



University of
Leicester

Archaeological Services

**A strip, plan and sample excavation
on land to the west of
Thurcaston Road,
Mowmacre Hill,
Leicester
(SK 577 090)**

Leon Hunt



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(SK 577 090)**

Leon Hunt

for

TSL Projects Ltd.

Planning Authority: Leicester City Council

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A strip, plan and sample excavation on land to the west of Thurcaston Road, Mowmacre Hill, Leicester (SK 577 090)

Leon Hunt

Summary

An archaeological excavation was carried out by University of Leicester Archaeological Services (ULAS) on land to the west of Thurcaston Road, Mowmacre Hill, Leicester (NGR: SK 577 090). This work was carried out during groundworks associated with the construction of a new bakery on the site, which was previously part of an arable field.

Previous archaeological work in the area had been inconclusive, until a large Iron Age settlement site was discovered at Beaumont Leys Lane in 2006. Further work to the north and east of this site was also inconclusive; but a trial trench evaluation in 2010 on the present site and to the north and west produced Iron Age remains.

The present site was stripped of upper soils in preparation of the new bakery development. Most of the site was negative for archaeological features, except an area of around 55m by 40m at the western edge of the site. Within this area a number of curved linear features, pits and post-holes were revealed, defined by two ditches oriented south-west to north-east. The features contained the remains of five possible roundhouses, with a number of pits of varying size including some very large ones and possible other post-hole structures.

An amount of Iron Age pottery, mostly dating from the 3rd to 2nd century was retrieved from the features, along with burnt daub, from the fabric of the wattle and daub roundhouse structures, animal bones and flint.

The size of the roundhouses and the range and date of finds was very similar to that of the Beaumont Leys Lane site to the south and to the Iron Age site at Manor Farm Humberstone suggesting a similar date and form of occupation here to these two neighbouring sites.

The presence of earlier Neolithic and Bronze Age flint artefacts would suggest some previous occupation of the site.

The archive for the project will be deposited with Leicester City Museums with accession number A6.2014

Introduction

University of Leicester Archaeological Services (ULAS) were commissioned by TSL Projects Ltd to carry out an archaeological inspection (strip, plan and sample) during ground-works on land to the west of Thurcaston Road, Mowmacre Hill, Leicester (SK 577 090).

This archaeological work is in accordance with NPPF Section 12: Enhancing and Conserving the Historic Environment.

The work was required as a condition of the planning consent, issued by Leicester City Council, for a new plant bakery (Bradgate Bakery).

Site Location, Geology and Topography

The site lies on agricultural land within a triangular area formed by Beaumont Leys Lane, Thurcaston Road and a new road that runs east to west between these two roads, in the Mowmacre Hill area of Leicester, around 5 miles (9km) north-west of Leicester City Centre and 2 miles (3.5km) west of Birstall (Figures 1 & 2).

The land is flat and lies at a height of approximately 90m aOD. The site covers 14.2 acres (c. 5.5ha).

The British Geological Survey website indicates that the underlying geology on the site is likely to be Oadby Member Diamicton overlying Edwalton Member Mudstone.

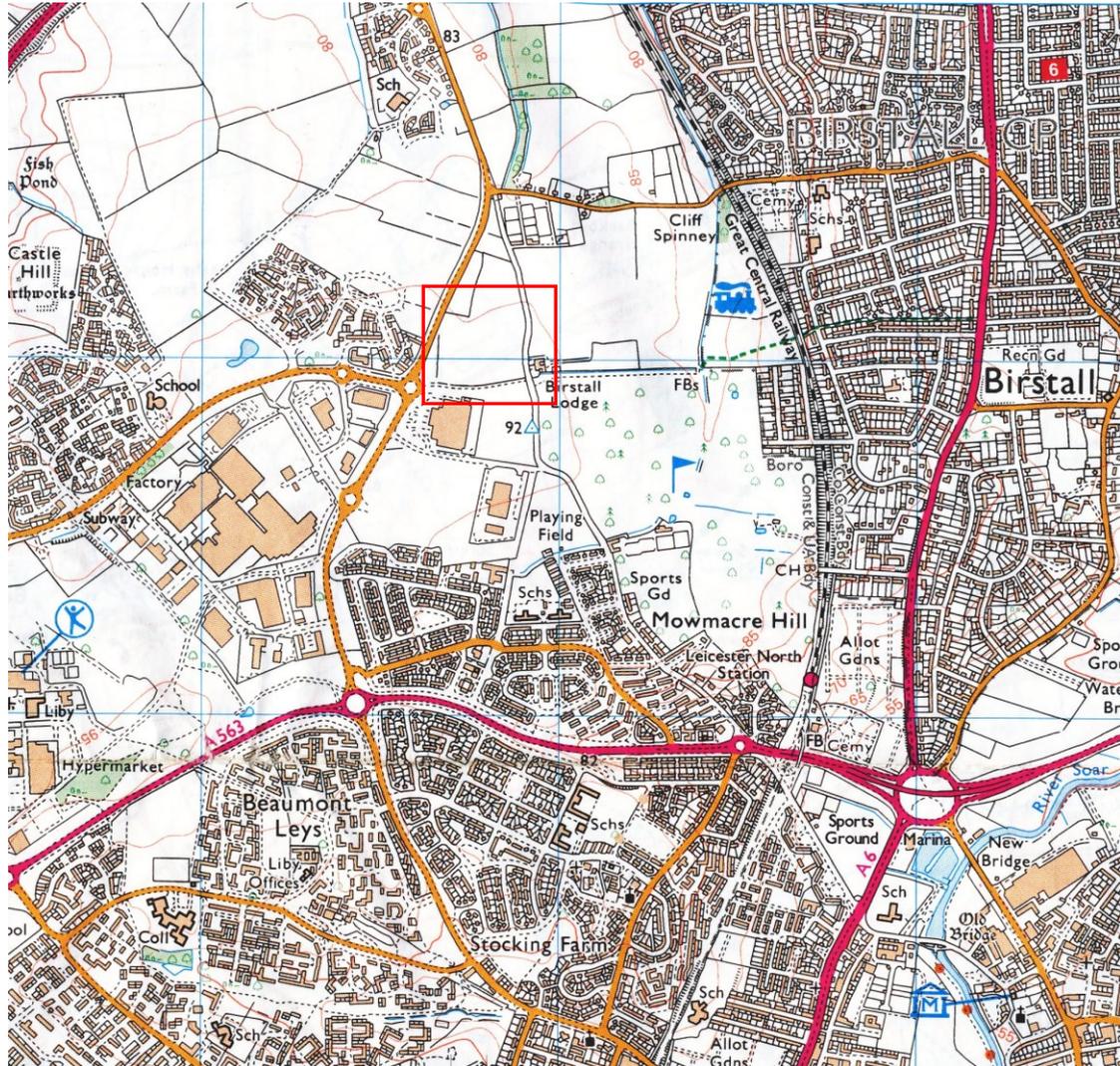


Figure 1: Site Location

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Archaeological Objectives

The main objective of the archaeological excavation is to determine and understand the nature, function and character of any significant archaeology on the site in its cultural and environmental setting.

The aims of the strip plan and sample excavation are:

- To identify the presence/absence of any archaeological deposits.
- To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground-works.
- To record any archaeological deposits to be affected by the ground-works.
- To produce an archive and report of any results.

Archaeological Background

An archaeological desk-based assessment was prepared by University of Leicester Archaeological Services (ULAS) for the site (Hunt 2013). This showed that the proposed development area lies within an area that is rich in prehistoric archaeology. A series of archaeological excavations on land 500m south of the site have revealed evidence for a substantial Iron Age settlement including the remains of several roundhouses, other structures such as grain stores, ditches and gullies (Thomas 2008).

An evaluation and a strip, plan and sample excavation was carried out on the land just to the south of the current site, between the current site and the aforementioned Iron Age settlement, but this was negative for archaeological features (Hunt 2013). Similarly a sample excavation to the east of this was also negative (Higgins 2013).

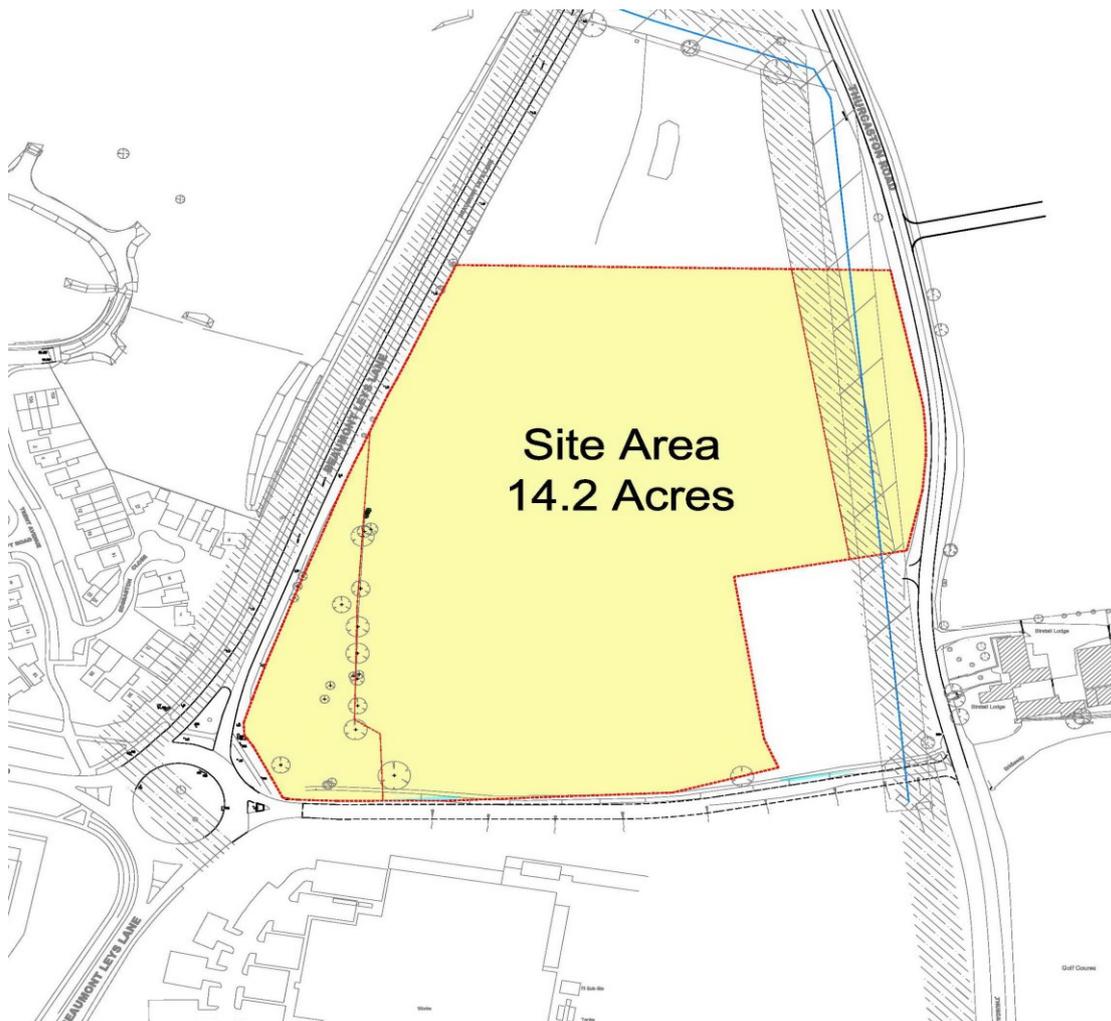


Figure 2: Plan of proposed development area

An archaeological evaluation carried out within the assessment area itself, along with the area to the direct north and north-west of the site, revealed more evidence for Iron Age settlement. The result of this evaluation showed that activity was mainly concentrated in the land at the northern end of the field in which the present development was to take place. Two trenches from this evaluation were located within the assessment area itself and one contained several archaeological features, some of which could be dated to the Iron Age. There was also evidence for earlier prehistoric activity from the discovery of Neolithic and Bronze Age flint artefacts (Figure 3) (Higgins and Beamish 2010).

Therefore the site had high potential for the discovery of prehistoric archaeological remains.

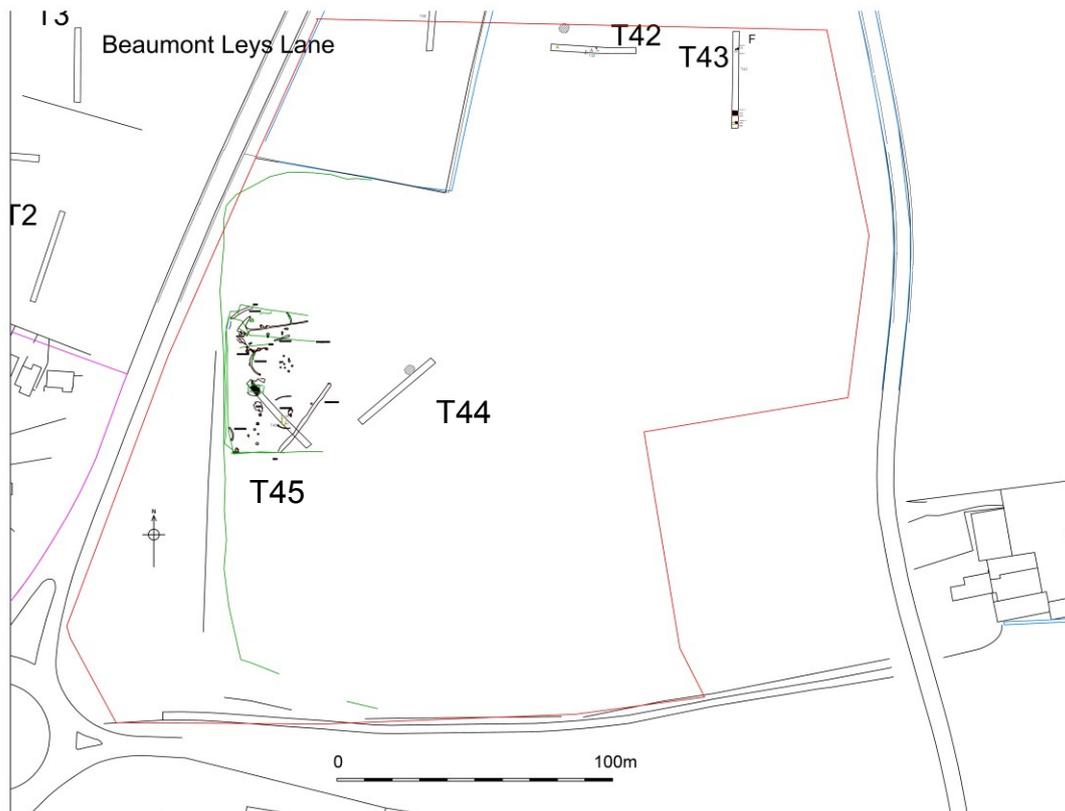


Figure 3: Plan of archaeological remains alongside previous evaluation trenches

Methodology

All work followed the Institute for Archaeologists (IfA) *Code of Conduct* (2010) and adhered to their *Standards and Guidance for Archaeological Watching Briefs* (2008).

A *Written Scheme of Investigation for Archaeological Work* was produced by ULAS prior to the archaeological work being undertaken (Appendix VI).

The project involved the supervision of overburden removal and other groundworks by an experienced professional archaeologist during the works.

The site was stripped using several large tracked excavators, with a large dumper to remove the spoil.

The site was initially visited on the 3rd-4th March 2014 when the area for the works compound was stripped of topsoil prior to being stoned up to receive cabins. Three further visits were made on 5th, 6th and 7th March for stripping of the area for the footprint of the new bakery building.

After archaeological remains were discovered the appropriate area was stripped under close supervision down to archaeological layers.



Plate 1: Test pits under excavation, looking west



Plate 2: Stripping underway on main site, looking north

Results

On 4th March 2014 topsoil stripping for the works compound was observed. Two test pits were also excavated and were observed (Plate 1).

Over most of the stripped area the sequence was 0.25m of dark greyish brown silty clay topsoil over the natural substratum of flinty orangey brown clay with patches of reddish brown sand. The compound area was stripped down to 0.4m.

