Archaeological Excavations at Barton Business Park, Barton-under-Needwood, Staffordshire 2001

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1.0 Summary

An archaeological excavation of two areas was undertaken at Barton Business Park, Barton-under-Needwood, Staffordshire (NGR SK 2050 1780) by Birmingham University Field Archaeology Unit for Phoenix Consulting Archaeology Ltd. The work was carried out in October 2001 in accordance with a planning condition for the development of an industrial estate. This work followed an extensive evaluation programme, which included a desk-based assessment, aerial photograph rectification, field walking, geophysical survey and trial trenching. As a result of this evaluation, two areas, Λ and B, were identified for full excavation as well as areas of targeted watching brief

The excavation of Area A revealed the full extent of a ring-ditch, part of which had previously been identified in evaluation Trench 1. This ditch was probably associated with a Bronze Age burial barrow, especially as a heavily truncated central cremation survives. There was, however, no dating evidence. The ditch also appeared to cut an earlier fence line.

A total of seventeen pits were discovered in Area B forming part of the prehistoric pit alignment previously located in Trial Trench 11. These were part of a larger east-west single pit alignment identified in the evaluation and other associated archaeological work. They appear to form a territorial boundary and typically date to the Late Bronze Age/Early Iron Age.

An area of targeted watching brief, Area C, failed to find evidence of early quarrying activity, but did identify an undated north-south pit alignment. Another area of targeted watching brief, around Trial Trench 8, failed to add any further information than was obtained in the evaluation. Although these were only limited area excavations, they have contributed considerably to our understanding of the nature of the prehistoric landscape in this area.

2.0 Introduction

The following report details the results of two open area archaeological excavations and a targeted watching brief undertaken as part of a planning condition for a new industrial estate near Barton-under-Needwood, Staffordshire (centred on NGR SK 2050 1780). The work was commissioned by Phoenix Consulting Archaeology Ltd, on behalf of Barton Business Park Ltd and was carried out by Birmingham University Field Archaeology Unit in October and November 2001. The area excavations followed an extensive evaluation programme, this included a desk-based assessment (Martin 1998), acrial photographic assessment (Cox 1998), undertaken previously for a proposed development, which incorporated the current development area. The Prorail development immediately to the east of the site had been subject to an extensive archaeological evaluation, including fieldwalking (Johnson 1999), geophysical survey (Bartlett 1999) and trial

trenching (Hughes and Coates 1999a). A limited programme of excavations followed this evaluation (Coates and Hughes 1999). This information provided a detailed background for a programme of geophysical survey (Bartlett 2001) and trial trenching (Patrick *et al.* 2001) on the current site. As a result of this evaluation, and as a condition of planning permission, two open areas, Arcas A and B, were selected to excavate and record a possible barrow feature and pit alignment.

A watching brief phase was undertaken during the groundworks for Barton Business Park, this included wider investigation around Area A and Trial Trenches 3 (Area C) and 8. The current work was carried out in accordance with a Written Scheme of Investigation prepared by Phoenix Consulting Archaeology Ltd. (Richmond 2001).

3.0 Site Location (Fig. 1)

The site lies on a sand and gravel terrace on the west bank of the River Trent just north of its confluence with the River Tame. It lies to the south-east of the village of Barton-under-Needwood, which is located approximately 7km south-west of Burton-on-Trent. The development area comprises 35 hectares and is bounded to the north by the B5016 Barton-under-Needwood to Walton-on-Trent road, to the east by the Derby to Birmingham railway and the Prorail rail sidings. Catholme farm lies to the south with the A38 defining the western extent of the site.

Prior to development, the site was flat arable farmland containing stubble and sugarbect and divided into several fields by hedges and ditches. The northern extremity of the site had been excavated and backfilled during earlier development associated with the adjacent Prorail sidings.

4.0 Archaeological Background (Fig. 2)

Information on past settlement and land use on the gravel terraces of the River Trent has been primarily obtained from aerial photographic survey, notably by Jim Pickering and Rowan Whimster (Whimster 1989). These surveys have demonstrated extensive and intensive human activity on the gravel terraces since at least the Neolithic (Gaffney and Hughes 1993).

A desk-based study was commissioned in 1998 (Martin 1998) which assessed the extent of the known archaeology within and around the development area, although it was for a different planning application. It included a walkover survey, an aerial photographic assessment (Cox 1998) and a comprehensive documentary and cartographic survey. Cropmarks identified during the aerial photographic survey suggested the presence of a ring-ditch and possible field system (SMR PRN 1476), linear features (SMR PRN 4231) and a pit alignment (SMR PRN 1472), all of possible prehistoric date.

