Deeping Gate Trees, Market Deeping, Lincolnshire

An Archaeological Excavation



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An Archaeological Investigation

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Grid Reference TF 1487 1226

April 2015

Site Code and Museum Accession Number LCNCC: 2013.107

Planning Ref PL/0201/11

CAU Report No. 1261

CONTENTS

LIST OF FIGURES & TABLES	2
NON-TECHNICAL SUMMARY	3
ACKNOWLEDGEMENTS	3
1. INTRODUCTION	4
2. PLANNING BACKGROUND	4
3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	4
4. METHODOLOGY	7
5. RESULTS	8
5.1 Prehistoric	8
5.1.1 Group A – Pits and postholes	9
5.1.2 Group B – Pits and postholes	10
5.1.3 Group B – Linear	13
5.2 Post-Medieval	13
5.3 Undated	13
6. DISCUSSION	14
6.1 Late Neolithic or Early Bronze Age settlement	14
7. CONCLUSION AND RECOMMENDATIONS	17
8. REFERENCES	18
9. APPENDICES	22
9.1 Specialist Reports	22
9.1.1 Prehistoric Pottery	22
9.1.2 Worked Flint	23
9.1.3 Fauna	26
9.1.4 Environmental Data	29
9.1.5 Burnt Stone	31
9.1.6 Fired clay	32
9.2 Figures	35
9.3 Feature Summaries	44
10.OASIS FORM	52

LIST OF FIGURES & TABLES

Figure 1	_	Site location
Figure 2	_	Site plan
Figure 3	_	Detail of Group A and B features
Figure 4	_	Selected photographs
Figure 5	-	Selected sections (Group A)
Figure 6	-	Selected sections (Group B)
Figure 7	-	1890 Ordnance Survey Map with Development Area
Figure 8	_	Detail of projected post structure in Area A
Figure 9	_	Linear distribution of Late Neolithic features from Kent, Norfolk and Lincolnshire

_	Feature breakdown for all periods
_	Period breakdown for all features
_	Summary of finds by weight
_	Summary of pits and postholes in Group A
_	Summary of pits and postholes in Group B
_	Quantification of finds from pit F.11
—	Pottery assemblage composition
_	Basic quantification of the flint assemblage
-	Number of identified specimens and the minimum number of individuals for all species from all features
-	Number of identified specimens for all species: breakdown by feature
-	Number of identified specimens for all species from heavy residues
_	Summary of archaeobotany in Group A
_	Summary of archaeobotany in Group B
_	Catalogue of burnt stone
_	Catalogue of burnt clay

NON-TECHNICAL SUMMARY

Within an investigation area of c. 1.05ha a linear swathe of forty-two features was recorded that comprised a prehistoric settlement including a post-defined circular structure. Dating of the pottery is problematic, but covers a timeframe of the Late Neolithic to the Early Bronze Age. This is confirmed by the fauna which includes both wild and domestic species as well as deposition of a special nature. By contrast, the worked flint assemblage is of a more certain Late Neolithic tradition. The significance of the assemblage to a local understating of prehistoric communities is undoubted, but its broader value may only be realised through scientific dating.

ACKNOWLEDGEMENTS

The project was commissioned by Deeping Gate Trees, and the assistance of Tony Peters is gratefully acknowledged. Jan Allen (Historic Environment Officer for the Planning Department of Lincolnshire County Council) oversaw and monitored the development control of the investigation. David Gibson (CAU) was the Project Manager, and the fieldwork was carried out by the author. Graphics were produced by Brian Crosson and the site was surveyed by Donald Horne.

1. INTRODUCTION

Archaeological investigation by strip, map and record was carried out by the Cambridge Archaeological Unit (CAU) at Deeping Gate Trees, Northfield Road East, Market Deeping, Lincolnshire (Figure 1), between 16th and 24th September 2014, to address a condition placed upon planning consent for a proposed irrigation reservoir.

Deeping Gate Trees is situated *c*.1.0km north of the town of Market Deeping at TL 5150 3123 (Figure 1). It is bounded to the east by Cross Road, and by the A16 Market Deeping Bypass to the south, with open agricultural fields to the north; the tree nursery is situated to the west of the development area, between which lies the hard-standing of a caravan park. The development area covers approximately 1.05ha of flat grassland with a slight landfall of 2.68m to 2.75m AOD from north to south; two sizeable ponds were contained within the investigation area (Figure 2), and the underlying geology is 1st Terrace Gravel Deposits overlying Oxford Clay.

The principle objective of the investigations was the preservation of archaeological remains by record and the determination of their character (e.g. chronological range and quality of preservation) as well as their local, regional and national significance. The archaeological significance of the broader environs around the development area has been highlighted in a number of major surveys (e.g. RCHME 1960, Hayes and Lane 1992), and holds potential for an important contribution to current East Midlands research agendas (Cooper 2006, Knight *et al.* 2012).

2. PLANNING BACKGROUND

Work originally commenced on the construction of the reservoir in June 2010, but was halted when it became apparent that planning consent was required. These works resulted in the extraction of sand and gravel in two areas within the development area which are illustrated as ponds in Figure 2. Planning permission was subsequently sought for the creation of an irrigation reservoir with pump house to serve the tree nursery (planning application PL/0259/10 and superseded by PL/0201/11). As a part of this process the CAU was commissioned in December 2012 to carry out a programme of archaeological trial trenching, the results of which are summarised in Section 3 below (Brittain 2013a).

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Previous investigations within Deeping Gate Trees comprise 297.63m² of archaeological trial trenching (Brittain 2013a, see also Figure 1) in which two small, undated postholes were recorded along with a number of natural hollows filled with charcoal-rich clayey silt. Aerial photographs had indicated that a series of linear anomalies passed through the investigation area from the northeast to the southwest, and trenches were positioned in order to

confirm their presence; however, these were not forthcoming and it was proposed that the linear anomaly could be geological in origin. A possible east-west linear was recorded to the south of the investigation area, but the current programme has shown this to also be of natural origin. No archaeological artefacts were recovered during the evaluation.

Prehistoric

The development of the A16 Market Deeping bypass at the turn of the millennium was preceded by trial trenching that passed across the southern edge of the current Deeping Gate Trees development area (Cope-Faulkner 1999). Although little was recovered from within the twelve trenches located within 1.0km of the development area, one trench (T.23) to the east produced a group of features including three pits and four postholes (see Figure 1 for location). Two pits were excavated with dimensions of 1.02m by 0.39m and 0.88m by 0.24m; these contained fired clay with wattle impressions and charcoal dated by radiocarbon to 2450-1975 cal. BC. A single retouched flint flake was also recovered and confirmed the group's Late Neolithic/Early Bronze Age date. Unfortunately when the area was opened for further examination (as Site 10) no additional features were identified and it became evident that a problem had occurred in the geographical positioning of the trench which had been located off the line of the carriageway (Trimble 2000: 68).

Deeping Gate Trees is situated only a few kilometres to the west of the Neolithic and Bronze Age fen edge from which flowing channels would once have radiated into the higher and thereby drier inland gravels attractive for settlement (Hayes and Lane 1992). Within only 4.0km to the south and west of the investigation area is a landscape noted for its Neolithic archaeology, particularly in the form of large monumental complexes, which stretches across the Welland Valley from Northborough through to Etton/Maxey and northwards to Barholm (French and Pryor 2005, Pryor et al. 1985, Pryor 1999, Simpson 1993, Wessex Archaeology 2005). By contrast, only a few Neolithic artefacts have been recovered to the north of the investigation area - within the Langtoft/Baston landscape - and these mainly are mainly residual to later contexts. The environs of the Langtoft/Baston landscape has been subject to considerable archaeological investigation in advance of gravel extraction, and here extensive Bronze Age land use has been recorded. The Early Bronze Age landuse is represented by pit clusters, post-built structures and burial monuments (Brittain 2013b; Hall 2000; Hutton 2008a; Webley 2004); in addition, two ring ditches of probable Neolithic or Bronze Age date were excavated 1.0km to the southwest of the investigation area during the A16 Bypass works (Trimble 2000: Site 8), and the crop mark of a third has been identified to the immediately east of this (HER 34758). The Middle Bronze Age landscape over Langtoft/Baston is characterised by extensive coaxial ditched field systems connected by long linear droveways with settlement predominantly to the east, fen-edge side of this, and with salt-winning technologies, considerable pottery assemblages, burial monuments and large pit wells also having been recorded (Brittain 2013b, Hogan 2012, Hutton 2008a, 2008b, 2009, 2011, Hutton and Dickens 2010). Middle Bronze Age

pottery was found during fieldwalking in Market Deeping (Hayes and Lane 1992: 184) and at West Deeping, *c*. 4.0km to the west of the investigation area; at Welland Bank, 3.0km to the south, similar extensive Middle Bronze Age features illustrate the wide-reaching nature of Bronze Age activity in the region (Kiberd 1996, 1996b, Murrell 2010).

The later Bronze Age and earlier Iron Age environment is regarded as increasingly wet as marine alluviation disperses settlement across the fen margin, but here it is represented with equal frequency within 2.0km to the northwest and south of the investigation area (Hall 2000, Hutton and Dickens 2010, Knight 1998, Pryor *et al.* 1985, Webley 2004), and 4.0km to the west (Kiberd 1996a, Savage 2008). Settlement gradually returned as the freshwater landscape became re-instated into the mid to Late Iron Age, although excavated evidence is generally limited. An important sequence of changing ceramic styles has been identified through the collective archives of these sites, in which a rare record of evolving salt-winning technologies has also been revealed.

Romano-British

Similar to its prehistoric evidence, the environs within which the investigation area is situated has also been noted for the density of its Romano-British archaeology. 1st to 2nd century AD imported Samian pottery has been collected through fieldwalking over the northeast outskirts of Market Deeping at Priory Meadow, along with the recovery of a bronze 'crown' in the 1960s (SAM 179, HER 30047). The current investigation area lies between this and a settlement or farmstead 0.5km to the north that broadly dates from the mid-2nd to mid-3rd centuries AD, with evidence of 4th century activity further to the south of this (Collins 2010, Hutton 2007). Associated ditched field systems have been identified both to the south and the north of the farmstead at least stretching over 0.5km (Northamptonshire Archaeology 2009, Mudd 2004). With an east to west orientation these may be connected in some way with the Car Dyke that is aligned north to south some 2.0km east of the investigation area, and is the largest of the Romano-British canal systems in the country.

Medieval and Post-Medieval

Medieval and post-Medieval furrow systems and ditched field allotment oriented northeast-southwest has been recognised in a number of archaeological projects on all sides of the investigation area (Collins 2010, Hutton 2007, Trimble 2000), although no major settlement has been uncovered.

Second World War defences are also distributed over the Market Deeping and Langtoft landscape, the impact and survival of which is not clearly documented and local history recounts that an aeroplane of the Royal Air Force crashed within or at least near to the investigation area during the Second World War (Tony Peters *pers. com.*); a number of crashes within a mile north of Market Deeping are reported within incident logs for 1941 and 1942 (see www.bcar.org.uk/crash-logs).

4. METHODOLOGY

The work followed specifications previously outlined by the CAU (Gibson 2013) in accordance with a Design Brief for archaeological evaluation issued by the office of Conservation Services at the Lincolnshire County Council.