The test pits showed 0.25m of topsoil over 0.6m-0.6m of orangey brown clay, over stonier clay below.

No archaeological remains were located during this visit.

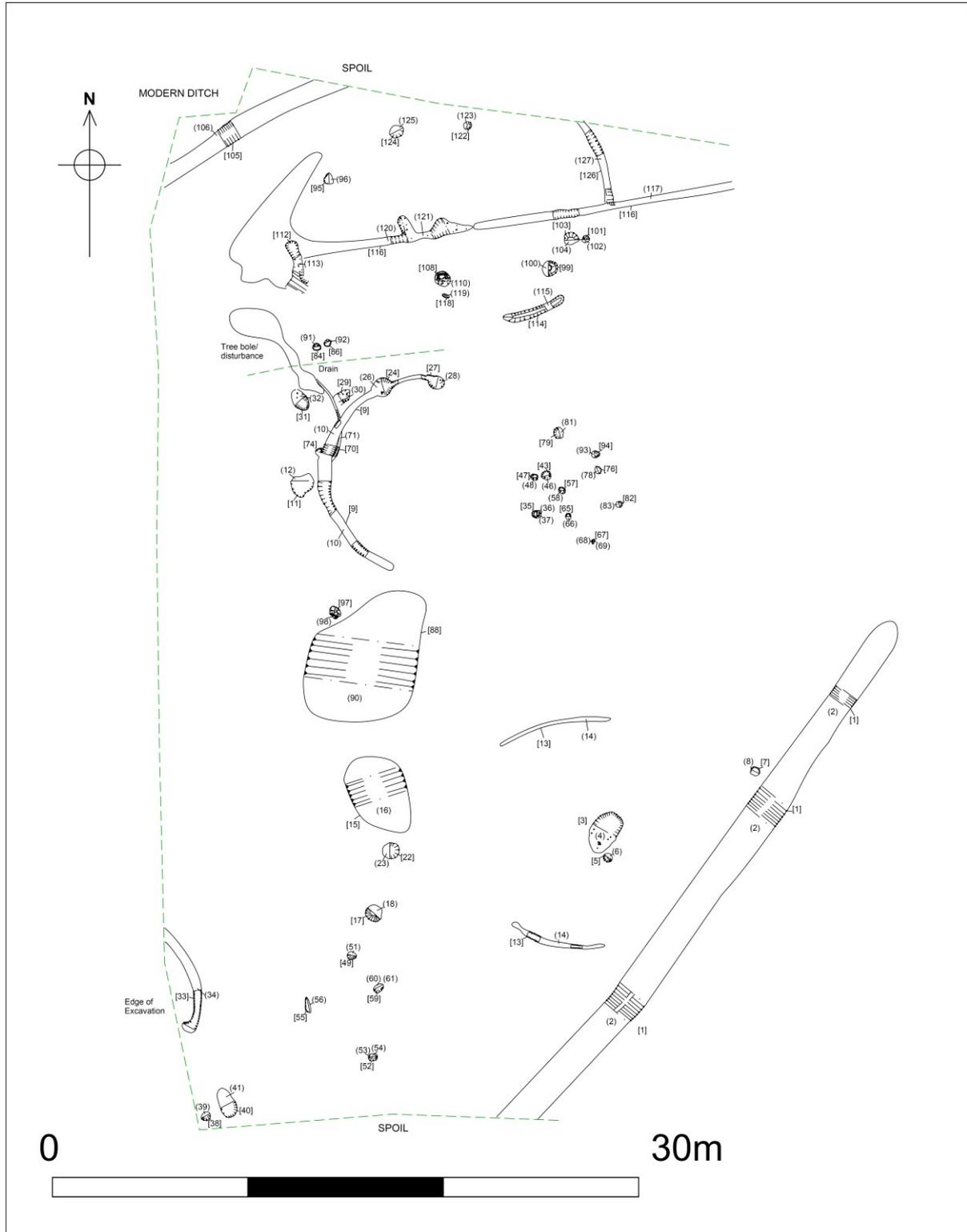


Figure 4: Plan of archaeological remains

A brief visit was undertaken on 5th March when machinery was largely being moved into place. The full strip of the site commenced on 6th March 2014 and continued into the 7th March. This was carried out by two large tracked excavators one moving south to north and the other east to west (Plate 2).

0.25m-0.30m of greyish brown silty clay topsoil was removed, which lay on top of flinty yellowish brown clay. A number of furrows could be seen running north to south across the land, these often contained modern pottery sherds and charcoal. No other archaeological features were observed.

On 7th March a large ditch was observed close to the western edge of the site. The site here was then stripped more systemically by machine under constant archaeological supervision and a number of archaeological features were revealed.

The area containing archaeological remains was largely stripped by 10th March and then the archaeological remains were investigated between 14th and 26th March 2014.

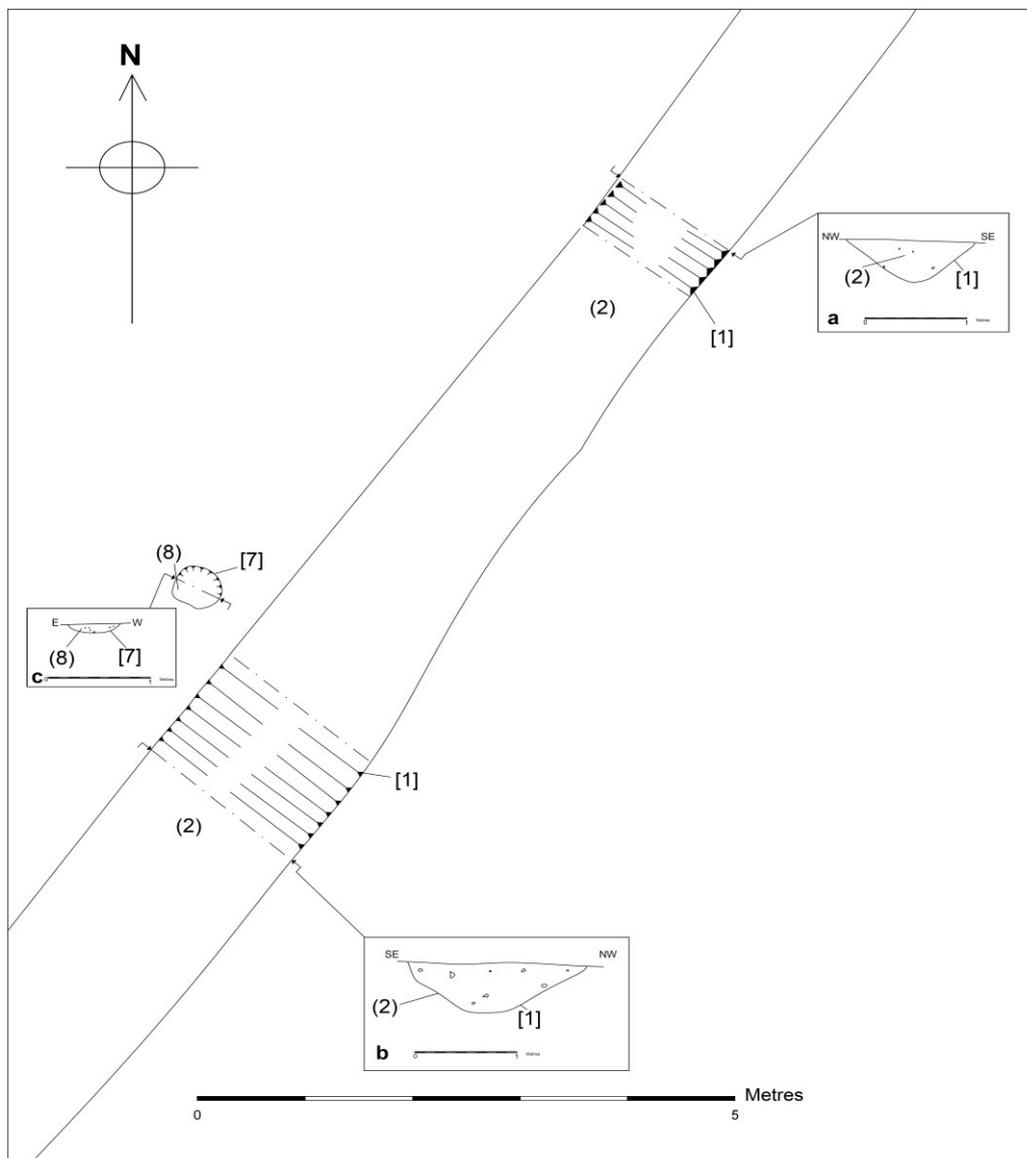


Figure 5: Plans and sections of features [1] and [7]

An area around 55m by 40m was exposed mainly defined by a large ditch [1] running north-east to south-west and apparently ending in a butt end at the north-eastern end. The archaeology did not appear to continue south of this feature. Similarly, a ditch at the northern end [105], running broadly north-east to south-west, appeared to define the northern extent of the activity.

Between these two ditches were a number of ditches, post-holes and pits including the remnants of four roundhouses (Figure 4).

The main southern ditch [1] was at least 31m long and between 1.2m and 1.78m in width. The profile had even sloping sides and a curved or flattish base at a depth of between 0.40m and 0.56m. The fill (2) was an orange grey silty or sandy clay with occasional small and medium rounded pebbles and crushed flint. The fill contained a flint core and a secondary flake dated to the Neolithic/ Bronze Age, along with a number of horse teeth. The fill also contained a large number of Iron Age pottery sherds, some scored and mainly of Granitic fabric (Figure 5a, 5b & 6a)

To the west of the large ditch was a small circular pit [7]. This was 0.46m in diameter with shallow sides and a flat base at a depth of 90mm. The fill (8) was a yellowish grey silty clay with rare small stones but no finds (Figure 5c).

Further to the west was a narrow gully [13], most likely associated with a roundhouse. The gully remained in two sections; one section of around 5.9m and another of 5m. The northern section of the gully [13] was 0.20m wide and quite truncated. This section was not excavated. The southern section was between 0.48-0.51m wide and 0.29m deep with smooth steep sides and a concave base (Figure 6b & c). The fill (14) contained Iron Age pottery.

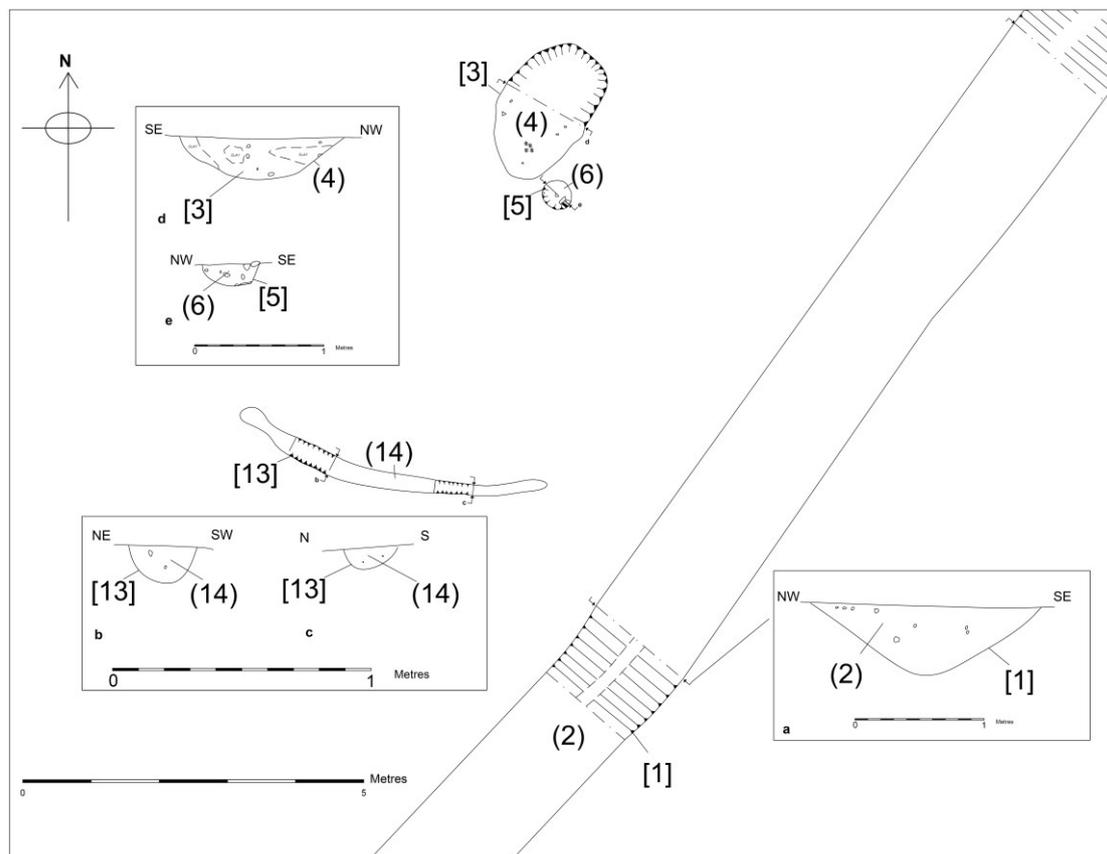


Figure 6: Plans and sections of features [1], [3], [5] & [13]

In the centre of the gully circle was a large pit [3], with a smaller alongside [5]. The larger, sub-oval pit [3] measured 2.4m by 1.1m and was oriented north-east to south-west (Figure 6d). The sides were fairly steep with a flattish base at around 0.3m depth. The fill (4) was a mottled yellowish grey and greyish yellow silty clay with frequent pieces of natural flint and burnt stone, a Neolithic/ Bronze Age dated flint core and ten sherds of Iron Age pottery of a Granitic fabric.

The smaller pit [5] was circular with a 0.46m diameter and steep sides and a flattish base at 0.13m depth (Figure 6e). The fill (6) was a dark brownish grey sandy silt with frequent medium pebbles, fire cracked pebbles and charcoal. The fill also contained a Neolithic/ Bronze Age flint core and a large amount of scored Iron Age pottery.