A further planning application was submitted for the construction of railway sidings on the 22 hectares of land to the east of the present site, at Fatholme. Although this incorporated the results of the 1998 desk-based assessment, further archaeological evaluation was made a condition of the planning application and consisted of field walking (Johnson 1999), geophysical survey (Bartlett 1999) and trial trenching (Hughes and Coates 1999a). The field walking and the geophysical survey were unsuccessful at locating evidence associated with buried archaeological features and, as a result, the location of the trial trenches was based largely upon the earlier rectified aerial photographic survey.

Fewer features than expected were found, but the trenching did confirm the presence of a pit alignment and an enclosure (SMR PRN 1455). Prior to development three areas were subject to an open area archaeological excavation to examine the enclosure and the pit alignment (Coates and Hughes 1999). The pit alignment consisted of a number of bowl-shaped pits less than 0.5m apart orientated on a northwest-southeast axis extending towards the area of the proposed Barton Business Park. Only a single fragment of pottery was found from the seven pits that were excavated, and was dated to the Late Neolithic or Early Bronze Age. The enclosure truncated two of the pits and was dated on morphological grounds to the Iron Age (*ibid.*).

The land to the south of the site at Catholme has also been subject to archaeological evaluation. A desk-based assessment (Richmond 1999) assessed the extent of the known archaeology using documentary and cartographic sources. Three Scheduled Ancient Monuments were present in the area, but the boundary of the application area was designed to avoid these monuments and preserve them *in-situ*. Fieldwalking and geophysical survey had failed to locate archaeological features, but an aerial photographic assessment (Cox 1999) identified three possible pit alignments. Trial trenches, located in relation to the rectified cropmark plot, provided evidence of two pit alignments and numerous linear features of possible prehistoric date (Hughes and Coates 1999b).

A geophysical survey carried out on the proposed site for the current development, in March 2001, produced mainly negative results, with the exception of a series of possible pits located in the vicinity of the ring ditch (SMR PRN 1476). The lack of features detected by the geophysics suggested that dense concentrations of well-preserved settlement remains were unlikely to be found (Bartlett 2001).

Trial trenching carried out by Birmingham University Field Archaeology Unit (Patrick et al 2001) included fourteen trenches located on the basis of the rectified cropmark plot. Trench 1 revealed a ring-ditch of a possible Bronze Age barrow (SMR PRN 1476) and in Trench 11 an east-west pit alignment, probably Iron Age in date, was identified (SMR PRN 1472). It was these archaeological features that provided the focus for the excavations of Areas A and B.

Trench 3 was aimed to locate evidence of quarrying activity, but instead found two archaeological features seemingly unconnected with quarrying. The aim of Trench 8 was to act as a control and was positioned in an area without cropmarks. However, the evaluation trench found two linear features and a pit, none of which contained any

artefacts. The areas around Trenches 3 and 8 were extended in a targeted watching brief to assess the extent of any archaeological features.

5.0 Aims

The aim of this phase of archaeological work was to further investigate and record the character and date of the two main features located by the trial trenching. The information gained from this will add to the existing knowledge of the changing prehistoric landscape in this area.

- Area A centred on the ring-ditch of a possible Bronze Age barrow, discovered in Trial Trench 1.
- Area B centred on the east-west pit alignment, discovered in Trial Trench 11.

6.0 Methodology

The two excavated areas were surveyed in using an EDM. The locations of Areas A and B were based on the results of the aerial photographic assessment and the trial trenching. Area B was positioned further to the north-west than originally intended to avoid excavating beneath overhead power cables.

The overburden in both areas was excavated with a tracked mechanical excavator fitted with a 1.8m toothless ditching bucket. The topsoil was removed separately from the underlying subsoil and both were stored separately. This was carried out under archaeological supervision. Where necessary, the areas were hand cleaned to clarify the archaeological features.

Once the archaeological features had been defined, they were planned at a scale of 1:100. The archaeological features were sampled according to the sampling strategy laid down in *Section 5.0* of the Written Scheme of Investigation (Richmond 2001). It was agreed that 50% of the pits forming the pit alignment in Area B be excavated on an alternate basis.

The hand excavation of features was undertaken by suitably qualified staff from Birmingham University Field Archaeology Unit, and recorded on *pro-forma* record cards supplemented with scale section drawings, photographs and levels. Environmental sampling was carried out where appropriate and a Home Office Licence was obtained for the removal of bone fragments discovered in Arca A.

A targeted watching brief was carried out to investigate extended areas around three parts of the site. This included an extension of Area A, and greater investigation around Trial Trenches 3 and 8. An archaeologist was present during the removal of the topsoil and subsoil and any archaeological features found were sampled and recorded.

These records comprise the site archive, which is currently stored at Birmingham University Field Archaeology Unit.

7.0 Area Narratives

Area A (Fig. 3, Plates 1 and 2)

There appeared to be two phases of activity in this area. Firstly, a small pit alignment. Then, a later ring-ditch and possible associated cremation.