The excavation covered an area of 8775m². Topsoil was removed down to exposed archaeological deposits by a tracked 360° machine using a 1.8m wide toothless bucket. Work was undertaken in accordance to statutory Health and Safety guidelines and a CAU risk assessment detailed under the recommendations of the Federation of Archaeological Managers and Employers' Manual of Health and Safety in Field Archaeology 2010. All archaeological features and deposits were excavated by hand and recorded using the CAU modified version of the MoLAS recording system (Spence 1994) with all excavated stratigraphic events assigned feature numbers (F.#) and all contexts assigned individual numbers ([context #]). Features/feature groups were hand excavated, with discrete features being half-sectioned (50% excavated), and where possible in some cases being excavated to 100% for the full retrieval of material assemblages. Linear features were excavated in 1.0m-long slots. All features were digitally photographed with an appropriate scale, and the sections of features were drawn at 1:10. Feature droups A and B were planned at a scale of 1:50 against an arbitrary 10m grid that along with the development area was fixed to the Ordnance Survey (OS) grid with a Global Positioning System (GPS) during which a contour survey was also undertaken. Soil samples of 5-30ltrs were collected from selected features for wet-sieve floatation processing back at the offices of the CAU. Progress of the evaluation was monitored by the Historic Environment Officer of the Lincolnshire County Council.

The data sheets, stratigraphic record and the digital photographic record has been catalogued together within an archive following the procedures outlined in MoRPHE (English Heritage 2006) and the Lincolnshire Archaeology Handbook (Lincolnshire County Council 1997, revised 2012). These are being stored with the processed material finds record at the Cambridge Archaeological Unit offices under the site code LCNCC: 2013.107.

5. RESULTS

A total of forty-two features were recorded (Figure 3; Tables 1 and 2) and 3199g of finds recovered (Table 3). Of the features, 86% were pits or postholes broadly assigned to the Late Neolithic/Early Bronze Age period (*c*. 2600-1800 BC), with three linear features clearly of post-Medieval date. As identified during the evaluation phase, natural hollows were filled with firm clayey silt frequently infused with flecks or lumps of charcoal. Testing of a number of these confirmed their non-anthropogenic character; it was concluded that two 'features' initially catalogued as possible small postholes were also naturally filled hollows.

Feature Type	Number	%
Pit or Posthole	36	86
Linear	4	10
Natural	2	4
Total	42	100

Period of Feature	Number	%
Late Neolithic	35	83
Post-Medieval	3	7
Undated	4	10
Total	42	100

Table	1.	Feature	breakdown	for	all	periods
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Table 2:	Period	breakdown	for a	all fe	eatures
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Find Type	Weight (g)
Animal Bone	1517
Burnt Stone	748
Burnt Clay	411
Worked Flint	297
Pottery	208
Burnt Flint	18
Total	3199

Table 3: Summary of finds by weight

5.1 Prehistoric

Thirty-five pits and postholes with other features that could be either pits or postholes were found predominantly in two areas along the south half of the investigation area and these are here referred to as Groups A and B (Figures 3-6). These groups have been assigned owing to spatial clustering of features that in reality may form a single swathe of related features, the conjoining area and potential features therein having been removed by the cutting of the south pond.

Prehistoric worked flint was found in twelve features: nine in Group A and three in Group B. Prehistoric pottery was recovered from twelve features in total, within six features in each of Groups A and B. Dating of the pottery has been problematic, with fabric and styles being largely indistinguishable from Late Neolithic Wares (notably Grooved Ware) and Early Bronze Age wares (Beaker pottery). The inclusion within some features of possible Late Bronze Age sherds has not aided attribution. The worked flint, by contrast, displays a

more clearly Late Neolithic character. The implications of this are returned to in the discussion (Section 6).

5.1.1 Group A – Pits and postholes

Group A was comprised of twenty-one pits and postholes (Table 4, Figure 5), of which sixteen could with certainty be classed as postholes and five as pits. A circular structure was defined by eight of the postholes.

Feature No.	Туре	No. fills	Post Pipe	Length/Width (Depth) in metres	Finds
19	PIT	3	-	0.85 (0.35)	-
20	POSTHOLE	2	?1	0.31 (0.07)	-
21	POSTHOLE	3	?1	0.34 (0.12)	-
22	POSTHOLE	1	-	0.23 (0.03)	Flint
23	POSTHOLE	2	?1	0.3 (0.07)	Seed
24	POSTHOLE	1	-	0.37 (0.1)	-
25	POSTHOLE	2	1	0.54 (0.16)	Hazel nutshell
26	POSTHOLE	2	1	0.47 (0.14)	-
27	POSTHOLE	2	?1	0.37 (0.12)	-
28	PIT	3	-	0.8 (0.16)	Pottery, Flint, Burnt Stone, Burnt Clay, Hazel nutshell
29	PIT	2	-	0.68/0.47 (0.26)	Pottery, Flint, Burnt Stone, Hazel nutshell
30	PIT	2	-	1.2 (0.25)	Pottery, Bone, Flint, Burnt Stone, Hazel nutshell
33	PIT	1	-	0.42 (0.33)	Pottery, Bone, Worked Bone, Flint, Hazel nutshell
34	POSTHOLE	1	-	0.3 (0.1)	Pottery
35	POSTHOLE	1	-	0.24 (0.08)	-
36	PIT OR POSTHOLE	2	-	0.28 (0.16)	-
37	POSTHOLE	1	-	0.45 (0.1)	Flint
38	POSTHOLE	1	-	0.65 (0.05)	Burnt Stone
39	POSTHOLE	1	-	0.47 (0.8)	-
40	POSTHOLE	1	-	0.24 (0.06)	-
41	POSTHOLE	1	-	0.2 (0.05)	Flint

Table 4: Summary of pits and postholes in Group A

Pits **F.19**, **F.28-30** and **F.33** each contained a range of material culture, including pottery, worked flint, burnt and worked stone, bone and fired clay. These were circular or sub-circular in plan and between 0.68m and 1.2m in diameter, and contained 1-3 fills of soft to moderately firm clayey silt to a depth of 0.35m. A moderate frequency of charcoal flecks was consistent throughout the fills of F.19 and F.29 with greater abundance in F.28, F.30 and F.33. The profiles of these pits were near straight, vertically sided with sharp breaks of slope to flat bases. Pits F.19 and F.29 were clustered together to the northeast of the post structure, with F.30 situated directly east of its

entrance; these may have related directly to activities connected with the structure (see section 6). Upon the base of pit F.33, located a few metres to the northwest and the rear of the post structure, was a shed antler of a young red deer; this perhaps represented a 'special' deposit.

Another four postholes (**F.34-36** and **F.41**) were recorded northeast of the post structure. Pottery from F.34 and flint from F.41 indicate that these also belong to the Late Neolithic/Early Bronze Age phase of activity. The in-filled posthole of F.34 was cut by F.36, and postholes F.37 and F.38 were cut by F.39; this is suggestive of some duration of activity that, whilst not necessarily considerable, was prolonged enough for the development of a stratigraphic sequence.

The form of the post structure was founded upon a circle of six postholes F.20-23, F.27 and F.40 set with a spacing that consistently alternated between 1.5m and 1.75m, the rear (west) and front (east) sides of the structure therefore being of 1.5m length. The width of the postholes averaged to 0.3m with depths of between 3cm and 0.12m, and their profiles were consistent with near straight or sharp concave sides and a flat base. These contained 1-3 fills of silt, the lower of which was a pale yellowish grey colour that was capped by mid to dark greyish brown slightly clayey silt with frequent charcoal flecks. Owing to the shallowness of the postholes it was not clear if the capping fills were truncated post pipes, although the deepest postholes (F.20-21 and F.27) may not discount the possibility that timber uprights had rotted in situ. The overall diameter of the post circle was 4.0m, interrupted on its east side by a gap of 3.0m between F.27 and F.40. A further six postholes (F.24-26 and F.37-39) were identified to the east of this gap, spread over a 3.5m guasi-linear series aligned southwest to northeast. F.25 and F.26 may be highlighted from this series due to their comparative robustness illustrated by straight, vertical sides and a flat base at c. 0.15m depth – and the evidence within each for a post pipe with irregular vertical sides with a slightly splayed base and filled with mid greyish brown, moderately firm, silt with frequent charcoal flecks. By comparison, F.24 and F.37-39 were shallow and slightly concave with homogenous, single light grey fills (the latter also heavily compacted by Modern vehicle traction). F.25 and F.26 therefore appear to represent an easterly, 1.0m wide entrance porch to the structure, and their spacing of 1.75m from the post circle – thereby repeating the alternating width between postholes - further reinforces this claim. No features or areas of scorching were identified within the structure's interior.

5.1.2 Group B - Pits and postholes

Group B, on the east side of the south pond, comprised of eighteen pits and postholes (Table 5, Figure 6) and a linear. Finds recovered from these features are prehistoric, with a number identifiable as Late Neolithic/Early Bronze Age. Of note in Group B is the diversity of pit and posthole types, as well as an area of clustered, intercutting features and a pit containing a 'special' sequence of deposits.

Feature No.	Туре	No. fills	Post Pipe	Length/Width (Depth) in metres	Finds
1	POSTHOLE	3	1	0.45 (0.39)	Burnt Stone
2	PIT	3	-	0.3 (0.24)	Pottery
4	PIT OR POSTHOLE	1	-	0.3 (0.08)	-
5	POSTHOLE	1	-	0.13 (0.08)	-
6	PIT	1	-	0.4 (0.13)	-
7	PIT	2	-	0.75 (0.36)	Pottery, Flint, Burnt Stone, Burnt clay, Hazel nutshell
8	PIT	2	-	1.8/1.35 (0.21)	Pottery, Bone, Burnt Stone, Burnt clay
11	PIT	7	-	0.61 (0.64)	Pottery, Bone, Flint, Burnt Stone, Burnt clay, Hazel nutshell, Wheat grain
12	PIT	1	-	0.56 (0.15)	Pottery
13	PIT	1	-	>0.37 (0.17)	-
14	PIT	1	-	>0.58 (0.2)	-
15	PIT	1	-	0.7 (0.2)	-
17	PIT	1	-	0.95 (0.3)	Pottery, Burnt Stone
18	PIT	2	-	0.41 (0.1)	Pottery, Burnt Stone

Table 5: Summary of pits and postholes in Group B

Two postholes could be identified with certainty: **F.1** and **F.5**. Circular in plan and with near straight vertical sides and a flat base, F.1 was cut to 0.39m depth and contained two core fills [1] and [78] that were separated by a diagonal thin band of charcoal; this was lined along its inner mouth with soft sand deriving from erosion of the posthole's sides [3]. The profile of this erosion suggested that it had occurred after the feature had already been filled, and may have formed as a result of the removal or decay of an upright timber. By contrast, F.5 was the shallow remnants of a small posthole, with straight, vertical sides and a flat base, and cut to a diameter of 0.13m and 8cm depth.

None of the remaining features could be classed as postholes with any certainty on account of their concave and often shallow profile. This included **F.4**, **F.6** and **F.18** which were each between 0.3-0.4m in diameter and cut to *c*. 0.1m depth. Two sherds (2g) of pottery recovered from F.18 confirmed its relative contemporaneity with other features across the group. **F.7** and **F.17** were pits that also displayed a concave, slightly irregular profile, with 1-2 fills of moderately firm mid grey silt containing small assemblages of highly degraded pottery fragments, flint working waste, burnt stone and fired clay; however the relative dimension of these pits was considerably greater than F.4, F.6 and F.18. **F.2** may be highlighted here. This was moderately circular in plan with near straight vertical sides and a flat base at 0.24m depth. A thin band of silt [6] covering the base implied that this had been left open for a short period of time prior to its filling with a very dark, charcoal-rich silt deposit [5]; slight slumping [4] of the pit's sides on the north side may have been a result of later rooting.

There was a greater degree of sequence in Group B as compared with Group A, with three instances in which a total of six features were cut by later interventions. This was illustrated by a series of four intercutting pits (**F.12-15**) each filled with dark grey charcoal-flecked silt to depths between 0.15m and 0.2m. With diameters of 0.56-0.7m, these small pits were positioned on the west side of a broad, shallow oval ($1.8 \times 1.35m$) pit (**F.8**). This was cut to a flat base (0.21m depth) with a thin covering of re-deposited silt [20] that was capped by a dark grey layer of firm silt [19] displaying a profile of vertical sides and a flat base (0.11m depth) lined by a thin lens of fine charcoal. Fired clay displaying hollowed rod impressions indicates that the interior of the oval pit contained a structure lined by a wattle and clay casing, and it is possible that the pit may have served as an oven or kiln.