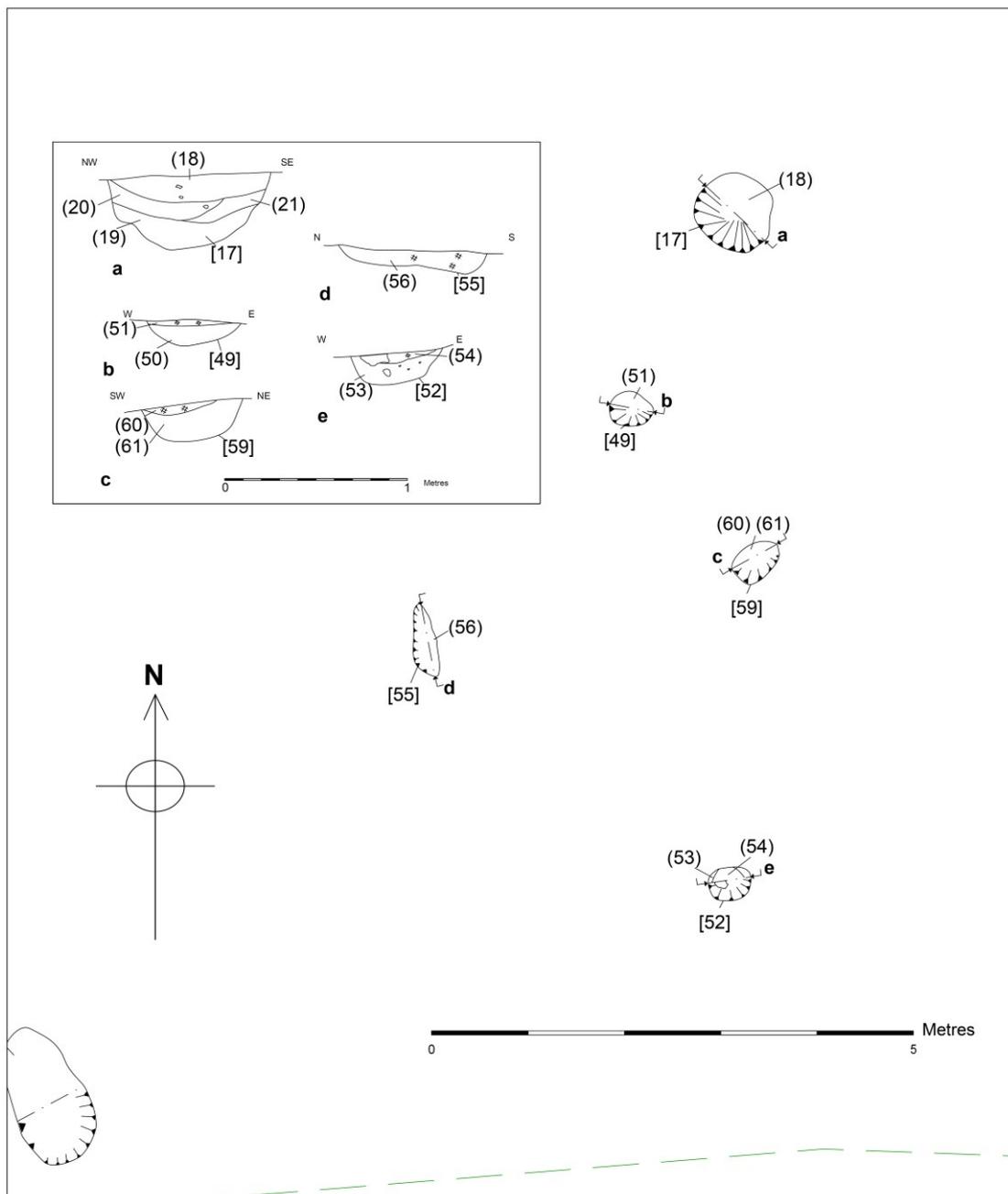


Figure 7: Plans and sections of features [17], [49], [59], [55] & [52]

To the west of the roundhouse were a group of small pits. Pit [17] measured 0.86m in diameter with steep sides and a concave base at 0.40m depth (Figure 7a). The lower fill (19) was a light orange brown silty clay with no stones. This lay under a dark blackish grey silty clay with large amounts of charcoal flecks (20) and a mid yellowish grey silty clay with fewer charcoal flecks (21). Over this lay a final fill (18) of mid greenish grey silty clay with charcoal flecks and occasional sub-rounded pebbles.

To the south-west of [17] was a smaller pit [49] measuring 0.45m by 0.38m, with moderately steep sides and a concave base at 0.14m depth (Figure 7b). The lower fill (50) was a light yellowish brown silty clay with no stones. The upper fill (51) was a dark yellowish silty clay with occasional charcoal flecks and one sherd of Iron Age pottery.

To the south-east of [49] was another sub-oval pit or post-hole [59] measuring 0.55m by 0.37m with steep sides and a flattish base at 0.30m depth (Figure 7c). The lower fill (61) was a light orange brown silty clay with few small pebbles. The upper fill (60) was mainly on the south-western side of the feature and was a mid orange grey silty clay with some charcoal flecks and fired clay.

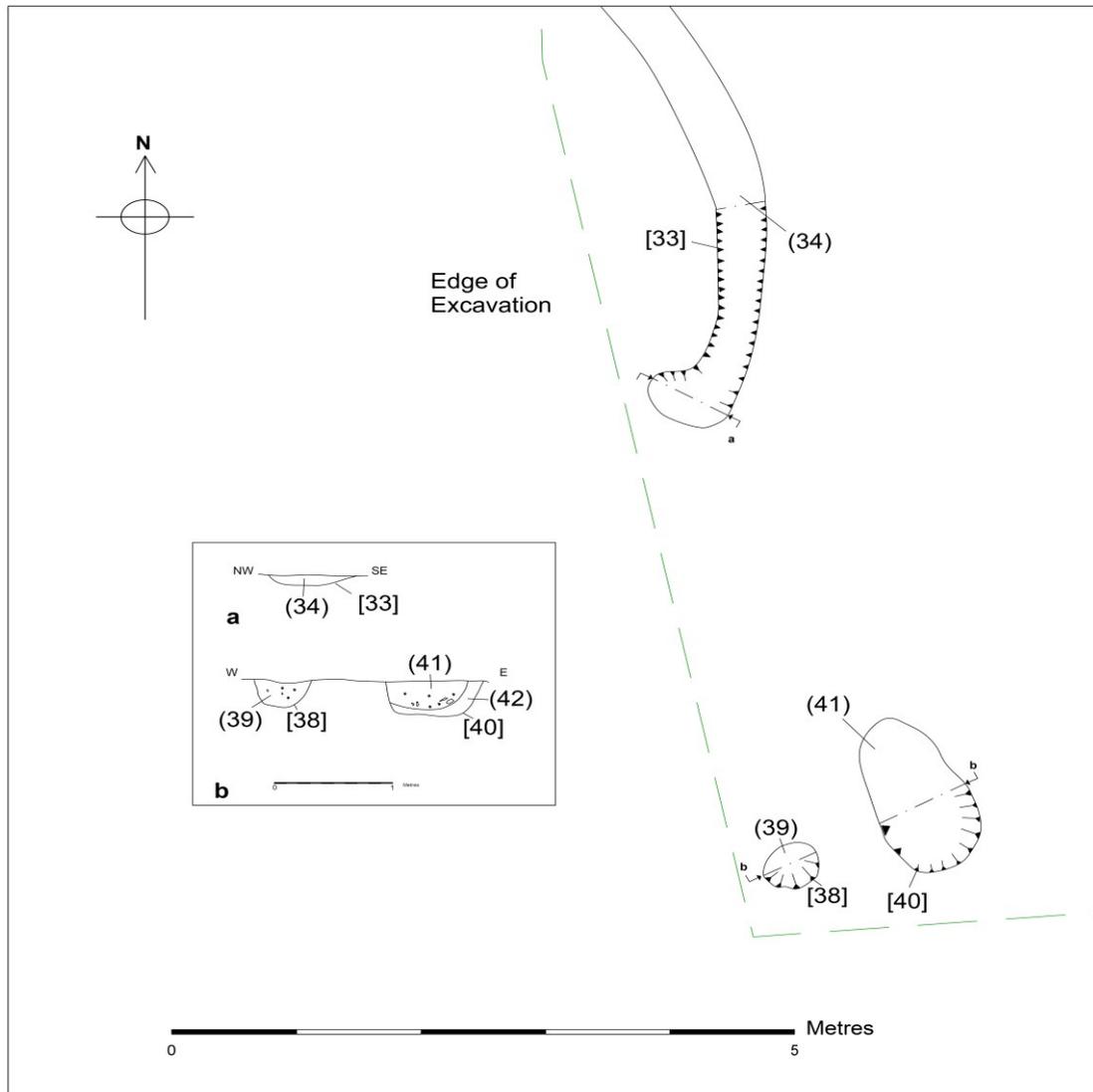


Figure 8: Plan of features [33], [40], [38]

To the west of [49] was an odd narrow pit [55]. This was 0.8m long and 0.27m wide with a steep southern side and shallow northern side, with an irregular base, generally sloping to the south (Figure 7d). The fill (56) was a mid yellowish grey silty clay with charcoal flecks and no finds.

To the south-east of [55] was another sub-circular pit [52], measuring 0.5m in diameter with quite steep sides and a slightly concave base of 0.16m depth (Figure 7e). The lower fill (53) was a light yellowish brown silty clay with occasional rounded stones. The upper fill (54) was a dark yellowish grey silty clay with frequent large sub-rounded stones and a moderate amount of charcoal flecks.

Around 6m to the west of these pits was part of a roundhouse gully [33], which was mostly obscured by the baulk of the excavation. The section that could be seen was 5.6m long, 0.44m wide and 0.12m deep. The gully had steep sides and a flat base (Figure 8a). The fill (34) was a dark grey silty sand with occasional small pebbles and a few larger cobbles. The fill also contained flecks of charcoal and three sherds of scored Iron Age pottery. The fill also contained fired clay.

To the south of the gully, at the very south-western edge of the site are two pits. The larger [40] measured 1.5m by 0.8m with a western steep side and a shallower one to the east, with a fairly flat base. The lower fill (42) was a mid orange brown silty clay with occasional flecks and occasional rounded pebbles, whereas the upper fill (41) was a dark yellowish grey clayey silt with charcoal flecks and. The fill also contained a flint flake, a cattle bone and a sherd of Iron Age pottery.

The smaller pit [38] measured 0.48m by 0.38m with regular steep sides and a concave base. The fill (39) was a mid orange brown clayey silt with sparse pebbles and charcoal flecks (Figure 8b).

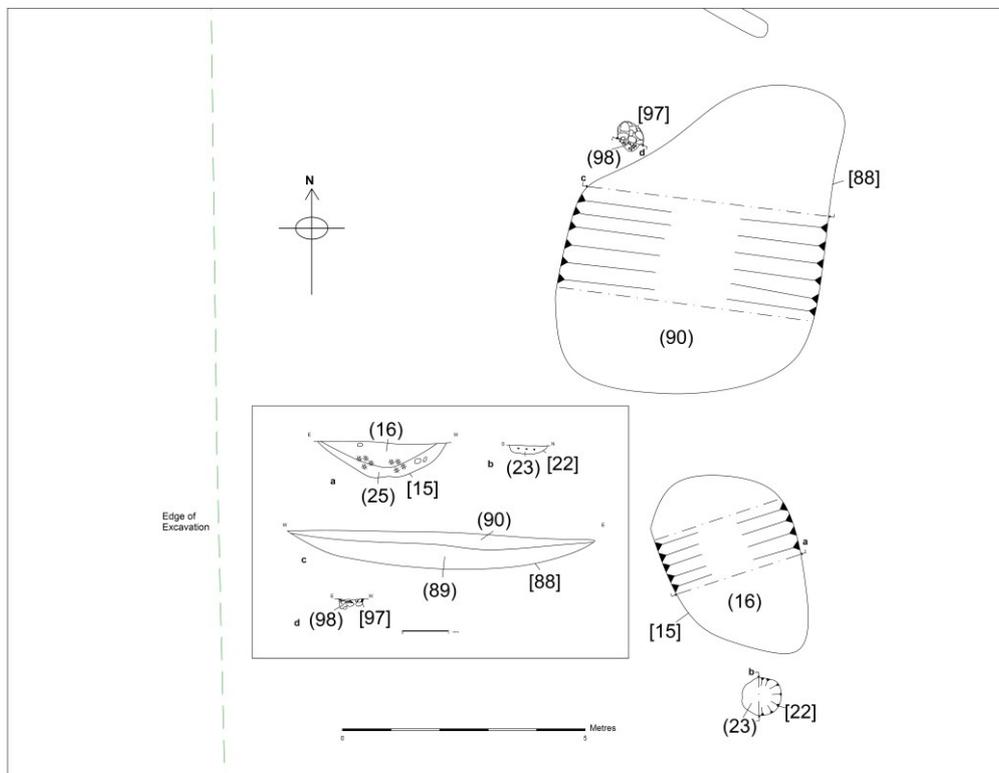


Figure 9: Plans and sections of features 15, 22, 88 & 97

Close to the centre of the site were two very large pits, with two small pits alongside. The smaller of the large pits [15] was oriented broadly south-east to north-west and measured 4.3m by 2.9m and was 0.78m deep (Figure 9a). It had regular uneven sides and a flat base. The lower fill (25) was yellowish grey silty clay with rare small and medium stones, a goat or sheep bone and sherds of Iron Age pottery. Above this was the upper fill (16), a mid grey silty sand with occasional small and medium pebbles and some flecks of charcoal.

To the south of this pit was a small pit [22]. This was 0.9m in diameter, with steep sides and a flat base at 0.18m depth. The fill (23) was mid light greenish grey silty clay with charcoal flecks (Figure 9b).

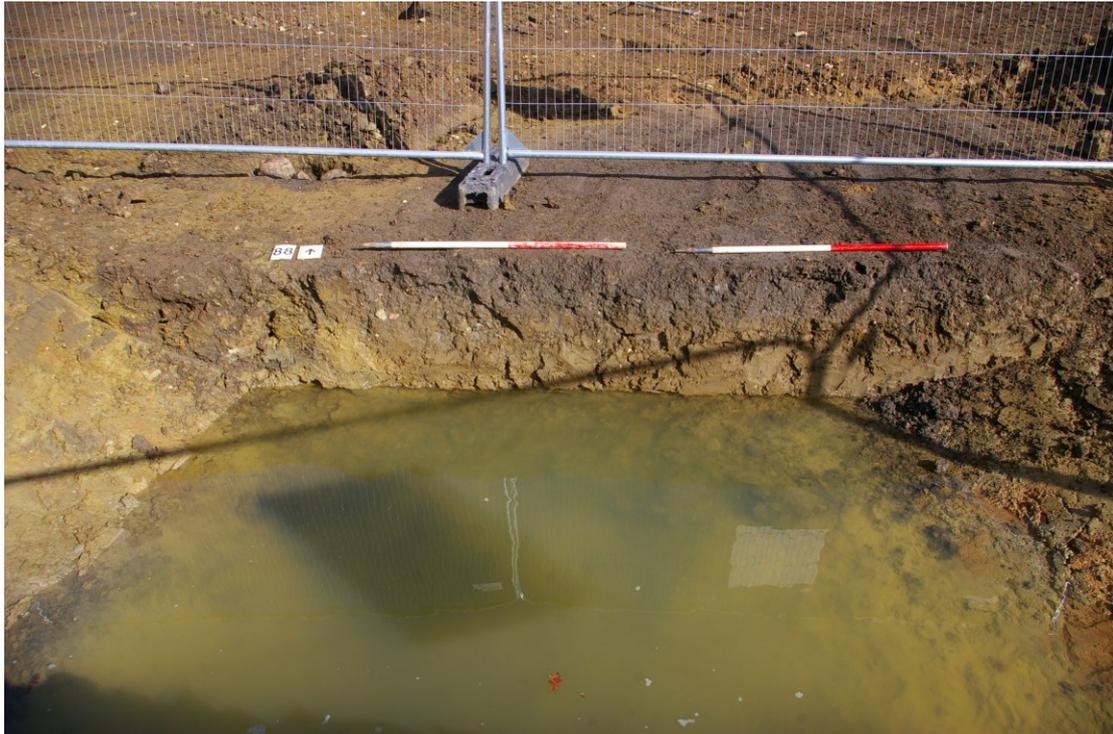


Plate 3: South facing section of large pit [88], looking north

The larger of the large pits [88] was oriented broadly north to south and measured 7.7m by 3.8m and was 0.70m deep (Figure 9c; Plate 3). The sides were quite shallow with a concave base. The lower fill (89) was a mid yellowish brown silty clay with occasional rounded and sub-rounded stone and a few large cobbles. The upper fill (90) was a mid greyish brown silty clay with occasional medium stones and rare large cobbles and pottery.



Plate 4: Part excavated pit [97], looking south

To the north-west of the large pit [88] was a small stone filled pit [97], measuring 0.68m by 0.53m. The fill (98) was a blue grey clayey silt with orange brown mottles. There were 14 large cobbles within the pit (Figure 9d; Plate 4).

