

Covenham WTW to Boston transfer Lincolnshire



Post-Excavation Assessment Volume 1: Fieldwork results



April 2014

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Covenham Water Treatment Works to Boston Transfer, Lincolnshire

Post-Excavation Assessment and Updated Project Design

Volume 1: Fieldwork Results


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Summary

Between September 2011 and May 2013 Oxford Archaeology East carried out a programme of archaeological investigations as part of the works for the Covenham Water Treatment Works to Boston pipeline, Lincolnshire (535300 395852 to 535533 345072). These works comprised of geophysical survey, extensive fieldwalking and a series of trial trench evaluations, followed by open area excavation of sites previously identified as being of archaeological interest.

In total 27 excavations were undertaken across the length of the 60km easement. The earliest remains comprised in situ Mesolithic and Neolithic flintworking (identified at one site). Features dating from the Neolithic to Early Bronze Age, along with a background scatter of residual flint tools of Neolithic to Early Bronze Age date were identified at five sites. A single site was seen to contain activity dating purely to the Middle Bronze Age.

The most prevalent remains were those dating to the Iron Age and Roman period with 19 sites producing evidence of settlement. A range of features were identified at each of these sites that included boundary/enclosure ditches and ring gullies as well as groups and alignments of pits and postholes, many of which were associated with varying amounts of domestic refuse. Of the Iron Age and Roman sites, 15 comprised a single phase of activity with no evidence for multi-period use.

Two sites were seen to contain remains of a purely medieval date. A low level of medieval activity was identified at one other site. Almost all of the excavation areas contained medieval/post-medieval ridge and furrow.

Overall, a wide range of stratigraphical, artefactual, environmental and osteological data was recovered. This has been assessed as having good potential for further analysis which will enable a number of research questions of regional importance to be addressed.

1 INTRODUCTION

1.1 Project Background

- 1.1.1 Oxford Archaeology East was commissioned by Mott MacDonald on behalf of Anglian Water Services to undertake a series of archaeological works at various locations along the proposed easement of a 30m wide and 60km long water pipeline between Covenham St Mary (535300 395852) and Boston (535533 345072), Lincolnshire (Fig. 1).
- 1.1.2 The investigation began with Mott MacDonald carrying out a desk-based assessment (DBA) and walkover survey (Hopper 2011) which was then supplemented by a further DBA for the southern portion of the pipeline (Hopper 2012). A geophysical survey of the route was also undertaken, except in areas where the proposed pipeline ran through deep fen (Bartlett 2011). Subsequently, a fieldwalking survey was carried out across areas identified by the DBA as being of archaeological potential (Bush 2011a and 2011b). A trial trench evaluation consisting of 207 trenches was undertaken in five stages (Bush 2013) targeted on geophysical anomalies, pottery concentrations and flint scatters identified during the fieldwalking.
- 1.1.3 With the results of these preliminary works, steps for archaeological mitigation were taken resulting in the investigation of 27 set-piece excavation areas targeted upon previously evaluated and characterised archaeological remains.
- 1.1.4 This assessment has been conducted in accordance with the principles identified in English Heritage's guidance documents *Management of Research Projects in the Historic Environment*, specifically *The MoRPHE Project Manager's Guide* (2006) and *PPN3 Archaeological Excavation* (2008).

1.2 Geology

- 1.2.1 The British Geological Survey maps (BGS 2012) indicate that the geology for the pipeline route between Covenham and Swaby consists of Diamicton Till over chalk. To the south of Swaby, the solid geology changes where the pipeline enters the Lincolnshire Wolds. The pipeline crosses areas of Devensian – Diamicton Till to the south of Swaby. Around Brinkhill and north Harrington the pipeline passes through glaciofluvial deposits of sand and gravel. Areas of Spilsby Sandstone and Kimmeridge clay deposits are seen between Harrington and Old Bolingbroke. At Old Bolingbroke the pipeline enters the head of a valley and cuts across an area of head, river terrace and alluvial deposits.
- 1.2.2 The geology for the pipeline route between Miningsby Reservoir and East Kirkby cuts across Diamicton Till and Kimmeridge Mudstone. Between East Kirkby and Stickford, the pipeline crosses an area of drift deposits consisting of glaciofluvial sands and gravel, and Glacial Till over a solid deposit of Jurassic Clays. Between Stickford and Stickney, the pipeline crosses over an area of alluvial peat fen deposits, which started forming during the Neolithic period. Finally, as the pipeline route continues toward Boston, it travels into a vast area of fen tidal clay and silt deposits.

1.3 Topography

- 1.3.1 The topography of the pipeline route between Covenham Water Treatment Works (WTW) and Alvingham consists of an almost fen-like flat landscape (c.10m OD) comprised of large arable ditched fields. At Alvingham the land rises to c.30m OD

before dropping again to c.10m OD where it is cut by the Lud Navigation at Manby. The land around Manby and Legbourne is fairly flat and as the pipeline enters the low foothills of the Lincolnshire Wolds at Authorpe the topography rises to around 50m OD. From here, the route passes through the rolling hills cut by the Lymn Valley, reaching a peak of over 100m OD to the north of Hundleby. The pipeline then drops into the valley to the south of Old Bolingbroke before reaching Miningsby Reservoir at a height of c.50m OD.

- 1.3.2 Between Miningsby and East Kirkby the proposed pipeline route runs south along a valley at the southern edge of the Lincolnshire Wolds, dropping from c.50m OD to c.10m OD. Just to the north of East Kirby the valley meets an area of fen edge (c.20m OD). The proposed pipeline then follows the fen edge around the eastern side of East Kirkby (c.10m OD), before entering the Lincolnshire North Fen to the south of Stickford. Between Stickford and the Wainfleet Road, the landscape consists of large flat, ditched fields (around 0m OD) and is criss-crossed by large dykes. Within this flat landscape the pipeline passes to the east of fen islands at Stickney and Sibsey.

1.4 Archaeological Background – Covenham to Miningsby

- 1.4.1 The archaeological summary below is drawn from the DBA (Hopper 2011). A number of potential sites of archaeological interest lay close to, or directly in the line of, the pipe route between Covenham WTW and Miningsby. These were identified via cropmarks, the HER, chance find spots, fieldwalking and geophysical survey.

Prehistoric

- 1.4.2 Few prehistoric sites have been identified along the route of the pipeline. The first, identified via cropmarks, is a potential ring ditch south-west of Alvingham (HER 44078), around 300m west of the pipeline corridor. There are no cropmarks of note along the pipeline route until the village of Swaby, where a Neolithic long barrow (HER 43171) and two Bronze Age round barrows (HER 44175 and HER 46956) have been recorded to the south-west of the village. Although outside of the pipeline corridor, the presence of these barrows suggest the potential for associated features (as yet unidentified) within the corridor itself.
- 1.4.3 There are a number of isolated find spots extremely close to the pipeline corridor at Manby (HER 41947 – Bronze Age perforated stone hammer), Authorpe (HER 42516 – Neolithic hand axe) and Swaby (HER 42421 and 42423 – Neolithic flint hand axes). These may indicate background activity. The geophysical survey along the pipeline corridor to the west of Swaby revealed evidence for large ditched enclosures.
- 1.4.4 At Calceby, the prehistoric ridgeway of the Bluestone Heath Road (HER 43702) bisects the pipeline route. The fieldwalking in this area identified a concentration of struck and reworked flint (including a polished stone axehead) to the south of the Bluestone Heath Road, while the geophysical survey identified a number of hut circles, all of which indicate prehistoric settlement activity in the vicinity.
- 1.4.5 A relatively high level of prehistoric activity has also been identified in the landscape surrounding Harrington. A barrow (HER 44199) and associated cropmark enclosures have been identified here (HER 45344 and 42886), implying the potential for associated settlement sites. The discovery of a flint scatter (HER 43407) nearby and find spots of a Mesolithic flint blade (HER 42456) and a Bronze Age hammer (HER 42457) underline this potential. During fieldwalking of this area a large flint assemblage (including a high number of cores) was collected from a field to the south-west of

Harrington Hall. Further to this, a well defined complex of enclosures indicating a settlement was revealed via the geophysical survey in the field south of Harrington Hall.

- 1.4.6 Although no prehistoric activity is recorded in the HER around Hundleby, the area was deemed to have a high very probability for prehistoric activity. Fieldwalking in this area produced a large struck flint assemblage from a single field south of the Raithby Road. The geophysical survey also revealed a ditched enclosure on the north side of the Raithby Road, a complex of enclosures and hut circles was also recorded slightly further south.
- 1.4.7 Further prehistoric activity can be seen close to the pipeline corridor to the north of West Keal. The West Keal barrow (HER 44223) lies around 100m south of the pipeline corridor and several flint scatters (HER 40909, 40947, 40948 and 40989) dating from the Mesolithic through to the Bronze Age period have been identified near to it. These flint scatters may represent evidence for settlement or working sites associated with the barrow.

Roman

- 1.4.8 There is little evidence for Roman activity along the pipeline corridor between Covenham and Miningsby. Fieldwalking along the pipeline route recovered a large number of sherds of Roman pottery and oyster shell from the fields north of King Street, Yarburgh. The geophysical survey of these fields revealed a sequence of ditched enclosures and associated features. All this evidence suggests an occupation site.
- 1.4.9 Other than this, almost all information regarding Roman activity has come from isolated finds. Spot finds of single sherds of Roman pottery have been collected at Legbourne (HER 41836), Brinkhill (HER 43715), Hundleby (HER 43778) and Old Bolingbroke (HER 43446). These may simply be the result of chance losses or perhaps an indication of activity in the general environs.
- 1.4.10 A very large amount of Roman pottery and struck flint was recovered during fieldwalking on the periphery of Brinkhill, implying an extensive and long lived settlement here. The likelihood that this represents a settlement is increased by the presence of a Roman Road (HER 46519) identified bisecting the pipeline at this point. This is corroborated by the geophysics, which revealed three separate complex and dense systems of ditched enclosures and other features characteristic of settlement sites. Outlying prehistoric hut circles were also detected on the very western edge of the most southerly of the three settlements, which ties in with the worked flint collected here during fieldwalking.
- 1.4.11 Evaluation trenches targeted on the geophysics results confirmed the presence of established, multi-phase settlements here (see paragraph 1.6.5 below). As a result of this, the pipeline route was diverted west so as to avoid the archaeology.

Saxon

- 1.4.12 There are only two identified areas of Saxon activity within the vicinity of the pipeline, both of which are cemeteries. The first is located on the edge of Swaby (HER 42837) and the second, which is Scheduled, lies to the south of Old Bolingbroke (HER 308). The village of Old Bolingbroke is likely to have its origins in the Saxon period, it is therefore possible that activity dating from this period extends into the pipeline corridor between the village and the cemetery itself.

Medieval

- 1.4.13 Medieval activity is largely concentrated around the existing village cores. Thus, as much of the pipeline route avoids modern built up areas, what medieval archaeology which has been identified within the pipeline corridor is predominantly associated with agricultural activity. Nonetheless, some potential settlement sites can be seen close to the pipeline route, in areas where settlements have either shifted, shrunken or been abandoned. A large assemblage of medieval pottery was recovered during fieldwalking to the west of the Hagnaby Road, just south of Old Bolingbroke, implying the possibility for a settlement site on or near this area.
- 1.4.14 A large amount of ridge and furrow can be seen along the length of the pipeline. The pipeline route directly travels through identified ridge and furrow in several places: to the west of North Cockerington (HER 46125), by South Ormsby (HER 45114), to the west of Aswardby (HER 45340) and adjacent to Old Bolingbroke windmill (HER 45017). The pipeline corridor also cuts through an area containing medieval field systems (HER 45042) to the north of Raithby by Spilsby.

1.5 Archaeological Background – Miningsby to Boston

- 1.5.1 The archaeological summary below is drawn from the Updated DBA (Hopper 2012). Several potential sites of archaeological interest lie in the immediate vicinity or directly inside the line of the pipeline corridor along this part of the route. These have been identified mainly via crop marks, finds scatters, fieldwalking and the geophysical survey.

Prehistoric

- 1.5.2 There is good evidence for prehistoric activity along the pipeline route south of Miningsby, particularly between Miningsby itself and the village of Stickford, approximately 5km to the south-east. In fields immediately south of the Miningsby Reservoir, a potential Bronze Age barrow has been identified via cropmarks (HER 40889). A find spot of Bronze Age pottery has also been recovered nearby (HER 40891).
- 1.5.3 In the fenland area of the pipeline route, a number of fen edge/fen island areas have been identified close to or directly in the line of the proposed pipeline route, as well as an area of peat shrinkage. These fen islands and fen edge areas often attracted prehistoric settlement and therefore have good potential for archaeological remains.
- 1.5.4 The village of East Kirkby is on the periphery of the fen edge. Here, a number of Neolithic to Bronze Age flint scatters (HER 40870, 40858 and 40892) have been identified close to the pipeline corridor, implying a potential settlement within the immediate area. Also identified at East Kirkby are two Early Bronze Age 'pot-boiler' sites (HER 40885 and 40868), with the finds scatters consisting of burnt flint, burnt clay and pottery. The pipeline route also passes through the centre of an Early Bronze Age settlement at Hagnaby Lock (HER 41009). Investigations here revealed well preserved deposits, including ditches, postholes, ard marks, midden material and buried soil, all sealed by marine deposits (Lane and Trimble 2010). Mesolithic flint has also been recovered from nearby (HER 44616), several flint and Bronze Age pottery scatters have also been identified in the adjacent field (HER 41010, 41011, 41013, 41024 and 41025).
- 1.5.5 Within the fen itself, prehistoric activity is only seen in the form of isolated chance finds just beyond the edge of the fen islands. These include a Neolithic flint axe (HER 41027) and Late Bronze Age socketed axe (HER 41028) at Stickford, and flint axes (HER 41084,

40759, 40591 and 43369) and a Bronze Age spear head (41087) at Stickney. The southernmost portion of the pipeline, beyond Stickney, has produced very limited evidence for prehistoric activity, most likely as a result of the pipeline route travelling through deep fen.

Roman

- 1.5.6 The only evidence for Roman activity close to the pipeline lies to the east of the fen island of Sibsey, where pottery and a coin scatter (HER 41126) have been recovered that suggest a likely settlement in the immediate surroundings. This is corroborated by an extremely large assemblage of Roman pottery collected during fieldwalking of the pipeline corridor immediately north of the railway line, on the eastern periphery of Sibsey.

Saxon

- 1.5.7 The evidence for Saxon activity along the southern portion of the pipeline is confined to an area north-west of East Kirkby. This comprises an Early Saxon pottery scatter (HER 40890) recovered from an abandoned medieval settlement (HER 44794) outside of East Kirkby, close to the route of the pipeline. Saxon pottery has also been collected 300m to the east (HER 42701), whilst to the south of these pottery scatters are the remains of a Late Saxon settlement site (HER 40865), just north of the Sleaford Road.

Medieval

- 1.5.8 The pipeline route passes through areas mainly given over to agrarian activity during this time and the majority of the medieval settlement remains in the vicinity are located within or immediately around existing villages. However, features are recorded north-west of East Kirkby, where the pipeline travels close to an area of earthworks associated with a deserted medieval village (HER 44794). Evidence for medieval road side activity was also anticipated at the southernmost tip of the pipeline where it passed along side the Wainfleet Road (HER 13280), which is recorded on the 14th century Gough map. The geographical survey here revealed parallel ditches with an adjacent enclosure.

1.6 Evaluation Summary

- 1.6.1 The archaeological evaluation consisted of 207 trenches excavated along the length of the proposed pipeline easement (Fig. 2i-2xvii). The works highlighted several sites of archaeological potential.
- 1.6.2 A large tree throw, immediately west of the village of Harrington, contained over 500 struck flints dating from the Late Mesolithic and/or Early Neolithic period. An undated double crouched burial containing an adult and adolescent situated in a hollow, was also uncovered in a trench adjacent to the A16, near Stickney.
- 1.6.3 Further trenching at Harrington showed evidence for Iron Age activity in the form of a large number of ditches containing Iron Age pottery. Trenches on the periphery of North Cockerington revealed several substantial ditches containing Iron Age pottery, large quantities of animal bone and a hammerstone. Part of the drip gully from a round house was also uncovered.
- 1.6.4 Several ditches on varying alignments, including a very substantial enclosure ditch, were uncovered in a trench near Authorpe. These features produced pottery, fired clay and animal bone dating to the latest Iron Age. Trenches to the west of Hundleby

revealed a series of large Iron Age ditches and small clay-lined pits. Further trenching to the south uncovered a substantial enclosure of either Bronze Age or Iron Age date, along with the drip-gullies of two roundhouses.