	Contoxt	No. Finds (weight in grams)							
	Context		Bone	Flint	Burnt Stone	Wheat Grain	Hazel Nutshell		
ſ	Fill [26]	-	-	1 (4)	-	-	-		
der of Deposition	Fill [27]	-	-	-	-	-	-		
	Fill [28]	12 (25)	17 (10)	2 (1)	8 (77)	1 (<1)	-		
	Fill [45]	-	-	-	-	-	-		
	Fill [29]	-	>30 (87)	-	2 (28)	-	2 (<1)		
ō	Fill [43]	3 (12)	10 (1026)	8 (63)	-	-	2 (<1)		
↑	Fill [44]	1 (1)	-	-	-	-	2 (<1)		
Cut [30]									

Table 6. Quantification of finds from pit F.11

Standing out from all of the features in Group B was pit F.11 (Figure 4), owing to the 'special' nature of the deposits contained therein. Cut to 0.64m depth it was also by far the deepest feature in both groups. This was circular in plan with vertical sides that swelled mid-way through its profile, culminating with a flat and partially saturated base. In total seven deposits were recoded from the pit, each with a distinct material assemblage (Table 6). The character of the fills would suggest that the pit was initially left open and exposed long enough for the formation of a c. 0.1m-thick deposit of mid-grey silt [44] upon the base, which may also have been accelerated by the pit's basal saturation. Resting upon this layer was a butchered lower leg of a large adult auroch contained within a layer of soft very dark grey charcoal-infused silt [43] that also contained a number of retouched flint blades of Late Neolithic technology. This layer was clearly a separate depositional event preceding [29] which filled the pit to just below mid-way. Similarly dark, soft and silty, this layer contained a fragmented calcined antler with worked flint and pottery sherds either of Late Neolithic or Early Bronze Age date and had been tipped

against the pit's west edge. A second period of exposure may have followed, allowing for erosion of the pit's sides [45] before a thick deposit [28] of moderately firm dark grey silt comprised the next episode of in-fill. This too was fairly charcoal-rich with a small number of pot fragments, additional calcined bone, flint and burnt stone, and a single grain of wheat, and it was separated from the final capping deposit by light yellowish brown silty clay [27] observable only on the pit's south edge. The pit was finally sealed by a mixed deposit of light brown silty clay and mid grey clayey silt [26] with occasional lumps of reddish sand perhaps hardened by exposure to high temperatures. The overall significance of the formality of the pit's in-filling is discussed in Section 6 with reference to local and regional Late Neolithic and Early Bronze Age assemblages.

5.1.3 Group B – Linear

A single linear (**F.16**) was observed in Area B although only a short length (*c*. 3.5m) was exposed against the south edge of excavation, the north extent having been removed by the large pond, but clearly not continuing beyond it. The linear was shallow and flat based, at 0.17m depth, and approximately 0.7m wide oriented north-northwest to south-southeast. The fill [39] of pale greyish brown sandy silt contained a few scraps of highly degraded and unrecoverable prehistoric pottery with a single small burnt stone. Although lacking in datable material, F.16 was cut by a shallow pit F.17 which has been broadly grouped with the known prehistoric pits in the vicinity (see above).

5.2 Post-Medieval

Of the four linear features identified during the investigations, three were related to the post-Medieval agricultural landscape. Field boundary **F.42** was unexcavated, for this is clearly depicted as running northwest-southeast on the 19^{th} century Ordinance Survey maps (Figure 7), but its overall width was noted as being *c*. 1.0m. Aligned nearly parallel to this, but slightly off-set to the north-east, **F.31** was recorded in two slots as filled with moderately firm mid to dark grey silty clay within a straight, vertical sided and flat based cut of 0.46-0.5m width and to a depth of 0.17m. No datable finds were recovered, but its proximity to F.42 and the character of its form and fill suggest that it is also post-Medieval. A cylindrical ceramic field drain (**F.32**) within a narrowly cut linear slot lay perpendicular to the field boundaries.

5.3 Undated Features

Only a single small undated circular posthole (**F.9**) was found in isolation from groups A and B. This was vertically sided with a flat base and a diameter of 0.19m to a depth of 0.1m. Its single fill of mid-grey silt yielded no finds or charcoal. Two small postholes were found in the north half of the investigation area during the 2013 evaluation (Brittain 2013a), and there is no basis upon

which to infer a relationship between these and the main groups in the south half of the investigation area.

F.3 and **F.10** were shown to be small naturally filled hollows.

6. DISCUSSION

The prehistoric evidence returned by the recent investigations at Deeping Gate Trees is potentially very significant. The landscape around Market Deeping and the Langtoft/Baston environs has provided a wealth of Early Bronze Age to Saxon archaeology with a number of features that are rare or even unique to these periods in Southeast Britain. The Deeping Gate Trees assemblage potentially contributes something that has thus far been absent from this general picture: a Neolithic component. Regionally the scale of Late Neolithic activity compared with the monumental complexes of the earlier Neolithic remains fairly limited. Not only could the Deeping Gate Trees assemblage expand the chronological depth of south Lincolnshire along the eastern fen-edge, but the rarity of any form of Neolithic dwelling structure would be of both regional and national significance.

In the absence of direct dating, the following aims to position the results from Deeping Gate Trees within a regional perspective for both the Late Neolithic and the Early Bronze Age.

6.1 Late Neolithic or Early Bronze Age settlement

The difficulties of attribution expressed by Knight in his pottery report below is perhaps a reflection of the ambiguity of pottery forms that cross the perceived archaeological horizons of the Neolithic and Bronze Ages. This difficulty could equally be an outcome of the limited opportunity that has to date been available to engage with pottery of a more clearly defined Late Neolithic date in the region. It has been noted elsewhere that Grooved Ware differs stylistically across the Nene and Welland landscapes, and that different criteria of stylistic identity may be required in the latter of these (Pryor with Cleal and Kinnes 1998, in Pryor 1998: 213). A similar landscape distinction has been noted within the emphasis placed upon the distribution of Early Bronze Age pottery forms, with predominance for Beaker forms along the Nene Valley fen edge that lie in contrast to the preference for Collard Urn forms across the Welland valley fen edge (Knight *pers. com.*). The chronological variance or duration that may cover the traditions of these pottery forms and styles in the region remains open to question.

A cross-reference against the fauna and the worked flint at Deeping Gate Trees highlights the necessity for further caution. The small size of the faunal assemblage is too limited for detailed comparison with other Late Neolithic and Early Bronze Age assemblages. Nevertheless, it is significant that a large aurochs bone was recovered from pit F.11 alongside flintwork and pottery with incised parallel lines. At Magna Park, west of Whittlesey, two Grooved ware pits contained both wild and domestic assemblages, the wild including both red deer and auroch (Gibson and Knight 2009: 6-7). At Deeping Gate Trees F.11 contained small quantities of sheep/goat alongside recognisably wild fauna, with calcined and unburnt antler accompanying the aurochs bone. Whilst cattle normally predominate in both Grooved Ware and Beaker contexts, wild species that include aurochs are also noted as occurring in contexts of 'special' deposition, perhaps as a reflection of the significance of hunting and the 'wild' to agri-pastoral communities (Cotton *et. al.* 2006; Evans *forthcoming*). Further evidence of these symbolic parallels may be found within 4.0km of the project area at West Deeping where two Grooved ware contexts were associated with remains of aurochs, and in one of these a Grooved Ware pot was laid over the skull of an auroch and other fauna (Allen 2006). The deposits within pit F.11 may fall within a similar category of Late Neolithic and Early Bronze Age symbolic reference.

Regarding the worked flint, Billington is able to more confidently align the assemblage with other recognised Late Neolithic examples. This buttresses the potential that lies within the project's results but also reiterates the questions that arise from interpretation based solely upon material form. It stands to reason that only more direct dating methods such as radiocarbon analysis are likely to resolve this.

Elsewhere across the region, only a few radiocarbon determinations have been obtained for Grooved Ware associated contexts (Garwood 1999). Pits containing Grooved Ware pottery, numbering to c. 20, alongside several 'working hollows' of a similar date were investigated at Barholm, 6.24km west of the current project area (Simpson 1993). Here some 60 per cent of the 237 sherds could be assigned to the Grooved Ware pottery tradition, with fabrics predominantly shell-gritted. Barholm represents one of the few sites across the fenland with two dates covering the period of c. 3000-2600 cal. BC. This is an early date for Grooved Ware assemblages compared with other assemblages from eastern England, but is perhaps more in line with Wessexderived Grooved Ware assemblages. A much later date was obtained from within the Etton landscape some 5.0km southwest of the project area where one of two pits containing later Neolithic worked flint and Grooved Ware was dated to 2390-2060 cal. BC (French and Pryor 2005: 46). This dateline would more generally find parallel with assemblages containing Beaker styles of pottery, but is also registered from other Grooved Ware contexts notably within the south Midlands and at Grimes Graves flint mine in Norfolk (Garwood 1999) and, more recently, the Northwest Cambridge site (Christopher Evans pers. com.), and further illustrates local cases of durability in Grooved Ware use.

In light of this, it is noteworthy that a series of pits approximately 0.8km east of the project area, investigated during evaluation of the Market Deeping Bypass, returned a date of 2450-1975 cal. BC (from wood charcoal, Trimble 2000: 68, Trench 23). The finds were represented only by a single retouched flint, but it may be possible that these pits were connected to the broader distribution of features recorded in the project area and, if so, that this presents further evidence for a late instance of Grooved Ware usage along

the Welland Valley fen edge. In addition, this could, in essence, provide an eastern limit for the overall distribution. Even taking into account that only a general location for this evaluation trench is known - its exact location having been lost to a surveying error (*ibid.*) – this would present a large coverage, perhaps not unbroken, of c. 1.0km. In addition, with the north half of the current project area being devoid of any archaeology, and the Bypass evaluation trenches to its south also issuing negative results, the feature distribution would appear to be of a certain linear order (Figure 9). This has been noted as a character of Late Neolithic (Grooved Ware associated) settlement at a number of sites, including White Horse Stone/Pilgrim's Way in Kent (Garwood 2011: 114-118) and Redgate Hill in Hunstanton, Norfolk (Bradley et al. 1993, Patten 2002), and a structuring of activity that might normally be recognised, even expected, within monumental architecture. This raises the possibility that the features at Deeping Gate Trees were situated in accordance to an established route or course. Looking further afield, and continuing the line of the features' distribution at Deeping Gate Trees, it is not wholly inconceivable that such a course continued as far as and beyond West Deeping, 4.0km to the west, broadly following a line north of the River Welland's alluvial deposits. Linearity in the distribution of settlement activity is also found locally in the more clearly definable Early and Middle Bronze Age features at Langtoft/Baston (Brittain in prep.). Whilst this does not aid to an understanding of the date of the Deeping Gate Trees assemblage, it illustrates the linear ordering of space as a long-term priority within the broader environs.

The post structure at Deeping Gate Trees is difficult to situate without greater certainty as to its date. At least two post structures containing Early Bronze Age Collard Urn pottery have recently been excavated at Langtoft/Baston, although these await further analysis (Brittain 2013b and in prep.). Another possibly Early Bronze Age post structure was identified at West Deeping (Allen 2004). Post structures containing Early Bronze Age Beaker pottery have also been recorded along the Norfolk and Cambridgeshire fen-edge (for summary, see Brittain 2013b). Grooved Ware associated structures have been recorded at Over in the Cambridgeshire fenland (Evans and Knight 2004; Pollard 1998), but otherwise distinctly Late Neolithic post-defined structures have not been identified in the region, and published examples are rare nationally (Garwood 2009: 113). The published examples exhibit considerable variation in shape, size, contents and layout, and where pits are also present their chronological relationship to the structures is often uncertain. At c. 4.0m diameter, the structure at Deeping Gate Trees is comparable in scale to a number of these other Late Neolithic to Early Bronze Age examples, but in light of the unclear dating of the project area further comparison and contextualisation is not explored here.

It was suggested above that the character of the structure was founded upon a circle of six posts with an additional two, more substantial posts to the east of this forming an entrance 3.0m wide, and that there was a consistent alternation of spacing of 1.5m and 1.75m between these posts (Figure 8). No additional supports or braces were identified, which suggests that the structure was an inner post ring and may have employed the cover of a widepitched roof. There is a question concerning the association of the pits to the structure, which has been enhanced by the immediacy of all the features to the modern pond which must surely have removed additional related features. A direct association is strengthened by the pit's proximity to and their avoidance of the structure's interior space. A wide pitched roof would have covered at least two of these pits, F.28 and F.30, which may be further suggested by the general lack of weathering of their vertical sides, particularly when compared with pits F.19 and F.29 that would probably have laid uncovered beyond the roof's reach. F.33, a small pit containing at its base a complete antler, could have defined the limit of the roof's perimeter, and by mark of the special nature of its contained deposit perhaps acknowledged some degree of the importance of that interface between the structure's interior and exterior. Somewhat problematic to the assignation of the pits to the structure is the position of F.30 immediately outside of the entrance throughway. Although this would not necessarily inhibit passage its location would nonetheless seem to be precarious. It may be that the noticeably higher charcoal content within F.30 in comparison to the other pits resulted from the mucking out of the interior's hearth - a concern with cleanliness also implied by the lack of a plant macrofossil assemblage within the structure's postholes - and that this served as an important reference point between the inside and the outside of the structure.

In view of the evidence, a proposed narrative for the Deeping Gate Trees assemblage may bend towards a Late Neolithic timeframe, although the caveats drawn from the difficulties in distinguishing between Late Neolithic and Early Bronze Age characteristics here necessitate confirmation through scientific dating. In any case, the finding of a settlement in conjunction with a post-defined structure, allied with wild and domesticated fauna, and all within a fen-edge context, is both regionally and nationally significant.

7. CONCLUSION AND RECOMMENDATIONS

The archaeological investigations at Deeping Gate Trees have revealed a prehistoric settlement comprising of a circular post-defined structure and associated pits serving a variety of functions. There is ambiguity regarding the dating of the pottery recovered from these features, which cover a timeframe of the Late Neolithic to the Early Bronze Age. The combination of wild and domestic fauna, along with the nature of their deposition similarly finds parallel elsewhere across this timeframe, but the worked flint falls more comfortably within a Late Neolithic tradition. Regionally, few Early Bronze Age settlements have been identified, and at a National scale Late Neolithic settlements with structural elements are extremely rare. There is undoubted significance in the contribution that the Deeping Gate Trees assemblage may provide to an understanding of early prehistoric communities in South Lincolnshire and the eastern fen edge. On this basis a step towards publication of the results is recommended; however, the full value of the assemblage may only be fully realised in light of a programme of scientific dating.

8. REFERENCES

- Allen, M. R. (2004) Rectory Farm, West Deeping: Archaeological Watching Brief Interim Statement. Phase 1. Pre-Construct Archaeology report.
- Allen, M. R. (2006) Archaeological Assessment Report. Rectory Farm, West Deeping, Lincolnshire. Watching Brief on Phase 1A Works. Allen Archaeological Associates report for Pre-Construct Archaeology.
- Anderson-Whymark, H. (2011) Intentional breakage in the British Neolithic. *Lithics: The Journal of the Lithic Studies Society 3*2, 16-22.
- Ballin, T. B. (2011) The Levallois-like approach of Late Neolithic Britain: a discussion based on finds from the Stoneyhill Project, Aberdeenshire. In Saville, A. *Flint and Stone in the Neolithic Period*. Oxford: Oxbow Books, 37-61.
- Beadsmoore, E. (2009) Flint overview (Edgerley Drain Road) In Evans, C. with Beadsmoore, E., Brudenell, M. and Lucas, G. *Fengate Revisited, Further Fen-Edge Excavations, Bronze Age Fieldsystems and Settlement and the Wyman Abbott/Leeds Archives,* Cambridge: Cambridge Archaeological Unit, 164-7.
- Bergman, C. A. Barton, R. N. E. Collcutt, S. N. and G. Morris (1987) Intentional Breakage in a Late Upper Palaeolithic assemblage from Southern Britain. In. M. H. Newcomer and G. d. Sieveking (eds) *The Human Uses of Flint and Chert: Proceedings of the Fourth International Flint Symposium held at Brighton Polytechnic, 10-15 April 1983.* Cambridge: Cambridge University Press, 21-32.
- Bishop, B.J. (2012) *The Grimes Graves Environs Survey: Exploring the Social Landscapes of a Flint Source*. Unpublished Ph.D thesis, University of York.
- Bradley, R., Chowe, R., Cleal, R., Healy, F. and I. Kinnes (1993) *Excavations on Redgate Hill, Hunstanton, Norfolk, and at Tattershall Thorpe, Lincolnshire*. (East Anglian Archaeology Report No. 57) Sleaford: Field Archaeology Division.
- Brittain, M. (*in prep.*) Baston Quarry No.1 Northern Extension. An Archaeological Investigation. Cambridge Archaeological Unit Report.
- Brittain, M. (2013a) Deeping Gate Trees, Market Deeping, Lincolnshire. An Archaeological Evaluation. Cambridge Archaeological Unit Report No. 1144.
- Brittain, M. (2013b) Archaeological Investigations at Baston Quarry No.1, Northern Extension, Lincolnshire. Cambridge Archaeological Unit Report No. 1158.
- Chapman, A. and C. Jones (2012) *An Early Bronze Age henge and a Middle Bronze Age ditch system at priors Hall, Zone 3, Kirby Lane, Corby, Northamptonshire: October 2011.* Northamptonshire Archaeology Report 12/63.
- Collins, M. (2010) Baston No.2 Quarry Southern Extension, Lincolnshire. An Archaeological Evaluation. Cambridge Archaeological Unit Report No.964.
- Cooper, N.J. (ed) (2006) The Archaeology of the East Midlands: An archaeological Resource Assessment and Research Agenda. (Leicester Archaeology Monographs No.13) Leicester: University of Leicester Archaeological Services.
- Cope-Faulkner, P. (1999) Archaeological Evaluation of the Market Deeping Bypass. Volume 1: Introduction and Results of the Evaluation of the Lincolnshire Section of the Route. Archaeological Project Services Report No. 71/99.
- Cotton, J., Elsden, N., Pipe. And L. Rayner (2006) Taming the wild: A final Neolithic/Earlier Bronze Age aurochs deposit from West London. In D. Serjeantson and D. Field (eds), *Animals in the Neolithic of Britain and Europe*, 149-167. Oxford: Oxbow.

- Dobney, K. and K. Reilly (1988) A method for recording archaeological animal bones: the use of diagnostic zones, *Circaea* 5 (2): 79-96.
- English Heritage (2006) Management of Research Projects in the Historic Environment. The MoRPHE Project Managers' Guide. Swindon: English Heritage.
- Eogan, G. and H. Roche (1997) *Excavations at Knowth 2*. Royal Irish Academy Press.
- Evans, C. and M. Knight (2004) *Excavations at Over: Chain Bridge Terrace Investigations (Site 2)*. Cambridge Archaeological Unit Report No. 650.
- Foley, C. (1985) A cist burial at Tremoge, Co. Tyrone. *Ulster Journal of Archaeology* 48: 63-68.
- French, C. and F. Pryor (2005) Archaeology and Environment of the Etton Landscape. (East Anglian Archaeology Report No. 109) Peterborough: Fenland Archaeological Trust.
- Fryer, V. (*in prep.*) Charred plant macrofossils and other remains from the Harford Park and Ride site, Norwich (39268 KES). Report written for Norfolk Archaeological Unit.
- Garrow, D. (2006) *Pits, Settlement and Deposition During the Neolithic and Early Bronze Age in East Anglia.* Oxford: British Archaeological Reports, British Series 414.
- Garwood, P. (2011) Early Prehistory. In P. Booth, T. Champion, S. Foreman, P. Garwood, H. Glass, J. Munby and A. Reynolds, On track: The Archaeology of High Speed 1 Section 1 in Kent, 37-150. (Oxford Wessex Archaeology Monograph No.4) Oxford and Salisbury: Oxford Wessex Archaeology.
- Gibson, D. (2013) Proposed Irrigation Reservoir, Deeping Gate Trees, Northfield Road East, Market Deeping. Planning Ref PL/0201/11. Project Design Specification for Archaeological Strip, Map and Record. Cambridge Archaeological Unit.
- Gibson, D. and M. Knight (2009) *Magna Park: Archaeological and Palaeo-Environmental Investigations*. Cambridge Archaeological Unit Report No. 882.
- Hall, C. (2000) The Excavation of Terminal Bronze Age & Medieval Settlement Remains at Baston Quarry (No.2), Langtoft, Lincolnshire. Phase IV Area A. Cambridge Archaeological Unit Report No. 288.
- Hayes, P. and T. Lane (1992) *The Fenland Project Number 6: Lincolnshire Survey, the South-West Fens.* East Anglian Archaeology Monograph 55.
- Healy, F. (1988) Spong Hill part VI: 7th to 2nd millennia BC. East Anglian Archaeology, Report No. 39.
- Hogan, S. (2012) Further Excavations at Langtoft, Lincolnshire: The Freeman Land 2012. Cambridge Archaeological Unit Report No. 1107.
- Hutton, J. (2007) *Excavations at Langtoft, Lincolnshire: Areas F to H. The Bluebell Land.* Cambridge Archaeological Unit Report No. 795.
- Hutton, J. (2008a) *Excavations at Langtoft, Lincolnshire. The Glebe Land. Cambridge* Archaeological Unit Report No. 837.
- Hutton, J. (2008b) *Excavations at Langtoft Lincolnshire. The Freeman Land.* Cambridge Archaeological Unit Report No. 838.
- Hutton, J. (2009) Northern Extension Baston No.1 Quarry LincloInshire. An Archaeological Assessment. Cambridge Archaeological Unit Report No. 894.

- Hutton, J. (2011) Further Excavations at Langtoft, Lincolnshire: The Freeman Land 2009/2011. Cambridge Archaeological Unit Report No. 1062.
- Hutton, J. and A. Dickens (2010) *Further Excavations at Langtoft, Lincolnshire. The Glebe Land 2007/8.* Cambridge Archaeological Unit Report No. 918.
- Knight, D., Vyner, B. and C. Allen (eds) (2012) East Midlands Heritage: An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands. (Nottingham Archaeology Monographs No. 6) Nottingham: University of Nottingham.
- Knight, M. (1998) The Archaeological Investigation of the Anglian Water Northborough to Etton Watermain & Excavation of a Terminal Bronze Age Settlement at Nine Bridges. Cambridge Archaeological Unit Report No. 287.
- Legge, A. J. (1991) The animal remains from six sites at Down Farm, Woodcutts. Barrett, J., Bradley, R. and Hall, M., Papers on the Prehistoric Archaeology of Cranborne Chase, 54-100. Oxford: Oxbow.
- Lincolnshire County Council (1997, revised 2012) Archaeology Handbook (revised 2012). Lincolnshire County Council, available at: http://www.lincolnshire.gov.uk/section.asp?sectiontype=dateorder&catid=3155.
- Middleton, R. (1998) Flint and chert artefacts. In F. Pryor, *Etton: excavations at a Neolithic causewayed enclosure near Maxey, Cambridgeshire, 1982–87*, 215–50. London: English Heritage.
- Middleton, R. (2005) The lithic assemblage. In French, C. and F. Pryor, *Archaeology* and *Environment of the Etton Landscape*. East Anglian Archaeology. Report No. 109, 120-29.
- Mudd, A. (2004) Archaeological Evaluation at Manor Pit, Baston, Lincolnshire, June-July 2004. Northamptonshire Archaeology Report.
- Murrell, K. (2010) *Excavations at West Deeping (King Street), Lincolnshire Phase 1: 2007.* Cambridge Archaeological Unit Report No. 924.
- Needham, S. and D. Longley (1980) Runnymede Bridge, Egham: A Late Bronze Age riverside settlement. In J. Barret and R. Bradley (eds), *The British Later Bronze Age*, 397-436. Oxford: British Archaeological Reports, British Series 83 (ii).
- Northamptonshire Archaeology (2009) Interim Report for 2009 Excavations at Baston Manor Pit, Baston, Lincolnshire. Northamptonshire Archaeology Report.
- Nye, S. (2005) The plant remains from Etton Woodgate. In C. French and F. Pryor, *Archaeology and the Environment of the Etton Landscape*, 85-88. *East Anglian Archaeology* Report no. 109.
- Patten, R. (2002) An Archaeological Excavation at Redgate Hill, Hunstanton, Norfolk. Cambridge Archaeological Unit Report No. 465.
- Pollard, J. (1998) *Excavations at Over: Late Neolithic Occupation (Sites 3 and 4)*. Cambridge Archaeological Unit Report No. 281.
- Pryor, F. (1998) Etton: Excavations at a Neolithic Causewayed Enclosure Near Maxey, Cambridgeshire, 1982-7. (Archaeological Report 18) London: English Heritage.
- Pryor, F. (1978) *Excavation at Fengate, Peterborough, England: the Second Report* Toronto: Royal Ontario Museum.
- Pryor, F., French ,C., Crowther, D., Gurney, D., Simpson, G. and M. Taylor (1985) The Fenland Project No. 1: Archaeology and Environment in the Lower Welland

Valley. Volume 1 and 2. (East Anglian Archaeology Report No. 27.) Cambridge: Cambridgeshire Archaeological Committee.

- RCHM(E) (1960) A Matter of Time. An Archaeological Survey of Gravels of England Prepared by the Royal Commission on Historical Monuments (England). London: HMSO.
- Savage, S. (2008) Rectory Farm, West Deeping, Lincolnshire. MAP2 Assessment of Watching Brief Phases RFWD 05 and RFDW 07. Pre-Construct Archaeology Report No. 08-390.
- Schmid, E. (1972) Atlas of animal bones. Amsterdam: Elsevier.
- Serjeantson, D. (2011) *Review of Animal remains from the Neolithic and Early Bronze Age of Southern Britain (4000 BC – 1500 BC).* English Heritage, Research Department Report Series no.29-2011.
- Simpson, W. (1993) The Excavation of a Late Neolithic Settlement at Barholm, Lincolnshire. In W. Simpson, D. Gurbey, J. Neve and F. Pryor, *The Fenland Project Number 7: Excavations in Peterborough and the Lower Welland Valley* 1960-1969, 7-28. (East Anglian Archaeology Report No. 61.) Peterborough: Fenland Archaeological Trust.

Spence, C. (1990) Archaeological Site Manual. London: Museum of London.

- Stace, C. (2010) *New Flora of the British Isles*. 3rd edition. Cambridge: Cambridge University Press.
- Thatcher, C. (2006) Land Adjacent to Northfields Industrial Estate, Market Deeping, Lincolnshire. Archaeological Trial Trenching. Cambridgeshire County Council Archaeological Field Unit report No. 866.
- Trimble, D. (2000) Archaeological Excavations Undertaken Along the Route of the Market Deeping Bypass. Volumes 1-4. Archaeological Project Services Report No. 2000/93.
- Webley, L. (2004) Bronze Age, Iron Age and Romano-British Settlement at Baston Quarry, Langtoft, Lincolnshire. Areas B to E. Cambridge Archaeological Unit Report No. 655.
- Wessex Archaeology (2005) Northborough Neolithic Causewayed Enclosure, Peterborough, Cambridgeshire. An Archaeological Evaluation and Assessment of the Results. Wessex Archaeology Report No. 55761.

9. APPENDICES

9.1 Specialist reports

9.1.1 Prehistoric Pottery by Mark Knight

The assemblage (Table 7) comprised 137 sherds weighing 228g (MSW 1.7g). The condition of the pottery was poor, in that much of the collection consisted of small to very small fragments (<4cm) with crumbling edges. The majority of pieces belonged to thin-walled vessels (3-6mm) whilst the thickest piece measured 10mm. A total of five separate fabric types were identified. Feature/diagnostic pieces were rare and incorporated 3 rims, 18 decorated sherds and 1 base fragment. The rims were of the simple tapered variety and belonged to the same vessel. Decoration involved incised and impressed motifs including closely-spaced incised parallel lines, widely-spaced herring-bone, raised pellets and fingernail impressions.

Feature	Context	Sherds	Weight (g)	MSW (g)	Fabric	Period
2	5, 6	6	13	2.2	1	LBA?
7	17	22	31	1.4	1	LBA?
8	19	2	7	3.5	2	L.Neo/EBA
11	28, 29, 43, 44	62	82	1.3	3, 4, 5	L.Neo/EBA
12	31	1	1	1.0	1	LBA
18	46	2	2	1.0	3	L.Neo/EBA
19	48	4	3	0.7	5	L.Neo/EBA
20	52	1	1	1.1	3	L.Neo/EBA
28	75	8	9	1.1	5	L.Neo/EBA
29	76	16	34	2.1	2, 3, 5	L.Neo/EBA
30	77	2	3	1.5	1	LBA?
34	97	11	42	3.8	5	L.Neo/EBA
Totals:		137	228	(1.7)	(5)	

Table 7: Assemblage composition.

Fabric Series:

Medium hard with frequent small voids and occasional grog	(LBA?)
Medium hard with frequent small rounded grog	(EBA?)
Medium hard with common small shell/voids	(LNeo/EBA?)
Hard with common (poorly sorted) burnt flint	(LNeo/EBA?)
Medium hard with occasional small grog	(EBA?)
	Medium hard with frequent small voids and occasional grog Medium hard with frequent small rounded grog Medium hard with common small shell/voids Hard with common (poorly sorted) burnt flint Medium hard with occasional small grog

All of the decorated fragments incorporated motifs typical of both Late Neolithic (Grooved Ware) and Early Bronze Age (Beaker) forms; however, the presence of grog alongside shell within the fabrics of much of the decorated collection might suggest a Beaker attribution, since Grooved Ware assemblages tend invariably to be either just shell (*Clacton*) or just grog (*Durrington*), contingent on the sub-style. Similarly, the predominance of thin-walled pieces indicates the pieces belong to the less heavy Beaker tradition. The Fabric 1 pottery sherds were plain, whereas all the other fabric types included at least some decorated fragments. In addition, the Fabric 1 sherds

had a 'light' corky appearance perhaps more characteristic of Late Bronze Age/Early Iron Age wares.

An absence of unambiguous diagnostic fragments plus the diminutive sherd size has made assigning type, and therefore period, especially difficult. *More direct dating techniques could potentially resolve any uncertainty*.

9.1.2 Worked Flint by Lawrence Billington

A total of 46 worked flints were recovered together with 11 fragments of unworked burnt flint (Table 8). The worked flint was derived from ten cut features with individual features producing between one and 16 worked flints. The entirety of the worked flint appears to represent a coherent single period assemblage and is notable for a high proportion of retouched and utilised pieces. Typologically and technologically the assemblage is characteristic of Late Neolithic flintwork and can be usefully compared with other lithic assemblages recovered from Grooved Ware associated sites in Eastern England.

Feature	chip	irregular waste	flake	narrow flake	bladelet	end scraper	other scraper	retouched flake	burnt retouched fragment	retouched fragment	scraper/knife combination	core	total worked flint	unworked burnt flint (no.)	unworked burnt flint (g)
7	2		2	1									5		
8													0	1	1
11		1	10			2		1	1			1	16	1	1
19	3	1	2										6		
21	1												1		
22					1								1		
23	1	1	3										5		
29			1			3					1		5		
30		1	1							1			3		
33			2					1					3	7	12
41							1						1		
36													0	2	1
Total	7	4	21	1	1	5	1	2	1	1	1	1	46	11	15

Table 8: Basic quantification of the flint assemblage.

The condition of the assemblage is generally very good, reflecting its recovery from sealed deposits. A few pieces display minor edge damage or rounding. Recortication ('patination') is relatively common, occurring on 50% of unburnt worked pieces. The recortication is rarely heavy and generally takes the form of a light blue sheen or clouding. 17% of the worked flints have been heavily

burnt, presumably incidentally through being incorporated into hearths/fire settings.

Raw Materials

The entire assemblage is made up of flint. Good guality, fine grained flint predominates but there is substantial variability in the character of the raw material which suggests the use of a diverse range of flint sources. This variability is best illustrated by the characteristics of remnant cortical surfaces. Over half of cortical surfaces are thin, hard and abraded and are characteristic of material collected from glacio-fluvial gravels. Approximately a quarter of cortical pieces bear a thick (>5mm), fresh cortex typical of flint derived either directly from primary chalk deposits or from sediments closely associated with the chalk such as mass weathered slope deposits. A further few pieces have thermally fractured recorticated surfaces which are often found in glacially transported nodules such as those from glacial till or solifluction deposits. The colour and texture of the flint also hints at a variety of sources. Whilst much of the flint is made up of relatively undistinguished grey flint there are several pieces, all unretouched, which are made of an opaque mottled cream coloured flint. This material is often known as 'Lincolnshire flint' as it can be obtained from primary chalk deposits on the Lincolnshire Wolds, although it is also available in secondary glacial deposits in eastern England (see Healy 1988: 33, Bishop 2012: 146-152).

Composition and deposition

Whilst most stages of reduction are present in the assemblage there is a clear bias towards the latter stages of reduction and especially to retouched/utilised pieces. There are no true decortication flakes, although several flakes (including several with a 'chalk' cortex) have up to 50% cortical cover on their dorsal surfaces. Chips and small flakes are also poorly represented. No refitting pieces were identified in the assemblage although similarities in raw material between pairs of flints within some features suggest that they were derived from the same nodule of raw material. There are significant differences between the compositions of assemblages from individual features. Some features, such as F.7 and F.19 contained no retouched pieces and only a few small waste flakes and chips. Others included a far higher proportion of retouched tools. Especially notable is the assemblage from F.29 which contained four retouched tools alongside a single unretouched, but possibly utilised, flake. The largest assemblage was derived from F.11 and included a range of retouched pieces alongside waste products and the only core in the entire assemblage.

Technology

Given the small size of the assemblage and its composition bias it is difficult to evaluate the technological attributes of the flintwork in any detail. The flakes and tool blanks indicate some variability in approaches to core reduction. There are many pieces which appear to result from a generalised flake-based technology using direct hard hammer percussion to produce relatively broad and thick flakes of varied morphology and with little evidence for platform preparation or core maintenance. Alongside this material there are several flakes and tool blanks with faceted striking platforms and complex dorsal scar patterns suggestive of the use of levallois-like or discoidal cores, a particular characteristic of later Neolithic flint working (Ballin 2011).

Tool use

The 11 retouched tools make up 24% of the entire assemblage. The tools are dominated by scrapers, including seven complete examples and a scraper/knife combination tool. There are also two fragments of retouched tools which are likely to be parts of scrapers. One of these fragments is burnt and appears to have been detached as a thermal spall. The other fragment is a medial, wedge shaped fragment of a tool. Wedge shaped fractures such as these are characteristic of intentionally broken pieces (Bergman *et al.* 1987) and the intentional breakage of blanks for the production of tools (and perhaps for less prosaic purposes) has been noted as a particular feature of Late Neolithic technologies (Anderson-Whymark 2011).

The scrapers are generally symmetrical with regular convex distal retouch. A particular feature of most of the scrapers is evidence for substantial use and re-sharpening in the form of very steep or undercutting and stepped retouch as well as edge rounding/wear on the working edge. The unretouched lateral edges of several of the scrapers also appear to have seen heavy use as cutting tools. Other retouched tools are made up of more expediently produced pieces. These include a piece with irregular steep, scraper like, retouch and an irregular flake with ventral retouch which may have functioned as a borer or graver.

Discussion

The Late Neolithic flintwork assemblage is in many ways typical of assemblages recovered from Grooved Ware associated contexts in Eastern England. Although truly diagnostic types such as transverse arrowheads are not present in the assemblage the range of retouched forms and the distinctive technological traits of some of the material are characteristic of assemblages recovered from contemporary sites along the western fen edge (e.g. Pryor 1978, Middleton 2005, Beadsmoore 2009).

The use and deposition of retouched tools is particularly well represented in the Deeping Gate Trees assemblage which could be interpreted parsimoniously as representing material derived from an episode of settlement with a variety of domestic type tasks being undertaken. Flint working waste is poorly represented and may reflect the relative scarcity of good quality flint in this area (see Middleton 1998, 2005). Beadsmoore (2009) has argued that it is this scarcity of raw materials, rather than overtly structured patterns of deposition (e.g. Garrow 2005: 90-91, 114-115), that accounts for the high proportion of retouched tools in Late Neolithic assemblages from certain parts of Eastern England. Differences in the availability of raw material across the broader region may have led to partly prepared nodules, blanks and finished tools being 'imported' to some sites from more flint rich areas. Whether this movement of raw material, blanks and tools was carried out by individual communities as part of an extensive and mobile settlement pattern or reflects exchange between communities from different regions is unclear; however, It is notable that Late Neolithic assemblages from East Anglia often exhibit a wider range of types and possible sources of flint than seen in either the preceding Early Neolithic or in later periods, perhaps indicating more complex and extensive networks of exchange in lithic resources during this time (Bishop 2012: 167-8).

Recommendations

Whilst relatively small, the assemblage is a significant addition to the growing number of securely dated Late Neolithic assemblages from Eastern England. No further analysis is required but any publication should include a description of the assemblage with a more systematic appraisal of its regional context and provision should be made for the illustration of selected pieces.

9.1.3 Fauna by Vida Rajkovača

The animal bone assemblage is small but significant with a raw count of 215 fragments and a total weight of 1565g. A total of 65 assessable specimens were recorded from the hand-recovered assemblage, of which only eight were possible to assign to species (Tables 9 and 10). Another 58 specimens came from heavy residues, following the processing of the environmental bulk soil samples (Table 11).

Methods: Identification, quantification and ageing

The zooarchaeological investigation followed the system implemented by Bournemouth University with all identifiable elements recorded (NISP: Number of Identifiable Specimens) and diagnostic zoning (amended from Dobney & Reilly 1988) used to calculate MNE (Minimum Number of Elements) from which MNI (Minimum Number of Individuals) was derived. Identification of the assemblage was undertaken with the aid of Schmid (1972) and reference material from the Cambridge Archaeological Unit. Taphonomic criteria including indications of butchery, pathology, gnawing activity and surface modifications as a result of weathering were also recorded when evident. Preservation was varied, though overall this was moderate to fairly poor. The red deer antler from F.33 and the aurochs distal humerus from F.11 were the only elements surviving to 50% or more with the remainder of the assemblage being made up of heavily fragmented specimens, also with burnt and mostly calcined unidentifiable fragments.

Taxon	NISP	%NISP	MNI
Cow	2	25	1
Aurochs	1	12.5	1
Sheep/ goat	1	12.5	1
Pig	2	25	1
Red deer	2	25	1
Sub-total to species	8	100	
Cattle-sized	6		
Sheep-sized	30		
Mammal n.f.i.	21		
Total	65		

Table 9: Number of Identified Specimens and the Minimum Number of Individuals for all species from all features; the abbreviation n.f.i. denotes that the specimen could not be further identified.

Pit F.11 contained more bone than all of the other pits combined. This was recovered from three contexts. Upper contexts [28] and [29] contained collections of heavily burnt and fragmented red deer antler. On two small (*c*. 3cm length) refitting segments it was possible to note marks similar to facets created by either rodent gnawing or a rather blunt tool, probably of stone. Magnified inspection seems to indicate the latter and the character of marks suggest it is possible the antler served as a work surface or a chopping board, perhaps facilitating processes of bone working. Though bone is harder than antler, it is also more brittle, so it is entirely possible that antler was used as a base on which to work the bone. The pit's lower contexts [43] produced an aurochs distal humerus, sheep/ goat mandible and a few unidentifiable crumbs of calcined bone.

Taxon	F.7	F.8	F.11	F.12	F.30	F.33
Cow		1			1	
Aurochs			1			
Sheep/ goat			1			
Pig	1	1				
Red deer			1			1
Sub-total to species	1	2	3		1	1
Cattle-sized			2		4	
Sheep-sized		6	20			4
Mammal n.f.i.			17	1		3
Total	1	8	42	1	5	8

Table 10: Number of Identified Specimens for all species: breakdown by feature; the abbreviation n.f.i. denotes that the specimen could not be further identified.

Pit F.33 also contained an interesting deposit of an almost complete, unmodified and unburnt small red deer antler.

A small amount of mostly unidentifiable and calcined material came from environmental bulk soil samples as heavy residues (Table 11). Microfauna, aviofauna and fish were completely absent from the assemblage. Those specimens assigned to species level were loose teeth, enamel fragments or red deer antler. The range of species mirrored that recorded from the handrecovered assemblage.

Taxon	F.7	F.8	F.11	F.30	F.33
Cow	•			1	
Sheep/ goat	•		1		
Pig	1		1		
Red deer			2		
Sub-total to species	1	•	4	1	
Cattle-sized	•				
Sheep-sized		6	2		
Mammal n.f.i.	1	2	37	1	3
Total	2	8	43	2	3

Table 11: Number of Identified Specimens for all species from heavy residues: breakdown by feature; the abbreviation n.f.i. denotes that the specimen could not be further identified.

Although the assemblage is quantitatively inadequate to draw any conclusions on site economy or animal use, it is clear that the site's faunal 'signature', the state of preservation, the high proportion of heavily burnt bone and antler, the choice of body parts and the character of deposition all fit known period patterns.

The range of species is very characteristic of the Late Neolithic: the deer, aurochs and pig being indicative of a wooded landscape. The preservation of bone was rather varied with some contexts containing weathered bone and others containing somewhat better preserved bone. Of 65 assessable specimens, 38 were recorded as calcined (58.5%) which is again very typical for the period. It could be argued that the calcined fragments were the remains of meat that was roasted on the bone and which is a profligate method of cooking since it makes less use of the animal carcass than boiling, for example. This has often been taken as a sign of feasting, but given that the majority of calcined material from the site was identified as antler, it would be difficult to argue that the assemblage here was a result of feasting, despite a number of similar interpretations of comparative burnt assemblages within other Grooved Ware contexts in southern Britain (e.g. Serjeantson 2011). Furthermore, a distinction is necessary between bones that are calcined and bones that are charred. Charring may result from exposure to a fairly low heat flame, which may include a temporary hearth or fire; the high temperatures required for the calcination of bone may have been achieved by a fierce domestic fire, but they could equally have derived from a cremation pyre.

Unsystematic choice of species type within the assemblage, in addition to the specificity of the anatomical elements and especially their weathered appearance may be illustrative of deliberate selection and perhaps their curation over a period of time prior to their deposition. This pattern of

behaviour, rather than simply representative of food waste, has been noted by other authors working on similarly dated assemblages (Legge 1991, and *pers. com.* 2011) as a likely sign of deliberate and 'structured' deposition.

It is recommended at least two radiocarbon dates are obtained, the two best candidates being the pits F.11 and F.33.

9.1.4 Archaeobotany by Val Fryer

Twenty samples were collected from pit and post-hole fills for the retrieval of the plant macrofossil assemblages, with two additional samples from pit F.11 taken for their potential to contain insect remains. Fourteen samples were submitted for assessment (the other six samples and the two for insect retrieval remain at the offices of the CAU). The samples were bulk floated by Jacqui Hutton at the offices of the CAU and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16 and the plant macrofossils and other remains noted are listed in Tables 12 and 13. Nomenclature within the tables follows Stace (2010). All plant remains were charred. Modern roots, seeds and leaves were present throughout with roots forming a major component of all fourteen assemblages.

Results

The assemblages were all small (<0.1 litres in volume) and extremely limited in composition. Charcoal/charred wood fragments were present throughout (although rarely at a very high density), and it was noted that many fragments were rounded and abraded; however, other plant macrofossils were scarce. Small fragments of hazel (*Corylus avellana*) nutshell (many severely abraded) were noted, most particularly within the basal fills of pit F.11 (samples 4, 5 and 7) and the fill of pit F.33 (sample 22). A single grain of wheat (*Triticum* sp.) was also recorded within sample 4; this was of a rounded, hexaploid type form and was probably of bread wheat (*T. aestivum/compactum*), but diagnostic chaff was absent. An individual, indeterminate seed was also present within the assemblage from pit F.29 (sample 23).

Other remains were also scarce. Small fragments of bone, many burnt/calcined, were present within the fills of pit F.11 along with pieces of burnt or fired clay and splinters of heat shattered stone. The fragments of black porous material, the small pieces of coal and the single vitreous globule were all probably intrusive within the feature fills. Such remains are commonly recorded within features which have undergone some degree of bioturbation (e.g. root penetration) and are most likely to be derived from the spreading of night soil on the land during the later post-medieval/early modern periods. Conclusions and recommendations for further work

Although the current assemblages are very sparse and limited, there do appear to be certain patterns of deposition which may be indicative of particular on-site activities.

The post-hole assemblages were particularly sparse, almost certainly implying that Structure 1 was kept scrupulously clean. Although this may in part have been a matter of domestic hygiene, there was also the necessity to remove any materials from the building which posed a fire hazard. It seems that much of the waste from Structure 1 appears to have been deposited within the nearby pits, most particularly within pit F.33 which lay to the rear of the building.

Pit F.11, which appears to have been relatively isolated from other features on the site, was either used as a midden or was the repository of material from a nearby ground-level midden. The latter of these scenarios may explains why both the charcoal and the nutshell fragments within the fills were so abraded; the material could have been left exposed to the elements for some period prior to burial. Bearing in mind that the site may only have been occupied on a seasonal basis, here taking into account its western fen edge context, the successive layers of detritus within the fills of pit F.11 may indicate that the feature was in use for an extended period of time. This pattern of deposition is in contrast to the apparent 'ritual' pit deposits noted at other contemporary sites (for example Harford Park and Ride, Norwich, Fryer *in prep.*), which contain similar material but in a single pit fill. Such assemblages appear to be derived from a cleansing of a site prior to seasonal abandonment, and although some of the Deeping Gate Trees material may fall into this category, the environmental data alone is insufficient to support this possibility.

Owing to the limited nature of the assemblage, it is difficult to pinpoint particular information relating either to the environment or locally available food sources. Nevertheless, assuming that the single wheat grain may be contemporary, it would appear that some limited agricultural production was occurring locally, although wild, gathered foods were still a major component within the diet of the site's occupants. The occurrence of hazel nutshell fragments is generally common within assemblages of this date, and evidence from the nearby site of Etton Woodgate (Nye 2005) certainly suggests that much of the local area was covered by thickets and woodland, both sources for a variety of gathered foodstuffs.

None of the assessed assemblages contained a sufficient density of material for quantification (i.e. 100+ specimens); on this basis no further analysis is here recommended unless the remaining six samples are processed for analysis. A possible exception here is the potential of the assemblage for radiocarbon dating, most notably the nutshell fragments, which can be separated out as required.

		Struc	ture 1					
Sample No.	18	19	20	21	16	17	22	23
Feature No.	F25	F26	F21	F23	F28	F30	F33	F29
Context No.	67	70	55	61	75	77	91	76
Feature type		Post	Holes			Р	its	
Plant macrofossils								
Corylus avellana L.	х				х	х	xx	xcf
Charcoal <2mm	xx	х	х	х	ххх	xx	XXXX	х
Charcoal >2mm	х	х	х	х	ххх	х	xxx	х
Charcoal >5mm		х		х	х	х	х	
Charcoal >10mm	х			х	х	х	х	
Indet. seed								х
Other remains								
Black porous 'cokey' material			х	х				х
Small coal frags.	х		х			х		
Sample voume (litres)	15	15	8	6	10	16	15	12
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%

Table 12: Summary of archaeobotany in Group A.

Sample No.	1	3	2	4	5	7
Feature No.	F7	F8	F11	F11	F11	F11
Context No.	16	19	28	29	43	44
Feature type	Pit	Pit	Pit	Pit	Pit	Pit
Plant macrofossils						
Triticum sp. (grain)				х		
Corylus avellana L.	xcf			xx	xx	xx
Charcoal <2mm	XXX	хххх	хх	xx	ххх	хххх
Charcoal >2mm	xx	xx	xx	х	xx	xx
Charcoal >5mm	xx	хх	х		х	х
Charcoal >10mm		х	х		х	х
Other remains						
Black porous 'cokey' material				х		х
Bone			xb	x xb	x xb	x xb
Burnt/fired clay			х	х		
Burnt stone					х	х
Small coal frags.					х	
Vitreous material					х	
Sample volume (litres)	12	15	16	10	12	8
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%

Table 13: Summary of archaeobotany in Group B.

9.1.5 Burnt Stone by Simon Timberlake

A small amount (28 pieces) of burnt stone weighing a total of 768g was recovered from nine features at this site (Table 14), the majority of which came from F.8, F.29 and F.30. The burnt stone found within two of the pits was found associated with a small amount of Late Neolithic Neolithic pottery and flint. These small amounts of burnt stone are generally fairly typical of pre-Bronze Age features, with larger amounts per feature becoming more

frequent as re-deposited material during the Early Bronze Age, and commonplace in the Middle Bronze Age when specific pits were used for firing the stone and cooking, once the practice moved away from burnt stone/ burnt flint mounds. The size of the fragments found at Deeping Gate suggest re-use of the collected burnt stone (pebbles), perhaps for repeated cooking functions, following which they became distributed across features. However, with so few pieces it is difficult to properly assess the nature of its use.

Cat. No.	Feature	Context	Nos. frags	Size (mm)	Weight (g)	Geology	Notes
001	F.1	1	1	35	30	pinkish-white qtz veined metaquartzite (Bunter cobble frag?)	
007	F.7	16	2	15-23	12	pale quartzite and white sstn	re-burnt frags
010	F.7	17	2	30-50	52	Soft pale col Greensand + yellow siltstn	
015	F.8	19	3	40-70	200	soft pale col Greensand + felspathic sstn	nr complete Greensand pebble
024	F.11	29	2	22-42	28	slightly micaceous white sandstone (poss LGS)	ditto
020	F.11	28	4	15-42	40	soft white ssstn + grey quartzitic siltstn	x3 frags of same craze-cracked small pebble
032	F.18	46	2	35-45	26	pinkish-white round quartzite pebble	re-burnt frags?
041	F.24	64	1	20	8	white orthoquartzitic fine g sstn (Jur-Cret)	extern frag with cracking (re- burnt ?)
047	F.29	76	7	20-55	182	fine gr pale quartzitic sstn + quartzite + Jur Deltaic micac sstn with plant foss	incl x2 frags of same craze- cracked pebble
053	F.30	77	3	45-75	162	fissile micac sstn + pale col greensand + yellow quartzitic sstn	quartzitic sstn shows flaking rather than heat- cracking
059	F.37	102	1	40	28	pale quartzitic sstn	craze-cracked pebble

Table 14: Catalogue of Burnt Stone.

9.1.6 Fired Clay by Simon Timberlake

A total of 418g of burnt clay was recovered (Table 15), of which at least 360g was made up of fragments of a cylindrical loomweight which came from a large pit (F.8) located in the south-eastern periphery of the excavated area. Another 44g of non-diagnostic weathered burnt clay fragments made of the same burnt clay fabric (Fabric 1) were recovered from F.29 and F.30 associated with Structure 1. The remaining 14g (<006>) which consists of

small weathered fragments of burnt clay from pit F.11 might represent the crumbs of decomposed daub walling.

Fabric types

- *Fabric 1* a soft brick-red to light grey brown coloured sandy fabric with abundant small (1-4mm) inclusions of a chocolate brown coloured soft clay grog plus occasional inclusions of grit-sized burnt/calcined flint (1-3mm) and rarely larger pieces of unburnt weathered flint.
- *Fabric 2* a light bleached yellow-brown coloured silty fabric with a dark grey-black reduced interior and v small voids suggestive of burnt-out organic inclusions, plus rare soft chocolate-brown coloured small (1-2mm) clay grog inclusions.
- *Fabric* 3 a light brown-pinkish clay 'biscuit-like' fabric with some sub-millimetre sized reddish clay and organic (burnt-out void) inclusions.

Fabric 4 a soft pinkish silty fabric with some sub-millimetre sized reddish clay inclusion.

Cat. no	Feature	Context	Weight (g)	Nos. pieces	Size (mm)	Fabric type	Inclusions	WC?	Notes
014	8	19	360	8	90x4 5 to 10x1 0	1	piece weathrd flint	cylindrical loomweight	one half plus associated non-fitting small frags of a tapered centrally perforated (10mm dia) Neolithic-EBA type loomweight <i>c</i> . 90mm diam(base) + 60mm (top) + 80mm high
046	29	76	24	1	35	1	2-3mm angular white flint + 5mm ironstone	?	weathered amorphous lump – poss from a loomweight?
052	30	77	20	4	13- 30	1	1-2mm choc brown grog and ironstone grit		amorphous weathered frags
040	23	62	6	1	22	1?	1-2mm flint grit and voids		amorphous weathered
006	7	16	8	5	10- 23	2-4		incised parallel lines on one frag	may include x2 frags of pottery (one decorated)?

Table 15: Catalogue of Burnt Clay.

Discussion

The find of a longitudinally broken half of a crudely-moulded taperedcylindrical clay loomweight <014> at Deeping Gate is of some interest, particularly given the overall rarity of such finds from Early Bronze Age and Late Neolithic contexts.

The majority of flattened cylindrical clay loomweights date from the Middle to Late Bronze Age and do not commonly appear until around 1500-1400 BC (Needham & Longley 1980). Centrally perforated 'bun-shaped' loomweights were recently recovered from a Middle Bronze Age field system at Northwest Cambridge (see Timberlake in Evans et. al. forthcoming), whilst a number of flattened cylindrical clay loomweights were also recorded from a Middle Bronze Age ditch at Priors Hall, Kirby Lane, Corby (Chapman & Jones 2012). However, whilst earlier Neolithic-Bronze Age occurrences of loomweights (mostly of the cylindrical-type) are referred to within archaeological literature pertaining to Scandinavian and Aegean contexts, specific references to finds of these objects within Neolithic and Early Bronze Age Britain seem really quite rare. The only parallels noted were from Ireland, although this is not to say that such finds have not been made from the mainland, their occurrence within these contexts perhaps still hidden in the grey literature. For instance, a perforated baked clay object (a possible loomweight) was recovered from an Early Bronze Age cist at Tremogue, Co. Tyrone (Foley 1985). More significantly a 'cylindrical-type' loomweight appears to have been found in associated with Grooved Ware from a timber circle at Knowth, Co. Meath (Eogan & Roche 1997).

Prior to publication an attempt should be made to microscopically examine the central perforation to see if any traces of the (warp) thread wear marks survive on the surviving half-section, given that there is a current debate about the incidence of wool textiles as opposed to the weaving of plant fibre textiles (using flax, hemp and nettle) during the Neolithic to earlier Bronze Age. The complete half should also be properly illustrated and photographed for publication.



Figure 1. Site location



Figure 2. Site plan





Figure 3. Detail of Group A and B features

Group B



F.11 (29) Pottery, flint and antler



F.11 (43) Butchered Auroch's Leg bone



F.11 (Fully excavated)



F.33 (91) Shed Antler



Group A post and structure, looking South-East

Post structure







Figure 5. Selected sections - Post structure (top) and Group A (below)



NW



SE









Figure 7. 1890 Ordnance Survey Map with development area



Figure 8. Detail of projected post structure in Area A



9.3 Feature Summaries

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
	1 Circular pit	1	Moderately firm mid-grey sandy silt with occasional charcoal flecks and rare charcoal lenses. Possible post-pipe oriented N-S.				
1		2	Mid orange soft sand. Natural erosion.	0.45 (0.20)			DC
		78	Soft light grey silt with rare charcoal flecks. Packing?	0.45 (0.39)			БЭ
		3	Cut: Sides straight and vertical at top with lower overcutting towards shallow concave base.				
	2 Circular pit or	4	Moderately firm light yellowish-grey mixed clay and sand. Natural erosion.				
2		5	Moderately firm very dark grey silt with frequent charcoal flecks and lumps.	0.3 (0.24)			PT
	postnole	6	Soft light grey silt.				
		7	Cut: Straight vertical sides at top with lower overcutting towards flat base.				
3	Circular natural	8	Firm mixed mid reddish brown and grey sandy silt and clay.				n/a
	nollow	9	Cut: Concave profile				
4	Circular pit or	10	Soft mid grey silt with occasional orangey-red clayey patches and charcoal flecks.	0.3 (0.08)			n/a
	postriole	11	Cut: Sharp concave sides with a flat base.				
5	_ Circular		Moderately firm mid grey silt with occasional charcoal flecks.	0.13 (0.08)			n/a
5	posthole	13	Cut: Near straight sides, slightly inverted, with a flat base.	0.13 (0.00)			11/a
6	Circular pit	14	Mottled soft mid brown and light grey silt with rare charcoal flecks.	0.4 (0.13)			n/a

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
		15	Cut: Sharp concave profile.				
7 Ci		16	Moderately firm mid to dark grey silt with occasional charcoal flecks.				
	Circular pit	17	Mottled and mixed yellow brown sand with mid grey silt.	0.75 (0.36)			PT,FL,BS,BC
		18	Cut: Concave profile				
8	8 Circular pit	19	Moderately firm mid to dark grey clayey silt with occasional charcoal flecks and rare small sub- angular stones. In section noted for its straight sides and flat base, 0.11m deep. Possibly contained within a box, and finds include wattle-impressed burnt clay.	1.8/1.35 (0.21)			PT,BN,BS,BC
		20	Soft and slightly friable mid yellow-brown sandy silt occasionally mottled with [19]. Clear basal boundary with firm gravelly natural.				
		21	Cut: Near straight inverted sides and flat base.				
Q	Circular	22	Soft mid grey clayey silt.	0 19 (0 1)			n/a
5	posthole	23	Cut: Straight vertical sides and flat base.	0.13 (0.1)			Π/ά
10	Circular natural	24	Very mixed gravelly orange sandy and mid grey clay with rare charcoal flecks.	0.37 (0.08)			n/a
	nollow	25	Cut: Shallow irregular concave profile.				
		26	Moderately firm mixed light yellowish brown silty clay and mid grey silt with very occasional charcoal flecks and reddish sandy lumps.				
11	special deposits	27	Moderately firm light yellowish brown silty clay.	0.61 (0.64)			PT,BN,FL,BS,BC
		28	Soft mid to dark grey silt with frequent charcoal flecks and abundant calcined bone with worked flint and Beaker pottery.				

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
		45	Moderately firm light yellowish brown sandy clay.				
		29	Soft mid to dark grey silt with frequent charcoal flecks, reddish brown sandy clay lumps, calcined bone and pottery.				
		43	Soft mid to dark grey silt with rare charcoal flecks and a butchered aurochs leg.				
		44	Soft and slightly friable light yellowish grey sandy silt.				
		30	Cut: Vertical sides at top with overcut 'bell' profile towards a near flat base.				
12	Oval pit 31		Soft very dark reddish brown clayey silt with very occasional charcoal flecks and lumps.	0.56 (0.15)	F.13,		PT
		32	Cut: Shallow concave profile		F.14		
13	Oval pit	33	Moderately firm very dark grey clayey silt with frequent charcoal flecks and reddish staining.	>0.37 (0.17)		F.12,	n/a
		34	Cut: Shallow concave profile truncated at the NW.			F.10	
14	Circular pit	35	Moderately firm mid to light grey silt mottled with reddish brown and occasional charcoal flecks.	× 0.58 (0.2)		F.12,	2/2
14		36	Cut: Straight vertical sides with a gradual break of slope to a flat base.	>0.58 (0.2)		F.15	11/a
15	Circular pit	37	Moderately firm mid to dark grey silt mottled with reddish brown and occasional charcoal flecks.	0.7 (0.2)	F.13,		n/a
		38	Cut: Gradual concave sides with a flat base.		Г.14		
16	Linear oriented N-S	39	Moderately firm pale greyish brown sandy silt with occasional charcoal flecks and rare but unrecoverable finds of degraded pottery. A single burnt stone was also identified.	0.7-0.75 (0.17)	F.17		BS
		40	Cut: Shallow concave profile with near flat base, further shallowing northwards.				

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
17	Pit or linear terminus	41	Moderately firm dark grey clayey silt with occasional charcoal flecks.			E 16	DT DC
		42	Cut: Sharp concave profile with rounded plan extending from southern edge of excavation.	0.95 (0.3)		F.10	F 1,DO
18		46	Moderately firm mid to dark grey silt with occasional charcoal flecks.				
	Circular pit	85	Fairly soft mottled mid to light orange sand mixed with light grey sandy silt.	0.41 (0.1)			PT,BS
		47	Cut: Gradual concave sides and near flat base.				
19	Oval pit	48	Moderately firm very dark grey silt with frequent charcoal flecks. Possible root or stake hole c.0.23m depth with a tapered profile.	0.85 (0.35)			
		49	moderately compact mid yellowish brown sandy silt mixed with light grey silt and occasional charcoal flecks.				
		50	Soft mid grey silt with rare charcoal flecks and clear basal boundary.				
		51	Cut: Concave profile, sharp at west where it slightly undercuts the edge and gradual at east. Truncated by the modern pond/quarry.				
20	Circular posthole in post structure	52	Soft mid grey silt with occasional charcoal flecks. Possible post pipe?	0.31 (0.07)			
		53	Soft mottled light grey and yellowish brown sandy silt with rare charcoal flecks.				
		54	Cut: Near straight sides with slight concave break of slope to flat base.				
21	Circular posthole in post structure	55	Soft mid grey silt with occasional charcoal flecks. Possible post pipe?	0.34 (0.12)			
		56	Soft mid to light yellowish brown silty sand.				

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
		57	Soft mid grey silt with occasional charcoal.				
		58	Cut: Concave sides with near flat base.				
00	Circular posthole in post structure	59	Soft mid grey silt.				-
22		60	Cut: Very shallow with concave sides and flat base.	0.23 (0.03)			FL
23	Circular posthole in post structure	61	Soft mid grey silt with occasional charcoal flecks. Possible post pipe?				
		62	Soft mottled light grey and yellowish brown sandy silt with rare charcoal flecks.	0.3 (0.07)			
		63	Cut: Concave sides and flat base.				
24	Circular post	64	Soft mid grey silt.	0.27 (0.1)			
24	hole	65	Cut: Concave sides and flat base.	0.37 (0.1)			
	Circular post hole	66	Moderately firm mid grey silt with frequent charcoal flecks and rare small angular stones. Post pipe with vertical profile and irregular sides flaring outwards at base.	0.54 (0.16)			
25		67	Soft mottled light grey and yellowish brown sandy silt with rare charcoal flecks.				
		68	Cut: Near vertical, slight concave sides with gradual lower break of slope and flat base.				
26	Circular post hole	69	Moderately firm mid grey silt with frequent charcoal flecks and rare small angular stones. Post pipe with vertical profile and irregular sides flaring outwards at base.	0.47 (0.14)			
		70	Soft mottled light grey and yellowish brown sandy silt with rare charcoal flecks.				
		71	Cut: Near vertical, slight concave sides with gradual lower break of slope and flat base.				

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
27	Circular posthole in post structure	72	Soft mid grey silt with occasional charcoal flecks. Possible post pipe?	0.37 (0.12)			
		73	Soft mottled light grey and yellowish brown sandy silt with rare charcoal flecks.				
		74	Cut: Near vertical, slight concave sides with gradual lower break of slope and flat base.				
28 \$		75	Firm dark grey silt with occasional small sub-angular stones and frequent charcoal.				
	Sub-Circular pit	88	Moderately firm mid to dark grey silt with rare charcoal flecks and occasionally mixed with yellowish brown sandy silt.	0.8 (0.16)			PT,FL,BS,WS,BC
		89	Loose friable mid yellow silty sand with rare charcoal flecks.				
		86	Cut: Near vertical, slight concave sides with gradual lower break of slope and flat base.				
	Oval pit	76	Moderately firm mid to light grey silt with occasional charcoal flecks.	0.68/0.47			
29		95	Soft mid orangey grey sandy silt.				PT,FL,BS
		96	Cut: Sharp concave profile undercutting the south edge.	(0.20)			
30	Circular pit	77	Firm very dark grey clayey silt with occasional mottled reddish patches and occasional charcoal flecks and small sub-angular stones.	1.2 (0.25)			
		90	Loose friable mid yellow silty sand with rare charcoal flecks.				PT,BN,FL,BS
		87	Cut: Straight vertical sides except for a slight step on the NE edge, with gradual lower break of slope to a flat base.				
31	Linear oriented	79	Firm mid grey silty clay.	0.46 (0.17)			n/a

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
	NW-SE	80	Cut: Straight sides, slightly inverted, with a sharp lower break of slope and flat base.				
		81	Firm mid grey silty clay.				
		82	Cut: Straight sides, slightly inverted, with a sharp lower break of slope and flat base.	0.5 (0.12)			
32	Drain oriented	83	Loose gravel mixed with blue-grey clay and dark grey topsoil. Cylindrical ceramic drain.	0.38 (>0.3)			n/a
	INE-SVV	84	Cut: Straight sides. Base not ascertained.				
33	Circular pit with special deposits	91	Soft very dark grey silt with rare sub-angular stones and frequent charcoal flecks and lumps. Red deer antler pick deposited upon base.	0.42 (0.33)			PT,WB,BN,FL
		92	Cut: Near vertical sides with slight lower overcut and gradual break of slope to flat base.				
34	Circular posthole	97	Firm very dark grey silt with occasional reddish patches and occasional charcoal flecks. Poorly preserved pottery.	0.3 (0.1)		PT	
		98	Cut: Shallow concave profile.				
35	Circular posthole	93	Moderately firm mid to light orangey grey sandy silt with occasional charcoal.	0.24 (0.08)			n/a
		94	Cut: Sharp concave profile.				
36	Circular pit or posthole	99	Moderately firm mottled mid yellowish brown and mid brown sandy (clay) silt with very rare charcoal flecks.	0.28 (0.16)			,
		100	Firm very dark grey silt with frequent charcoal flecks.				n/a
		101	Cut: Sharp concave profile with near flat base.				
37	Circular posthole	102	Moderately firm mid to light grey sandy silt with rare charcoal flecks.	0.45 (0.1)			FL

Feature No.	Feature Description	Context	Context Description	Length/Width (Depth) in metres	Cuts	Cut by	Finds
		103	Cut: Sharp concave sides and flat base.				
38	Circular	104	Moderately firm mid to light grey sandy silt with rare charcoal flecks.	0.65 (0.05)			BS
	positiole	105	Cut: Sharp concave sides and flat base.				
39	Circular posthole	106	Moderately compact mid greyish brown clayey silt with occasional charcoal flecks.	0.47 (0.8)			n/a
		107	Cut: Shallow concave sides and near flat base.				
40	Circular	108	Compact light grey sandy silt with rare charcoal flecks.	0.04 (0.00)			n/a
	structure	109	Cut: Truncated by machine compaction, but discernible as concave sides and flat base.	0.24 (0.06)			
41	Circular	110	Moderately firm mid to dark grey silt with rare charcoal flecks.	0.2 (0.05)			FL
	postnole	111	Cut: Sharp concave sides and flat base.				
42	Linear oriented NW-SE	n/a	Unexcavated	1.0			n/a

10. OASIS FORM

OASIS ID: cambridg3-208918

Project details	
Project name	Deeping Gate Trees, Market Deeping, Lincolnshire: An Archaeological Investigation
Short description of the project	Within an investigation area of <i>c</i> . 1.05ha a linear swathe of forty-two features was recorded that comprised a prehistoric settlement including a post-defined circular structure. Dating of the pottery is problematic, but covers a timeframe of the Late Neolithic to the Early Bronze Age. This is confirmed by the fauna which includes both wild and domestic species as well as deposition of a special nature. By contrast, the worked flint assemblage is of a more certain Late Neolithic tradition. The significance of the assemblage to a local understating of prehistoric communities is undoubted, but its broader value may only be realised through scientific dating.
Project dates	Start: 16-09-2014 End: 24-09-2014
Previous/future work	Yes / No
Any associated project reference codes	LCNCC:2013.107 - Sitecode & Museum accession ID
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	POST HOLES Late Neolithic
Monument type	PITS Late Neolithic
Monument type	LINEARS Late Prehistoric
Monument type	LINEARS Post Medieval
Significant Finds	POTTERY Late Neolithic
Significant Finds	POTTERY Bronze Age
Significant Finds	FLINT Late Neolithic
Significant Finds	ANIMAL BONE Late Neolithic
Significant Finds	FIRED CLAY Late Neolithic
Investigation type	"Open-area excavation"
Prompt	Direction from Local Planning Authority - PPG16
Project location	
Country	England
Site location	LINCOLNSHIRE SOUTH KESTEVEN MARKET DEEPING Deeping Gate Trees
Postcode	PE6 8GX
Study area	1.05 Hectares
Site coordinates	TL 1487 1226 51.796718111 -0.334061801373 51 47 48 N 000 20 02 W Point
Lat/Long Datum	Unknown
Height OD / Depth	Min: 2.68m Max: 2.75m

Project creators	
Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	David Gibson
Project director/manager	David Gibson
Project supervisor	Marcus Brittain
Type of sponsor/funding body	Landowner
Name of sponsor/funding body	Deeping Gate Trees
Project archives	
Archive recipient	Cambridge Archaeological Unit
Archive ID	LCNCC:2013.107
Physical Contents	"Animal Bones","Ceramics","Environmental","Worked stone/lithics","other"
Digital Contents	"Animal Bones","Ceramics","Environmental","Survey","Worked stone/lithics","other"
Digital Media available	"Images raster / digital photography","Images vector","Spreadsheets","Survey"
Paper Contents	"Stratigraphic"
Paper Media available	"Context sheet","Notebook - Excavation',' Research',' General Notes","Photograph","Plan","Report","Section"
Project bibliography	
Publication type	Grey literature (unpublished document/manuscript)
Title	Deeping Gate Trees, Market Deeping, Lincolnshire: An Archaeological Investigation
Author(s)/Editor(s)	Brittain, M
Other bibliographic details	CAU Report no. 1261
Date	2015
Issuer or publisher	Cambridge Archaeological Unit
Place of issue or publication	Cambridge
Description	53pp, 9 colour and B/W figures, 15 tables.
Entered by Entered on	Marcus Brittain (mb654@cam.ac.uk) 15 April 2015