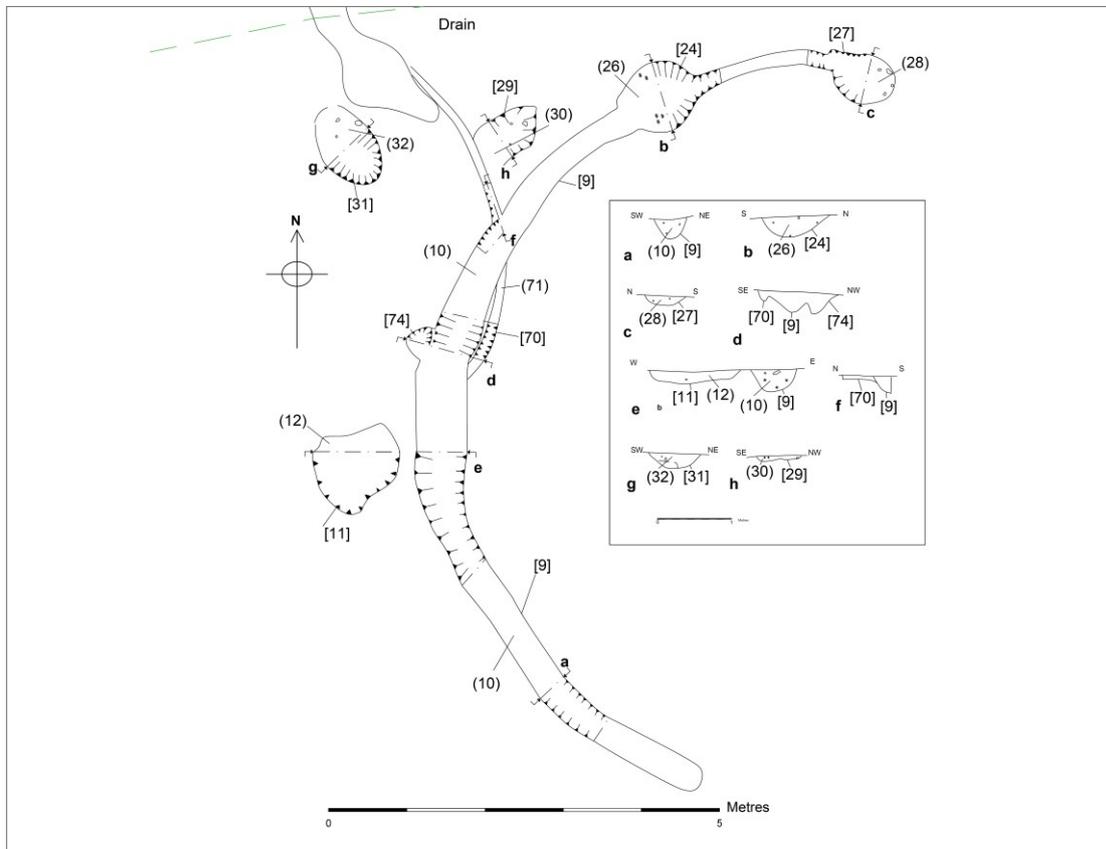


Figure 10: Plans and sections of roundhouse gully [9] and associated features

To the north of the large pit was another roundhouse gully [9]. A semi-circular section around 15m long remained, running from south-east to north-east, the gully itself was 0.66m at its widest point and was 0.29m deep (Figure 10a, 10e). The gully had steep, almost vertical sides and a flat base. The fill (10) was an orange grey silty clay with rare small stones, some charcoal flecks, several sherds of Iron Age pottery and some flint shatter. The fill also contained burnt clay. Towards the north-eastern end of the gully were two pits; one lay around three-quarters of the way along the length of the gully and another lay at the end. The first [24] was circular of around 0.9m in diameter, with steep southern side and a shallow northern side (Figure 10b). The base was gently concave at 0.28m depth. The fill (26) was a compacted yellowish grey silty clay with rare small stones, and a secondary flint flake dated to the Neolithic/Bronze Age period. It also contained five sherds of Iron Age pottery. The second pit [27] was smaller, oval and measured 0.9m by 0.6m, with fairly shallow sides and a concave, but shallow base at 0.12m depth (Figure 10c). The fill (28) was a mottled yellowish grey and greyish yellow silty clay with very few small angular stones. The fill also contained Neolithic flint flakes and cattle bones.

Around halfway down the length of the gully [9] was a small post-hole [74], of 0.42m width and of 0.29m depth (Figure 10d). The profile was quite steep and the base concave. The fill (75) was a grey silty clay with occasional small pebbles and contained the bones of a large mammal. To the south-west of this and to the west of gully [9] was an amorphous feature [11]/(12). This appeared to be a tree throw (Figure 10e), but did contain Iron Age pottery.

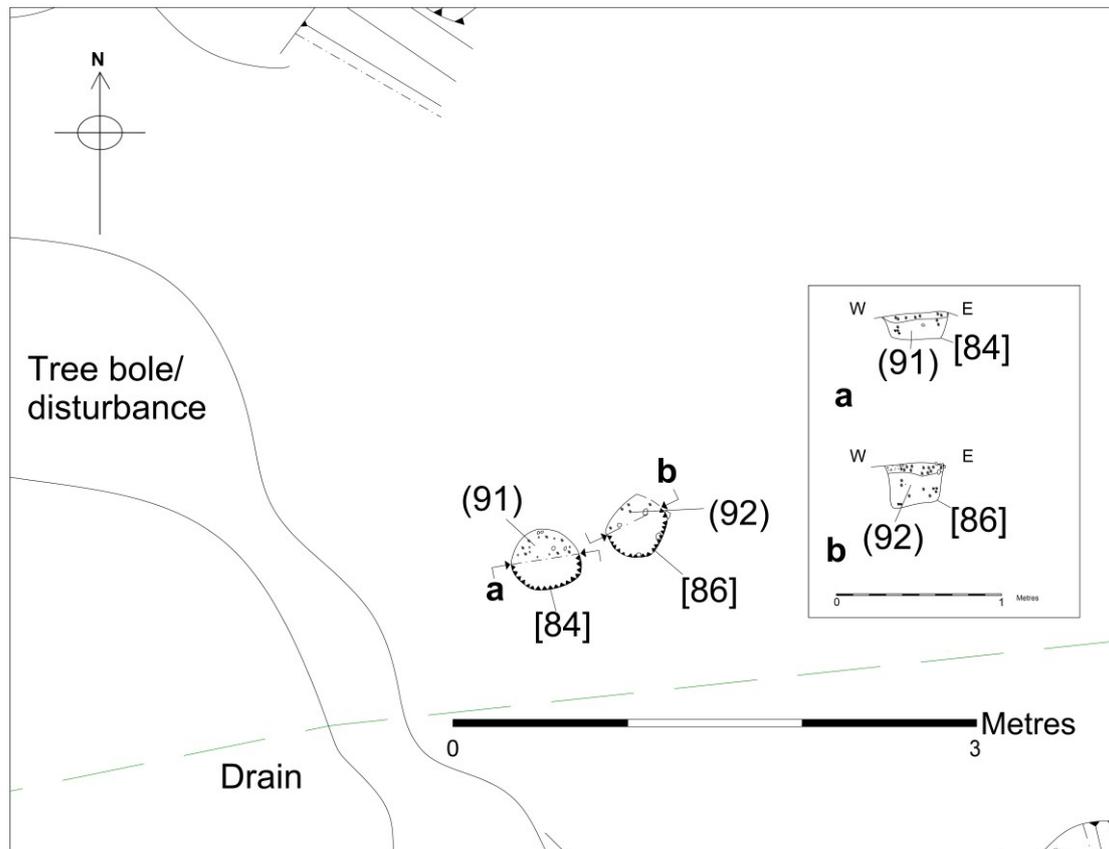


Figure 11: Plans and sections of pits [84] and [86]

The gully [9] cut a smaller, quite faint and narrow roundhouse gully [70], which is aligned south-west to north-west for around 5m (Figure 10d & 10f). The gully was

0.15m wide and 0.14m deep with steep sides and a flat base. The fill (71) was an orange grey silty clay with two goat or sheep bones and Iron Age pottery. The north-west end of the gully ended in a large amorphous disturbed area, possibly a large tree throw or root disturbance.

To the west of this gully [70] was a medium sized oval pit [31], measuring 1.35m by 0.7m with regular even sides and a concave base at 0.20m depth (Figure 10g). The fill (32) was a mottled yellowish grey silty clay with rare sub-rounded stones, heat affected pebbles and a flint scraper dated to the Neolithic/ Bronze Age period.

On the other side of the narrow gully was another, much more amorphous pit [29], which was broadly oval and very shallow with a flat base (Figure 10h). The fill (30) was a yellowish grey mottled yellowish brown silty clay with rare flint fragments, including a flint flake and scored Iron Age pottery.

Further to the north were two pits of similar size [84] and [86]. Pit [84] was circular of 0.4m diameter, with vertical sides and a flat base at 0.18m depth (Figure 11a). The other pit [86] was also 0.4m in diameter with almost vertical sides but was 0.3m deep (Figure 11b). Both had lower fills, (85) and (87) respectively of orange or yellowish brown clay with occasional bone flecks and pebbles. The upper fills of the pits, (91) and (92) respectively were greyish black clayey silt with occasional pebbles and bone fragments.

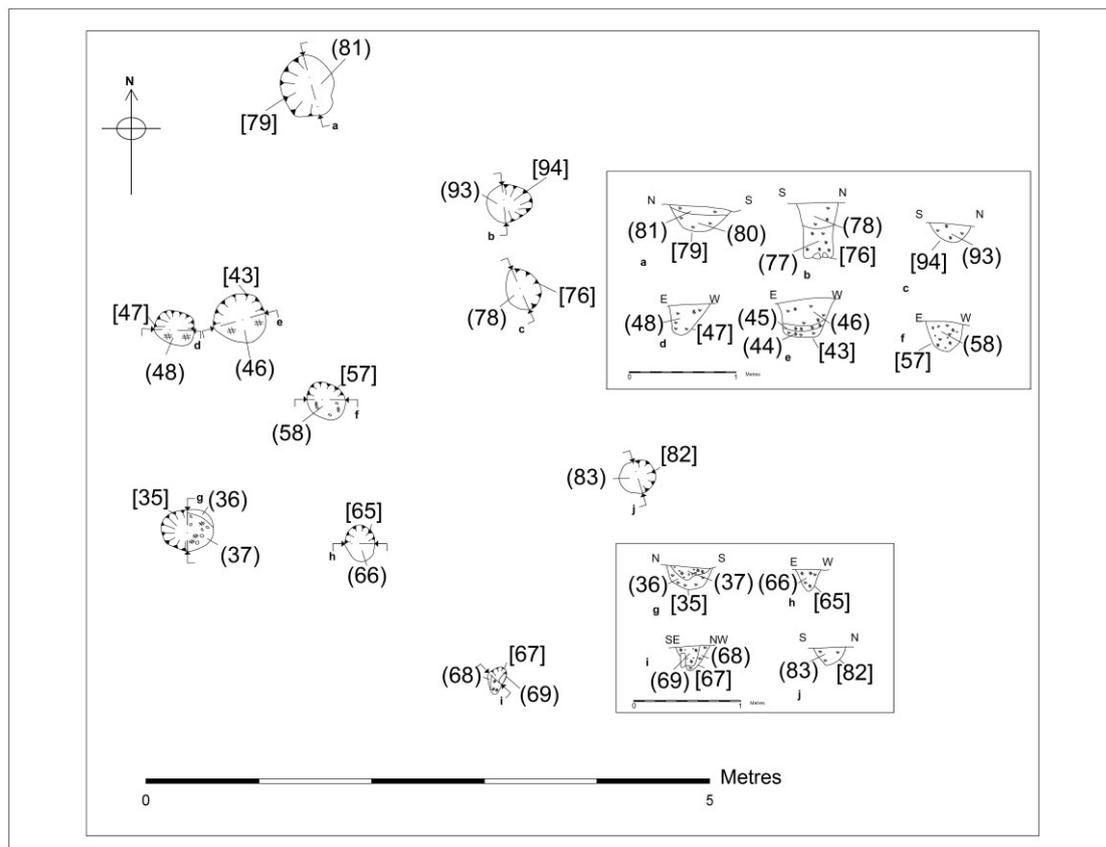


Figure 12: Plans and features of pits in centre of site, [79], [76] etc

Around 10-12m to the east of the roundhouse gully [9] was an isolated group of ten pits or post-holes [35], [43], [47], [57], [65], [67], [76], [79], [82] and [94], which did not appear to form any kind of structure. They were very variable in size and shape, but most were sub-circular. The largest was pit [79], which was 0.56m in diameter and 0.28m deep (Figure 12a). The sides were concave and smooth and the base

concave also. The lower fill (80) was a mid orange brown silty clay with rare charcoal flecks. The upper fill was a mid brownish grey silty clay with more common charcoal flecks.



Plate 5: South-west facing section of post-hole [35], looking north-east

Among the features was a deep post-hole [76] which was sub-circular with very steep sides and a flat base (Figure 12b). It measured 0.38m in diameter and was 0.55m deep (Figure 12b). The lower fill (77) was a mid brownish grey silty clay with occasional sub-rounded pebbles and charcoal flecks. The upper fill was a mid yellow brown silty clay with rare charcoal flecks.

Another pit [35] was 0.42m in diameter and was 0.24m deep, with two fills. The lower fill (36) was a mid yellowish brown silty clay with some charcoal flecks but no stones or finds, but the upper fill (37) was a dark brownish grey burnt silty clay with common charcoal flecks and occasional sub-rounded heat affected pebbles and a large amount of Iron Age pottery and some fired clay (Figure 12g; Plate 5).

To the north of the pits and post-holes was another possible roundhouse structure formed of parts of truncated curved linear features. The main part of the feature was a gully [126] was 4.4m long and 0.27m in width (Figure 13a). It had variable but fairly steep sides and a narrow base, which was very narrow in places and of 0.14m depth. The fill (127) was a mid-orange grey silty clay with 2% charcoal flecks and a flint flake dated to the Neolithic/Bronze Age.

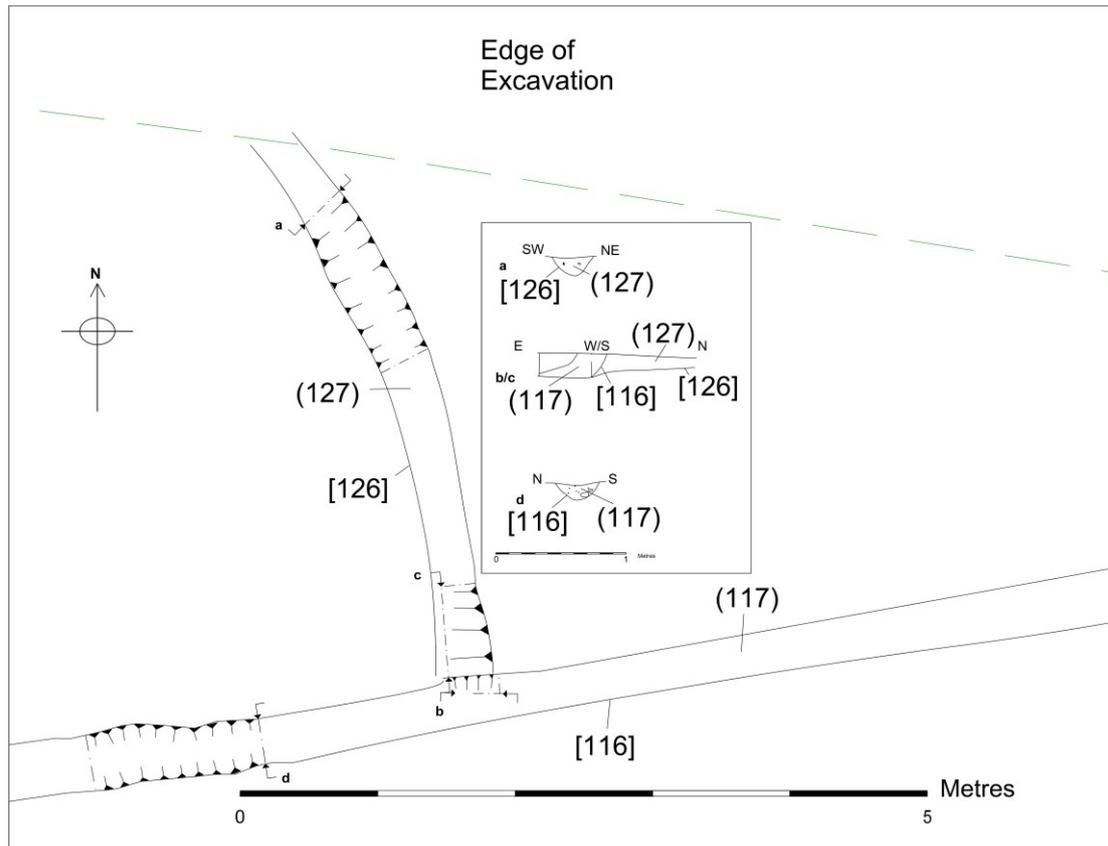


Figure 13: Plans and sections for roundhouse gully [126] and gully [116] at eastern end

The gully [126] was apparently cut by a long narrow linear [116] at its southern end, which runs across the site from east to west for around 24m, ending in a heavily disturbed area, possibly from bioturbation (107). The fills of the gully were variable and were given different numbers. For most of the length the fill (117) was a yellowish grey silty clay with rare medium pebbles and Iron Age pottery (Figures 13b & 13c). The feature is around 0.31m for most of its length but bulges out close to the middle to around 0.85m.