- 1.6.5 Evidence for Roman activity was seen adjacent to the Covenham reservoir in the form of a number of large ditches containing large quantities of domestic refuse, including pottery, animal bone and oyster shell. An extensive Roman settlement was also uncovered immediately to the east of Yarburgh, that comprised large boundary ditches, pits and beam slots, all of which contained pottery (including stamped samian and stamped mortaria), animal bone and abundant oyster shell.
- 1.6.6 A series of Roman ditches were also seen in trenches around the village of Swaby. Trenches running along the western edge of Brinkhill revealed evidence for three Roman settlements defined by large boundary ditches and smaller ditched enclosures. A trench adjacent to the Roman road uncovered three sub-rectangular burnt pits containing cremated human bone and a large, complete cremation vessel. The trenches at Brinkhill also revealed some evidence for Iron Age activity, including the drip gully from a large roundhouse.
- 1.6.7 Roman activity was also encountered to the south-west of Harrington, where a number of substantial ditches containing Roman pottery were uncovered. Further evidence of Roman activity was recorded in the form of a ditch containing samian and mortaria, situated to the north-east of the village of Sibsey. High levels of Roman activity were also recorded either side of the railway line on the eastern edge of Sibsey. This was characterised by a series of ditches containing pottery, fired clay and briquetage, potentially related to salt making.
- 1.6.8 A mix of Roman and medieval finds were recovered from trenches at the southernmost tip of the pipeline route, on the periphery of Boston. A small, highly abraded sherd of samian was collected from a large, probably post-medieval field boundary ditch, and several large sherds of medieval pottery were found in a small ditch also containing a charcoal dump.

1.7 Acknowledgements

- 1.7.1 The author would like to thank to Anglian Water Services who funded the archaeological work and to Maurice Hopper and Josh Williams of Mott MacDonald who commissioned it. Thanks also go to Louise Jennings of LCC HET for monitoring the excavations and to Jo Everitt of Anglian Water Services for liaising throughout the project and for volunteering during the hand excavations. The project was managed by Richard Mortimer. Particular thanks are extended to Paul Craig of JN Bentleys for his help and cooperation throughout the archaeological works.
- 1.7.2 The excavation of the sites was coordinated by the author and supervised by Pete Boardman, Graeme Clarke, Mike Green, Tom Lyons and Pat Moan. Hand excavation was undertaken by Dave Brown, Nick Cox, Mark Gibson, Nick Gilmour, Andy Ginns, Andy Greef, Kat Hamilton, Lindsey Kemp, Steve Morgan, Jools Newman, Chris Pickard, Steve Porter, Helen Stocks-Morgan, Dan Sykes, Zoë Ui Choileáin, Dan Watkeys, Robin Webb and Al Zochowski.
- 1.7.3 Site survey was undertaken by the author, Dave Brown, Pat Moan and Conan Parsons using a Leica GPS 1200, a Leica Viva GS08 NetRover and a Leica Viva GS12 SmartRover. Machine stripping was carried out by JN Bentleys under the constant supervision of Paul Murray and the author.

- 1.7.4 Specialist assessments were undertaken by Pete Boardman (industrial residues), Antony Dickson (lithics), Chris Faine (faunal remains), Rachel Fosberry (environmental remains), Chris Howard-Davis (small finds), Alice Lyons (Iron Age and Roman pottery), Benjamin Penny-Mason (human remains) Sarah Percival (baked clay, briquetage, CBM and pre-Iron Age pottery), Rhiannon Philp (molluscs), Ruth Shaffrey (stone), Helen Webb (human remains) and Jane Young (medieval pottery).

2 PROJECT SCOPE

- 2.1.1 This assessment deals solely with the archaeological works carried out along the Covenham WTW to Boston Transfer pipeline route. Where archaeological remains or findspots are known of in the vicinity of any site, they will be made reference to. All aspects of the fieldwork are discussed in reference to the relevant excavation site.

3 INTERFACES, COMMUNICATIONS AND PROJECT REVIEW

- 3.1.1 The Post-Excavation Assessment has been undertaken principally by Louise Bush (LB) and edited and Quality Assured in-house by Project Manager Richard Mortimer (RM) and Post-Excavation and Publication Manager Elizabeth Popescu (EP). It will be distributed to the Client (Anglian Water Services), their archaeological consultant Maurice Hopper (MH) of Mott MacDonald, and Louise Jennings (LJ) of LCC HET for comment and approval.
- 3.1.2 Following approval of the Post-Excavation Assessment a meeting will be convened between LB, EP, MH, LJ and RM to discuss post-excavation analysis and publication. As a result of this meeting, a Publication Synopsis will be prepared.
- 3.1.3 In addition, following approval of the Post-Excavation Assessment, specialist meetings will be arranged to discuss and timetable the analysis stage of the work. Following these meetings, a post-excavation analysis and publication timetable will be produced.
- 3.1.4 Meetings will be arranged with MH and LJ at relevant points during the post-excavation analysis.

4 SUMMARY OF RESULTS

4.1 Introduction

- 4.1.1 The pipeline covered a very large number of fields and as a result, prior to the commencement of fieldwork, the route was divided up into twenty-six areas, assigned letters A through to Z. Within these areas each field was assigned a number, in order to generate an individual identifying alphanumeric code, e.g. F3 or P9, for each field.
- 4.1.2 Along the 60km pipeline, a total of 207 evaluation trenches and 27 excavation sites were investigated, these are presented below by geographical location, starting from the northern end of the pipeline and working southward.
- 4.1.3 For the sake of brevity and clarity, separate overviews of the stratigraphic, artefactual and environmental data are presented for each excavated site. In cases where features have several interventions recorded using differing context numbers, an overall master number for the feature will be referred to rather than the specific interventions themselves. All hand written records have been collated and checked for internal consistency, and the site records have been transcribed onto an MS Access Database.
- 4.1.4 Individual context data and the full specialist assessments for each site can be found in Volume 2, but are summarised in Table 1 below.

| Stratigraphic | | Artefactual and environmental | | | |
|----------------------|-----------------|--|-----------------|-----------------------|-----------------|
| Material | Appendix | Material | Appendix | Material | Appendix |
| Context Index | A.1-A.26 | Pre-Roman and Romano-British pottery | B.1 | Worked stone | B.11 |
| | | Pre-Roman and Romano-British pottery catalogue | B.2 | Jet and shale | B.12 |
| | | Post-Roman pottery | B.3 | Copper alloy | B.13 |
| | | Post-Roman pottery catalogue | B.4 | Ironwork | B.14 |
| | | Struck flint | B.5 | Lead | B.15 |
| | | Metalworking waste | B.6 | HSR | C.1 |
| | | Baked clay | B.7 | Faunal remains | C.2 |
| | | Objects of baked clay | B.8 | Molluscs | C.3 |
| | | Briquetage | B.9 | Environmental samples | C.4 |
| | | Ceramic building material | B.10 | | |

Table 1: Summary and location of full technical assessment reports

- 4.1.5 On the basis of stratigraphic relationships and datable artefacts, the archaeological remains identified during the fieldwork have been assigned to chronological periods (Table 2). Any excavated features lacking in physical relationships, datable material or on-site parallels have been left as undated.

| Period | Date |
|---------------|---|
| 0 | Undated |
| 1.1 | Late Mesolithic/Early Neolithic (c. 6000 – 2900 BC) |
| 1.2 | Neolithic (c. 3500 – 2000 BC) |
| 1.3 | later Neolithic to Early Bronze Age (c. 2500 – 1500 BC) |
| 2.1 | Bronze Age (c. 2000 – 700 BC) |
| 2.2 | Middle Bronze Age (c. 1500 – 1000 BC) |

| | |
|-----|---|
| 2.3 | Late Bronze Age (c. 1000 – 800 BC) |
| 3.1 | Earlier Iron Age (c. 700 – 300 BC) |
| 3.2 | Iron Age (c. 700 – 1 BC) |
| 3.3 | latest Iron Age/Early Roman (c. 1 BC – AD 43) |
| 4 | Roman (AD 43 – 450) |
| 5.1 | medieval (10th to 11th century) |
| 5.2 | medieval (Mid 11th – 12th century) |
| 5.3 | medieval (Mid 12th – 14th century) |
| 5.4 | medieval (Post 14th century) |
| 6 | post-medieval (AD 1500 – 1800) |
| 7 | modern (AD 1800 – present) |

Table 2: Numerical coding scheme for different archaeological periods

4.2 Site A2

Introduction

- 4.2.1 Site A2 (Fig. 3 and 4) was located in a generally flat, agrarian landscape at the northernmost end of the pipeline route, immediately south of the Covenham reservoir, adjacent to Grange Farm. It covered c.0.18ha and was divided into two areas by a farm track. The northern area measured 14.5m east/west by 74m north/south and the southern area 15m east/west and 57.5m north/south.
- 4.2.2 Information from the HER revealed Grange Farm to be the location for the medieval hamlet of Cawthorpe, recorded in 1334. Ditched enclosures were revealed here by the geophysical survey, whilst fieldwalking only collected sparse quantities of Roman and post-medieval pottery. Nonetheless, Trenches 1-3 and 80 uncovered a number of large ditches on at least four separate alignments. These contained large quantities of Roman domestic refuse including pottery, animal bone and oyster shell.
- 4.2.3 The archive of the primary data collected from A2 is collated below. Full context and feature descriptions can be found in Appendix A.1.

| Stratigraphic | | Artefactual and environmental | |
|----------------------|-----|--|-------|
| Context registers | 5 | Pottery (kg) | 9.807 |
| Context numbers | 183 | Animal bone (kg) | 7.716 |
| Plan registers | 2 | Cremated human bone (kg) | 3.818 |
| Section registers | 2 | Worked flint (kg) | 0.054 |
| Sample registers | 3 | Baked clay (kg) | 0.462 |
| SF registers | 1 | CBM (kg) | 0.257 |
| Plans | 58 | Slag (kg) | 0.001 |
| Sections | 53 | Small finds (no.) | 4 |
| Digital photos | 121 | Metal finds (no.) | 52 |
| Black and white film | 3 | Molluscs (kg) | 4.100 |
| | | Bulk samples taken (10L tubs/contexts) | 58/22 |

Table 3: Summary of A2 archive

Assessment of the stratigraphy

- 4.2.4 Natural orange silty clay deposits were encountered across the site at approximately 0.6m below the modern ground level, which lay at c.2.9m OD. The topsoil was a dark grey brown silty clay c.0.4m in thickness that contained low levels of modern debris and archaeological finds. The subsoil consisted of a mid orange brown silty clay 0.2m in thickness.

Period 4: Roman

- 4.2.5 The overwhelming majority of the archaeological features revealed have been dated to the Roman period, subdivided into two or three phases of activity.
- 4.2.6 A series of enclosure ditches were identified running on at least four separate alignments, a number of which were re-cut (Plate 1). There was also structural evidence in the form of at least one beam slot structure (**2054**) and 12 iron nails recovered from across the site that were of a size to be used in structures.
- 4.2.7 An area of industrial activity was also identified at the southernmost limit of the site. This comprised elongated sub-rectangular pits, approximately 2m in length, whose fills contained cereal grains. These features may represent ovens or flues (Fig. 5, S.2001).
- 4.2.8 Evidence for funerary activity was identified within enclosure **2062** (Fig. 5, S.2023). However, this may represent another phase of activity not associated with the enclosure itself. It comprised burial **2083** (Fig. 6 and Plate 2), a large pit containing the cremated remains of at least two individuals, along with nine (putative) coffin nails and high levels of *in situ* burning. This feature has been identified as a *bustum* burial – whereby a cremation pyre is constructed over a pit and, following the cremation process, the remains of the pyre and cremated body are left *in situ*, and the pit backfilled. Cremated human remains were also seen in a ditch immediately to the west, these too may relate to the *bustum* burial.
- 4.2.9 Evidence for the processing of cereal grains was also identified near to this enclosure. Environmental samples taken from ditch **2109** produced high levels of spelt wheat, chaff, legumes and dry land herbs (see Appendix C.4).

Period 5: medieval

- 4.2.10 Across the site, the remnants of eight furrows were seen, running on a north-west to south-east alignment. A large and unusual stone processing slab was recovered from one of these furrows (see Appendix B.9).

Assessment of finds

- 4.2.11 The finds assemblage is dominated by pottery. Other notable artefacts include Roman 30 hobnails recovered from curvilinear gully **2148**, on the eastern edge of site.
- 4.2.12 All of the pottery retrieved from Site A2 dates from the 1st to 4th century AD, with the majority attributed to the Mid-Late Romano-British period (see Appendix B.1). Much of the assemblage consists of sandy grey ware jar/bowl forms. No later Roman fine wares were recorded. The largest single collection (weighing 1.51kg) came from fill 2059 of east-north-east to west-south-west aligned ditch **2057**. The large quantities of pottery retrieved highlights the likelihood of there being settlement activity in the immediate environs of the site.

Assessment of environmental material

- 4.2.13 The *bustum* burial produced large quantities of cremated bone along with a number of large nails, likely to be from a coffin or the wooden pyre structure. The high bone weight recovered implies the presence of multiple individuals.
- 4.2.14 Further analysis of the remains will allow for the MNI to be properly defined, and may enable age and sex of the individual/s to be estimated. The excavation of the feature in spits will allow for spatial distributions to be explored during further analysis and may help to elucidate the orientation and position of the body/bodies on the pyre (see Appendix C.1).
- 4.2.15 Of the 26 bulk soil samples taken from A2, three produced material worthy of further investigation. All three samples contain wheat grains that are most likely to be spelt wheat as a result of the abundant chaff remains also present and identifiable as spelt glume bases. The samples were taken from features surrounding the *bustum* burial; whether this is coincidence or, in fact, evidence relating to funerary activity needs to be considered (see Appendix C.4).

4.3 Site B3

Introduction

- 4.3.1 Site B3 (Fig. 7) lay to the north-east of the village of Yarburgh, just below the top of a slight rise in the landscape. The site measured 17.7m east/west and 79.5m north/south and encompassed an area of approximately c.0.13ha.
- 4.3.2 Although there are no HER records relating to the immediate environs of the site, an area of medieval ridge and furrow is recorded to the west. Geophysical survey here revealed a sequence of ditched enclosures and the fieldwalking produced a large number of sherds of Roman pottery and oyster shell.
- 4.3.3 Evaluation Trenches 81, 82 and 173 revealed evidence for an extremely large (and potentially high status) Roman settlement, made up of large boundary ditches, pits and beam slots, all of which contained pottery (including stamped samian and stamped mortaria), animal bone and abundant oyster shell.
- 4.3.4 As a result, it was decided that this portion of the pipeline would be directionally drilled in order to preserve the settlement *in situ*. The excavation of site B3 was conducted to provide an area where the drilling could be started. It is worth noting here that although sites B3 and B4 are discussed separately, they are related in that they were positioned at the northern and southern limits of the identified settlement.
- 4.3.5 The archive of the primary data collected from B3 is collated below. Full context and feature descriptions can be found in Appendix A.2.

| <i>Stratigraphic</i> | | <i>Artefactual and environmental</i> | |
|----------------------|-----|---------------------------------------|--------|
| Context registers | 7 | Pottery (kg) | 29.148 |
| Context numbers | 140 | Animal bone (kg) | 2.932 |
| Plan registers | 1 | Worked flint (kg) | 0.047 |
| Section registers | 2 | Baked clay (kg) | 0.016 |
| Sample registers | 2 | CBM (kg) | 0.027 |
| SF registers | 1 | Small finds (no.) | 2 |
| Plans | 38 | Metal finds (no.) | 2 |
| Sections | 49 | Shale | 0.078 |
| Digital photos | 98 | Molluscs (kg) | 6.290 |
| Black and white film | 2 | Bulk samples taken(10L tubs/contexts) | 10/6 |

Table 4: Summary of B3 archive

Assessment of the stratigraphy

- 4.3.6 Natural, orange silty clay deposits were encountered approximately 0.3m below the modern ground level, which lay at c.6.5m OD. The topsoil was a dark grey brown silty clay c.0.3m in thickness that contained large quantities of modern debris and archaeological finds. The subsoil consisted of a mid orange brown silty clay c.0.1m in thickness.

Period 4: Roman

- 4.3.7 A fairly low level of archaeology was seen across site. The features consisted of north-south and east-west aligned enclosure ditches along with elongated pits/gullies and a number of smaller pits/postholes, all of which were consistent with settlement remains. The archaeological features on this site have all been dated to the Roman period, subdivided into two phases of activity, based upon the stratigraphy and pottery, which dates from the 1st to 4th century AD.
- 4.3.8 The most notable feature on the site was ditch **3077** (Fig. 9, S.4037), which extended beyond the southern limit of excavation. This small ditch measured 1m in width and 0.5m in depth and produced a total of 21.14kg of pottery (Plate 3). Ditch **3077** was truncated by a sizeable east to west aligned ditch (**260**) (Fig. 9, S.260) which terminated within the site and contained a substantial dump of oyster shell.
- 4.3.9 The low density of archaeological features seen within the site confirmed that the excavation area was located on the periphery of the large settlement identified during the geophysical survey and trial trenching.