In an east-west alignment across Area A was a series of eight small circular pits (F104-111). These did not appear to continue beyond the extent of the ring-ditch. Seven of the eight pits stood in isolation, only one had a relationship with the ring-ditch. Where the ring-ditch (F101.05) intersected the pit it appeared that the ring-ditch cut the pit (see Fig. 5, S1), indicating that these pits were the earliest features. F106 was 0.21m deep and had a bowl-shape of a minimum 0.58m in diameter. It was filled with a dark brown silty sand (1014) with numerous stone inclusions and occasional flecks of charcoal. No artefacts were recovered from this feature.

The pits were fairly regularly spaced and had very similar characteristics, varying in depth from 0.1m to 0.2m and in width from 0.5m to 0.8m. They were bowl-shaped, circular in plan with fairly regular edges (see Fig. 5, S2 and 3). The fills of the pits were also similar in character tending to be a mid-brown sandy silt with some small stones. There were no finds from any of the pits, making date and function difficult to establish.

The ring-ditch was approximately 20m in diameter and contained a re-cut, which was evident in six of the excavated sections. F101 was the original cut of the ditch and F112 was the re-cut. F101 had a U-shaped profile with regular, steeply sloping edges and a varied depth of between 0.5m and 0.31m (see Fig. 5, S4). The maximum width of F101 was 1.66m and the minimum was 0.95m. F101 contained a pale grey sandy silt throughout the excavated sections of the ring-ditch. It contained small stone inclusions and some small patches of charcoal, but no artefacts were recovered.

The re-cut, F112, had a similar profile to the original cut of the ditch, but its edges were slightly more irregular in places. At its deepest, F112 was 0.36m and at its shallowest 0.20m. The widest was 1.62m and the narrowest part of the ditch, 0.78m. The fills of the re-cut were also consistent throughout the excavated sections and consisted of a medium brown/orange sandy silt, with stone inclusions. No artefacts were recovered from these sections.

In the centre of the ring-ditch was a small circular feature (F103), which contained cremated bone fragments. The central location and the fragments of bone in the fill of F103 suggested that this could be a cremation. Small bone fragments and some small lumps of charcoal were recovered, but no pottery was found in association with this

feature. The feature itself was 0.3m in diameter and very shallow at 0.06m. The context from which the bone fragments were recovered was a sandy silt, grey/light brown in colour (1005). Small stones occurred more frequently towards the bottom of the fill.

The possible cremation and its central location within the ring-ditch suggests that this structure was probably a Bronze Age barrow. This was probably constructed as a funerary monument, which also acted as a territorial marker. The pit alignment which precedes the ring-ditch may have been a previous boundary, which was replaced by the barrow.

Area B (Fig. 4, Plates 3 and 4)

In this area seventeen pits in an east-west alignment and three linear features on an northeast to south-west alignment were uncovered, there were also two circular features in the north-eastern corner.

The pits were spaced closely together and were all circular in plan and bowl-shaped. They varied in depth from 0.25m to 0.78m. The diameters of the pits ranged from 1.3m to 1.6m. The fills of the pits were all very similar in character and consisted of mid-dark brown silty sand with small stone inclusions (See Fig. 5, S5). There were no artefacts recovered from any of the pits, making dating difficult to determine.

One anomalous pit, F215, was found in association with the cast-west pit alignment towards the western end of Area B. It was in between F201 and F216, slightly adrift of the main alignment and less regular in plan. A section was excavated through F201, F215 and F216 to establish the relationship between the three features. F201 and F216 cut F215, making F215 the earlier feature (see Fig. 5, S6). The lack of artefactual evidence made more precise dating impossible.

One of the three linears which crossed Area B intersected one of the pits, F211. The linear, F212.01, was aligned north-east to south-west and cut F211. F212.01 was U-shaped, 1.9m wide and 0.42m deep. It consisted of a mid-dark brown silty fill (2015), which cut the slightly lighter brown sandy silt fill of F211 (2014) (see Fig. 5, S7). F212 may be the remains of a Medieval or Post-Medieval field boundary.

F209 and F210 were also aligned north-east to south-west across Area B and were probably the remains of plough furrows.

In the north-eastern corner of Area B were two pits (F213 and F214), which did not appear to be associated with the east-west pit alignment. F213 was situated to the north of F214 and was a shallow, roughly circular bowl-shaped pit with steeply sloping edges. F213 was 0.6m in diameter and 0.2m in depth and was filled with a mid grey/brown sandy silt (2017). F214 was very similar to F213, it was bowl-shaped in profile, circular in shape, 0.96m in diameter and 0.32m in depth. F214 contained a mid-dark brown sandy silt (2018) with some occasional flecks of charcoal. Neither F213 or F214 yielded any dating evidence, making function and date difficult to establish.

Pit alignments have been interpreted as Late Bronze Age or Early Iron Age land boundaries and a lack of artefactual evidence is not unusual. It is likely that the pit alignment in Area B was also a territory marker signifying an early form of enclosure.

Targeted Watching Brief

Area C (Fig. 6)

Area C focused on Trial Trench 3 and was aimed to further investigate the presence of quarrying indicated by the cropmark evidence. None, however, was found. A pit alignment running north-east to south-west was discovered in this area and incorporated a feature identified as a pit or linear butt-end during the excavation of Trial Trench 3. It now appears that this feature formed part of the pit alignment in this area.

Six features were discovered in Area C, they were all sub-circular, bowl-shaped pits F300 - F305 (see Fig. 6, S8 and S9). They ranged in width from 0.79m to 1.28m and in depth from 0.16m to 0.35m. All of the pits had similar fills, a mid brown/grey sandy silt with some small pebble inclusions. No artefacts were recovered from any of the pits in this area.

Area A

The area around Area A was extended to check for the possibility of further features associated with the ring-ditch. No other archaeological features were identified.

Trial Trench 8

Trial Trench 8 was positioned in a 'blank' area to act as a control, but revealed two linear features and a pit. It was for this reason that the area around the trench was extended to assess the extent of further archaeology. The extended area contained the continuation of the two linear features, but no other features.

8.0 Finds

The only archaeological find from this phase of excavations at Barton Business Park was from Area A, F103, which was the central feature within the ring-ditch. The find consisted of human bone fragments which were rapidly scanned, but no diagnostic pieces were identified. Although no remains of a cremation urn were found in association with the bone fragments, it is likely that this formed the cremation around which the barrow was constructed. It is recommended that no further work be carried out on this cremation (Brickley and Hancocks, pers comm.).

9.0 Environmental Evidence by Marina Ciaraldi

During the excavation, 3 samples of 20 litres were collected from prehistoric pits and a ring-ditch (Table 1). The samples were assessed on the basis of their potential for providing information concerning the understanding of human activities on the site, and for their potential for palaeoenvironmental reconstruction of the area.

Methods

The samples were processed at the University of Birmingham by using a York flotation machine. A 0.5 mm sieve was used to recover the flot and a 1mm mesh for the residue. The residue was dried and later sorted by eye, while the flot was quickly scanned with a low-power stereomicroscope.

Statement of potential and recommendations

None of the samples contained charred plant remains with the exception of a single charred seed of *Carex* sp. in sample F100.6/1015. The charcoal present in samples was very fragmented and not suitable for identification or for radiocarbon dating.

Table 1

Sample N.	Feature/context	Arca	Volume	Type of context
1	F103/1005	A	5	pit - possible cremation
2	F100.6/1015	A	20	ring ditch
3	F202/2008	В	20	pit

10.0 Discussion

The excavation of Areas A and B provided an opportunity to further investigate two significant areas of archaeological interest identified by the trial trenching. The ring-ditch of a possible Bronze Age barrow in Area A and the possible prehistoric pit alignment in Area B.

The alignment of pits or post-holes across Area A appears to be earlier than the ring-ditch, but this is based on a single relationship between the ring-ditch and the pit. The position of the pits across the diameter of the ring-ditch and its east-west alignment may be significant as there were no traces of the pits continuing beyond the limits of the ring-ditch. It is possible, however, that further pits did exist in the alignment and they have been ploughed out or destroyed because they were not as well protected as the pits within the barrow. The pits inside the barrow may have been afforded protection from destruction if the barrow had a mound. It is very likely that the barrow did consist of a mound, but unfortunately no evidence remained as conclusive proof. It is also possible that the pits represent the remains of post-holes which may have formed a central support to a structure supporting the mound. This could also explain why the line of pits does not extend beyond the ring-ditch.

The ring-ditch is likely to be Bronze Age in date, based on its character and its location in close proximity to other prehistoric monuments in the area. This area close to the River Tame saw the introduction of ritual landscapes containing barrows after the forest clearances during the Neolithic period (Coates, forthcoming). The study area also contains three Scheduled Ancient Monuments (Staffordshire S.A.M. nos. 215, 216 and

256), which are situated close to Catholme Farm, and form a prehistoric landscape consisting of barrows, pit alignments and a 'wood henge.'

The central feature of the ring-ditch, F103, probably represents the remains of the principal cremation of the barrow, which indicates the purpose of this structure as a funerary monument. A ring-ditch of a possible barrow was also discovered at Whitemoor Haye quarry, south of Barton-under-Needwood, in 2001, this was smaller in size, but also had a central feature containing bone fragments, but no pottery (Neilson, forthcoming). It is thought that round barrows may also have been territory markers as well as funerary monuments (Pryor 1998). It is possible that the pit alignment represents an earlier form of territorial boundary, which was later replaced by the barrow acting as both funerary monument and territory marker.

The pit alignment found in Area B is also thought to date to the late Bronzc Age or Early Iron Age period due to previous investigations of this feature during the Fatholme excavations in 1999 (SMR 1455; Hughes and Coates 1999a; Coates and Hughes 1999) and trial trenching in 2001 (Patrick *et al* 2001). Pit alignments are renown for their lack of artefactual evidence, which makes dating difficult to verify and this was the case during this phase of excavations. In 1999 a single sherd of pottery was found in the excavated pit alignment, which was dated to the later Neolithic or Early Bronze Age and likely to be a residual piece (Coates and Hughes 1999).

In comparison to the pit alignment found in Area B, the pits in Area A were much smaller and shallower and were spaced further apart from each other. The function of these pits is difficult to determine, but it is possible that the pits in Area A and B had the same function as boundary markers.

The Midlands has yielded a number of pit alignments, which are thought to have been prehistoric land boundaries. Farming in the Iron Age was developing and enclosure of territorial lands began to occur, pit alignments which already existed were often reused as other forms of enclosure (Coates, forthcoming). Some of them were re-cut as ditches or used as a replacement for a row of posts (*ibid.*). This does not appear to be the case with the pit alignment in Area B, which apparently remained unaltered.

The pit alignment in Area C probably had a similar function and was also likely to be a land boundary. It was originally discovered during an evaluation at Catholme in 1999 (Hughes and Coates 1999b) and the pits in Area C are likely to be the continuation of this feature. Trial Trench 4 of the 2001 evaluation did not detect the pit alignment, but this may be due to a gap in the alignment or the ploughing out of the feature in this area. The pit alignment in Area C was similar in character to that of Area B, but the pits were spaced slightly further apart from each other.

The three ditches in Area B were all later in date than the pit alignment, F212 may be the remains of a medieval or post-medieval field boundary and F209 and F210 are likely to be the remains of plough furrows. The pits F213 and F214 did not produce any finds to suggest date or function.

Various phases of archaeological investigation have occurred on this area and adjacent sites, both intrusive and non-intrusive. The areas around the Rivers Tame and Trent, including Barton-under-Needwood, Catholme, Fatholme and Whitemoor Haye, have yielded evidence of prehistoric activity and varying types of field monuments and land use. The Neolithic and Early Bronze Age landscape in the area consisted of henges, round barrows and cursus monuments (Coates, forthcoming). During the Iron Age period ritual landscapes gave way to boundaries and settlements. These began to appear in the form of linear ditches and pit alignments, which may have replaced former territorial markers such as barrows. When the sites in this area are considered together, a picture emerges of a prehistoric landscape changing in type and function over the millenia.

10.0 Acknowledgements

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The project was monitored by Dr. Andrew Richmond from Phoenix Consulting on behalf of Barton Business Park Ltd. and Chris Welch on behalf of Staffordshire County Council.

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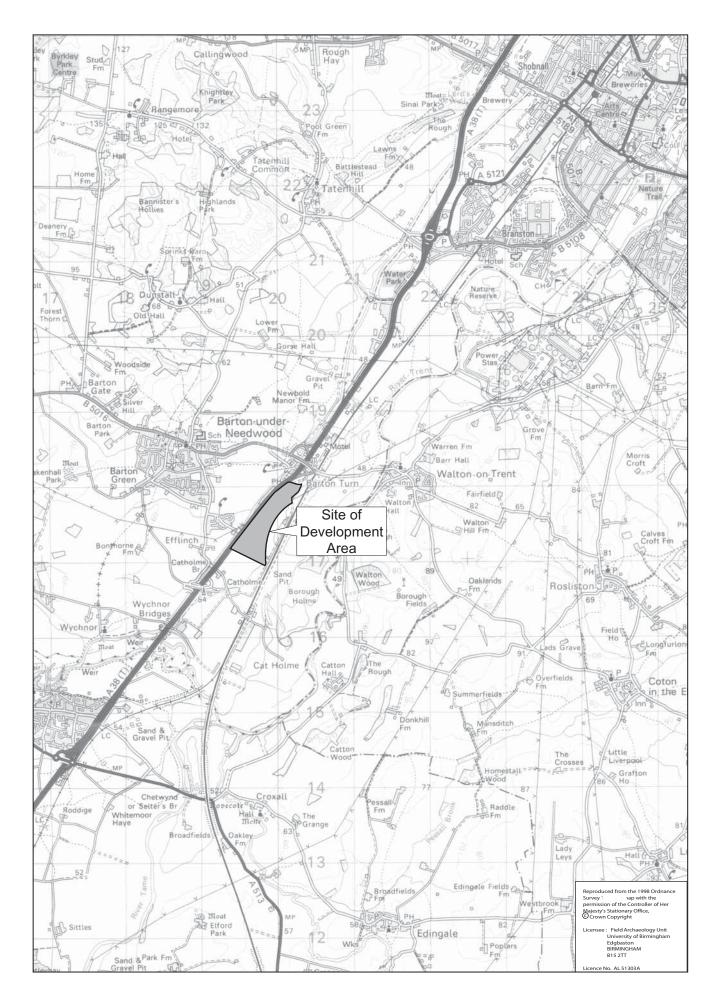


Fig.1

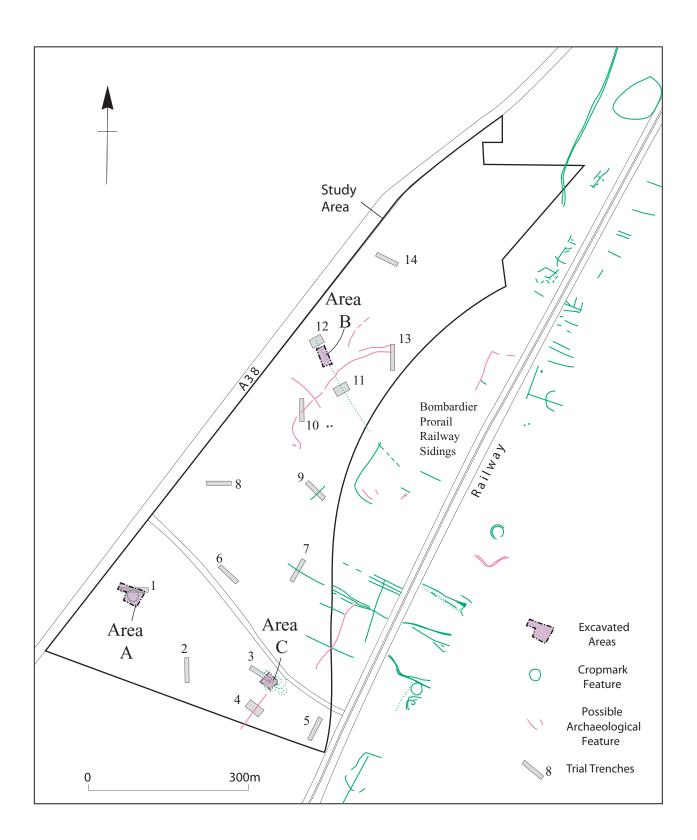


Fig.2

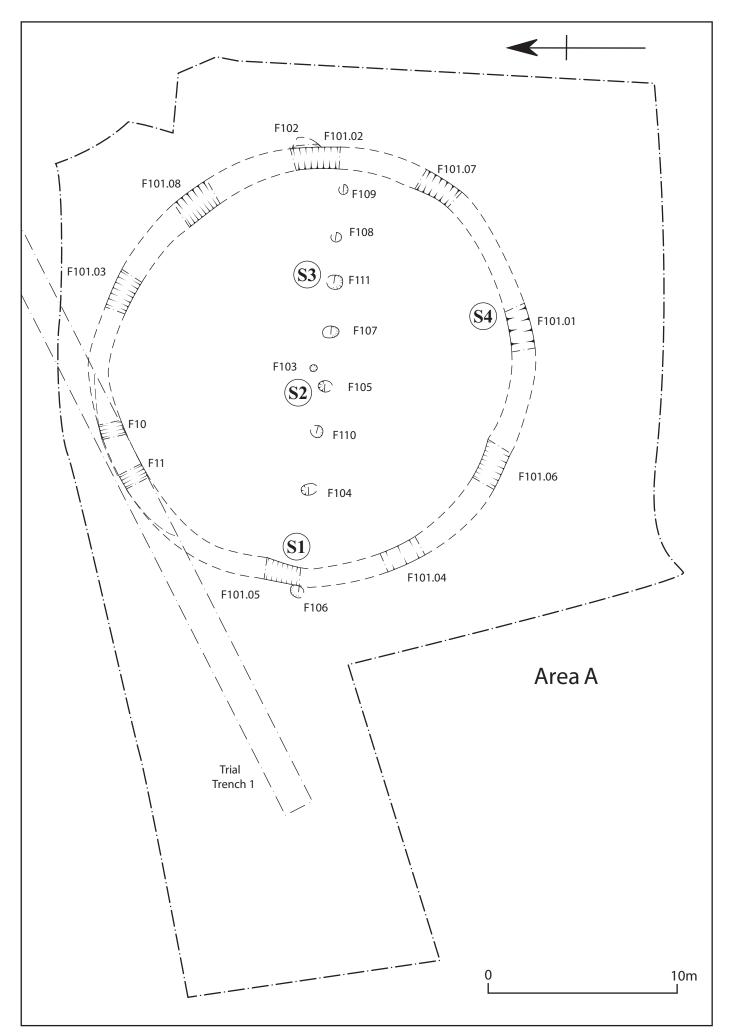


Fig.3

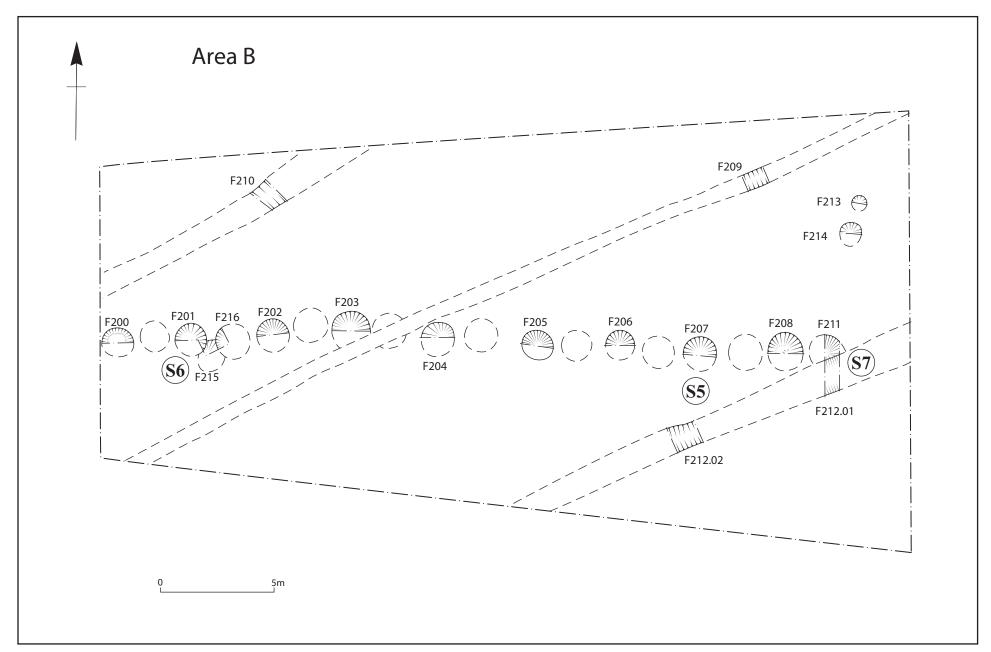


Fig.4

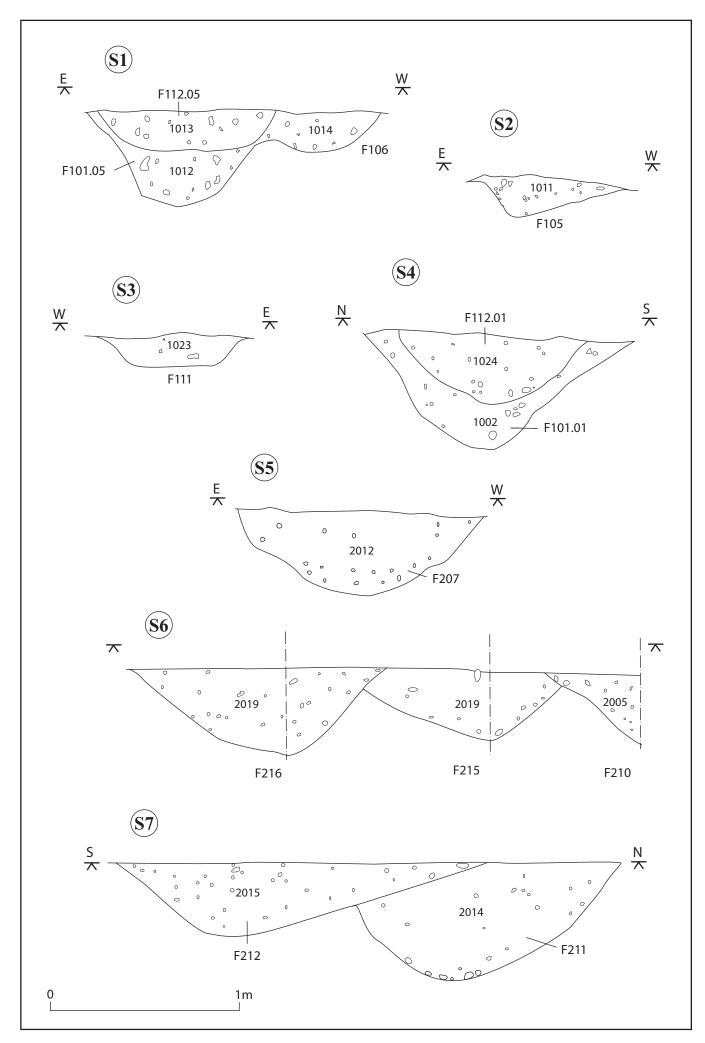


Fig.5

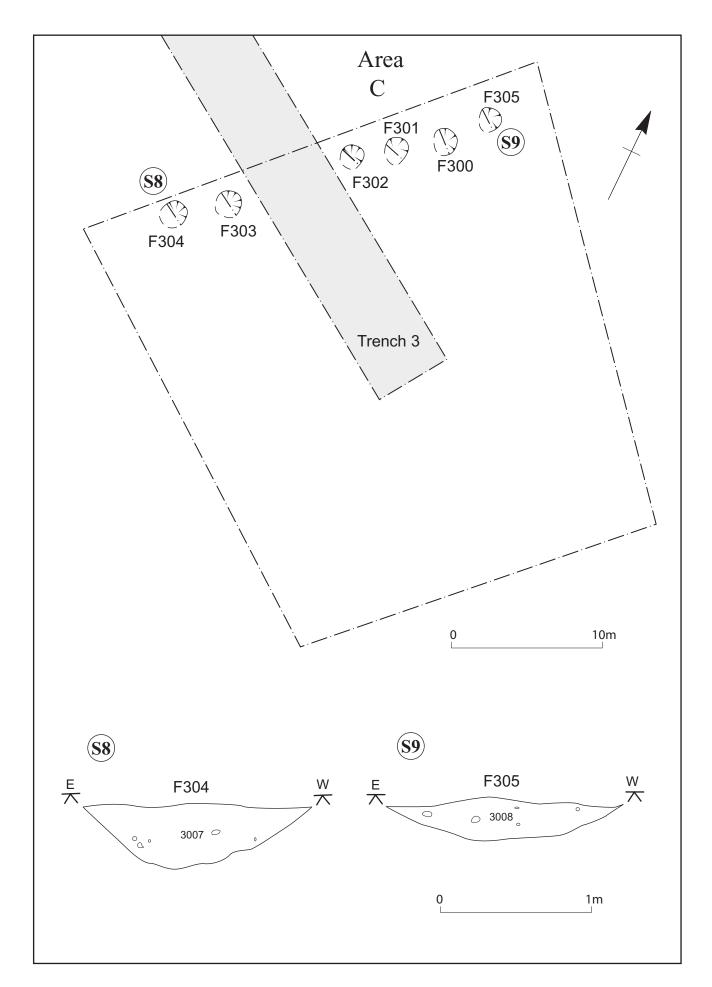


Fig.6



Plate 1

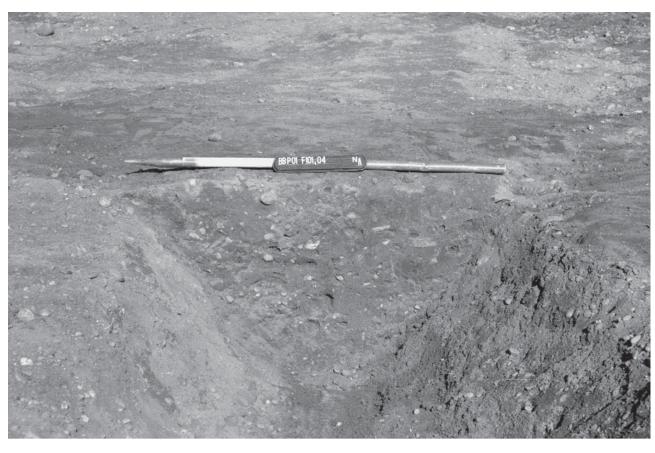


Plate 2



Plate 3

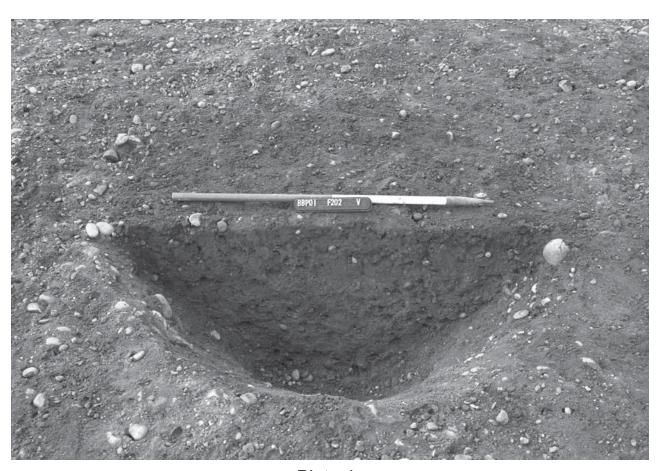


Plate 4