To the south of the gully [116] the roundhouse gully [126] appears to continue as a wider gully [114], which was a section of curved linear of around 3.3m and 0.48m width (Figure 14a & 14b). The sides of the feature were of regular slope with a slightly concave base at between 0.08m-0.11m deep. The fill (115) was a dark yellowish grey clayey silt with 10% charcoal flecks, sheep or goat bones and sherds of Iron Age pottery.

To the south of [116] and possibly within the circumference of the roundhouse were a number of pits, including a large sub-circular steep sided pit [99]. The outer area of the pit measured 0.8m, but this was largely a depression of around 0.1m depth with a central post-hole of 0.24m diameter and 0.25m depth (Figure 14c). The fill (100) was a dark orange grey silty clay with occasional charcoal flecks.

To the north-east of [99] were two pits [101] and [103]. The larger [103] measured 0.65m by 0.75m and was 0.27m deep. The fill (104) was a dark yellowish grey silty clay with 10% charcoal flecks. The smaller pit [101] was 0.36m by 0.40m in size with regular, fairly steep sides and a pointed base at 0.16m depth (Figure 14d). The fill

(102) was mid orange brown silty clay with rare charcoal flecks, mammal bone and Iron Age pottery

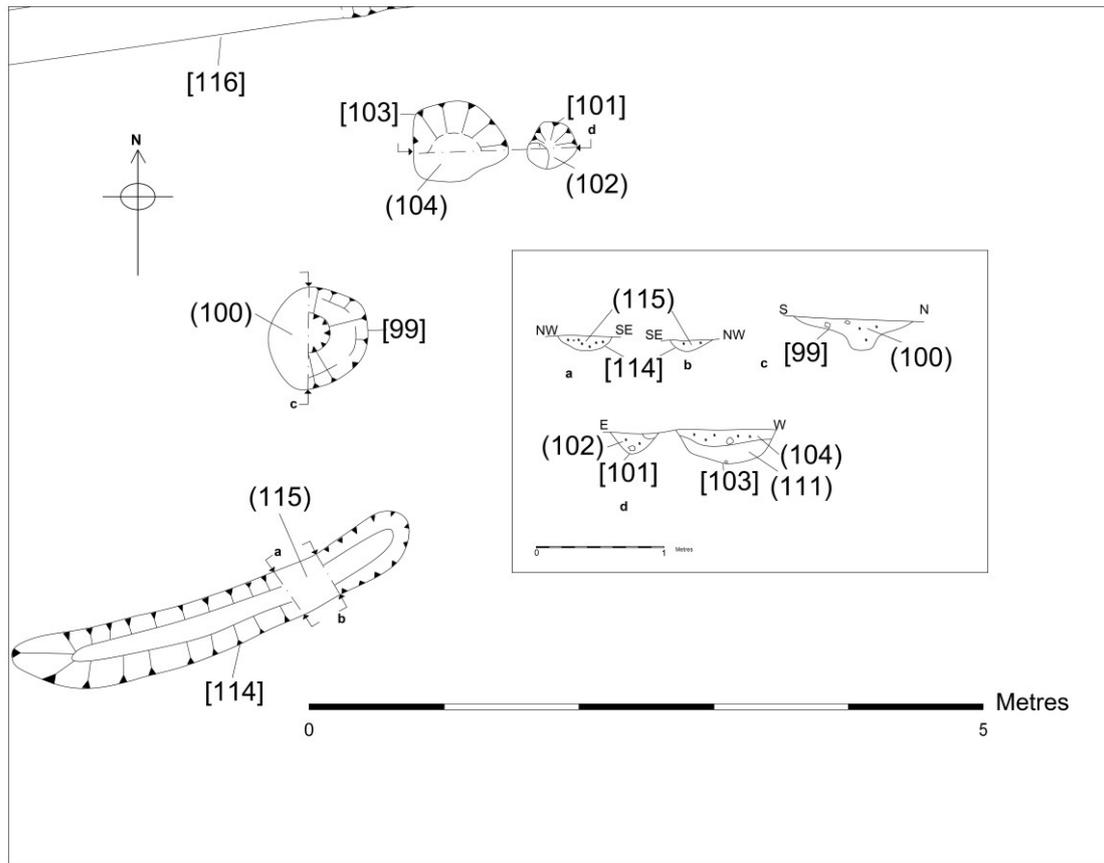


Figure 14: Plans and sections of roundhouse gully [114], pits [99], [101] and [103]

At the western end of its extent the narrow gully [116], broadened out slightly close to where the remains of the roundhouse gully may have crossed it. Here the fill was a mid brownish grey or orangish grey silty clay with rare pebbles and a large assemblage of animal bones, including cattle, sheep, pig and other undefined large and medium sized mammals, plus a fairly large amount of Iron Age pottery and fired clay (120)/ (121) (Figure 15a & 15b). Two pits lay to the south of [116] here.

The largest pit [108] was circular of 0.8m diameter, with variable steeped sides and a flattish base at 0.44m (Figure 15c). The lower fill (109) was a brownish or blueish grey sandy silty clay with yellow mottles, fragments of slate, flint, cattle and other mammal bones, fired clay and Iron Age pottery. The upper fill (110) was a dark blueish black clayey silt with pebbles, baked clay, flint tools including a core and several flakes dating from the Neolithic/ Bronze Age period, cattle and horse bones and pottery, including thirty-one sherds of Granitic fabric Iron Age pottery. It also contained a large amount of burnt clay.

Just to the south of [108] was a small oval pit [118], measuring 0.38m by 0.20m. The sides were very steep and the base concave at 0.17m depth (Figure 15d). The fill (119) was a yellowish brown or grey silty clay with occasional medium pebbles.

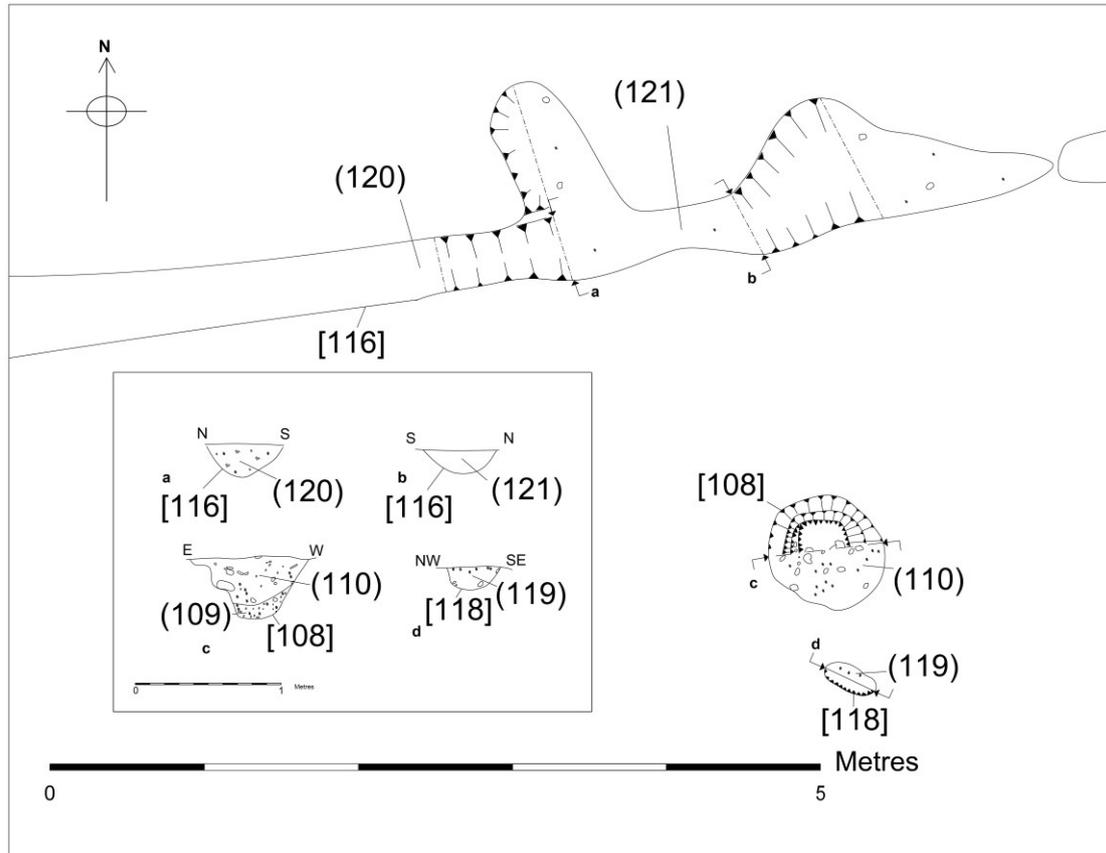


Figure 15: Plans and sections of linear [116] and pits [108] and [118]

At its western extent the gully [116] appeared to end in an area of disturbance (107), which consisted of orange grey silty clay with common small and medium pebbles, a large amount of animal bone and shattered flint. The feature was most likely caused by a combination of tree throws and animal disturbance. It measured around 7m by 0.8m tapering to the north-east to around 0.7m. A linear feature [112] appeared to cut into it, and terminate at its south-east edge but the feature was difficult to determine due to the disturbance. It appeared to be 2.5m long and 0.5m wide with smooth concave sides and a concave base at 0.17m depth. The fill (113) was mid brownish grey with occasional sub-rounded pebbles and Iron Age pottery.

To the north of the linear gully [116] were three isolated pits. The largest [124] measured 0.64m by 0.76m and was 0.28m deep, with regular sides and a concave base. The fill (125) was orange grey silty clay with rare small stones and charcoal flecks. To the east was a smaller pit [122], which was 0.44m in diameter and 0.15m deep, with gentle sloping sides and a flat base. The fill (123) mid grey silty clay with occasional charcoal flecks.

To the south-west of [124] was a shallow, almost triangular pit [95] with steep, almost vertical, somewhat convex sides and a flat base at 0.15m depth. The fill (96) was a very dark grey silty clay.

Running across the site from south-west to north-east, right in the north-west edge of the site was a large ditch [105]. This was visible for around 9.85m across the site. The ditch was 1m wide and 0.4m deep. The ditch continued beyond the spoil heap to the east in a wide curve. The fill was yellowish brown very silty clay with large pieces of

slate and frequent small pebbles. The fill also contained modern pottery, metal, glass and brick.

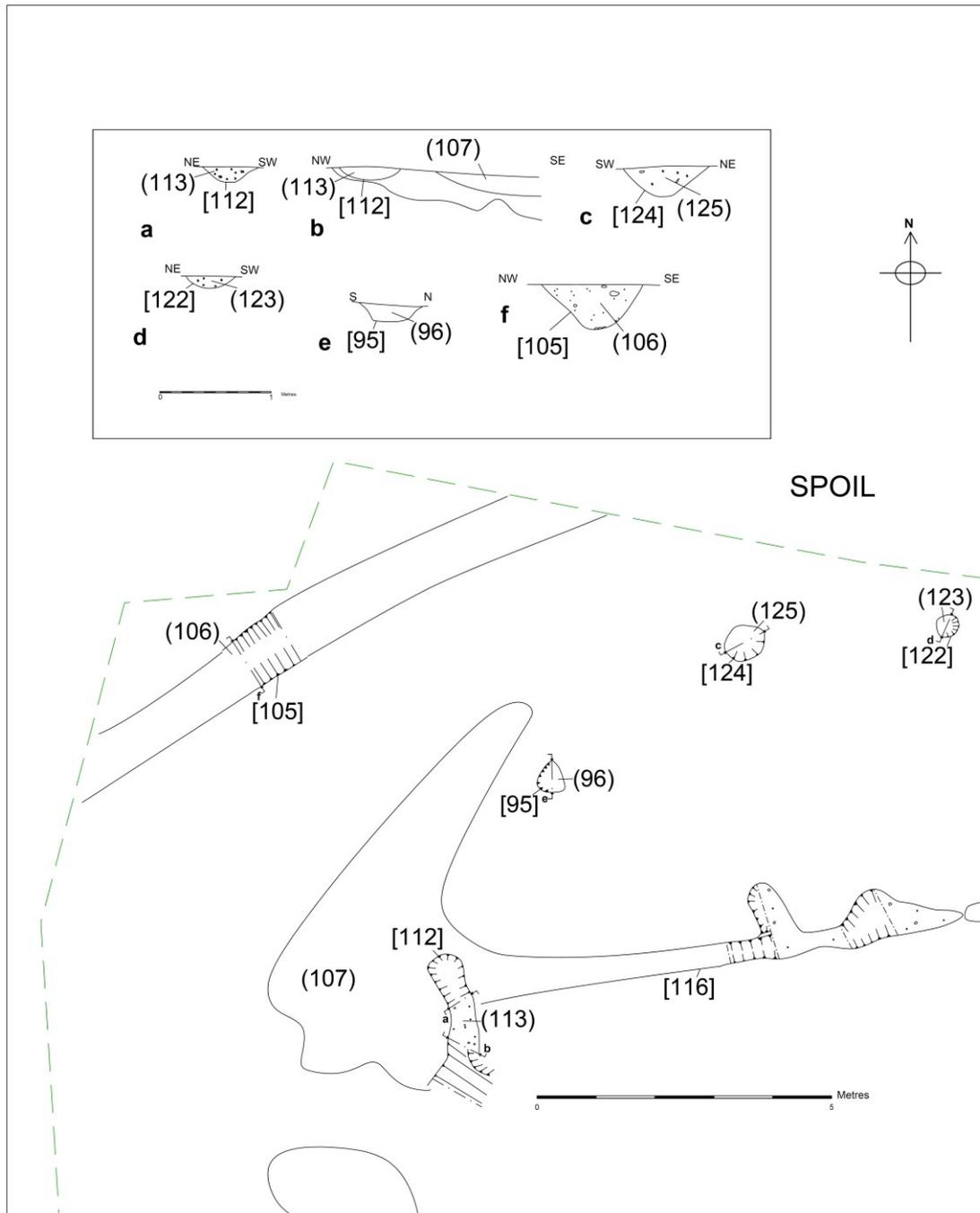


Figure 16: Plans and sections of [116], [112], [95], [122], [124], [105]

Conclusion

The area around Thurcaston Road and Mowmacre Hill has been the subject of several archaeological investigations since the area started to become developed. Previous evaluations have often been inconclusive or negative. Work in 2002 in an area to the south revealed only an undated post-hole (Gnanaratnam 2002); another revealed a little evidence for Iron Age material (Hunt 2005). Even recent work in the area has been largely negative (Hunt 2013 and Higgins 2013).

However, excavation work in 2006 at Beaumont Leys Lane around 1km south of the present development revealed a large Iron Age settlement, including the discovery of several roundhouses and other post-built structures, possibly grain stores, animal pens and fences. The area was defined by large ditches, running north to south and east to west. (Thomas 2008).

The evaluation within the development area in 2010 revealed archaeological remains on the northern part of the field (to the north of the present development area) and within the development area itself to the west (Trenches 44 & 45). This also appeared to suggest an Iron Age settlement with some evidence for earlier material.

The present strip, plan and sample excavation largely confirms these results. Stripping over most of the area of the development revealed only medieval furrows in terms of extant features. However, a small area to the west, within the proposed car park area of the new bakery, was shown to contain a number of archaeological features.

The area appeared to be aligned north-east to south-west, with ditch [1] defining the south-eastern edge of the settlement. To the north-west lay feature [105]; another ditch, which lies on a similar alignment to [1], and appeared to define the extent of the settlement to the north-west. This is curious as this ditch contained modern material.

Within this defined area there was evidence for four roundhouses (features [13], [33], [9] and [126]/[114], and a possible fifth [70], cut by [9]. The more complete of these; [9], [13] and [126] have diameters of between 9.5m and 11.5m. These are all similar in size to those discovered in the 2006 Beaumont Leys Lane excavations, which measured mainly between 8.8m and 11.5m (Thomas 2008). Gullies [9] and [33] contained fired clay deposits, which contained twigs or withies within the matrix and were therefore remnants of wattle and daub building material.

Many of the pits associated with the roundhouse gullies, particularly [24] and [24] with gully [9], or possibly [99] and [101] with [126] and [114] are likely to be part of the structure of the roundhouse itself. Others, such as [3] and [5] with gully [13] may serve some other purpose within the structure of the roundhouse, but could easily post-date the building. Pit [108] also appeared to be associated with roundhouse [126] and [114] and contained the largest assemblage of artefacts on the site including over thirty sherds of pottery and thirteen fragments of burnt daub.

There were also a large number of other pit features (some of which may be truncated post-holes), not associated with the roundhouse structures. Some pits were very large, such as [15] and [88]. Pit [88] was probably discovered during the evaluation within Trench 45, where it was interpreted as a large ditch (Higgins and Beamish 2010). Presumably some of the larger pits are the remnants of local quarrying, but it would be difficult to fully interpret some of the smaller features. Most likely these were used for refuse disposal or for the short-term storage of water.

Some of the pits containing burnt material, particularly heated stones, such as [97] may have been used to heat stones for cooking purposes.

As in the case of the nearby evaluation a small amount of flint artefacts from the Neolithic and Bronze Age periods would suggest a possible continuation from earlier periods.

The orientation of the settlement evidence seems to suggest that the archaeology does not continue to the far to the immediate north or south of the site and no further east. The spoil from the strip was stockpiled to the immediate north and south of the site on

unstripped areas. These spoil heaps were later removed but little of the upper soils were removed. Ditches [1] and [105] would have continued under the spoil heaps but only [105] was observed continuing to the north-east on the other side of the spoil heap when this area was stripped. Similarly, although ditch [1] must continue under the spoil heap area to the south-west, no further archaeological remains were seen on the stripped areas to the immediate south of the site.

The size of the roundhouses, the range of material and the date range of that material, (between 3rd and 2nd century B.C) was very similar to that of the Beaumont Leys Lane site to the south and to the Iron Age site at Manor Farm Humberstone (Thomas 2008), suggesting a similar date and form of occupation here to these two neighbouring sites. The orientation of the settlement and the evidence from the previous evaluations in the area would suggest that the settlement may spread further to the north of the present new development and to the west.

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Leon Hunt would like to thank Nick Cooper, Jennifer Browning and Lynden Cooper for the specialist reports (pot, fired clay, bone and flint).

The site work was carried out by Leon Hunt, Donald Clark, Adam Clapton, James Patrick and Rebecca Hearne.

Publication

Since 2004 ULAS has reported the results of all archaeological work through the *Online Access to the Index of Archaeological Investigations* (OASIS) database held by the Archaeological Data Service at the University of York.

A summary of the work will also be submitted for publication in a suitable regional archaeological journal in due course.

OASIS data entry

Project Name	Thurcaston Road, Mowmacre, Leicester
Project Type	Strip, plan & sample excavation
Project Manager	Patrick Clay
Project Supervisor	Leon Hunt
Previous/Future work	None
Current Land Use	Arable Field
Development Type	New bakery
Reason for Investigation	NPPF
Position in the Planning Process	Planning condition
Site Co ordinates	SK 577 090
Start/end dates of field work	03-03-2014 to 26-03-2014
Archive Recipient	Leicester City Museums
Study Area	14.2 acres (5.5ha)

Archive

The archive for this project will be deposited with Leicestershire Museums with accession number A6.2014.

The archive consists of the following:

- 1 Unbound copy of this report
- 1 Unbound copy of Desk-Based Assessment Report (Report No. 2013-070)
- 5 Watching Brief Recording Sheets
- 1 Context List (3 sheets)
- 119 Context Sheets
- 1 Drawing Sheet Index
- 1 Drawing Index (2 Sheets)
- 13 Sheets of permatrace containing primary drawings
- 1 Photo Index (3 sheets)
- 1 Set of B&W Contact Sheets (3 sheets)
- 1 Set of B&W Negatives (3 sheets)
- 1 CD of digital photographs
- 1 Set contact sheets of digital photographs
- 1 A3 Architect's Plan

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Appendix I: List of contexts

Context	Cut	Below	Description	 Finds
1	1	2	Large Ditch Cut	Pottery, Flint, Bone
2	1	-	Large Ditch Fill	Pottery, Flint, Bone
3	3	4	Large Pit Cut	Pottery, Flint
4	3	-	Large Pit Fill	Pottery, Flint
5	5	6	Small Pit Cut	Pottery
6	5	-	Small Pit Fill	Pottery
7	7	8	Shallow Pit Cut	-
8	7	-	Shallow Pit Fill	-
9	9	10	Curved Linear NW Cut (Roundhouse)	Flint
10	9	27	Curved Linear NW Fill (Roundhouse)	Flint
11	-	-	Tree Bole	-
12	-	-	Tree Bole	-
13	13	14	Roundhouse Gully Cut	
14	13	-	Roundhouse Gully Fill	
15	15	25	Big Pit Cut	Pottery, Bone
16	15	-	Big Pit Upper Fill	Pottery, Bone
17	17	19	Pit Cut	Pottery
18	17	-	Pit Upper Fill	Pottery
19	17	20, 21	Pit Lower Fill	-
20	17	18	Pit Middle Fill	-
21	17	18, 20	Pit Middle Fill	-
22	22	23	Pit Cut	-
23	22	-	Pit Fill	-
24	24	26	Pit associated with [9], Cut	Pottery, Flint
25	25	16	Big Pit Lower Fill	Pottery
26	24	-	Pit Fill	Pottery, Flint
27	27	28	Pit associated with [9], Cut	Flint, Bone
28	27	-	Pit associated with [9], Fill	Flint, Bone
29	29	30	Pit Cut	Pottery, Flint
30	29	-	Pit Fill	Pottery, Flint

31	31	32	Pit, west of [9], Cut	Pottery, Flint
32	31	-	Pit, west of [9], Fill	Pottery, Flint
33	33	34	Roundhouse Gully (SW), Cut	Pottery
34	34	-	Roundhouse Gully (SW), Fill	Pottery
35	35	36	Pit Cut	Pottery
36	35	37	Post-hole Lower Fill	-
37	35	-	Post-hole Upper Fill	Pottery
38	38	39	Post-hole Cut	-
39	38	-	Post-hole Fill	-
40	40	42	Pit Cut	Pottery, Flint
41	40	-	Pit Upper Fill	Pottery, Flint
42	40	41	Pit Lower Fill	-
43	43	44	Post-hole Cut	Pottery
44	43	45	Post-hole Lower Fill	-
45	43	46	Post-hole Secondary Fill	Pottery
46	43	-	Post-hole Tertiary Fill	-
47	47	48	Pit Cut	-
48	47	-	Pit Fill	-
49	49	50	Pit Cut	Pottery
50	49	51	Pit Lower Fill	Pottery
51	49	-	Pit Upper Fill	-
52	52	53	Pit Cut	-
53	52	54	Pit Lower Fill	-
54	52	-	Pit Upper Fill	-
55	55	56	Pit Cut	-
56	55	-	Pit Fill	-
57	57	58	Pit Cut	Pottery
58	57	-	Pit Fill	Pottery
59	59	61	Pit Cut	Pottery
60	59	-	Pit Upper Fill	Pottery
61	59	60	Pit Lower Fill	-
62	-	-	Tree Bole	-

63	-	-	Tree Bole	-
64	-	-	Tree Bole	-
65	65	66	Post-hole Cut	-
66	65	-	Post-hole Fill	-
67	67	68	Post-hole Cut	Pottery
68	67	69	Post-hole Lower Fill	-
69	67	-	Post-hole Upper Fill	Pottery
70	70	71	Gully Cut	Pottery, Bone
71	70	10/73	Gully Fill	Pottery, Bone
72	72	73	Same as 9	-
73	72	74	Same as 10	-
74	74	75	Post-hole Cut	Pottery, Bone
75	74	-	Post-hole Fill	Pottery, Bone
76	76	77	Post-hole Cut	-
77	76	78	Post-hole Lower Fill	-
78	76	-	Post-hole Upper Fill	-
79	79	80	Post-hole/ pit Cut	-
80	79	81	Post-hole/ pit Lower Fill	-
81	79	-	Post-hole/ pit Upper Fill	-
82	82	83	Pit Cut	-
83	82	-	Pit Fill	-
84	84	85	Pit Cut	Pottery, Bone
85	84	91	Pit Lower Fill	Pottery, Bone
86	86	87	Pit Cut	Pottery, Bone
87	86	92	Pit Lower Fill	Pottery, Bone
88	88	89	Huge Pit Cut	-
89	88	90	Huge Pit Lower Fill	-
90	88	-	Huge Pit Upper Fill	-
91	84	-	Pit Upper Fill	Bone
92	86	-	Pit Upper Fill	Pottery, Bone
93	93	94	Pit Cut	-
94	93	-	Pit Fill	-
95	95	96	Pit Cut	-
96	95	-	Pit Fill	-

97	97	98	Pit Cut	-
98	97	-	Pit Fill	-
99	99	100	Post-hole Cut	-
100	99	-	Post-hole Fill	-
101	101	102	Pit Cut	Pottery, Bone
102	101	-	Pit Fill	Pottery, Bone
103	103	111	Pit Cut	-
104	103	-	Pit Upper Fill	-
105	105	106	Ditch Cut	Modern Pottery, Glass, Brick etc
106	105	-	Ditch Fill	Modern Pottery, Glass, Brick etc
107	107	112	Tree Boles/ Disturbed area	Flint
108	108	109	Pit Cut	Pottery, Flint, Bone, Burnt Clay
109	108	110	Pit Lower Fill	Pottery, Bone, Burnt Clay
110	108	-	Pit Upper Fill	Pottery, Flint, Bone, Burnt Clay
111	103	104	Pit Lower Fill	-
112	112	113	Gully (?) Cut	Pottery
113	112	-	Gully (?) Fill	Pottery
114	114	115	Pit Cut	Pottery
115	114	-	Pit Fill	Pottery
116	116	117, 120, 121	Long Gully Cut	Pottery, Flint, Bone
117	116	-	Long Gully Fill, same as 120, 121	Pottery, Flint, Bone
118	118	119	Pit Cut	-
119	118	-	Pit Fill	-
120	116		Long Gully Fill, same as 116, 121	Pottery, Flint, Bone
121	116		Long Gully Fill, same as 120, 116	Pottery, Bone
122	122	123	Pit Cut	-
123	122	-	Pit Fill	-
124	124	125	Pit Cut	-

125	124	-	Pit Fill	-
126	126	127	Roundhouse Cut	Flint
127	126	-	Roundhouse Gully	Flint

Appendix II: The Iron Age Pottery from Bradgate Bakery Thurcaston Rd Mowmacre A6.2014

Nicholas J. Cooper

Introduction

A total of 202 sherds of Middle to Late Iron Age pottery weighing 2854g, with an average sherd weight of 14g, were retrieved from 28 contexts, predominantly from large ditch fill (2), adjacent pit fill (4) and (6), post-hole (37) and pit fill (102).

Methodology

The pottery has been analysed by form and fabric using the Leicestershire County Museums prehistoric pottery fabric series (Marsden 2011, 62, Table 1), with reference to the Prehistoric Ceramic Research Group's Guidelines (PCRG 1997), and quantified by sherd count and weight.

Analysis of Assemblage by Form, Fabric and Decoration

The complete record of the stratified assemblage is presented below (Table 1).

Table 1: Quantified record of Iron Age pottery

Bradgate Bakery, Thurcaston Rd Mowmacre A6.2014 Iron Age Pottery							
Context	Cut	Fabric	Form/Rim	Decoration	Sherds	Weight	Diameter
2	1	R1	base	scored	37	692	
2	1	R2	body		2	61	
4	3	R2	body		8	125	
4	3	R2	Flat everted		2	30	140
6	5	R2	plain incurve	scored	36	705	190
10	9	S2	body		1	10	
10	9	R2	body		1	10	
12	11	R2	body		1	8	
14	13	R2	body		3	12	
25	15	S2	body		1	3	
25	15	R2	body		2	12	
26	24	R2	upright round		5	15	
30	29	R2	body	scored	3	15	
34	33	R2	body	scored	3	23	

37	35	R1	upright flat		13	300	220
41	40	R2	body		1	5	
45	43	S2	body		1	12	
51	49	R1	body		1	5	
63	62	R2	upright flat		5	28	
71	70	R1	body		1	15	
73	72	R1	body		3	25	
90		R1	body		1	2	
102	101	R1	body		9	130	
107		R1	body		3	75	
109	108	R2	body		4	80	
110	108	S1	body	scored	1	3	
110	108	R2	base & body		31	320	
113	112	R1	body		2	12	
115	114	S2	body		1	4	
115	114	R2	body		3	33	
115	114	Q1	body	burnished	3	22	
117	116	R2	body		1	6	
120	116	R1	body		10	41	
121	116	R1	body		3	15	
Total					202	2854	14g ASW

Table 2 Quantified summary by fabric

Bradgate Bakery Thurcaston Rd, Mowmacre A6.2014 Pottery Fabric Summary				
Fabric	Sherds	Weight	% Sherds	Av.Sherd Wt.
Granitic R1/R2	194	2801	96	14g
Quartz Sand Q1	3	21	1.5	7g
Shell S1/S2	5	32	2.5	6g
Total	202	2854	100	14g

The vessel forms, fabrics present and decoration indicates that the assemblage belongs to the East Midlands scored ware tradition current from the 4th or mid-3rd century BC through to the mid-1st century AD (Elsdon 1992), but in view of the low proportion of scoring recorded, a date in the Middle Iron Age, 3rd or 2nd century BC is likely,

similar to that found at nearby Beaumont Leys (Marsden 2011, 61). Despite the relatively good condition of much of the material, with joining sherds from the same vessel in (2), (4) and (37), only five rims were recorded, all from slack shouldered jars (diameters 140-220mm) with upright flat or rounded rims and, in one case, a more ovoid form with a plain, incurving rim (Elsdon 1992, 85, Fig.1.9). Scoring was only recorded on sherds from (6), (30), (34) and (110), whilst burnishing, which is not typical of the tradition, was found in (115).

The makeup of the assemblage by fabric is summarised in Table 2 and demonstrates that it is dominated (96%) by the use of granitic rock opening materials (Fabric R1/R2) during the preparation of the clay for potting, combined with variable amounts of quartz sand. This is typical of sites in close proximity to the recognised source at Mountsorrel (Knight *et al.* 2003) which was used for most of the pottery manufacture at sites close to Leicester such as Beaumont Leys and Manor Farm Humberstone (Marsden 2011, 64-65). The occurrence of small amounts of shell tempered pottery (Fabric S1/S2), with and without sand tempering is also typical of sites this far west and indicates low levels of exchange with sites in East Leicestershire and Rutland where shell-tempered fabrics are dominant (Cooper 2000). The three sherds from single vessel in a purely quartz sand-tempered from pit fill (115) were burnished and may represent an import from elsewhere in the region.

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Appendix III: The Iron Age Fired Clay (burnt daub) from Bradgate Bakery Thurcaston Rd Mowmacre A6.2014

Nicholas J. Cooper

A total of 50 fragments for fired clay were recovered from 12 contexts, notably pit (41), tree bole (107) and pit (110). The entire quantified record is presented below (Table 1).

Table 1

Fired clay from A6.2014 Mowmacre				
Context	Cut	Frag	Weight	Comment

10	9	1	20	
34	33	1	15	wattle perforation
37		3	10	
41	40	8	150	wattle perforation
58	57	8	30	
60	59	2	3	
63	62	1	2	
69	67	5	30	wattle perforation
107		3	120	wattle perforation
109	108	2	15	
110	108	13	145	wattle perforation
120	116	3	30	
Total		50	570	Av. Frag Wt. 11g

The material is generally in a very fragmentary condition with an average fragment weight of 11g. However, five contexts produced larger fragments with impressions created by lengths of round-sections wattle (twigs or withies), indicating that the material came from wattle and daub buildings or other structures that had been destroyed by fire and the debris became incorporated into negative features.

Appendix IV: The Animal Bones from Bradgate Bakery, Thurcaston Road, Mowmacre Hill, Leicester

Jennifer Browning

Introduction

This report presents analysis of the faunal remains which were hand-recovered during excavations at Bradgate Bakery, Thurcaston Road, Mowmacre Hill, Leicester. No bulk environmental samples were taken. The archaeology dated from the late Iron Age to the early Roman period and appears to represent several phases of settlement activity. The area is defined by two ditches, within which are a number of post holes, the remains of five roundhouses and other activity. Thirteen features produced a total of 217 animal bone fragments.

Methodology

Specimens were identified with reference to comparative modern and ancient skeletal material held at the School of Archaeology and Ancient History, University of Leicester. A *pro forma* spreadsheet was used for recording data on preservation, taxa, bone element, state of epiphyseal fusion and completeness to elicit information on species proportions, skeletal representation, age and taphonomy. Where possible, the anatomical parts present for each skeletal element were recorded using the 'zones' defined by Serjeantson (1996), with additional zones ascribed to mandibles based on

Dobney and Reilly (1988). Surface preservation was assessed after Harland et al (2003). The occurrence of burning, gnawing and pathologies was noted and described. Butchery was recorded using simple coding and description. Joining fragments were re-assembled and the resulting specimen counted as a single fragment, although a record of the original number of fragments was retained.

Provenance and Dating

The bones were recovered primarily from pits ditches, gullies, ring gullies and pits dating from the late Iron Age and late-1st to mid-2nd century Roman period (N. Cooper pers. comm).

As the identified assemblage is small and the archaeological phases are poorly defined, the site has not been divided into chronological periods. However, it should be appreciated that the bones were potentially deposited over a long period of time and are unlikely to represent a tightly-dated group.

Preservation and Taphonomy

The bones exhibited both old and modern breakage, and noting the presence of joining fragments reduced the total from 217 to 180 specimens. The assemblage was very fragmented; there were no whole bones, few epiphyses and 14% of the assemblage consisted loose teeth. Surface condition was assessed, following Harland et al (2003), and found to be variable (Table 1). The surface of the majority of the bones (60%) was classed as good, permitting examination for butchery marks and other modifications. No bones were considered to be in excellent condition but 23% were in poor condition, with most of the surface abraded away. The surface condition of the remainder of specimens (17%) was somewhere in between and classed as fair.

The poor condition of the bones inhibited the identifications of modifications such as butchery, gnawing and pathologies. Gnawing was not observed in the assemblage. Burning was recorded on 10 bones in the assemblage from three different features; pits, [101] and [108] and tree bole [11]. Calcined bone was most common and indicates that these bones were exposed to high degrees of heat. Most burnt fragments were not diagnostic enough to identify, with the exception of the scorched teeth on a cattle mandible and a calcined fragment of a cow metacarpal.

The proportion of identifiable fragments was fairly average for a site of this period and location (31%; n=52). However, the sample size is too small to permit reliable analysis.

Taxa and Carcass Representation

Cattle, sheep/goat, horse and pig were represented in the assemblage (Table 2). No more than one individual was represented for each taxa. No birds, fish or small mammal bones were identified.

Full analysis of carcass representation was not carried out due to the small sample size; however the range of elements recovered is listed in Table 3. Teeth appear to be better represented than post-cranial bones, almost certainly reflecting the durability of tooth enamel compared to bone. For cattle, the main elements are teeth and bones from the foot, which tend to be quite robust. The equid assemblage is dominated by a set of maxillary teeth, probably representing a decayed cranium which was recovered from the boundary ditch, contexts (1) [2]. For sheep/goat, teeth and a few of the more robust post-cranial elements were recovered. Pig is represented by a scapula fragment and a phalanx from two different contexts.

Age Structure

Analysis of age at death is normally carried out using tooth eruption and wear as a guide, supplemented by the state of epiphyseal fusion of post-cranial bones. The small sample size here precludes detailed analysis and provides only clues as to husbandry practices on the site. It should be noted that since juvenile bones are more susceptible to destruction than those of adults, they are likely to be under-represented in the assemblage.

Toothwear stages were recorded for three cattle and a single sheep (Table 4). The sheep molar was from an adult animal. One of the cattle third molars was from an elderly animal, while the other two were from younger adults (after O'Connor 2003, table 31). Only a small number of bones with epiphyses were present, mostly from cattle (Table 5). All were fused, providing further hints that juvenile bones have not survived well at the site; this may also explain the poor evidence for pigs, which tend to be slaughtered at a younger age to cattle or sheep.

Measurements

Measurements taken are recorded in Table 6. While there are insufficient numbers to use for intra-site comparisons, they could potentially contribute to wider studies.

Butchery

Butchery was recorded on four bones; two ribs, a cattle astragalus and scapula. The astragalus had fine knife marks on its distal end, which are likely to have occurred during disarticulation. The location and nature of these butchery marks on the astragalus are fairly typical, having been observed on Iron Age sites in the region eg Manor Farm Humberstone (Browning 2011, 113).

Discussion

An assemblage of animal bones was recovered during an archaeological excavation at Bradgate Bakery, which revealed late Iron Age and early Roman activity associated with settlement, metal-working and pottery production.

The assemblage was very small, however cattle, sheep/goat, horse and pig were represented; which comprise the core range of animals expected at a site of this type and time period. No remains from wild mammals, small mammals, birds or fish were recovered from the site. Given the general poor preservation of the assemblage, it is unsurprising that small species are not present and likely that juvenile bones are also under-represented, since they are more likely to erode and fragment in adverse burial conditions. Pig bones were particularly rare, presumably largely due to the poor survival of porous young pig bones. Cattle bones were most frequent, a fact which should not be taken to indicate the economic and dietary basis of the site but is more likely to reflect better survival of larger bones. During excavation, flecks of degraded bone were observed within the fill matrix of several features (L. Hunt pers comm), demonstrating poor preservation and inconsistent survival. Evidence for carcass representation, butchery and age structure are all likely to have been affected by preservational factors.

The site is located near to a larger settlement site at Beaumont Leys, which produced a faunal assemblage totalling 1331 hand-recovered fragments (Browning 2011). The Beaumont Leys bones were extensively fragmented and species variety was limited, with wild animals being very rare. Cattle were the dominant species at Beaumont Leys, with fewer sheep and a very low number of pig bones; however, in common

with Bradgate Bakery poor preservation is likely to have affected the survival of small and less robust bones.

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Tables

Table 1: Surface preservation (% of assemblage) Preservation stage after Harland et al 2003

Preservation stage	Definition	%
2	good: lacks fresh appearance but solid; very localized flaky or powdery patches	60%
3	fair: surface solid in places, but flaky or powdery on up to 49% of specimen	17%
4	poor: surface flaky or powdery over 50% of specimen	23%
Total		100%

Table 2: Distribution of assemblage in hand-recovered features (fragment number)

Feature	cattle	horse	sheep/ goat	pig	large mml	medium mml	indeterminate	Total
tree bole								
11								
12	1				1			2
62								
63			4					4
107								
107	5		4		10			19
gully								
70								
71			2					2
116								
120			1					1
121	5		1	1	9	10	2	28
post hole								
74								
75					4			4
pit								

27							
28	2						2
15							
25			1		1		2
40							
41	1						1
101							
102					1		1
108							
109	4				12		16
110	6	1			61		68
114							
115			1				1
ditch							
1							
2		12					12
Total	24	13	14	1	97	12	163

Table 3: Distribution of taxa and element within the assemblage (raw count- fragment count)

Anatomical Region	Taxa and element	No.
	cattle	
Head	skull	1
	mandible	4
	upper teeth	2
	Lower teeth	3
	tooth fragments	2
Forelimb	radius	1
Shoulder/hip girdle	scapula	1
	pelvis	4
Hind-limb	femur	2
Feet	metacarpal	1
	metapodial	1
	metatarsal	1
	astragalus	2
	1 phalanx	1
	3 phalanx	1
	horse	
Head	Upper teeth	12
	upper incisor	1
Hind-limb	tibia	1
	pig	
Shoulder girdle	scapula	1
Feet	1 phalanx	1
	sheep/goat	
Head	upper teeth	2
	lower teeth	5
	tooth enamel	4
Forelimb	humerus	1
	radius	1
Hind-limb	tibia	1
	indeterminate	

Anatomical Region	Taxa and element	No.
	shaft fragments	5
	large mammal	
	femur	1
	rib shaft	3
	scapula	1
	shaft fragments	97
	skull fragment	1
	medium mml	
	Lumbar vertebra	1
	metapodial	1
	shaft fragments	13
	thoracic vertebra	1
	Total	180

Table 4: Toothwear stages recorded in the assemblage

Cut	Context	Taxon	Element	dp4	p4	m1	m2	m3
40	41	cattle	mandible					j
108	109	cattle	lower molar 3					g
108	109	cattle	mandible		½	k	j	b
107	107	sheep/goat	lower molar 3					g

Table 5: Bones with epiphyses

Context	NISP	Taxon	Element	Fused/Unfused
110	1	cattle	Pelvis (acetabulum)	Fused
107	1	cattle	1st phalanx (proximal)	Fused
107	1	cattle	Radius (proximal)	Fused
28	2	cattle	pelvis	Fused
110	1	cattle	femur(proximal)	Fused
121	1	pig	1st phalanx (proximal)	Fused
110	1	horse	Tibia (distal)	Fused
121	1	sheep/goat	Tibia (distal)	Fused
121	1	cattle	Scapula (distal)	Fused

Table 6: Measurements taken (mm)

Cut	Context	Taxon	Element	Bd	Dd	GLI	GLm	DC	L	W/WA	H
108	109	cattle	astragalus	37		56.4	50.2				
108	109	cattle	lower m3						37.4	15	
108	109	cattle	lower m3						34.8	12.8	
108	109	cattle	lower m2						26.7	13.2	
108	109	cattle	lower m1						23	13.3	
40	41	cattle	lower m3						35.5	16.8	
108	110	horse	tibia	60.1	37.8						
107	107	cattle	astragalus	36.4		59.6	53.5				
107	107	sheep/goat	lm3						20.3	7.6	
70	71	sheep/goat	um2						14.3	10	
70	71	sheep/goat	upper m3						16.9	10.6	
108	110	cattle	femur					39.5			
116	121	sheep/goat	tibia	24.9	18.8						
1	2	horse	upper p2						36.4	23.7	49.6
1	2	horse	upper p2						35.9	24	49.3
1	2	horse	upper m3						25.9	22.2	68

Appendix V: The Flint

Lynden Cooper

Context	Identification
2	Core
	Secondary flake
4	Core
6	Core
10	Shatter
26	Secondary flake
28	Secondary flake
30	Secondary flake
32	Scraper
40	Secondary flake
107	Shatter
110	Core
	Secondary flake
	Tertiary flake
120	Tertiary flake
127	Tertiary flake

Eighteen pieces were recovered. All were of local till-derived flint, grey brown and semi-translucent. Hard hammer percussion and a flake technology was predominant, suggesting a later prehistoric date, Neolithic – Bronze Age.

Appendix VI: Design Specification for archaeological work**UNIVERSITY OF LEICESTER ARCHAEOLOGICAL SERVICES****Written scheme of investigation for archaeological work**

Job title: Land east of Thurcaston Road, Mowmacre Hill, Leicester

NGR: SK 577 090

Client: TSL Projects Ltd.

Planning Authority: Leicester City Council

Planning application No. 20130289

Scheduled Start date: w/c 03.03.2014

1 Definition and scope of the specification

- 1.1 This document is a design specification for an archaeological strip, map and sample excavation at the above site, in accordance with National Planning Policy Framework (NPPF) Section 12 Conserving and Enhancing the Historic Environment (DCLG 2012). This specification provides a written scheme of investigation (WSI) for the fieldwork specified below which is intended to provide information on the character and extent of any buried archaeological remains which may exist on the site and if present record to an appropriate level.
- 1.2 The definition of archaeological excavation, taken from the Institute for Archaeologists Standards and Guidance: for Archaeological excavations (IfA S&G) is a controlled programme of intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features, structures, and as appropriate, retrieves artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design.

2. Background***Context of the Project***

- 2.1 A planning application has been approved with conditions for the erection of a new bakery on land west of Thurcaston Road, Mowmacre Hill, Leicester (Planning application: 20121786).
- 2.2 The British Geological Survey website indicates that the underlying geology of the area is likely to be Oadby Member Diamicton overlying Edwalton Member mudstone (www.bgs.ac.uk). The land is flat and lies at a height of 92m OD.
- 2.3 Following National Planning Policy Framework (NPPF) Section 12 Conserving and Enhancing the Historic Environment (DCLG 2012), the City Archaeologist at Leicester City Council as archaeological advisor to the planning authority recommended that an archaeological strip map and sample excavation is undertaken to clarify the archaeological potential of the site and record deposits as appropriate.

2.1 Archaeological and Historical Background

- 2.1 An archaeological desk-based assessment prepared by University of Leicester Archaeological Services (ULAS) encompasses the site (Hunt 2013). This showed that the proposed development area lies within an area that is rich in prehistoric archaeology. Archaeological evaluations carried out by ULAS in 2001, 2002 and 2005 within the area and the land to the south and east have identified evidence of a substantial Iron Age settlement in the vicinity. There is therefore potential for finds or deposits of prehistoric date within the development area.

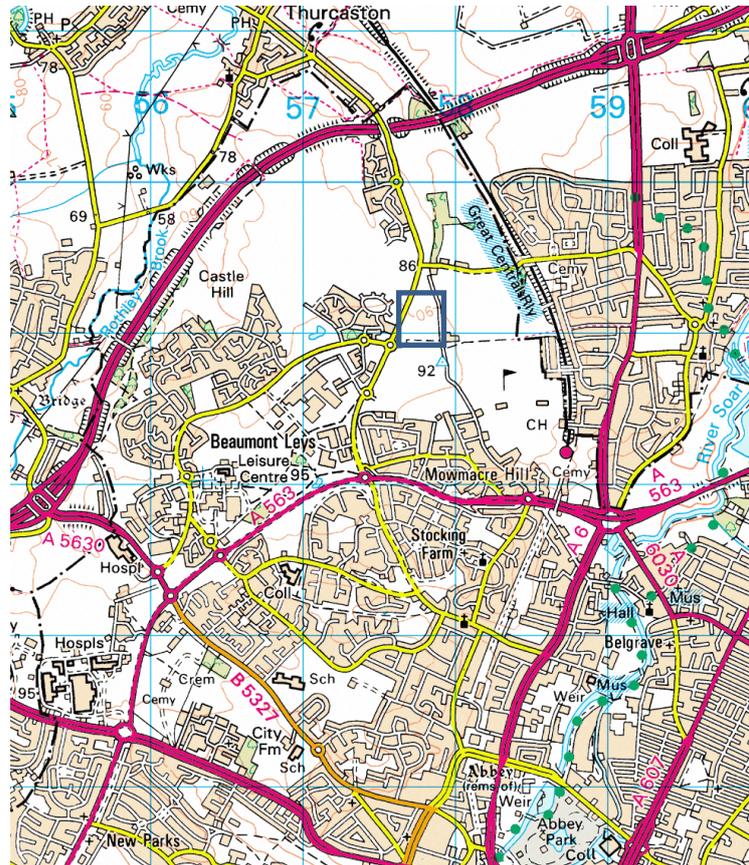


Figure 17: Site location: Reproduced from the Landranger OS map 140 Leicester, Coventry and Rugby area 1:50000 map by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown Copyright 1996. All rights reserved. Licence number AL 10002187.

- 2.2 An earlier evaluation of the site showed that the archaeological levels are likely to be as little as 0.30-0.35m below the surface (Higgins & Beamish 2010).
- 2.3 The Historic Environment Record (HER) for Leicester indicates that several prehistoric sites have also been identified within the vicinity. The HER references are in **bold** in the following text.
- 2.4 An archaeological evaluation carried out in 2002 on an area 300m south-west of the site produced Neolithic finds, including sherds of Peterborough Ware pottery. Further work revealed roundhouses and 43 post-hole features dated to the Iron Age (**MLC1544**) (Abrams 2002). A second phase of work undertaken by ULAS in 2006 20 round houses, several fence lines, 11 four-post structures, possibly grain stores, and 3 large rectilinear structures (Thomas 2008 & 2011). For a period the edge of the settlement was defined by a ditch, but the settlement appears to have expanded beyond this ditch at a later stage. The work produced a large quantity of artefacts, including pottery, fired clay, quernstones, animal bones and

evidence of metalworking including iron slag. The pottery evidence suggested that the site continued to be used into the Roman period (**MLC1484**) (Thomas 2008 & 2011).

- 2.5 In 2010, geophysical survey of land 400m north of the site identified a number of anomalies, which appear to be a rectilinear enclosure with various other features (**MLC2233 & MLC2234**). Trial trenching confirmed that the features appeared to correspond to an Iron Age farmstead with roundhouses and a number of boundary ditches and postholes. Artefacts included pottery, quernstones, and charred plant remains (Higgins 2010 and Beamish 2010).
- 2.6 A strip, map and sample excavation of the adjacent plot to the north in April 2013 did not locate any archaeological remains.

3. Archaeological Objectives

3.1 The main objectives of the archaeological work will be:

- To identify the presence/absence of any archaeological deposits.
- To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works.
- To record any archaeological deposits to be affected by the ground works.
- To produce an archive and report of any results.

3.1 The archaeological strip, map and sample excavation has the potential to contribute to the following research aims.

Iron Age (Willis 2006; Knight et al 2012; English Heritage 2010)

3.1.2 The earlier evaluation revealed evidence of Iron Age settlement. Information on the sequence and chronology of settlements may be recovered and palaeoenvironmental evidence could provide information on agricultural practices and land use. Artefacts can provide evidence for evidence for craft industry and exchange across broad landscape areas.

4. Methodology

4.1 General Methodology and Standards

- 4.1.1 All work will follow the Institute for Archaeologists (IfA) Code of Conduct and adhere to their *Standard and Guidance for Archaeological excavations* (2008).
- 4.1.2 Staffing, recording systems, health and safety provisions and insurance details are included below.
- 4.1.3 Internal monitoring procedures will be undertaken including visits to the site by the project manager. These will ensure that project targets are met and professional standards are maintained. Provision will be made for external monitoring meetings with the City Archaeologist, the Planning authority and the Client.

4.2 Archaeological strip, map and sample excavation

- 4.2.1 The project will involve the supervision of overburden removal and other groundworks by an experienced professional archaeologist to determine the presence/absence of any archaeological remains.
- 4.2.2 Should significant archaeological remains be identified this will be followed by a programme of excavation and recording, using additional personnel as necessary.
- 4.2.3 The archaeologist will control and supervise the topsoil and overburden stripping and the excavation of services, by the Client's contractors, in order to obtain an adequate record of any archaeological deposits or finds disturbed or exposed by groundworks associated with the development. All top and subsoil stripping should be undertaken so as to avoid damaging and obscuring archaeological remains.

- 4.2.4 Any archaeological deposits encountered will be recorded and excavated using standard ULAS procedures (see section 5 below).

4.3 Recording Systems

- 4.3.1 The archaeological deposits will be hand-cleaned by trowel or draw hoe. The cleaned surface may be scanned by metal detector.
- 4.3.2 The archaeological features exposed by the machine stripping will be planned and sample excavated to provide an adequate sample to address the objectives (3.1).
- 4.3.3 Measured drawings of all archaeological features will be prepared at a scale of 1:20 and tied into an overall site plan of 1:100. All plans will be tied into the National Grid using a Total Station Electronic Distance Measurer (EDM). All excavated sections will be recorded and drawn at 1:10 or 1:20 scale, levelled and tied into the Ordnance Survey datum. Spot heights will be taken as appropriate.
- 4.3.4 The location of the excavation will be surveyed using a GPS or Total Station Electronic Distance Measurer (EDM) linked to a hand held computer.
- 4.3.5 Archaeological deposits will be excavated and recorded as appropriate to establishing the stratigraphic and chronological sequence of deposits, recognising and excavating structural evidence and recovering economic, artefactual and environmental evidence. Particular attention will be paid to the potential for buried palaeosols and waterlogged deposits in consultation with ULAS's environmental officer.
- 4.3.6 Any human remains encountered will be initially left in situ, where appropriate the police and coroner shall be informed. Human remains will only be removed following appropriate liaison with the Ministry of Justice and in compliance with their requirements and in accordance with appropriate professional standards and guidance, as well as other relevant environmental health regulations. In all circumstances the developer and Leicester City Council, will be informed immediately upon the discovery of significant human remains.
- 4.3.7 Any material recovered which would be regarded as treasure following the Treasure Act 1996 will be reported to the coroner.
- 4.3.8 Internal monitoring procedures will be undertaken including visits to the site from the project manager. These will ensure that professional standards are being maintained. Provision will be made for monitoring visits with representatives of the developer and the planning authority, Leicester City Council.
- 4.3.9 In the event of significant archaeological remains being located during the fieldwork programme there may be the need for contingency time and finance to be provided to ensure adequate recording is undertaken. On the discovery of potentially significant remains the archaeologist will inform the developer, the City Archaeologist at Leicester City Council and the planning authority. If the archaeological remains are identified to be of significance additional contingent archaeological works will be required.

5. Finds

- 5.1 The IfA *Guidelines for Finds Work* will be adhered to.
- 5.2 Before commencing work on the site, a Site code/Accession number will be agreed with the City Archaeologist that will be used to identify all records and finds from the site.
- 5.3 All antiquities, valuables, objects or remains of archaeological interest, other than articles declared by Coroner's Inquest to be subject to the Treasure Act, discovered in or under the Site during the carrying out of the project by ULAS or during works carried out on the Site by the Client shall be deemed to be the property of ULAS provided that ULAS after due examination

of the said Archaeological Discoveries shall transfer ownership of all Archaeological Discoveries unconditionally to the appropriate authority for storage in perpetuity.

- 5.4 All identified finds and artefacts are to be retained, although certain classes of building material will, in some circumstances, be discarded after recording with the approval of the City Archaeologist.
- 5.5 All finds and samples will be treated in a proper manner. Where appropriate they will be cleaned, marked and receive remedial conservation in accordance with recognised best practice. This will include the site code number, finds number and context number. Bulk finds will be bagged in clear self-sealing plastic bags, again marked with site code, finds and context.
- 5.6 Finds which may constitute 'treasure' under the Treasure Act, 1996 must be removed to a safe place and reported to the local Coroner. Where removal cannot take place on the same working day as discovery, suitable security will be taken to protect the finds from theft.

6. Environmental Sampling

- 6.1. If features are appropriate for environmental sampling a strategy and methodology will be developed on site following advice from ULAS's Environmental Specialist. Preparation, taking, processing and assessment of environmental samples will be in accordance with current best practice. The sampling strategy is likely to include the following:

- A range of features to represent all feature types, areas and phases will be selected on a judgmental basis. The criteria for selection will be that deposits are datable, well-sealed and with little intrusive or residual material.
- Any buried soils or well-sealed deposits with concentrations of carbonised material present will be intensively sampled taking a known proportion of the deposit.
- Spot samples will be taken where concentrations of environmental remains are located.
- Waterlogged remains, if present, will be sampled for pollen, plant macrofossils, insect remains and radiocarbon dating provided that they are uncontaminated.

- 6.2 All collected samples will be labelled with context and sequential sample numbers.
- 6.3 Appropriate contexts (i.e datable) will be bulk sampled (50 litres or the whole context depending on size) for the recovery of carbonised plant remains and insects.
- 6.4 Recovery of small animal bones, bird bone and large molluscs will normally be achieved through processing other bulk samples or 50 litre samples may be taken specifically to sample particularly rich deposits.
- 6.5 Wet sieving with flotation will be carried out using a York Archaeological Trust sieving tank with a 0.5mm mesh and a 0.3mm flotation sieve. The small size mesh will be used initially as flotation of plant remains may be incomplete and some may remain in the residue. The residue > 0.5mm from the tank will be separated into coarse fractions of over 4mm and fine fractions of > 0.5-4mm. The coarse fractions will be sorted for finds. The fine fractions and flots will be evaluated and prioritised; only those with remains apparent will be sorted. The prioritised flots will not be sorted until the analysis stage when phasing information is available. Flots will be scanned and plant remains from selected contexts will be identified and further sampling, sieving and sorting targeted towards higher potential deposits.
- 6.6 Where evidence of industrial processes are present (eg indicated by the presence of slag or hearth bases), samples will be taken for the analysis of industrial residues (e.g hammer scale).

7 Report and Archive

- 7.1 The full report in A4 format will usually follow within six months of the completion. Copies will be provided for the client and the Local Planning Authority and deposited with the Historic Environment Record.
- 7.2 The report will include consideration of:
- The aims and methods adopted in the course of the work.
 - The nature, location and extent of any structural, artefactual and environmental material uncovered.

- The anticipated degree of survival of archaeological deposits.
- The anticipated archaeological impact of the current proposals.
- Appropriate illustrative material including maps, plans, sections, drawings and photographs.
- Summary.
- a summary of artefacts, specialist reports and a consideration of the evidence within its local, regional, national context.
- The location and size of the archive.
- A quantitative and qualitative assessment of the potential of the archive for further analysis leading to full publication, following guidelines laid down in *Management of Archaeological Projects* (English Heritage).

7.3 A full copy of the archive as defined in the IfA Standard and Guidance for archaeological archives (Brown 2008) will normally be presented to Leicester City Council within six months of the completion of fieldwork. This archive will include all written, drawn and photographic records relating directly to the investigations undertaken and will follow the LCC guidelines detailed in *The Transfer of Archaeological Archives to Leicestershire Museums, Arts and Records Service* (LMARS).

7.4 The copyright of all original finished documents shall remain vested in ULAS and ULAS will be entitled as of right to publish any material in any form produced as a result of its investigations.

8 Publication and Dissemination of Results

8.1 A summary report will be submitted to a suitable regional archaeological journal following completion of the fieldwork. A full report will be submitted to a national or period journal if the results are of significance.

8.2 University of Leicester Archaeological Services supports the Online Access to the Index of Archaeological Investigations (OASIS) project. The online OASIS form at <http://www.oasis.ac.uk> will be completed detailing the results of the project. ULAS will contact the HER prior to completion of the form. Once a report has become a public document following its incorporation into the HER it may be placed on the web-site.

8.3 Where possible the archaeological work will include community involvement in the form of displays, open days and talks subject to the results of the archaeological work.

9 Acknowledgement and Publicity

9.1 ULAS shall acknowledge the contribution of the Client in any displays, broadcasts or publications relating to the site or in which the report may be included.

9.2 ULAS and the Client shall each ensure that a senior employee shall be responsible for dealing with any enquiries received from press, television and any other broadcasting media and members of the public. All enquiries made to ULAS shall be directed to the Client for comment.

10 Copyright

10.1 The copyright of all original finished documents shall remain vested in ULAS and ULAS will be entitled as of right to publish any material in any form produced as a result of its investigations.

11 Monitoring arrangements

- 11.1 Unlimited access to monitor the project will be available to both the Client and his representatives and City Archaeologist subject to the health and safety requirements of the site.
- 11.2 All monitoring shall be carried out in accordance with the IfA *Standard and Guidance for Archaeological Excavations and Watching briefs* (2008)
- 11.3 Internal monitoring will be carried out by the ULAS project manager.

12 Timetable and Staffing

- 12.1 A start date for the groundworks is provisionally w/c 03.03.2014.
- 12.2 The on-site director/supervisor will carry out the post-excavation work, with time allocated within the costing of the project for analysis of any artefacts found on the site by the relevant in-house specialists at ULAS.

13 Health and Safety

- 13.1 ULAS is covered by and adheres to the University of Leicester Statement of Safety Policy and uses the ULAS Health and Safety Manual (revised 2010) with appropriate risks assessments for all archaeological work. A draft Health and Safety statement for this project is in the Appendix. The relevant Health and Safety Executive guidelines will be adhered to as appropriate.

14. Insurance

- 14.1 All ULAS work is covered by the University of Leicester's Public Liability and Professional Indemnity Insurance. Public Liability Insurance and Employers Liability Insurance: Allianz Insurance plc Policy No. SZ/21696148. Professional Indemnity Insurance – Novae Underwriting Ltd. Policy No. 702610MMA120

15. Contingencies and unforeseen circumstances

- 15.1 In the event that unforeseen archaeological discoveries are made during the project, ULAS shall inform the site agent/project manager, Client and the City Archaeologist and Planning Authority and prepare a short written statement with plan detailing the archaeological evidence. Following assessment of the archaeological remains by the City Archaeologist, ULAS shall, if required, implement an amended scheme of investigation on behalf of the client as appropriate.

15. Bibliography

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ARCHAEOLOGICAL EXCAVATION METHOD STATEMENT & RISK ASSESSMENT

Site Name	Job No	PM	Contact
Land at Thurcaston Lane, Mowmacre Hill, Leicester	14/580	Patrick Clay	0116 252 2848
Site Director	Site Contacts	Team (Nos)	
TBA	TBA	1	

SITE WORKS & METHOD STATEMENT

The work will involve the supervision of machining across the area as detailed in the specification followed by excavation of archaeological deposits

Excavation Method Statement

- Access and parking will be gained via authorised routes to be arranged with the land owner/tenant.
- All staff will be inducted by the site director prior to starting work on site (Appendix 3).
- **Services:** A CAT Scanner may be used in both POWER and RADIO mode to scan trench lines for services prior to excavation. [The CAT must be in calibration and used by a competent person and used in both POWER and RADIO mode.
- Trenches will not be excavated within 15m of known water mains or sewers or in the vicinity of other underground services or electrical cables without a separate SSOW. Any known services will be marked on the ground and avoided. All machine excavation will be carefully monitored.
- No work will be undertaken beneath overhead cables. If a tracked machine is required to pass below an overhead cable a separate SSOW will be followed.
- **Excavation:** Work will be conducted as per the *Methodology* detailed in the specification. Machining will be conducted using ULAS SSOW1. Any lone working on site will be undertaken according to ULAS SSOW2 (Appendix 1).
- A first aid kit and a site phone will be available on site at all times. At least one member of staff will have first aid training.

Equipment

All plant will be the responsibility of the client.

ULAS vehicles or personal cars will be used (all appropriately insured and maintained).

Besides the plant, equipment will include a variety of hand tools (e.g. shovels, mattocks, trowels), recording materials (e.g. photographic equipment, computers, levels etc.), survey equipment (e.g. EDM, DGPS) CAT scanners and metal detectors may be used.

Personnel

The site director (as above) will be responsible for the day to day running of the site. Specialists and visitors may be invited to visit the site during fieldwork. It is expected to hire plant and operators from a reputable local company.

All personnel are experienced in working with plant and in the excavation of trenches. All site staff hold CSCS cards and many also hold a SPA quarry passport. All site staff have some first aid training.

Normal working hours are 7 hours a day between 8am and 6pm Monday to Friday.

Monitoring and communications

ULAS management and site staff details are as above.

Work will be monitored internally by the ULAS Project Manager and/or Health & Safety Co-ordinators.

ULAS method statements are prepared following standard guidelines and after consultation with the University Safety Services Department. Communication of the contents of the method statement to site staff is the responsibility of the Site Director. The risk assessment will be updated weekly or when conditions change.

Accident Reporting

All accidents will be logged using ULAS accident forms and report to the ULAS Main Office (0116 2522848) and if necessary to the University of Leicester Safety Services Dept (Appendix 2).

Contact Details

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