Period 5: medieval

- 4.3.10 The remains of two furrows running north-north-west to south-south-east were seen on site.

Assessment of finds

- 4.3.11 The finds assemblage was dominated by pottery. A total of 28.003kg of pottery was recovered, the majority of which dates to the Romano-British period and predominantly comprises sandy grey ware vessels, supplemented by Dale ware type shell tempered fabrics. Of the 28.003kg of pottery collected, 21.14kg came from fill 3084 of ditch **3077**, with just 6.863kg of pottery collected from the remainder of the site (Appendix B.1).

4.3.12 The presence of pottery dump 3084 highlights the potential high status of the settlement situated immediately to the south. Nine sherds of central Gaulish Samian (including one with a stamp) were collected from pottery dump 3084 along with two copper alloy hair pins (see Appendix B.13).

Assessment of environmental material

4.3.13 The large amount of oyster shell collected was merely a sample of the full amount seen on site (Appendix C.3). It was predominantly present as single dumps within ditches, however most other feature fills contained at least a few shells. This quantity of oyster is likely to represent food harvest, thus reaffirming the possible high status of the settlement site.

4.3.14 The 10 bulk environmental samples taken during excavation, contained only charcoal and sparse abraded charred plant remains.

4.4 Site B4

Introduction

4.4.1 Site B4 was also located to the north-east of Yarburgh, just to the north of Kings Street and approximately 275m south of site B3 (Fig. 8). It was situated in a slight hollow at the base of a rise in the landscape and was 14.2m east/west and 39m north/south, encompassing an area of c.0.06ha.

4.4.2 As with the previous site, there are no HER records pertaining to the immediate environs. The geophysical survey revealed a continuation of the ditched enclosures as described at site B3. Evaluation Trenches 83-85 revealed further evidence for this sizeable Roman settlement that included large boundary ditches and an extensive midden spread containing large quantities of refuse material.

4.4.3 Site B4 was situated toward the expected southern limit of the settlement selected for preservation *in situ*, described in Section 4.3. It was excavated to provide an area for the pipe to resurface after directional drilling.

4.4.4 The archive of the primary data collected from B4 is collated below. Full context and feature descriptions can be found in Appendix A.3.

| Stratigraphic | | Artefactual and environmental | |
|----------------------|-----|--|--------|
| Context registers | 7 | Pottery (kg) | 5.018 |
| Context numbers | 226 | Animal bone (kg) | 10.382 |
| Plan registers | 1 | Worked flint (kg) | 0.060 |
| Section registers | 2 | Baked clay (kg) | 0.414 |
| Sample registers | 3 | CBM (kg) | 0.224 |
| SF registers | 1 | Slag (kg) | 0.046 |
| Plans | 37 | Metal finds (no.) | 2 |
| Sections | 49 | Molluscs (kg) | 1.280 |
| Digital photos | 121 | Bulk samples taken (10L tubs/contexts) | 25/20 |
| Black and white film | 3 | | |

Table 5: Summary of B4 archive

Assessment of the stratigraphy

- 4.4.5 Natural, orange silty clay deposits were encountered approximately 0.5m below the modern ground level, which lay at c.7.3m OD. The topsoil was a dark grey brown silty clay c.0.4m in thickness that contained moderate quantities of modern debris and archaeological finds. The subsoil consisted of a mid orange brown silty clay c.0.1m in thickness.

Period 3.2: Iron Age

- 4.4.6 A single Iron Age feature was seen at the western limit of site. Well **3640** (Fig. 9, S.5049) was 2.8m wide and at least 1.8m deep (its full depth was not ascertained due to the high water table), and it was filled with seven phases of natural silting. A single sherd of Iron Age pottery (the only sherd of this date from the whole site) was recovered from the latest fill of this feature.

Period 4: Roman

- 4.4.7 The remaining features dated to the Roman period and comprised several phases of intercutting ditches on varying alignments. A small number of pits and postholes were also seen. Toward the northern end of site was large enclosure ditch **3575** (Fig. 9, S.5021 and Plate 4). This feature appeared to post date the other archaeology on the site as it truncated all the other features and deposits. Ditch **3575** lay on the same alignment as a linear anomaly identified during the geophysical survey. A potential return of it was excavated during the evaluation phase (ditch **451** in Trench 83).
- 4.4.8 The relatively high density of archaeological features on this site demonstrated that the settlement between sites B3 and B4 was extensive and comprised several phases of activity dating from the Late Iron Age into the Roman period. The original settlement appears to have been located in the vicinity of B4 and to have extended northwards over time.

Period 5: medieval

- 4.4.9 Two furrows were seen running on the same alignment as those on site B3 to the north. The finds recovered from these furrows were of Roman date.

Assessment of finds

- 4.4.10 The largest assemblage recovered from site is the pottery, which dates from the 1st to 4th century AD. The bulk of the pottery comprises undiagnostic shell tempered forms of 1st to 2nd century date (Appendix B.1).

Assessment of environmental material

- 4.4.11 A total of 10.382kg of animal bone was recovered, the majority of which consisted of cattle and sheep/goat remains. A partial dog skeleton was also found in ditch **3575** and bird bone was recovered from well **3640** and colluvial deposit 3532 (Appendix C.2).
- 4.4.12 Of the 25 environmental samples taken, four produced material considered to be worthy of further investigation. A sample taken of spread 220, during the evaluation (equivalent with 3657 in the excavation), produced a significant charred plant assemblage comprising weed seeds that included stinking mayweed, brome, knotgrass and nettle.
- 4.4.13 Sequential sampling of well **3640** resulted in three samples yielding good results. Only the lowest deposit sampled (fill 3626) contains waterlogged plant remains. This sample

contained a reasonably diversity of species, with a number of habitats represented. Samples taken from later deposits within the well most likely represent the discard of domestic waste. Fill 3637 contains the most significant assemblage of charred plant remains including cereal grains of wheat and barley, peas and beans and crop weeds including stinking mayweed and cabbages/mustard.

4.5 Site U3

Introduction

- 4.5.1 Site U3 was located within a generally flat agrarian landscape to the north-west of the village of Alvingham, adjacent to the Yarburgh road (Fig. 10). It was divided into two areas by a field boundary hedge and encompassed an area of c.0.23ha. The larger area, to the north, was 16m east/west and 134m north/south, whilst that to the south of the field boundary was 18.5m east/west and 32m north/south.
- 4.5.2 The village of Alvingham dates from the medieval period and is situated close to the earthwork remains of the medieval village of North End. Site U3 was located on the edge of the remains of North End. The geophysical survey here revealed a clear system of enclosures and settlement remains overlain with ridge and furrow, whilst Evaluation Trenches 5-7 contained several shallow ditches, containing Iron Age and Roman pottery, overlain by furrows.
- 4.5.3 The archive of the primary data collected from U3 is collated below. Full context and feature descriptions can be found in Appendix A.4.

| <i>Stratigraphic</i> | | <i>Artefactual and environmental</i> | |
|----------------------|----|--|-------|
| Context registers | 5 | Pottery (kg) | 0.118 |
| Context numbers | 95 | Animal bone (kg) | 2.122 |
| Plan registers | 1 | Worked flint (kg) | 0.053 |
| Section registers | 1 | Baked clay (kg) | 0.074 |
| Sample registers | 1 | Metal finds (no.) | 1 |
| Plans | 33 | Mollusc (kg) | 0.133 |
| Sections | 34 | Bulk samples taken (10L tubs/contexts) | 40/2 |
| Digital photos | 68 | | |
| Black and white film | 1 | | |

Table 6: Summary of U3 archive

Assessment of the stratigraphy

- 4.5.4 Natural deposits, consisting of an orange brown silty clay were encountered approximately 0.4m below the modern ground level, which lay at c.11.5m OD. The topsoil was a dark grey brown silty clay c.0.25m in thickness and contained small quantities of modern debris. The subsoil consisted of a mid orange brown silty clay c.0.15m in thickness.

Period 5: medieval

- 4.5.5 All of the archaeological features on this site have been dated to the early medieval period (10th to 11th century) with potentially two phases of activity seen. A series of small ditches running on two separate alignments and evidence for at least one posthole structure (**2519**) were recorded.

- 4.5.6 The majority of the ditches were aligned north-east to south-west. At the northernmost limit of excavation, a series of small recut ditches were seen (Fig. 11, S.3026), that are likely to represent the main boundary to this area of activity. The majority of the pottery was recovered from the central portion of the site and it is likely that this was the location of any buildings or settlement, with the features to the north and south representing agricultural activity.
- 4.5.7 A series of furrows were also seen across the site, orientated north-west to south-east.

Period 7: Modern

- 4.5.8 At the northern end of site, a large filled in dyke with a bank and hedge line on its southern side was identified on a north-east to south-west alignment. This former field boundary could potentially have been long-lived, however conversations with the farmer revealed that he recalled it being backfilled (pers. comm. Mr Bowers).

Assessment of finds

- 4.5.9 Extremely low levels of artefactual remains were recovered from site U3. Only 0.83kg of pottery dating from the 1st to 2nd century AD, and 0.35kg of 9th to 11th century pottery was recovered (Appendix B.3).

Assessment of environmental material

- 4.5.10 The largest assemblage is the animal bone, with a total of 2.122kg collected. The remains consist largely of cattle. A partial dog skeleton was also recovered from ditch **2503**.
- 4.5.11 A total of two bulk environmental samples were taken during the excavation, both of which are considered to contain material worthy of further investigation. The samples contained a few charred cereal grains, along with a variety of different sized legumes and small quantities of charred wheat, oat, barley grains and beans. Both samples contained a single charred seed of dock and wetland plants are represented by seeds of sedge and spikerush (Appendix C.4).

4.6 Site D3

Introduction

- 4.6.1 Site D3 was located to the west of North Cockerington within a generally flat arable landscape (Fig. 12). It was c. 0.2ha in area and 12m in width by 174.5m in length.
- 4.6.2 The HER records relating to this site state that the whole field is covered by medieval ridge and furrow. Although the geophysical survey revealed little evidence for archaeological features, Trenches 14 and 90, from the evaluation phase, revealed a high density of archaeological features. This included a series of substantial ditches (on at least four separate alignments), as well as the drip gully of a roundhouse and medieval ridge and furrow. Finds recovered from these features included Middle Bronze Age, Middle Iron Age and Roman pottery, fired clay, animal bone and cremated bone.
- 4.6.3 The archive of the primary data collected from D3 is collated below. Full context and feature descriptions can be found in Appendix A.5.

| <i>Stratigraphic</i> | | <i>Artefactual and environmental</i> | |
|----------------------|-----|--|-------|
| Context registers | 9 | Pottery (kg) | 0.938 |
| Context numbers | 226 | Animal bone (kg) | 6.618 |
| Plan registers | 2 | Worked flint (kg) | 0.028 |
| Section registers | 2 | Baked clay (kg) | 0.180 |
| Sample registers | 2 | Daub (kg) | 0.071 |
| SF registers | 1 | Slag (kg) | 0.283 |
| Plans | 53 | Metal finds (no.) | 1 |
| Sections | 65 | Molluscs (kg) | 0.013 |
| Black and white film | 3 | Bulk samples taken (10L tubs/contexts) | 16/9 |
| Digital photos | 149 | | |

Table 7: Summary of D3 archive

Assessment of the stratigraphy

- 4.6.4 The natural deposits, which consisted of a yellow orange chalky clay, were encountered 0.4m below modern ground level, which lay at c.13.4m OD. The topsoil was 0.3m in thickness and comprised a mid grey brown silty clay and contained small quantities of modern debris. The subsoil consisted of a mid brown orange silty clay, 0.1m in thickness.

Period 3.2: Iron Age

- 4.6.5 The archaeological features encountered on site dated to the Iron Age. Two phases of activity were identified that were characterised by a series of boundary and enclosure ditches running on at least four separate alignments. Structural remains were also revealed in the form of two ring gullies and lines of postholes, along with a number of pit clusters.
- 4.6.6 Ring gullies **128** & **6178** lay towards the southern limit of the site and were situated approximately 12m apart. Neither were complete but ring gully **128** had an internal diameter of just 7m. Middle Iron Age pottery was recovered from these features.
- 4.6.7 Situated in between the two ring gullies was a possible structure (**6143**) that consisted of three segmented ditches forming a rough U-shape. Six pits, four of which were intercutting, were located within this three sided structure. The pit fills contained charcoal, burnt stones and small fragments of slag, which suggest that the structure may have had an industrial function.
- 4.6.8 The remaining features comprised a series of intercutting boundary and enclosure ditches (Fig. 16, Plates 5 and 6) of varying depths and sizes. These demonstrated the repeated reuse and restructuring of the boundaries and enclosures.

Period 5: medieval

- 4.6.9 Two systems of ridge and furrow were observed spanning the site. To the north, the furrows ran east-north-east to west-south-west, whilst in the southern portion of the site they ran north-north-west to south-south-east. This would imply that the field was sub divided during the medieval period.

Assessment of finds

- 4.6.10 The pottery assemblage consists of 0.938kg of mid to late hand made Iron Age pottery in shelly and sand and grog-tempered fabrics. The small quantities of pottery recovered from the relatively high density of archaeological features suggests that the area was used for agricultural rather than settlement purposes.

Assessment of environmental material

- 4.6.11 The largest assemblage was the animal bone. A total of 6.618kg of animal bone was recovered. This was predominantly made up of large/medium sized mammals, dominated by cattle; a number of complete horncores were recovered from ditch **6061**.
- 4.6.12 A total of 13 bulk samples were taken that contained only low levels of environmental material. Three samples from ditches contained calcified seeds of duckweed, suggesting that the ditch contained slow-flowing and/or stagnant water.

4.7 Site D4

Introduction

- 4.7.1 The site was located just 43.5m south-east of site D3, adjacent to the Louth Road. It was located on a very gentle slope in an otherwise flat arable landscape (Fig. 13) and measured 11m in width and 110m in length, encompassing an area of approximately c.0.08ha. As with site D3, the HER only records ridge and furrow on the site. The geophysical survey recorded a single ditched enclosure and the evaluation phase (Trench 16) uncovered a single large ditch containing Middle Iron Age pottery.
- 4.7.2 The archive of the primary data collected from D4 is collated below. Full context and feature descriptions can be found in Appendix A.6.

| Stratigraphic | | | Artefactual and environmental | | |
|----------------------|----|----------------------|--------------------------------------|---------------------------------------|-------|
| Context registers | 2 | Plans | 5 | Pottery (kg) | 0.452 |
| Context numbers | 32 | Sections | 6 | Animal bone (kg) | 2.453 |
| Plan registers | 1 | Black and white film | 1 | CBM (kg) | 0.028 |
| Section registers | 1 | Digital photos | 18 | Bulk samples taken(10L tubs/contexts) | 3/1 |
| Sample registers | 1 | | | | |

Table 8: Summary of D4 archive

Assessment of the stratigraphy

- 4.7.3 Natural deposits, consisting of a yellow orange chalky clay, was encountered 0.3m below modern ground level, which lay at c.15.1m OD. The topsoil was 0.2m in thickness and made up of a mid grey brown silty clay that contained small quantities of modern debris. The subsoil consisted of a mid brown orange silty clay, 0.1m in thickness.

Period 3.2: Iron Age

- 4.7.4 Two substantial curvilinear enclosure ditches (Plate 7) were identified, the earlier of which (**5507**) (Fig. 16, S.7402), curved gently across the site for approximately 60m. It was truncated by ditch **5517** whose course was on a much sharper curve.

Assessment of finds

- 4.7.5 A small assemblage of Iron Age pottery was recovered. It is of Mid to later Iron Age date (350-100BC) and consists of undecorated body sherds and bases from two vessels in shell-tempered and micaceous sandy fabrics.

Assessment of environmental material

- 4.7.6 The largest assemblage was animal bone, with 2.453kg being collected. This predominantly consists of cattle bone.
- 4.7.7 Two environmental samples were taken, from which single specimens of charred grain and a dock seed, charred tuber of false-oat grass and low levels of charcoal were collected.

4.8 Site D5

Introduction

- 4.8.1 Site D5 (Fig. 14) was located 230m south-east of area D4, on the southern side of the Louth Road, to the north-west of the village of South Cockerington. It was 15m wide and 235m long, covering an area of c.0.33ha.
- 4.8.2 There are no HER records for this area. The evaluation (Trench 17) revealed three large ditches on the same alignment that contained pottery dating from the Middle Iron Age and Roman periods, along with a collection of animal bone.
- 4.8.3 The archive of the primary data collected from D5 is collated below. Full context and feature descriptions can be found in Appendix A.7.

| Stratigraphic | | Artefactual and environmental | |
|----------------------|-----|--|-------|
| Context registers | 10 | Pottery (kg) | 4.218 |
| Context numbers | 213 | Animal bone (kg) | 6.618 |
| Plan registers | 1 | HSR burials (no.) | 1 |
| Section registers | 2 | Worked flint (kg) | 0.008 |
| Sample registers | 3 | Baked clay (kg) | 0.117 |
| SF registers | 1 | CBM (kg) | 0.063 |
| Plans | 32 | Slag (kg) | 0.531 |
| Sections | 56 | Small finds (no.) | 2 |
| Digital photos | 143 | Metal finds (no.) | 2 |
| Black and white film | 4 | Bulk samples taken (10L tubs/contexts) | 25/15 |

Table 9: Summary of D5 archive

Assessment of the stratigraphy

- 4.8.4 Across the site, natural deposits, which consisted of a brown orange chalky clay, were encountered 0.4m below modern ground level, which lay at c.17.9m OD. The topsoil was 0.25m in thickness and made up of a mid grey brown silty clay that contained small quantities of modern debris. The subsoil consisted of a mid orange brown silty clay, 0.15m in thickness.

Period 2.1: Bronze Age

- 4.8.5 A single feature on site has tentatively been dated to the Bronze Age. Well **6559** was located in a large natural hollow which, once the well had fallen out of use and silted

up, also became filled with colluvium (deposit 6543). The finds recovered from this feature were struck flints.

Period 3.2 Iron Age

- 4.8.6 The remaining archaeological features on site dated to the Iron Age period and consisted of a series of boundary and enclosure ditches (Fig. 16, S.7829 and Plate 8) running on at least four separate alignments. Other features included two ring gullies, a pit and beam slot structure (**6590**), an inhumation and a possible fence line (**6641**).
- 4.8.7 The ring gullies lay toward the southern end of the site. Ring gully **6506** (Plate 9) was almost complete and had an entranceway to the east demarcated by two postholes. It had an internal diameter of 13m (Fig. 16, S.7805). Middle Iron Age pottery was collected from the fill of this feature. Ring gully **6526** was situated approximately 20m to the north.
- 4.8.8 Situated close to the western limit of site was inhumation burial **6611** (Fig. 17 and Plate 10), which was truncated along its western edge by ditch **6615**. The skeleton was in a crouched position facing westwards with head to the north (see Appendix C.1). A partial, broken pot (SF380) was placed within the grave by the knees.
- 4.8.9 The archaeological remains from D5 comprised both agricultural and funerary elements that had been reshaped and reused throughout the Iron Age period.

Period 5: medieval

- 4.8.10 Two sets of ridge and furrow cultivation were seen across the site. To the north, the furrows ran on a north-north-west to south-south-east alignment, whilst those in the southern section of site were orientated east-north-east to west-south-west. This would suggest that, as with site D3, the field is likely to have been sub-divided into smaller land plots during the medieval period.

Assessment of finds

- 4.8.11 The finds assemblage was dominated by a large and varied assemblage of mid to late Iron Age sherds (4.218kg in total), a number of which were similar to the assemblage seen on Site D4 (see Appendix B.1).
- 4.8.12 Inhumation burial **6611** was extremely fragmentary, however enough of the sexually diagnostic features were present to identify the body as being that of an adult female. The skeleton also exhibited signs of dental disease and healed periostitis on the lower left leg (see Appendix C.1).

Assessment of environmental material

- 4.8.13 A total of 60.618kg of animal bone was recovered that was mainly derived from large/medium mammals. The vast majority of identifiable remains are from cattle with smaller numbers of horse remains. This is largely due to the presence of fragmentary cattle and horse crania in from contexts 6587 (from ditch **6589**) and 6693 (from ditch **6696**) respectively (Appendix C.2).
- 4.8.14 None of the 15 environmental bulk samples produced material worthy of further investigation. Although many of the samples were charcoal rich, plant remains are scarce; no charred cereals were recovered from any samples, suggesting that this was not an area of occupation. Ditches **6604** and **6607** contained waterlogged sedge seeds and duckweed.

4.9 Site D6

Introduction

- 4.9.1 Site D6 was located around 280m south-east of Site D5 and adjacent to Pedlar Lane, South Cockerington (Fig. 15). It was situated on low lying ground at a height of 15.9m OD, at the base of Conscience Hill. The site measured 18.2m east/west and 55.4m north/south, covering an area of c.0.08ha.
- 4.9.2 There are no HER records for this location. The geophysical survey revealed an annular ditch enclosure with central pit. Fieldwalking only produced extremely small quantities of medieval pottery across the site. The evaluation (Trench 95) uncovered a single narrow, deep ditch with an ashy fill that was devoid of finds.
- 4.9.3 The archive of the primary data collected from D6 is collated below. Full context and feature descriptions can be found in Appendix A.8.

| <i>Stratigraphic</i> | | <i>Artefactual and environmental</i> | |
|----------------------|----|---|-------|
| Context registers | 3 | Pottery (kg) | 0.196 |
| Context numbers | 64 | Animal bone (kg) | 2.280 |
| Plan registers | 1 | Worked flint (kg) | 0.002 |
| Section registers | 1 | Baked clay (kg) | 0.050 |
| Sample registers | 5 | CBM (kg) | 0.025 |
| SF registers | 1 | Daub (kg) | 0.033 |
| Plans | 11 | Slag (kg) | 0.050 |
| Sections | 22 | Bulk samples taken (10L tubs/contexts) | 37/22 |
| Digital photos | 51 | | |
| Black and white film | 2 | | |

Table 10: Summary of D6 archive

Assessment of the stratigraphy

- 4.9.4 Across the site, natural deposits, of grey orange silty clay composition were encountered 0.55m below modern ground level, which lay at c.16.5m OD. The topsoil was 0.45m in thickness and made up of a dark grey brown silty clay that contained quantities of modern debris. The subsoil consisted of a mid brown orange silty clay, 0.1m in thickness.

Period 2.3: Iron Age

- 4.9.5 All the features from site D6 have been dated to the Iron Age. These consisted of a ditched circular monument with an internal posthole structure and central pit (Plate 11).
- 4.9.6 The earliest phase of the monument comprised a large ditch (**7001**) encircling the internal post structure. This was subsequently truncated by a smaller ditch/gully (**7015**), cut into the tertiary, naturally derived silts backfilling ditch **7001** (Fig. 16, S.8006).
- 4.9.7 Within the bounds of the ditch were 14 postholes and two pits. Eight of the postholes appeared to form a ring around central pit **7007**. A second posthole alignment on the southern side of the monument, potentially demarcated an entranceway. Central pit **7007** (Plate 12) was 1m in diameter and 0.6m deep. This feature was initially interpreted as a post-pad, on account of it being filled with medium and large sub-rounded and tabular stones. Also within the pit was a large urn positioned upside down (SF400).

4.9.8 A single feature (**7054**) was identified outside of this monument. Pit **7054** contained a significant quantity of burnt and fire cracked cobble stones, but no evidence for *in situ* burning.

Assessment of finds

4.9.9 The finds assemblage for site D6 is very small, with just 0.196kg of pottery being recovered. The pottery is largely shelly and sandy fabrics, similar in date to the assemblages from sites D4 and D5.

Assessment of environmental material

4.9.10 An assemblage of animal bone, weighing 2.28kg, was recovered from the features. Sheep/goat and pigs were the most dominant, along with smaller numbers of cattle and horse remains.

4.9.11 In all, 22 bulk samples were taken from the monument ditch and associated postholes. Charred plant remains were extremely scarce with only a limited amount of charcoal surviving.

4.10 Site H1

Introduction

4.10.1 Site H1 was located in an agrarian landscape half way down a north-east facing slope, close to the village of Authorpe (Fig. 18). It measured 16.7m east/west and 91.5m north/south, covering an area of c. 0.33ha.

4.10.2 The HER records a single chance find of a Neolithic polished axe on the site and close by to the north-east is Hall Wood, an area of woodland with Ancient Woodland Status. The geophysics only identified a scatter of possible pit-like features across the site. Fieldwalking collected a low level of struck flint. The evaluation (Trench 102) revealed four ditches on three separate alignments. One of these ditches was extremely large, being over 3m in width. Finds recovered from the features including Mid-Late Iron Age and Early Roman pottery, fired clay and calcinated bone.

4.10.3 The archive of the primary data collected from H1 is collated below. Full context and feature descriptions can be found in Appendix A.9.

| Stratigraphic | | Artefactual and environmental | |
|----------------------|-----|---|-------|
| Context registers | 10 | Pottery (kg) | 3.585 |
| Context numbers | 220 | Animal bone (kg) | 0.847 |
| Plan registers | 2 | Worked flint (kg) | 0.036 |
| Section registers | 2 | Baked clay (kg) | 0.526 |
| Sample registers | 3 | Slag (kg) | 0.403 |
| SF registers | 1 | Metal finds (no.) | 4 |
| Plans | 47 | Bulk samples taken (10L tubs/contexts) | 16/11 |
| Sections | 61 | | |
| Black and white film | 3 | | |
| Digital photos | 124 | | |

Table 11: Summary of H1 archive

Assessment of the stratigraphy

- 4.10.4 Across the site, natural grey orange gravelly clay deposits were encountered 0.65m below modern ground level, which lay at c.31.2m OD. The topsoil was 0.25m in thickness and comprised a mid grey brown silty clay. The subsoil consisted of a mid brown orange silty clay, 0.4m in thickness.

Period 0: undated

- 4.10.5 Pit **4001** could not be assigned to an archaeological period. It was 2m in diameter (Plate 13) and contained an extremely high level of *in situ* burning. No environmental remains beyond charcoal were collected and the pit was devoid of finds. Its location outside of the main Iron Age enclosure would imply that it is not associated with this period of activity.

Period 2.2: Middle Bronze Age

- 4.10.6 In the southern part of the site were two parallel ditches, orientated north-west to south-east, and a further ditch running north-east to south-west, that have been tentatively dated to the middle Bronze Age period. It is suggested that they represent the remains of a middle Bronze Age field system. The ditch fills were sterile, leached and devoid of finds. A parallel headline located immediately to the south is also likely to be a part of the same field system.

Period 3.2: Iron Age

- 4.10.7 The majority of the archaeology at the site was dated to the Iron Age period. This included three sides of a large enclosure (**4034**) and cobbled entranceway (4112), with a line of postholes inside the entrance that potentially represented a defensive gate. At least two ring gullies were seen within the enclosure, along with a number of other ditches and structural elements.
- 4.10.8 Ditch **4034** was of a substantial size (Fig. 19, S.6015 and Plate 14) and form the main defence of this settlement. An entranceway was situated on the north-eastern side of the enclosure, positioned to afford clear views down the hill, into the valley beyond. This entrance was formalised by a good quality cobbled trackway (4112) which continued inside the enclosure for around 7m (Plate 16). A possible lead vessel lid with crimped edges (SF280) was recovered from the fill of ditch **4034** (Plate 15).
- 4.10.9 There was evidence for the reorganisation of the layout of the settlement during the Iron Age period with the entranceway being closed off by the recutting of the main enclosure ditch (Fig. 19 S.6060). The trackway was also truncated by several north-east to south-west aligned parallel ditches, that formed a possible palisade.
- 4.10.10 Of the two ring gullies (**4086** & **4115**) identified within the enclosure ring gully **4086** was the most complete and had an internal diameter of about 10m. Ring gully **4115** was of a similar size and lay to the immediate north-east.

Period 4: Roman

- 4.10.11 Low levels of Roman activity were also seen, implying that the site survived into the Early Roman period. A line of postholes for a windbreak or fence line were observed along with a substantial, north-east to south-west aligned ditch which terminated within the site.

Period 5: medieval

4.10.12 At the northernmost limit of the site, two furrows were visible. These were aligned north-east to south-west.

Assessment of finds

4.10.13 The site produced a fairly small assemblage of pottery, totalling 3.585kg, of both later Iron Age and latest Iron Age to Early Roman sherds. The later Iron Age assemblage consists of vessels in shelly, sand and grit-tempered fabrics. The vessel forms suggest that the later Iron Age assemblage is likely to immediately precede the latest Iron Age and Early Roman component of the assemblage (see Appendix B.1).

4.10.14 A total of 32 pieces of possible hearth lining were recovered, along with two broken rotary querns. A single lump of tapping slag with characteristic smooth flowing upper surfaces and possible vitrified clay lining was also found.

Assessment of environmental material

4.10.15 Many of the samples taken from Site H1 are charcoal-rich, providing evidence of wood burning. Only one sample was seen to contain charred cereals.

4.11 Site J1

Introduction

4.11.1 Site J1 was located just off the crest of a hill to the west of the village of Swaby, on the north side of Pinfold Lane (Fig. 20). The c.0.07ha site measured 14.3m east/west and 50.3m north/south.

4.11.2 Although there are no HER records for the site itself, prehistoric cropmark boundaries have been recorded nearby to the west. The geographical survey identified a single ditched enclosure, whose existence was confirmed by the evaluation (Trench 106), this ditch contained pottery dating to the Early Roman period. Fieldwalking produced only very small quantities of struck flint in the southern part of the site.

4.11.3 The archive of the primary data collected from J1 is collated below. Full context and feature descriptions can be found in Appendix A.10.

| Stratigraphic | | | | Artefactual and environmental | |
|----------------------|----|----------------------|----|--|-------|
| Context registers | 2 | Plans | 11 | Pottery (kg) | 0.503 |
| Context numbers | 51 | Sections | 8 | Animal bone (kg) | 0.801 |
| Plan registers | 1 | Black and white film | 2 | Worked flint (kg) | 0.006 |
| Section registers | 1 | Digital photos | 31 | Slag (kg) | 0.078 |
| Sample registers | 1 | | | Bulk samples taken (10L tubs/contexts) | 4/2 |

Table 12: Summary of J1 archive

Assessment of the stratigraphy

4.11.4 Across the site, natural deposits consisting of an orange chalky clay were encountered 0.25m below the modern ground level, which lay at c.49.4m OD. The topsoil was 0.25m in thickness and made up of a dark brown silty clay. There was no subsoil.

Period 3.3: latest Iron Age/Early Roman

- 4.11.5 The remains of a substantial boundary/enclosure ditch (**5028**) were identified along the eastern edge of site. Ditch **5028** was aligned north to south direction turning eastwards (Plate 17). This ditch truncated an earlier version on the same boundary (**5026**) (Fig. 23, S.7208). Other features on the site included shallow east-west aligned ditches, a small burnt pit and a large oven.

Assessment of finds

- 4.11.6 This small site produced a small assemblage of pottery, totalling 0.503kg, of Latest Iron Age and Romano-British pottery fabrics.

Assessment of environmental material

- 4.11.7 A total of two bulk environmental samples were taken from Site J2, these produced nothing but charcoal.

4.12 Site J2

Introduction

- 4.12.1 Site J2 (Fig. 21) was situated on a south facing slope to the south of Pinfold Lane, roughly 120m south of site J1. It was c.0.19ha in area and was divided up into two areas separated by a field boundary ditch. The larger, northern area was 15m east/west and 106.8m north/south. The southern area measured 15m in width and 28.2m in length.
- 4.12.2 The only HER information for the area of J2 is an undated cropmark boundary to the east of site. The geophysical survey detected part of a very substantial elliptical ditched enclosure and associated features. This elliptical enclosure can also be seen on Google Earth. Conversations with the farmer (Mr Barker) revealed that he had collected a number of metal finds and tile from the area. These may suggest that an as yet unrecorded Roman villa is situated in the north-eastern corner of the field, however there is no HER data to confirm this.
- 4.12.3 Considering the high density of archaeological features identified by the geophysical survey, only a handful of sherds of Roman pottery were collected from the site during the fieldwalking. The evaluation (Trenches 108 and 109) revealed four ditches on three different alignments. Large quantities of Middle Iron Age to Roman pottery and animal bone were collected from these features.
- 4.12.4 The archive of the primary data collected from J2 is collated below. Full context and feature descriptions can be found in Appendix A.11.

| Stratigraphic | | Artefactual and environmental | |
|----------------------|-----|--------------------------------------|--------|
| Context registers | 9 | Pottery (kg) | 7.780 |
| Context numbers | 229 | Animal bone (kg) | 25.695 |
| Plan registers | 1 | HSR burials (no.) | 5 |
| Section registers | 2 | Worked flint (kg) | 0.313 |
| Sample registers | 7 | Baked clay (kg) | 0.143 |
| SF registers | 1 | CBM (kg) | 0.048 |
| Plans | 46 | Tile (kg) | 1.034 |
| Sections | 42 | Slag (kg) | 0.216 |

| | | | |
|----------------------|-----|--|-------|
| Black and white film | 5 | Mollusc (kg) | 0.182 |
| Digital photos | 179 | Metal finds (no.) | 29 |
| | | Bulk samples taken (10L tubs/contexts) | 51/33 |

Table 13: Summary of J2 archive

Assessment of the stratigraphy

- 4.12.5 The natural deposits comprised orange chalky clay and were encountered 0.3m below modern ground level, which lay at c.45.9m OD. The topsoil was 0.2m thick and made up of a dark brown silty clay. The subsoil consisted of a mid orange brown silty clay, 0.1m in thickness.

Period 0: undated

- 4.12.6 A north-east to south-west aligned ditch was seen truncating the top of the Roman features. This feature was on a completely different alignment to any other feature on site but no dating evidence was collected from it to assign it to an archaeological period.

Period 1.2: Neolithic

- 4.12.7 A small area of unenclosed Neolithic activity was identified toward the centre of the site. This comprised a group of three pits located close to the westernmost edge of site and a fourth pit located around 6m to the south-east. These pits were filled by leached sandy deposits that were markedly different to the Roman features, a number of good quality flint tools were recovered from them.
- 4.12.8 Immediately north of these pits was a small enclosure (**4504**) that was cut by a latest Iron Age/Early Roman ditch. Ditch **4504** contained a leached fill similar to that of the pits and a few small struck flints.

Period 3.3: latest Iron Age/Early Roman

- 4.12.9 A total of four features on site have been assigned to this period. A particularly large ditch (**4583**), measuring 4.8m in width and 2.11m in depth, was located in the southern area (Fig. 23, S.7022 and Plate 18). This defensive ditch was on the same alignment as ditch **4606** to the north, however it was unlikely to be a continuation of this feature on account of their completely differing profiles and dimensions. As a result it is most probable that ditch **4583** had just one or two sides.
- 4.12.10 Curvilinear enclosure **4606** (Fig. 23, S.7033) can be seen as cropmarks on Google Earth. It is worthy of note that there were no contemporary features within the enclosure itself. Once silted up, this feature was recut (**4600**) on almost the exact same alignment, implying that it was of some importance.

Period 4: Roman

- 4.12.11 Two areas of Roman activity were identified on the site. At its southernmost limit, two north-north-west to south-south-east aligned ditches were observed. Crop marks visible on Google Earth show these to be continuations of the two parallel ditches at the northern end of site which run north-north-east to south-south-west (Fig. 23, S.7032).
- 4.12.12 Also in the southern area of site was a west-north-west to east-south-east palisade ditch, which truncated the southern edge of ditch **4583**. Six small ovens were cut into the top of ditch **4583** (Plate 19), these are likely to have been contemporary with the palisade.

- 4.12.13 Several inhumation burials were seen on the site. Double burial **4636** (Fig. 24) was cut into the terminus of a north-north-east to south-south-west aligned ditch. The burial consisted of two females in a single coffin. One skeleton had their head removed prior to burial and placed between their knees. The other skeleton wore a jet and glass bead necklace (SF305). A number of hobnails collected from the feet area indicate that they both were buried in shoes.
- 4.12.14 A crouched burial **4734** (Fig. 24) was situated on the eastern edge of site, immediately to the south of a Roman ditch. The skeleton was positioned on its left side with the head to the west, although the skull was not present within the burial. It was truncated by burial **4724** (Fig. 24), which was supine extended, orientated east-west with the head to the east. As with the previous burial, the skull was not present. A neonate skeleton was recovered from the fill of ditch **4694**.

Period 5: medieval

- 4.12.15 A total of three west-north-west to east-south-east aligned furrows were identified on the site.

Assessment of finds

- 4.12.16 The pottery assemblage consisted of 7.780kg of Latest Iron Age and early Roman sherds. In the earlier part of this period both shell and grog tempered forms and sand and grog tempered wares were relatively common. Early Roman fine wares were also found. Sandy grey wares, however, form the majority of the group (Appendix B.1).
- 4.12.17 A total of 130 metal finds were collected during excavation, 15 of these were nails and 100 were hobnails relating to double burial **4636** (see Appendices B.13-B.15).

Assessment of environmental material

- 4.12.18 A total of five skeletons were recovered. One male adult was buried in a crouched position, the remaining three adult burials (two female and one male) were buried supine. The position of the neonate was not ascertained (Appendix C.1).
- 4.12.19 Animal bone was abundant, with 25.695kg being recovered. The assemblage is dominated by cattle remains, with articulated vertebrae and lower limbs being recorded. A partial horse skeleton was recovered from the fill of defensive ditch **4583** and a single dog mandible was also collected from ditch **4557** (Appendix C.2).
- 4.12.20 A total of 33 bulk soil samples were taken during the excavation. Charcoal is abundant as evidence of fuel. Samples from the ovens produced a few glume bases, identifiable as the spelt wheat, along with a number of grassland seeds including ribwort plantain and clover, in addition to a tuber of false-oat grass. Small fragments of hazelnut shell were also noted (Appendix C.4).

4.13 Site J7

Introduction

- 4.13.1 Site J7 was situated to the immediate south of the Bluestone Heath Road, close to the hamlet of Calceby (Fig. 22). The site was on a fairly steep south facing slope and was the location for a construction compound. It measured 14.7m east/west and 126m north/south and covered an area of c.0.18ha.
- 4.13.2 Information from the HER included an undated cropmark boundary to the immediate south-east of the site and medieval ridge and furrow in the adjacent field to the west.

The geophysical survey produced nothing of note in this field, but the field directly to the south revealed evidence for a number of hut circles. The fieldwalking survey for J7 collected a large amount of struck and worked flint, including a partial, polished flint axe. The evaluation (Trenches 160 and 162) revealed four postholes filled with charcoal rich deposits containing Iron Age pottery.

- 4.13.3 The archive of the primary data collected from J7 is collated below. Full context and feature descriptions can be found in Appendix A.12.

| Stratigraphic | | | | Artefactual and environmental | |
|----------------------|---|----------------|---|--------------------------------------|-------|
| Context registers | 1 | Plans | 1 | Pottery (kg) | 0.028 |
| Context numbers | 4 | Sections | 1 | | |
| Plan registers | 1 | Digital photos | 2 | | |
| Section registers | 1 | | | | |

Table 14: Summary of J7 archive

Assessment of the stratigraphy

- 4.13.4 Across the site, the natural deposits, which consisted of a sticky orange clay, were encountered 0.5m below modern ground level, which lay at c.45.6m OD. The topsoil was 0.3m thick and made up of a dark grey brown silty clay. The subsoil consisted of a mid orange brown silty clay, 0.2m in thickness.

Period 3.2: Iron Age

- 4.13.5 A single pit was identified on site. It was devoid of finds but considering its proximity to the Iron Age postholes uncovered during the evaluation, this pit is likely to be of an equivalent date.

Period 5: medieval

- 4.13.6 Two furrows running on a north-north-east to south-south-west alignment were also seen.

4.14 Site V1

Introduction

- 4.14.1 Site V1 was located at c.40.5m OD in a flat arable landscape, to the north-west of the village of Brinkhill (Fig. 25). It covered an area of c.0.04ha site and was 10m wide and 42.8m long.
- 4.14.2 There is no HER data for the locality, there are however undated field boundaries to the north and further south of the site. Close to the main road is the course of a Roman road. The geophysical survey identified a complex system of enclosures and other features associated with settlement activity. The fieldwalking survey produced extremely large quantities of Roman pottery and struck flint. The evaluation trenches (Trenches 116-118) revealed five ditches on two differing alignments, all of which contained Mid-Late Iron Age and Early Roman pottery, one ditch also yielded three large fired clay thatch weights.
- 4.14.3 As a result of these findings, it was decided that the pipeline route would be amended so as to avoid the majority of this archaeology. Furthermore, it was also decided that this portion of the pipeline would be directionally drilled so that the settlement could be

preserved *in situ*. Site V1 was excavated just beyond the densest archaeology in order to provide an area where the drilling could be started.

Assessment of the stratigraphy

- 4.14.4 Across the site, natural deposits consisting of grey orange clayey sand were encountered 0.5m below modern ground level, which lay at c.41.7m OD. The topsoil was 0.3m in thickness and made up of a mid brown clayey sand. The subsoil consisted of a mid brown orange clayey sand, 0.2m in thickness.

Period 5: medieval

- 4.14.5 A total of three furrows were seen running across the southern portion of the site on a north-west to south-east alignment.

4.15 Site V2

Introduction

- 4.15.1 Site V2 was situated in a flat arable field at the base of a hill, immediately to the west of the village of Brinkhill (Fig. 26). The c.0.16ha site measured 9.4m in width and 170m in length.
- 4.15.2 A single undated cropmark enclosure on the periphery of the village itself, to the south-east, is the only HER record pertaining to the site. The geophysical survey identified another dense complex of archaeological features associated with settlement activity. The fieldwalking at V2 also produced a large amount of Roman pottery and struck and worked flint, including a flint arrowhead. The trench evaluation (Trenches 119-123) recorded eight ditches on two different alignments. Several of these ditches were extremely substantial and all produced Mid-Late Iron Age and Roman pottery. Three sub-rectangular burnt pits were recorded in Trench 119, which was situated closest to the Roman road. These contained cremated human bone and a large, complete cremation vessel. The pits were not excavated during the evaluation, however the cremation vessel was lifted.
- 4.15.3 As a result of these findings, it was decided (as with site V1) that the pipeline would be shifted slightly so as to avoid the archaeology. It was also decided that this portion of the pipeline would be directionally drilled in order to preserve *in situ* the settlement and associated road side funerary activity. As a result site V2 was excavated along the new route of the pipeline in order to provide an area where the drilling could be started.
- 4.15.4 The archive of the primary data collected from V2 is collated below. Full context and feature descriptions can be found in Appendix A.13.

| Stratigraphic | | | |
|----------------------|---|----------------------|---|
| Context registers | 1 | Plans | 3 |
| Context numbers | 6 | Sections | 3 |
| Plan registers | 1 | Digital photos | 6 |
| Section registers | 1 | Black and white film | 1 |

Table 15: Summary of V2 archive

Assessment of the stratigraphy

- 4.15.5 Across the site, natural deposits comprising a grey orange clayey sand were encountered 0.6m below modern ground level, which lay at c.47.4m OD. The topsoil

was 0.3m in thickness and made up of a mid brown clayey sand. The subsoil consisted of a mid brown orange clayey sand, 0.3m in thickness.

Period 5 medieval

- 4.15.6 Two parallel ditches running on a west-north-west to east-south-east alignment were identified at the easternmost end of site. Even though no finds were retrieved, the features are thought to be of a medieval or later date.

4.16 Site V3

Introduction

- 4.16.1 Site V3 was located in an arable field at the base of a hill, approximately 260m south-west of site V2, on the edge of the village of Brinkhill, (Fig. 27). It was c.12ha in area and 12.2m in width and 121m in length.
- 4.16.2 There are no HER entries for the immediate area. The geophysical survey identified another complex of dense ditched enclosures and other features associated with settlement activity. Outlying hut circles were also identified on the western periphery of the settlement. Considering the high density of archaeological features identified by the geophysical survey, the fieldwalking produced only a small handful of sherds of Roman pottery. Conversely, evaluation (Trenches 125-127) confirmed the geophysics results, identifying at least eight ditches on five differing alignments, along with the drip gully of an extensive roundhouse. Trench 127 is worthy of particular note here because it did not contain any natural geology, bar a small 2m long strip at the southernmost end of the trench; the remainder was filled by a complex system of intercutting ditches.
- 4.16.3 As with the previous two sites, these findings resulted in the pipeline being re-routed so as to avoid the archaeology. It was also decided that this portion of the pipeline would be directionally drilled so that the settlement could be preserved *in situ*. Site V3 was excavated along the new route of the pipeline, on the periphery of the archaeology, in order to provide an area where the drilling could be started.
- 4.16.4 The archive of the primary data collected from V3 is collated below. Full context and feature descriptions can be found in Appendix A.14.

| <i>Stratigraphic</i> | | | <i>Artefactual and environmental</i> | | |
|-----------------------------|----|----------------------|---|---|-------|
| Context registers | 3 | Plans | 3 | Pottery (kg) | 0.212 |
| Context numbers | 76 | Sections | 20 | Worked flint (kg) | 0.018 |
| Plan registers | 1 | Digital photos | 35 | Bulk samples taken (10L tubs/contexts) | 17/12 |
| Section registers | 1 | Black and white film | 1 | | |
| Sample registers | 3 | | | | |

Table 16: Summary of V3 archive

Assessment of the stratigraphy

- 4.16.5 Across the site, natural deposits, which consisted of a grey orange clayey sand, were encountered 0.6m below modern ground level, which lay at c.46.5m OD. The topsoil was 0.4m in thickness and made up of a mid brown clayey sand which contained low levels of modern debris. The subsoil consisted of a mid brown orange clayey sand, 0.2m in thickness.

Period 3.2: Iron Age

- 4.16.6 The remnants of three roundhouses were identified on site. Ring gully **8026** (Fig. 29, S.8411) was only partially preserved, but had an internal diameter of approximately 10m. Situated 16m to the south-west, ring gully **8048** (Fig. 29, S.8417 and Plate 20) had an internal diameter of 12m. A number of postholes were evident inside of the ring gully.
- 4.16.7 Ring gully **8048** truncated earlier ring gully **531** (Fig. 29, S.8414) which appeared to be closer to D-shaped in plan. Several postholes were seen inside the ring gully, but whether these were related to feature **531** or **8048** was not clear.

Assessment of finds

- 4.16.8 Only very small quantities of artefactual remains were collected from features. A total of 0.212kg of Mid to Late Iron Age pottery in shelly, sandy and grog-tempered fabrics were seen.

Assessment of environmental material

- 4.16.9 A total of 12 bulk soil samples were taken, of which only a single sample was seen to contain charred plant remains.

4.17 Site EE1

Introduction

- 4.17.1 Site EE1 (Fig. 28) was situated in a flat arable field to the south-west of Brinkhill, about 255m away from site V3. The small c.0.04ha site measured 13m across and 37m in length.
- 4.17.2 Information from the HER reveals nothing of note in this area. The geophysical survey identified the continuation of the dense settlement activity seen in the survey at V3. The fieldwalking produced a moderate amount of Roman pottery and struck flint. The evaluation (Trenches 128 and 175) revealed at least five ditches, all on the same alignment, along with pits and possible beam slots.
- 4.17.3 As a result of these findings, it was decided that the pipeline here would be directionally drilled so that the settlement would be preserved *in situ*. Site EE1 was excavated on the periphery of the archaeological remains in order to provide an area where the drilling could be started.
- 4.17.4 The archive of the primary data collected from EE1 is collated below. Full context and feature descriptions can be found in Appendix A.15.

| Stratigraphic | | | | Artefactual and environmental | |
|----------------------|---|----------------------|---|--------------------------------------|-------|
| Context registers | 1 | Plans | 4 | Pottery (kg) | 0.546 |
| Context numbers | 9 | Sections | 4 | | |
| Plan registers | 1 | Digital photos | 8 | | |
| Section registers | 1 | Black and white film | 1 | | |

Table 17: Summary of EE1 archive

Assessment of the stratigraphy

- 4.17.5 The natural deposits, which consisted of an orange blue clay, were encountered 0.5m below modern ground level, which lay at c.46.8m OD. The topsoil was 0.3m in

thickness and made up of a mid brown clayey sand. The subsoil consisted of a mid brown orange clayey sand, 0.2m in thickness.

Period 3.3: latest Iron Age/Early Roman

- 4.17.6 A north-east to south-west aligned ditch was seen, which terminated within the site (Fig 29, S.8204). The feature had a second ditch branching off of it in a south-east direction.

Period 7: modern

- 4.17.7 A modern ditch, orientated north-west to south-east, truncated the Roman ditch.

Assessment of finds

- 4.17.8 Only a small amount of Late Iron Age to Early Roman pottery was collected from the site. The majority of the assemblage was made up of sandy grey ware forms but sand and grog tempered sherds were also seen.

4.18 Site W1a

Introduction

- 4.18.1 Site W1a was situated on a steep slope, adjacent to the medieval woodland of Harrington Carr and to the north-west of Harrington Hall (Fig. 30). It was c.0.2ha in area and measured 17.3m east/west and 128m north/south.
- 4.18.2 The HER records a spot find of a possible Mesolithic flint blade to the south-west of the site. The geophysical survey identified two sides of a ditched enclosure on the site. The evaluation (Trenches 41-43) revealed a single ditch and several tree throws that were cut into a colluvial layer containing occasional struck flints and sherds of Bronze Age pottery.
- 4.18.3 The archive of the primary data collected from W1a is collated below. Full context and feature descriptions can be found in Appendix A.16.

| Stratigraphic | | | | Artefactual and environmental | |
|----------------------|----|----------------------|----|--|-------|
| Context registers | 3 | Plans | 13 | Pottery (kg) | 0.044 |
| Context numbers | 44 | Sections | 13 | CBM (kg) | 0.282 |
| Plan registers | 1 | Digital photos | 28 | Worked flint (kg) | 0.570 |
| Section registers | 1 | Black and white film | 1 | Bulk samples taken (10L tubs/contexts) | 20/1 |
| Sample registers | 1 | | | | |

Table 18: Summary of W1a archive

Assessment of the stratigraphy

- 4.18.4 Across the site, natural deposits, consisting of a pale yellow sand, was encountered 0.65m below modern ground level, which lay at c.45.1m OD. The topsoil was 0.3m in thickness and made up of a mid brown silty sand which moderate numbers of struck flint. The subsoil consisted of a mid brown orange silty sand, 0.35m in thickness.

Period 2.1: Early Bronze Age

- 4.18.5 A single pit (**8540**), containing five sherds of Late Neolithic/Early Bronze Age pottery, and seven tree throws, containing occasional struck flints have been attributed to this period.

Period 2.2: Middle Bronze Age

- 4.18.6 Two sides of enclosure ditch **8516** were identified on the site (Fig. 33, S.8609 and Plate 21). The ditch was orientated north-north-east to south-south-west and then west-north-west to east-south-east, with an entranceway in the north-east corner. No contemporary internal features were observed.

Period 7: modern

- 4.18.7 A modern pit containing high levels of brick, tile, glass and wood was also seen on the site.

Assessment of finds

- 4.18.8 A small assemblage of 0.044kg of Late Neolithic/Early Bronze Age pottery was recovered that included a small quantity of highly abraded Beaker.
- 4.18.9 A group of struck flint weighing 0.572kg was collected from the site. The pieces from ditch **8516** probably represent a Late Neolithic/Early Bronze Age technology. Late Neolithic/Early Bronze Age flakes were also seen in tree throws.
- 4.18.10 Immediately to the north of site, outside the limit of the excavation area, a small assemblage of struck flint was collected from the surface of the topsoil (context 8506), this group has been identified as evidence of a Late Mesolithic/Early Neolithic reduction activity (see Appendix B.5).

Assessment of environmental material

- 4.18.11 One soil sample was taken from ditch **8516** and this produced only sparse charcoal.

4.19 Site W1b

Introduction

- 4.19.1 Site W1b (Fig. 31) was located in the same field as site W1a, 72m south of it, close to the road. It was situated on the crest of a rise in the landscape and adjacent to Harrington Carr. The c.0.26ha site was 21.4m east/west and 134.6m north/south.
- 4.19.2 As with the previous site, the only HER record relating to the area is for a potential Mesolithic flint blade. The geophysical survey identified a possible ditch and a large pit on the very edge of the site. The evaluation (Trenches 46 & 47) revealed a substantial pit/tree throw containing abundant struck flint. Despite only being excavated to a depth of 0.2m, in excess of 500 flints and microliths were recovered from the feature.
- 4.19.3 The archive of the primary data collected from W1b is collated below. Full context and feature descriptions can be found in Appendix A.17.

| Stratigraphic | | | | Artefactual and environmental | |
|----------------------|-----|----------------------|----|---|--------|
| Context registers | 17 | Plans | 19 | Pottery (kg) | 0.117 |
| Context numbers | 438 | Sections | 21 | Worked flint (kg) | 5.363 |
| Plan registers | 1 | Digital photos | 74 | Bulk samples taken (10L tubs/contexts) | 242/86 |
| Section registers | 1 | Black and white film | 1 | | |
| Sample registers | 19 | | | Monolith | 1 |

Table 19: Summary of W1b archive

Assessment of the stratigraphy

- 4.19.4 Across the site, pale yellow sand natural deposits were encountered 0.6m below modern ground level, which lay at c.50.4m OD. The topsoil was 0.3m in thickness and made up of a mid brown silty sand that contained moderate quantities of struck flint. The subsoil consisted of a mid brown orange silty sand, 0.3m in thickness.

Period 0: undated

- 4.19.5 One tree throw at the southern end of site was devoid of finds. This feature is potentially of Early Bronze Age date.

Period 1.1: Late Mesolithic/Early Bronze Age

- 4.19.6 Tree throw **9005** was the only feature of this date from the site. Situated on the highest point in the landscape, this large feature (measuring at least 6m in diameter and up to 0.7m in depth) contained 6759 struck flints. Due to the high level of flint within the feature, it was excavated in a chequerboard style (Plate 22) using spits, in order to glean as much stratigraphical and distribution data as possible.

Period 2.1: Early Bronze Age

- 4.19.7 A group of five pits, including **9256** (Fig. 33, S.8816), were seen to contain Early Bronze Age pottery and low levels of struck flint.

Period 3.1: earlier Iron Age

- 4.19.8 A single pit extending out of the eastern edge of site has been attributed to the earlier Iron Age period.

Period 3.2: Iron Age

- 4.19.9 Pit **9133**, situated at the northernmost end of site, was interpreted as of Iron Age date.

Period 4: Roman

- 4.19.10 A series of shallow north-south and east-west aligned ditches were seen in the centre of the site. The east-west ditches truncated those aligned north-south. Although no datable pottery was recovered from these features, they were reminiscent of a Roman field system. Roman pottery was collected from the topsoil during machining this area however.

Assessment of finds

- 4.19.11 By far the largest assemblage from this site was the flint collected from tree throw **9005**. The typological and technological attributes of the assemblage suggest two distinct typo-chronological phases of stone working activity, namely the Late Mesolithic and Early Neolithic. These periods have been highlighted for future research in the region (Cooper 2006) as there are very few excavated sites of this date and most information, predominantly relating to the Mesolithic, is derived from surface collections. With this in mind, the lithics from this site provide a rare opportunity to carry out a detailed typological and metrical analysis of an assemblage derived from *in situ* deposits. It should also be noted that further analysis has the potential to contribute to several research objectives set out in the Updated Research Agenda and Strategy for the Historic Environment of the East Midlands (Knight *et al.* 2012) (see Appendix B.5).

Assessment of environmental material

4.19.12 A total of 90 bulk soil samples were taken (87 from the tree throw and three from other features). The total volume of each sample was processed, primarily for flint retrieval. A number of the samples contain charred cereal grain, along with small fragments of hazelnut and the charred remains of a large root or tuber, measuring up to 9mm in length. Several samples also contain charred weed seeds. A significant number of vetch/wild pea seeds were noted, most commonly occurring in samples that also contain cereal grains. Other charred seeds include stinking mayweed, knapweed, clover, cleaver and corn spurrey. Stinking mayweed is thought to be a Roman introduction and would not be expected in samples of a Neolithic date. No further work on the plant assemblages is required, although it would be of benefit to have some of the plant remains radiocarbon dated (Appendix C.4).

4.20 Site W4

Introduction

- 4.20.1 Site W4 was situated to the south-west of Harrington Hall, next to the main road (Fig. 32). It was located in a flat arable field adjacent to a crop of woodland. The c.0.24ha site measured 17.4m wide and 152.2m long.
- 4.20.2 The geophysical survey of this field identified a series of parallel ditches. The fieldwalking produced large quantities of struck and worked flint, including a very high number of cores and several thumbnail scrapers. The evaluation trenches (Trenches 132, 134 & 164-169) revealed at least 13 ditches on four differing alignments. Finds recovered from the features included struck flints and Iron Age pottery.
- 4.20.3 The archive of the primary data collected from W4 is collated below. Full context and feature descriptions can be found in Appendix A.18.

| <i>Stratigraphic</i> | | | | <i>Artefactual and environmental</i> | |
|----------------------|-----|----------------------|-----|--|-------|
| Context registers | 5 | Sections | 54 | Pottery (kg) | 0.709 |
| Context numbers | 163 | Digital photos | 171 | Animal bone (kg) | 0.020 |
| Plan registers | 1 | Black and white film | 4 | Fired clay (kg) | 0.051 |
| Section registers | 2 | | | Worked flint (kg) | 0.980 |
| Sample registers | 3 | | | Bulk samples taken (10L tubs/contexts) | 23/12 |
| Plans | 42 | | | | |

Table 20: Summary of W4 archive

Assessment of the stratigraphy

4.20.4 Across the site, natural deposits consisting of orange silty sand were encountered 0.5m below modern ground level, which lay at c.45.1m OD. The topsoil was 0.4m in thickness and made up of a dark brown silty sand that contained large quantities of struck flint and occasional modern debris. The subsoil consisted of a mid brown orange silty sand, 0.1m in thickness.

Period 0: undated

4.20.5 The central portion of site contained a number of small pits/tree throws which did not contain any dating evidence. It is possible that these were of the same date as the Later Neolithic to Early Bronze Age pits to the immediate west. A number of other small, scattered pits/tree throws toward the northern limits of site were also devoid of dating evidence.

- 4.20.6 A small north-west to south-east aligned gully and a wide shallow ditch were also undated.

Period 1.1: Later Neolithic to Early Bronze Age

- 4.20.7 Two small pits were located near the western limit of the excavation. These contained pottery and struck flint dating from the later Neolithic and Early Bronze Age.
- 4.20.8 At the northernmost edge of site was tree throw **9623**. A large assemblage of struck flint and a broken polished axehead were recovered from the fill, along with a single sherd of Late Neolithic pottery.

Period 3.2: Iron Age

- 4.20.9 A number of Iron Age ditches were identified on the site, these included D-shaped enclosure **9631** (Fig. 33, S.9048). The entrance to this enclosure was situated on its north-western side. Within the ditch terminus' forming the entranceway were 12 large sandstone boulders (nine in the western terminus and three in the eastern). The largest of the boulders measured 1.4m in length, 0.9m in width and 0.5m in depth. No other boulders were seen anywhere else in the ditch, which suggests that they were purposely placed. Although there was no evidence to suggest that the boulders supported an entrance structure or posts, this interpretation remains possible. Upon further investigation, two of the rocks appeared to have carved markings on them (Plate 23). The markings on the largest boulder appeared to depict a stick-like long horned cattle. The marking on the second stone was potentially an axe polishing groove. It is extremely unlikely that these markings were natural. It is also unlikely that they were carved during the Iron Age period as the pictorial carving is not complete, implying that the boulder was broken after the rock art was made.
- 4.20.10 As a result of these findings, a small group of the fieldwork team walked the immediate area around site looking for further similar stones. One further sandstone boulder (measuring 1m in length, 0.4m in width and 0.2m in depth) was discovered in the undergrowth of Sandy Ground Plantation, to the immediate west of site. This indicates further sandstone artefacts may be present in the wider vicinity of the site and suggests that there is potential for these stones to link the Iron Age landscape back to the Neolithic period.
- 4.20.11 Further Iron Age activity on the site was seen in the form of two, four-post structures (Fig. 33, S.9026) and a number of ditches running on four separate alignments.

Period 3.3: Latest Iron Age/Early Roman

- 4.20.12 Three features (two ditches and one pit) were attributed to this period. One ditch was the recut of a north-north-west to south-south-east aligned Iron Age ditch.
- 4.20.13 Extending out from the western limit of excavation was square enclosure **9515** (Fig. 33, S.9012 and Plate 24). This enclosure truncated the corner of D-shape enclosure **9631**. A large pit (**9550**) was cut into the south-eastern corner of enclosure **9515**, exactly over the terminal end of D-shape enclosure **9631**. This pit was full of large broken rocks, the same type as those found in the D-shape enclosure. It is possible that both enclosure **9515** and pit **9550** were purposely positioned here so as to truncate earlier enclosure **9631**.

Assessment of finds

- 4.20.14 Pottery and struck flint are the predominant assemblages recovered from site. The pottery is a mixed assemblage consisting of 0.709kg of Late Neolithic and Early Bronze Age fabrics (including Beaker), along with Late Iron Age and Early Roman wares (see Appendix B.1).
- 4.20.15 The lithic assemblage (totalling 0.980kg) has diagnostic pieces indicating several elements of Neolithic/Early Bronze Age reduction strategies. The diagnostic pieces and the technological signature of the cores recovered from tree throw **9623** indicate a contextual integrity to the context assemblage, probably representing Neolithic stone working activity. Lithic assemblages from both the early and later phases of the Neolithic are well attested to in the region; however the majority of the lithic material is derived from surface collection and in Lincolnshire there is a noticeable paucity of assemblages from excavated contexts (Clay 2006). With this in mind, the struck lithics recovered from the fills of tree throw **9623** (9624 and 9625), even though small in size, offer a rare chance to investigate an assemblage in detail. The presence of a possible reworked polished flint axe within the assemblage also presents an opportunity to consider the depositional context of such implements. This is especially pertinent considering the proximity of the site to site W1b, which has produced evidence for probable flint axe manufacture (see Appendix B.5).
- 4.20.16 The rock art from this site is awaiting study by a specialist, but a number of stone specialists who have seen the carvings, via digital media, are of the opinion that they are man-made.

Assessment of environmental material

- 4.20.17 A total of 12 bulk soil samples were taken. Charred plant remains are scarce but elements of barley, oat and spelt wheat grains were seen, in addition to a single charred bean and two capsule fragments of wild radish.

4.21 Site N2

Introduction

- 4.21.1 Site N2 was situated on a very gentle north-east facing slope, to the north of the Raithby Road, on the edge of Hundleby (Fig. 34). The c. 0.19ha site measured 14.3m in width and 147m in length.
- 4.21.2 No relevant HER data is noted for the area around the site. The geophysical survey identified several linear features likely to be part of an enclosure. The fieldwalking yielded small quantities of struck flint and medieval pottery. The evaluation (Trenches 143, 144 and 170) uncovered 10 ditches on two alignments and a number of small, clay lined pits. Several of these features had been cut through a layer of wind blown sand that contained occasional struck flints. The features themselves contained Middle Iron Age pottery and struck flint.
- 4.21.3 The archive of the primary data collected from N2 is collated below. Full context and feature descriptions can be found in Appendix A.19.

| <i>Stratigraphic</i> | | | | <i>Artefactual and environmental</i> | |
|----------------------|----|----------------------|----|---------------------------------------|-------|
| Context registers | 3 | Sample registers | 1 | Pottery (kg) | 1.282 |
| Context numbers | 63 | Plans | 19 | Animal bone (kg) | 0.012 |
| Plan registers | 1 | Sections | 20 | Worked flint (kg) | 1.951 |
| Section registers | 1 | Digital photos | 56 | Baked clay (kg) | 6.016 |
| SF registers | 1 | Black and white film | 1 | Bulk samples taken(10L tubs/contexts) | 6/3 |

Table 21: Summary of N2 archive

Assessment of the stratigraphy

- 4.21.4 Across the site, natural deposits, which consisted of a pale yellow sand, were encountered 0.6m below modern ground level, which lay at c.57.2m OD. The topsoil was 0.6m in thickness and made up of a mid brown silty sand. There was no subsoil.

Period 0: undated

- 4.21.5 A number of small pits/tree throws were seen on site that were devoid of datable finds.

Period 1.2: Neolithic

- 4.21.6 Toward the north-eastern limit of site was a substantial pit (**10032**) (Fig. 36, S.9211), which contained sherds of an earlier Neolithic Plain Bowl, 38 fragments of daub and a number of burnt and struck flints. A similar (but less finds rich) pit was seen about 20m to the south.

Period 2.3: Late Bronze Age

- 4.21.7 A single feature of unclear function has been attributed to this period. Pit **10027** (Fig. 36, S.9211 and Plate 25), located in the south-western corner of site, was 3m long, 1.1m wide and 0.22m deep with vertical sides and a flat base. It was deeper toward the eastern end. The finds recovered from this feature included a total of 28 sherds of Late Bronze Age pottery (weighing 0.642kg), 81 fragments of baked clay (weighing 0.703kg) and two pyramidal or brick-shaped weights (weighing 4.694kg), a number of struck flints and an object (SF525) of unclear function (Plate 26) were also collected.
- 4.21.8 The environmental sample from this feature produced a small flot containing fuel ash slag in addition to abraded charred remains of cereal grains, hazelnut fragments, a hulled wheat glume base and single charred seeds of nettle, dock, black bindweed and pale persicaria.
- 4.21.9 Object SF525 is perplexing (Plate 26). First impressions suggest that it may be part of a small figurine, perhaps the horns and forehead of a short-horn cow or bull. Whilst the material from which it is made is uncertain, under a microscope it looks to be ceramic, with angular and round quartz temper and possibly grass. There are also a number of swipe and linear score marks on its surface. A number of specialists have studied the object and have all come up with differing interpretations (see paragraph 4.21.16 for further discussion).

Period 3.2: Iron Age

- 4.21.10 A total of four ditches on two separate alignments were interpreted as of Iron Age date (Fig. 36, S.9201), these features contained small quantities of struck flint flakes.

Period 6: post-medieval

- 4.21.11 A single, elongated pit truncating one of the Iron Age ditches was identified as post-medieval as it contained a large number of unfroged bricks.

Period 7: modern

- 4.21.12 A posthole structure was seen toward the northern end of site, truncating an Iron Age enclosure. The postholes contained clay pipe fragments along with glass and pieces of iron.

Assessment of finds

- 4.21.13 Pottery, lithics and baked clay were the dominant assemblages from this site. A total of 1.282kg of pottery was collected from features, this included sherds of earlier Neolithic and decorated Late Bronze Age pottery.
- 4.21.14 The bulk of the lithic assemblage is likely to represent Mesolithic/Neolithic/Early Bronze Age stone working traditions. Some of the pieces exhibit technological characteristics typical of late prehistoric reduction strategies and are probably associated with the occupation of the site. The East Midlands region Archaeological Resource Assessment and Research Agenda (Clay 2006) draws attention to the paucity of Mid/Later Bronze Age settlement sites in the region as a whole. The presence of struck lithics with late prehistoric technological affinities associated with contemporary features could be invaluable in helping to understand the nature of settlement at the site (see Appendix B.5).
- 4.21.15 A good sized assemblage (6.016kg) of baked clay and baked clay objects were retrieved during excavation. This was all recovered from Neolithic and Late Bronze Age features (Appendices B.5 and B.6).
- 4.21.16 Object SF525 has been studied by a number of specialists. Dr. Patrick Quinn (Senior Research Associate in Ceramic Petrography at UCL) has scanned the object with a portable XRF analyser. The results of which show that the object contains c.3% iron, 7% silica and over 85% carbon.
- 4.21.17 Dr. Rachel Ballantyne (former Regional Science Advisor for English Heritage) believes that the object is broken, forming only part of a large object. She also states that the outer surface is patinated/polish and oxidised, whereas the inner surface is dull, more porous and oxidised. The colour differences are a result of the iron component within its fabric and its exposure to fire. The material itself is a fabric of some sort, rather than the remains of a biological organism, but the precise fabric is unclear. It appears to have been a plastic substance that has since hardened through firing.
- 4.21.18 The object also appears to have been fashioned into a shape as there are faceted surfaces and a symmetry to it. The internal surface, where unbroken, bears the impression of a round, possible stick end. The outer surfaces include fine impressions of wild grass stems and leaves. The fabric has tiny angular flint inclusions, plus rounded quartz (sand) crystals. This combination of angular and rounded inclusions suggests it is unnatural in origin, i.e. man-made.

Assessment of environmental material

- 4.21.19 Three bulk soil samples were taken from Neolithic and Bronze Age features. The material from pit **10027** is considered worthy of further investigation (see paragraph 4.21.8 above). Charred plant remains and fragmented hazelnut shells were seen in the remaining two samples (Appendix C.4).

4.22 Site N3

Introduction

- 4.22.1 Site N3 (Fig. 35) was located on the southern side of the Raithby Road around 160m south of Site N2. It was c.0.32ha in area and 14m east/west by 233.8m north/south.
- 4.22.2 The geophysical survey identified two sides of a probable large ditched enclosure. The fieldwalking produced a dense scatter of struck flint along with small quantities of Roman and medieval pottery. The evaluation (Trenches 53 & 54) uncovered two ditches which tied in with those identified by the geophysical survey, and a number of tree throws. As with Area N2, these features appeared to be cut into a layer of wind blown sand containing occasional struck flints and sherds of Bronze Age pottery. The features themselves also contained struck flint and Late Bronze Age pottery.
- 4.22.3 The archive of the primary data collected from N3 is collated below. Full context and feature descriptions can be found in Appendix A.20.

| <i>Stratigraphic</i> | | | | <i>Artefactual and environmental</i> | |
|----------------------|----|----------------------|----|---|--------|
| Context registers | 3 | Plans | 28 | Pottery (kg) | 0.572 |
| Context numbers | 92 | Sections | 31 | Worked flint (kg) | 0.288 |
| Plan registers | 1 | Digital photos | 54 | Baked clay (kg) | 13.286 |
| Section registers | 1 | Black and white film | 2 | Bulk samples taken (10L tubs/contexts) | 21/12 |
| Sample registers | 3 | | | | |

Table 22: Summary of N3 archive

Assessment of the stratigraphy

- 4.22.4 Across the site, natural deposits consisting of an orange silty clay were encountered 0.55m below modern ground level, which lay at c.57.9m OD. The topsoil was 0.35m in thickness and made up of a mid brown silty clay. The subsoil consisted of a mid brown orange silty sand, 0.2m in thickness.

Period 0: undated

- 4.22.5 A single ditch and gully on differing alignments, along with a small shallow pit containing burnt bone fragments could not be assigned to a specific period.

Period 1.2: Neolithic

- 4.22.6 A single tree throw (**10544**) situated toward the centre of site was of Neolithic origin. It contained 10 sherds of earlier Neolithic pottery along with a flint assemblage containing a high number of blades.

Period 2.1: Early Bronze Age

- 4.22.7 Positioned on the eastern edge of site, close to an Iron Age enclosure ditch, was oven/kiln **10514** (Plate 27). A total of 122 baked clay fragments weighing 11.654kg (including possible structural and lining pieces with wattle impressions) were recovered from this feature.
- 4.22.8 To the north-west was pit **10528** (Fig. 36, S.9409 and Plate 28). A large quantity of Bronze Age pottery, struck and burnt flint was collected from the fill. A similar pit was seen approximately 15m to the north.

Period 2.2: Middle Bronze Age

- 4.22.9 A narrow, north-east to south-west aligned ditch was seen toward the centre of the site. Based upon its irregular plan and varying depths, it seems likely that it was dug segmentally.

Period 3.2: Iron Age

- 4.22.10 A total of 10 postholes and three ditches (on two separate alignments) have been dated to the Iron Age period. Two four-post structures and a further two postholes for other structural features were located close to the Middle Bronze Age ditch.
- 4.22.11 Immediately to the north of this was large enclosure **10503**. This consisted of a north-east to south-west aligned ditch (also identified in Trench 54) which turned to run in a north-west to south-east direction at the northernmost limit of site. Another ditch lay inside the enclosure, creating a sub-division.

Period 7: modern

- 4.22.12 An east-west aligned line, comprised of four postholes, was seen at the southernmost edge of site. These features contained fragments of degraded wooden posts.

Assessment of finds

- 4.22.13 Baked clay (from the oven) was the dominant assemblage from the site, however smaller assemblages of pottery and struck flint were also seen.
- 4.22.14 The pottery assemblage is mixed. The Bronze Age sherds are made of coarse, grog-tempered fabric with characteristic wet-hand wiped surfaces. Two sherds of earlier Neolithic pottery in a flint-tempered fabric and 19 sherds of Iron Age were also recovered (Appendix B.1).
- 4.22.15 Given the technological characteristics of the flint assemblage, the majority of the struck lithics are likely to represent reduction strategies utilised during the Late Mesolithic/Neolithic/Early Bronze Age and are therefore potentially residual within their depositional contexts (Appendix B.5).
- 4.22.16 The baked clay group consists of 122 baked clay fragments weighing 11.654kg and includes 14 possible structural and 12 lining pieces. A further 96 fragments, weighing 1.632kg, are unclassifiable (Appendix B.7).

Assessment of environmental material

- 4.22.17 A total of 12 environmental samples were taken from site. Quantities of charcoal, cereal grains, dry land herbs and charred hazelnuts were evident (Appendix C.4).

4.23 Site Y1

Introduction

- 4.23.1 Site Y1 was situated just off Drain Bank in Hagnaby Lock, south of the East Kirkby airfield, on the very edge of a fen island (Fig. 37). The c. 0.23ha site was 13.5m north-east/south-west and 200m north-west/south-east.
- 4.23.2 The HER records for this area identify this as the location of an Early Bronze Age settlement. Excavations carried out in 1993 revealed features dating to the later Bronze Age, including pits, ditches, ard marks and a midden spread containing a high density of struck flint, burnt stone, pottery and briquetage. The geophysical survey did not

reveal anything of archaeological interest. Fieldwalking produced large quantities of modern brick and tile along with a single sherd of Iron Age pottery and four struck flints. Although the evaluation (Trenches 186-9) did not uncover any features a small quantity of Iron Age pottery and Bronze Age struck flints were recovered from the topsoil.

- 4.23.3 The archive of the primary data collected from Y1 is collated below. Full context and feature descriptions can be found in Appendix A.21.

| <i>Stratigraphic</i> | | | | <i>Artefactual and environmental</i> | |
|----------------------|-----|----------------------|----|--|-------|
| Context registers | 7 | Plans | 12 | Pottery (kg) | 1.397 |
| Context numbers | 166 | Sections | 16 | Animal bone (kg) | 0.079 |
| Plan registers | 1 | Digital photos | 46 | Worked flint (kg) | 9.487 |
| Section registers | 1 | Black and white film | 1 | Baked clay (kg) | 0.242 |
| Sample registers | 3 | | | Burnt stone (kg) | 4.100 |
| Small finds register | 1 | | | Bulk samples taken (10L tubs/contexts) | 24/12 |

Table 23: Summary of Y1 archive

Assessment of the stratigraphy

- 4.23.4 Across the site, natural deposits, which consisted of an orange yellow sand on the northern portion of site and a blue grey clay on the southern half, were encountered 0.5m below modern ground level, which lay at c.2.4m OD. The topsoil was 0.35m in thickness and made up of a dark brown silty sand. The subsoil consisted of a mid brown orange silty sand, 0.1m in thickness.

Period 0: undated

- 4.23.5 Three undated tree throws were identified.

Period 2.2: Middle Bronze Age

- 4.23.6 All of the archaeological features identified on site were of Middle Bronze Age date. Ditch **11003** (Fig. 38, S.9608) was orientated north-north-west to south-south-east before turning to run west-north-west to east-south-east. It was partially covered by midden spread 11023 (Fig. 38, S.9613 and Plate 29).
- 4.23.7 This midden is believed to be the continuation of that found during the 1993 excavations. It was excavated in a chequerboard style which revealed that ditch **11003** continued beneath it and was filled by the spread itself. Finds recovered from the midden included Middle Bronze Age pottery, baked clay, a good sized assemblage of struck flint and a large amount of unworked burnt stone.

Assessment of finds

- 4.23.8 The finds assemblage was dominated by pottery, struck flint and burnt stone, with only a few artefacts formed from other materials. The pottery consisted of a large Middle Bronze Age assemblage of 128 sherds (weighing 1.397kg) with grog and grog with flint-tempered fabrics represented. Several of the sherds have encrusted surfaces characteristic of pre-longed post depositional exposure to waterlogged conditions (Appendix B.1).
- 4.23.9 The lithic assemblage contains very few diagnostic implements beyond scrapers. The technological characteristics of the majority of cores and flake and blade debitage indicate a simple core/flake technology employing hard hammer and direct percussion. While some of this activity is probably associated with later Neolithic/Early Bronze Age

reduction strategies, the technological characteristics of much of the assemblage suggests similarities with dated late prehistoric lithic assemblages from elsewhere in the country (Appendix B.5).

- 4.23.10 The baked clay assemblage consists of 35 pieces (weighing 0.264kg). These include a possible shaped lug, which may be from a pottery vessel, and a small quantity of structural material with wattle and fingertip-impressed surfaces (Appendix B.7).
- 4.23.11 A total of 99 burnt stones and an extremely well worn hammerstone were collected during the excavation of the midden spread (Appendix B.11).

Assessment of environmental material

- A.1.1 A total of 12 environmental bulk samples were taken. Preserved plant remains are rare, with only occasional charred cereal grains, a fragment of hazelnut shell and insignificant fragments of grain being seen. Charcoal is relatively common in most of the samples, indicating that either wither burning took place in the locality or that midden material incorporating charcoal was spread over the site (Appendix C.4).

4.24 Site Q1

Introduction

- 4.24.1 Site Q1 was located on the periphery of Stickney, adjacent to the A16 (Fig. 39). The site was 6.5m by 8m square.
- 4.24.2 There is no HER data pertaining to the immediate environs of the site. The field was not subject to geophysical survey or fieldwalking due to building work at the time of the fieldwork. The single evaluation trench in this area (Trench 192) uncovered a double crouched burial of an adult and juvenile placed within a hollow. The burial was left *in situ*. No finds were recovered from the burial.
- 4.24.3 The archive of the primary data collected from Q1 is collated below. Full context and feature descriptions can be found in Appendix A.22.

| <i>Stratigraphic</i> | | | | <i>Artefactual and environmental</i> | |
|----------------------|---|----------------------|----|---|------|
| Context registers | 1 | Plans | 4 | HSR burials (no.) | 4 |
| Context numbers | 9 | Digital photos | 54 | Bulk samples taken (10L tubs/contexts) | 14/4 |
| Plan registers | 1 | Black and white film | 1 | | |
| Sample registers | 3 | | | | |

Table 24: Summary of Q1 archive

Assessment of the stratigraphy

- 4.24.4 Across the site, natural deposit, which consisted of a heavy blue orange clay were encountered 0.27m below modern ground level, which lay at c.3.5m OD. The topsoil was 0.27m in thickness and consisted of a mid brown silty clay. There was no subsoil.

Period 0: undated

- 4.24.5 The archaeology consisted of a natural hollow containing four burials. No datable finds were recovered from the site. Burials 13501 and 13502 were orientated north-west to south-east with the heads to the north-west. Burials 703 and 13503 were a double burial orientated north-north-west to south-south-east with the heads to the north-north-west.

4.24.6 The burials were situated within a natural hollow. No grave cuts could be seen due to the high level of disturbance and fragmentation of the bodies. However it seems likely that the bodies were interred within grave cuts rather than just being placed within the hollow.

Assessment of finds

4.24.7 All four of the skeletons were positioned supine, although the legs of skeleton 13503 were slightly flexed at the knee. The highly fragmented nature of all four skeletons means that, other than the measurements of the humeral and femoral heads, none have the potential for metrical analysis. Non-metric traits may be observable, although the number of landmarks observable is limited due to the level of fragmentation (see Appendix C.1).

Assessment of environmental remains

4.24.8 A total of 14 samples were taken during the excavation of the human remains. Nothing apart from human bone was recovered.

4.25 Site R6

Introduction

4.25.1 Site R6 (Fig. 40) was located to the north-east of the village of Sibsey on a very slight rise in an otherwise flat fen landscape. The site was c.0.17ha in area and was 10.5m east/west and 150m north/south.

4.25.2 There are no HER records for this area. The field in which site R6 is located was not subject to geophysical survey or fieldwalking. An evaluation trench (Trench 193) was located here due to the slight rise in the landscape, which was identified via LIDAR data. The evaluation revealed a sizeable ditch that contained large sherds of unabraded samian and mortaria.

4.25.3 The archive of the primary data collected from R6 is collated below. Full context and feature descriptions can be found in Appendix A.23.

| <i>Stratigraphic</i> | | | | <i>Artefactual and environmental</i> | |
|----------------------|----|----------------------|----|--|-------|
| Context registers | 3 | Plans | 23 | Pottery (kg) | 0.935 |
| Context numbers | 66 | Sections | 20 | Animal bone (kg) | 0.745 |
| Plan registers | 1 | Digital photos | 42 | CBM (kg) | 0.317 |
| Section registers | 1 | Black and white film | 1 | Bulk samples taken (10L tubs/contexts) | 20/5 |
| Sample registers | 2 | | | | |

Table 25: Summary of R6 archive

Assessment of the stratigraphy

4.25.4 Across the site, natural deposits consisting of heavy blue yellow clays were encountered 0.65m below modern ground level, which lay at c.2.2m OD. The topsoil was 0.3m in thickness and consisted of a dark brown silty clay. The subsoil measured 0.35m in thickness and was made up of a mid orange brown silty clay. During excavation adverse weather conditions meant that the site partially flooded. A miscommunication with ground workers also resulted in the site being driven over by a tracked machine. As a result, the site had to be re-machined and a number of large sumps dug in an attempt to contain the flood water.

Period 0: undated

- 4.25.5 A single gully orientated west-north-west to east-south-east was seen on the site. It is stratigraphically earlier than any other features and runs on a completely different alignment to the Roman archaeology, which would suggest that it is likely to be of prehistoric date. No finds were recovered that would confirm this.

Period 4: Roman

- 4.25.6 The majority of the archaeology was of Roman date, with at least three phases of activity recorded that were comprised of a number of north-south and east-west aligned ditches and enclosures, and a single curvilinear ditch.
- 4.25.7 East-west aligned ditch **11515**, located toward the southern limit of site, contained a burnt deposit of cremated bone and a charred plant assemblage (see paragraph 4.25.14 below). A possible well was seen just to the north of this. (Fig. 43, S.9806).
- 4.25.8 Ditch **11545** (Fig. 43, S.9811 and Plate 30) was the largest ditch on site and may therefore have represented a major boundary. The finds from this feature included unabraded sherds of samian and mortaria.

Period 5: medieval

- 4.25.9 A total of five east-west aligned furrows were seen on the site.

Period 6: post-medieval

- 4.25.10 Extending from the western limit of excavation was a large sub-rectangular pit/tank which truncated all the Roman ditches. Post-medieval CBM was recovered from the very base of this feature.

Period 7: modern

- 4.25.11 A large, east-west aligned ditch was seen that was of modern date. Toward the base of this feature was a heavy duty plastic sack containing a number of glass bottles and jam jars. This ditch is likely to be a disused field boundary.

Assessment of finds

- 4.25.12 Only a very small assemblage of pottery (30 sherds) was collected from the features on site. The assemblage dates from the 1st to 2nd century (Appendix B.1).

Assessment of environmental material

- 4.25.13 A small assemblage of animal bone was also recovered from site that consisted of equal numbers of cattle and horse remains (Appendix C.2)
- 4.25.14 A total of 10 environmental bulk samples were taken, six of which were from deposit 11510 of ditch **11515**. These contained burnt bone and spelt/emmer. Examples of food plants including wild/cultivated peas, beans, brome, wild radish, scentless mayweed, thistle, cleavers and clover were also seen. Further work on these samples and one from the well is advised (Appendix C.4).

4.26 Site S10

Introduction

- 4.26.1 Site S10 (Fig. 41) was situated immediately to the east of Sibsey, adjacent to the railway line and approximately 1.5km south of Area R6. The site was c.0.17ha in area and measured 12.5m east/west and 129.5m north/south.
- 4.26.2 The HER records an Iron Age and Roman pottery and coin scatter just to the west of the pipeline corridor here. The geophysical survey identified a possible ditched enclosure on the site. Fieldwalking produced an extremely dense scatter of Roman and early medieval pottery. The evaluation (Trenches 196 & 197) uncovered a series of ditches containing pottery and briquetage, potentially related to salt-making.
- 4.26.3 The archive of the primary data collected from S10 is collated below. Full context and feature descriptions can be found in Appendix A.24.

| <i>Stratigraphic</i> | | <i>Artefactual and environmental</i> | |
|----------------------|-----|---|--------|
| Context registers | 16 | Pottery (kg) | 24.275 |
| Context numbers | 389 | Animal bone (kg) | 25.233 |
| Plan registers | 2 | Briquetage (kg) | 13.138 |
| Section registers | 3 | CBM (kg) | 0.041 |
| Sample registers | 5 | Worked flint (kg) | 0.085 |
| SF registers | 1 | Slag (kg) | 0.008 |
| Plans | 80 | Small finds (no.) | 2 |
| Sections | 95 | Metal finds (no.) | 7 |
| Digital photos | 208 | Bulk samples taken (10L tubs/contexts) | 38/23 |
| Black and white film | 2 | | |

Table 26: Summary of S10 archive

Assessment of the stratigraphy

- 4.26.4 Across the site, natural deposits, which consisted of orangey silty clays, were encountered 0.3m below modern ground level, which lay at c.2.6m OD. The topsoil consisted of a mid brown clay silt. There was no subsoil.

Period 4: Roman

- 4.26.5 The archaeological features on site were all attributed to the Roman period. At least two phases of activity were identified, characterised by ditches and recut ditches on a number of varying alignments, along with at least four ring gullies and a number of pit groups.
- 4.26.6 The colours of the fills were also indicative of the two phases of activity, with the earlier features generally filled by mid orange brown deposits and the later activity by dark grey fills.
- 4.26.7 At the southern end of site was a east-north-east to west-south-west orientated ditch (**12048**) (Fig.43, S.10013). Ditch **12048** was truncated by recut **12041** (Plate 31), which ran on the same alignment before branching off in a north-north-east to south-south-west direction. This latter element was markedly shallower and may represent part of a water feeding system to bring brackish water to the site for salt-making.

- 4.26.8 Approximately 10m from ditch **12041** was a group of pits. These were all similar in form, with vertical sides and stepped flat bases, and may have been settling tanks. Pit **12126** was 3m in length, 1m in width and 0.45m in depth, with vertical sides and a flat base. At the base of the pit was a division formed from the natural, which suggests that the pit was sub-divided into two. A further similar pit (**12199**) contained the articulated remains of an otter, along with a fragment of glass (SF605) and a broken quern stone (SF606).
- 4.26.9 In the central portion of site there were a number of intercutting ring gullies. The earliest of these was **12129**, which had an internal diameter of approximately 5m and an entrance to the south-east. This was truncated by ring gully **12128** which had an internal diameter of about 7.5m with a narrow entrance (just 0.5m wide) to the south-south-east.
- 4.26.10 This ring gully was truncated on its northern side by **12011**, which had an internal diameter of around 5.5m and a large entranceway on its south side. The south-eastern side of ring gully **12128** was truncated by sub-rectangular ring gully **12127**, which had an internal diameter of 8m and an entranceway to the south-east.
- 4.26.11 All these ring gullies contained internal pits and postholes, the most substantial of which were within ring gully **12127**. The pits here contained assemblages of briquetage. The ring gullies themselves also contained briquetage (Plate 32). In all, 13.138kg of briquetage was recovered from these features, including sherds from brine boiling pans, pedestals, clips, wedges, stands and oven superstructure. This corroborates the inference that activity on this site was related to salt production.

Assessment of finds

- 4.26.12 The finds assemblage was dominated by pottery and briquetage with only a few artefacts formed from other materials recovered.
- 4.26.13 The pottery assemblage was the largest recovered during the archaeological works. The majority of the assemblage is 3rd to 4th century in date, with lesser amounts of 1st to 2nd century and 1st to 4th century. A total of 13 sherds of residual later Iron Age pottery were also collected from a number of features. The majority of the assemblage comprises sandy grey ware forms, but a good sized collection of fine wares is also seen (Appendix B.1).
- 4.26.14 A total of 13.138kg of briquetage was collected from the site. The assemblage includes rim and body sherds from ceramic brine boiling containers, a small number of support fragments, including pedestals and pieces from possible slabs or platforms and structural pieces from the walls, superstructure and flue lining of a salting oven (Appendix B.9).

Assessment of environmental material

- 4.26.15 The animal bone is the largest assemblage both by weight and number of fragments recovered. The species distribution is also the most diverse of all the assemblages, consisting of the main domesticates, as well as commensal and wild fauna. It is dominated by cattle remains along with a smaller, almost equal number of sheep/goat, horse and dog remains. Red deer antler was recovered from two separate contexts, along with a complete otter skeleton from context 12389 of pit **12199** (Appendix C.4).
- 4.26.16 A total of 23 bulk soil samples were taken from site. Many of the samples were rich in finds but the recovery of charred plant remains is low, with only small quantities of barley, vetch, rushes and sedges being seen (Appendix C.4).

4.27 Site Z2

Introduction

- 4.27.1 Site Z2 was situated to the immediate south-east of Sibsey (Fig. 42), on the south side of Station Road and approximately 200m south of area S10. The c.0.16ha site was 11m east/west and 162m north/south.
- 4.27.2 There is no site specific HER data, however, the site lies in close proximity to S10 and it is possible that the Roman/medieval remains on the north side of the railway continued into this area. The geophysical survey identified a linear feature along with modern disturbances. Fieldwalking produced low levels of Roman and medieval pottery. The evaluation (Trenches 198 & 207) uncovered a series of east-west ditches and gullies. The greatest feature density was recorded near the road, becoming more sparse to the south.
- 4.27.3 The archive of the primary data collected from Z2 is collated below. Full context and feature descriptions can be found in Appendix A.25.

| <i>Stratigraphic</i> | | | <i>Artefactual and environmental</i> | | |
|----------------------|-----|----------------|--------------------------------------|--|-------|
| Context registers | 4 | SF register | 1 | Pottery (kg) | 1.608 |
| Context numbers | 111 | Plans | 35 | Animal bone (kg) | 1.009 |
| Plan registers | 1 | Sections | 36 | Worked flint (kg) | 0.235 |
| Section registers | 1 | Digital photos | 72 | Metal finds (no.) | 1 |
| Sample registers | 2 | | | Bulk samples taken (10L tubs/contexts) | 16/8 |

Table 27: Summary of Z2 archive

Assessment of the stratigraphy

- 4.27.4 Across the site, natural deposits consisting of pale orange silty clay were encountered 0.55m below modern ground level, which lay at c.2.5m OD. The topsoil consisted of a mid brown clay silt, 0.3m in thickness. The subsoil was a 0.25m thick mid yellow brown silty clay.

Period 0: undated

- 4.27.5 Three small undated pits were seen toward across the site.

Period 3.3: Latest Iron Age/Early Roman

- 4.27.6 A single pit (Plate 33) and series of ditches/gullies on two alignments were seen to be of this date. The linear features ran in either a north-north-east to south-south-west direction or west-north-west to south-south-east direction.
- 4.27.7 Toward the northern end of site was an annular sub-rectangular structure (**12562**). This feature was formed by a continuous shallow gully that had internal dimensions of approximately 2.5m by 3m and was orientated north-south. Similar structures seen on archaeological sites across Lincolnshire and Cambridgeshire identify it as a possible hayrick.

Period 4: Roman

- 4.27.8 The majority of the features seen on site were of a Roman date. These consisted of a series of ditches on two separate alignments. The alignments were the same as those seen in Period 3.3, but the ditches themselves were more substantial in size (Fig. 43, S.10218 and S.10230).

- 4.27.9 At the northern limit of site was ditch **12521** (Fig. 43, S.10219). This substantial ditch had a distinctive shape in plan, widening at its terminus, which might indicate that it was turning at this point. Feature **12548** (Plate 34), positioned along the eastern limit of site, is of unknown function. It was 6m long, 2.5m wide and 0.8m deep with a concave 'W' shaped base. Potentially this feature could be some sort of holding tank.

Period 5: medieval

- 4.27.10 A small group of medieval features were seen at the northern end of site, these included a west-north-west to east-south-east aligned ditch, three pits/postholes and a large square quarry pit (**12505**).

Period 6: post-medieval

- 4.27.11 A total of 10 east-west aligned furrows were also seen on the site.

Assessment of finds

- 4.27.12 The pottery assemblage, although small, was still the best represented finds type from the site. Most of the pottery recovered from this site is latest Iron Age to Romano-British in date, although a few sherds of Post-Roman pottery were also found. Most of the assemblage consists of sand and grog tempered fragments (Appendix B.1).

Assessment of environmental material

- 4.27.13 The identifiable animal bone assemblage is made up of roughly equal numbers of cattle, sheep, pig and horse remains (Appendix C.2).
- 4.27.14 Eight bulk samples were taken from the site. Charred plant remains are sparse with only occasional prehistoric wheat and barley grains occurring in the ditch samples. Pit fills were devoid of charred plant remains other than sparse charcoal (Appendix C.4).

4.28 Site T2

Introduction

- 4.28.1 Site T2 was located at the southernmost extent of the pipeline corridor, next to the Wainfleet Road on the periphery of Boston (Fig. 44). It was c.0.14ha in area, measuring 13m east/west and 107m north/south.
- 4.28.2 The only HER data pertaining to this area is for Wainfleet Road itself, which dates back to the 14th century. The geophysical survey identified a set of parallel ditches, possibly suggesting a trackway, and a ditched enclosure. The fieldwalking here only collected finds dating to the post-medieval period. The archaeological evaluation (Trenches 202 and 203) revealed a mix of Roman and medieval finds. Five ditches on four separate alignments were identified. A small highly abraded sherd of samian was collected from a large, probably post-medieval field boundary ditch, and several large sherds of medieval pottery were found in a smaller ditch.
- 4.28.3 The archive of the primary data collected from T2 is collated below. Full context and feature descriptions can be found in Appendix A.26.

| <i>Stratigraphic</i> | | | | <i>Artefactual and environmental</i> | |
|----------------------|-----|----------------------|----|--|-------|
| Context registers | 5 | Plans | 18 | Pottery (kg) | 0.459 |
| Context numbers | 111 | Sections | 16 | Animal bone (kg) | 0.624 |
| Plan registers | 1 | Digital photos | 44 | Baked clay (kg) | 0.470 |
| Section registers | 1 | Black and white film | 1 | CBM (kg) | 0.215 |
| Sample registers | 2 | | | Bulk samples taken (10L tubs/contexts) | 12/6 |

Table 28: Summary of T2 archive

Assessment of the stratigraphy

- 4.28.4 Across the site, natural deposits, which consisted of orangey yellow clay silts, were encountered 0.55m below modern ground level, which lay at c.2.1m OD. The topsoil was made up of a mid brown clay silt, 0.3m in thickness. The subsoil was a 0.25m thick mid orange brown clay silt.

Period 0: undated

- 4.28.5 A total of four pits in the central portion of site were devoid of datable evidence, however it is possible that they relate to a medieval ditched enclosure which ran between them. Three small ditches/gullies on two alignments were also undated.

Period 5.1: mid 11th to mid 12th century

- 4.28.6 Four ditches on two separate alignments were of this date. Enclosure **14006**, which ran north-north-west to south-south-east before turning onto an east-north-east to west-south-west alignment, contained a total of 19 sherds of mid 11th to mid 12th century. Two further north-north-west to south-south-east aligned ditches (both of which terminated within the excavation area) also contained mid 11th to mid 12th century pottery.

Period 5.2: mid 12th to 14th century

- 4.28.7 Two ditches running east-north-east to west-south-west (Fig. 44 S.10615) were identified as being of this period, they contained a total of 21 sherds of mid 12th to 14th century pottery. The more southerly of the two truncated enclosure **14006**.

Period 5.3: post 14th century

- 4.28.8 A total of five ditches, all aligned east-north-east to west-south-west, were seen traversing across site (Fig. 45, S.10608). Three of these ditches were substantial both in size and depth (Plate 35), whilst the other two were much smaller and shallower.
- 4.28.9 No datable finds were recovered from any of the five ditches, however they were all stratigraphically the latest features on site. It was also evident that one of the fills in each of these ditches contained a pure blue grey clay fill (Plate 36), implying a period of flooding across this site during the time that these ditches were open.

Assessment of finds

- 4.28.10 Fairly low levels of artefactual remains were recovered, with pottery, baked clay and animal bone forming the largest assemblages.
- 4.28.11 A total of 43 sherds of pottery (weighing 0.459kg) was collected. Seven sherds were of Roman origin, which included two sherds of highly abraded 2nd to 3rd century Central Gaulish samian. A single sherd of Late Saxon pottery was also recovered. The

remaining assemblage dated from the 11th to 19th centuries, with the majority of the assemblage (28 sherds) being of an 11th to 15th century date (Appendix B.3).

- 4.28.12 The baked clay assemblage was recovered from two contexts on the site. Three large pieces of daub with flattened exterior surfaces and wattle impressions on the underside were recovered. The remainder of the assemblage is unclassifiable (Appendix B.7).

Assessment of environmental remains

- A.1.2 The faunal remains consisted of large/medium mammals with cattle, horse and sheep/goat all represented (Appendix C.2).
- A.1.3 A total of six bulk soil samples were taken from features. The most productive sample is from a burnt three throw and contains abundant charred wheat grains that have a compact morphology suggesting that they are a bread wheat variety. This sample is suitable for further analysis (Appendix C.4).

5 FACTUAL DATA AND ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

5.1 Stratigraphic and Structural Data

The Excavation Record

5.1.1 All hand written records have been collated and checked for internal consistency, and the site records have been transcribed onto an MS Access Database. The archive of primary data for each excavation site has been laid out previously in the results section for each site (see Section 4). Total quantities of records for both the evaluation and excavation phases of work are laid out in Table 29.

| <i>Type</i> | <i>Quantity (exc)</i> | <i>Quantity (eval)</i> | <i>Total</i> |
|----------------------|-----------------------|------------------------|--------------|
| