20 will add little to the overall interpretation of the site or its component features.

Therefore, no further analysis is required. However, it is strongly recommended that full written summaries of both this report and the assessment from the nearby Romano-British site are included within any publication of data from the sites.

Table 1: Quantification of plant macrofossils (including those from evaluation)

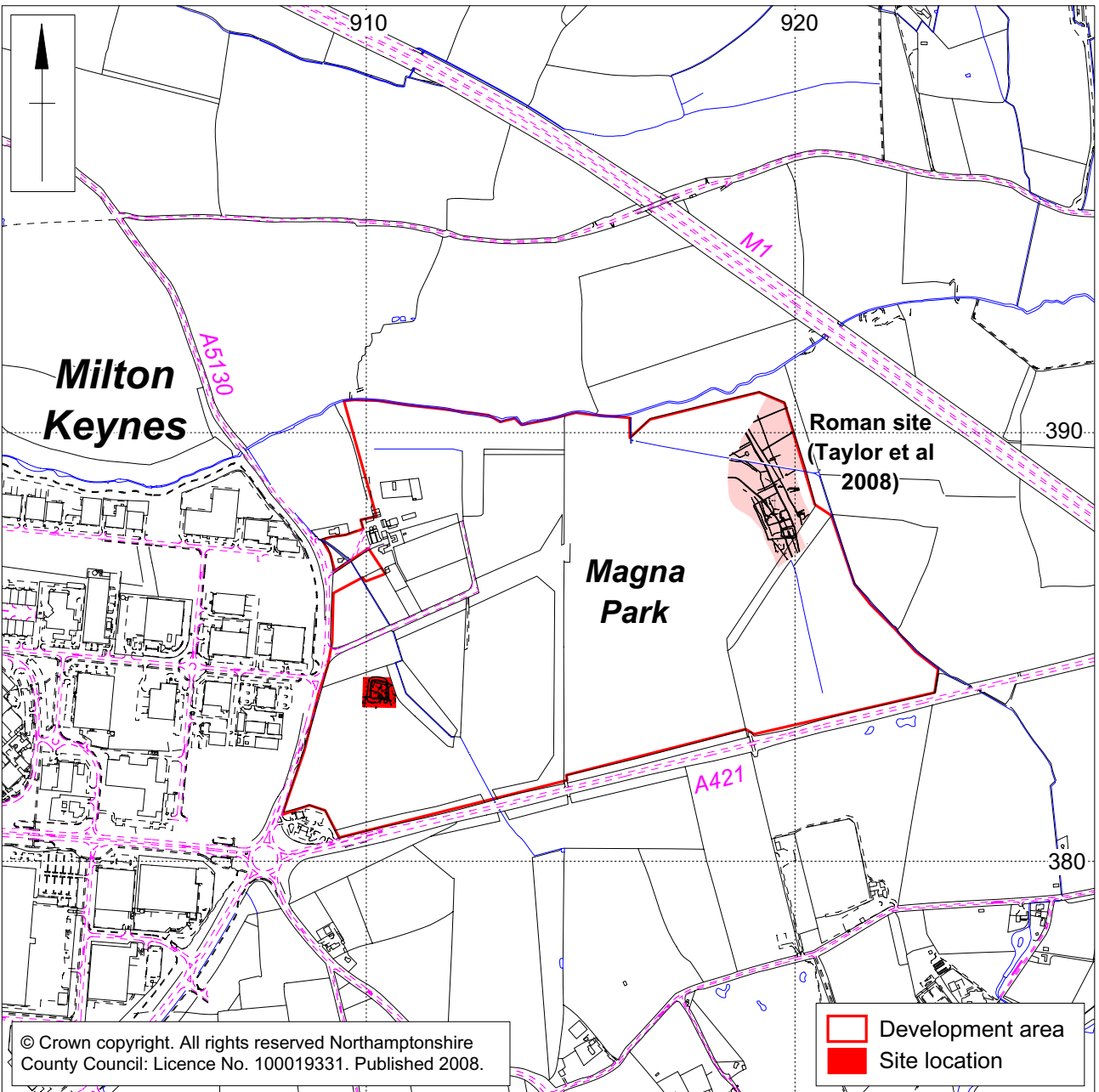
Sample No.	1	3	4	2	21
Context No.	8719	7208	233	105	106
Feature No.			232	103	103
Feature type	Ditch	Ditch	G10	PG2	PG2
Phase	Eval.	Eval.	1	?	?
Cereals					
Triticum sp. (grains)					x
Cereal indet. (grains)			x		x
Herbs					
Bromus sp.					x
Small Poaceae indet.					x
Tripleurospermum inodorum (L.)Schultz-Bip					x
Other plant macrofossils					
Charcoal <2mm	x	x	x	x	
Other materials					
Black porous 'cokey' material			x	x	x
Small coal frags.		x			
Sample volume (litres)					
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%

Table 2: Quantification of plant macrofossils from enclosure ditch

Sample No.	3	5	6	8	15	16	17	18	19	20
Context No.	140	254	295	149	385	447	452	461	477	481
Feature No.	138	138	315	147	379	443	443	432	433	443
Feature type	E2	E2	E2	E2	E2	E2	E2	E2	E2	E2
Cereals										
<i>Avena</i> sp. (grains)	xcf	x								
<i>Hordeum</i> sp. (grains)		x								xcf
<i>H. vulgare</i> L. (asymmetrical lateral grain)	x									
<i>Triticum</i> sp. (grains)	x	x							x	x
(glume bases)		x								
(spikelet bases)										x
<i>T. spelta</i> L. (glume base)		x								
Cereal indet. (grains)	xx	xx	x						x	x
Herbs										
Asteraceae indet.		x								
<i>Atriplex</i> sp.	xcf			xw			xw	xw		
Brassicaceae indet.	x									
<i>Bromus</i> sp.	x									xcf
<i>Carduus</i> sp.							xcfw	xw		
Chenopodiaceae indet.	x	x					xw			xw
<i>Cirsium</i> sp.							xw			
Fabaceae indet.		x								
<i>Fallopia convolvulus</i> (L.)A.Love		x								
Small Poaceae indet.		x								x
<i>Persicaria maculosallapathifolia</i>	x	x		xw				xw		
<i>Polygonum aviculare</i> L.							xw	xw		
<i>Potentilla anserina</i> L.								xw		
<i>Ranunculus acris/repens/bulbosus</i>								xw		

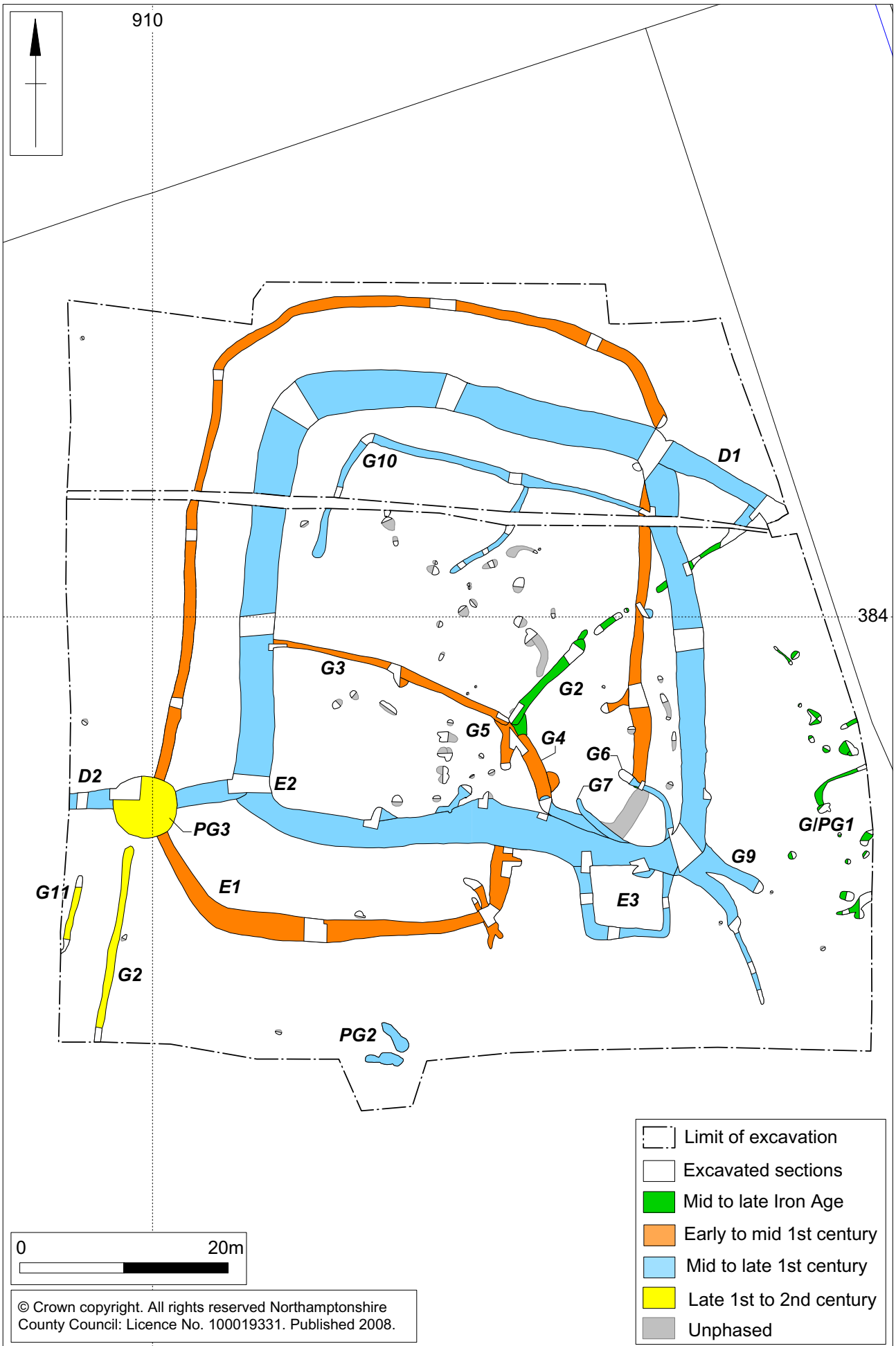
Sample No.	3	5	6	8	15	16	17	18	19	20
Context No.	140	254	295	149	385	447	452	461	477	481
Feature No.	138	138	315	147	379	443	443	432	433	443
Feature type	E2	E2	E2	E2	E2	E2	E2	E2	E2	E2
<i>R. parviflorus</i> L.				xw						
<i>Rumex</i> sp.		x						xw		
<i>Rumex/Carex</i> sp.		x								
<i>Solanum</i> sp.								xw		
<i>Sonchus asper</i> (L.)Hill										xw
<i>Stellaria graminea</i> L.							xw			
<i>S. media</i> (L.)Vill										xw
<i>Tripleurospermum inodorum</i> (L.)Schultz-Bip		x								
<i>Urtica dioica</i> L.					xw		xw	xw		xw
<i>U. urens</i> L.								xw		
Wetland/aquatic plants										
<i>Carex</i> sp.	x			xw				xw		
<i>Lemna</i> sp.				xw						xw
<i>Lycopus europaeus</i> L.								xw		xw
<i>Montia fontana</i> L.							xw			
<i>Potamogeton</i> sp.				xw				xw		
<i>Ranunculus</i> subg. <i>Batrachium</i> (DC)A.Gray				xxw			xw	xxw		xw
<i>R. flammula</i> L.							xw			
<i>Sparganium</i> sp.								xw		
<i>Zannichelia</i> sp.						xw	xw	xw		
Tree/shrub macrofossils										
<i>Prunus spinosa</i> L.								xw		
<i>Salix</i> sp. (fruit)								xw		
<i>Sambucus nigra</i> L.				xxxw				xw		
Other plant macrofossils										
Charcoal <2mm	x	xx	x	xxx		x	x		xx	xx
Charcoal >2mm	x	x						x	x	x

Sample No.	3	5	6	8	15	16	17	18	19	20
Context No.	140	254	295	149	385	447	452	461	477	481
Feature No.	138	138	315	147	379	443	443	432	433	443
Feature type	E2	E2	E2	E2	E2	E2	E2	E2	E2	E2
Charred root/stem		x								x
Waterlogged root/stem					x		xxxx	xxxx		x
Ericaceae indet. (stem)		xcf								
Indet.inflorescence frags.	x									
Indet.moss								xw		
Indet.seeds	x									
Indet.twigs								xxw		
Other material										
Black porous 'cokey' material	xx	xx	x					x	x	x
Bone		x								
Caddis larval case frags.								xw		
Ferrous globule				x						
Small coal frags.	x			x						
Waterlogged arthropods				xx	x			x		
Sample volume (litres)										
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%



Scale 1:15,000

Site location Fig 1



Scale 1:500

Site plan Fig 2



Plate 1: Main enclosure ditch

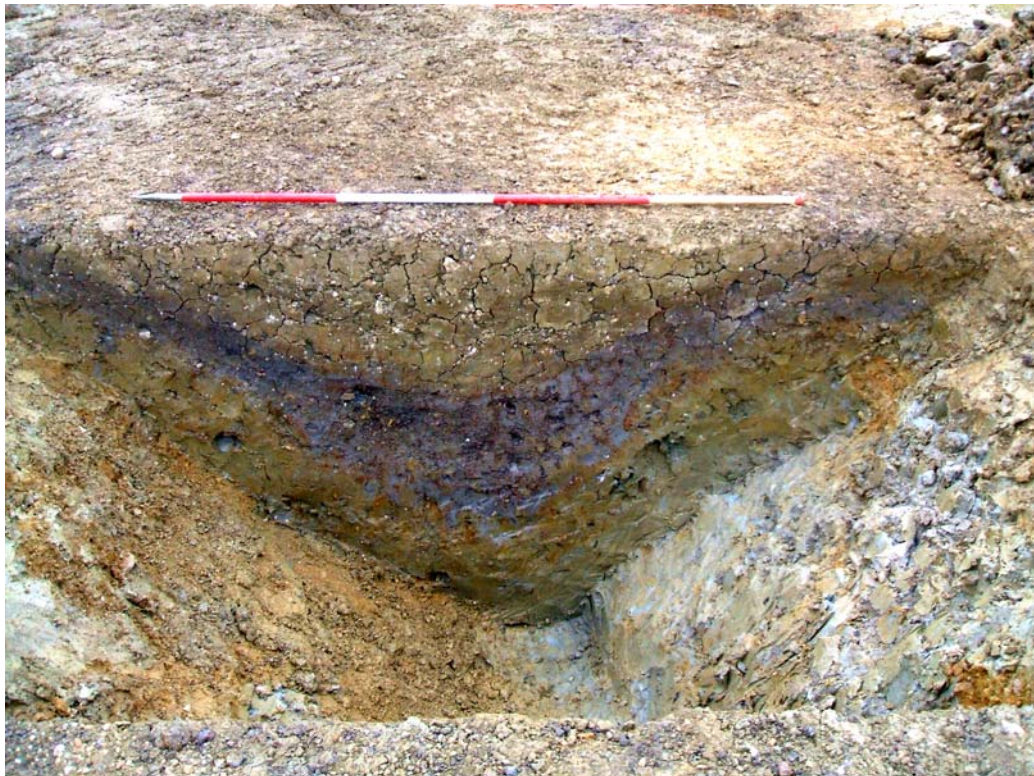


Plate 2: Main enclosure ditch



Plate 3: Outer ditch system



Plate 4: Southern pit group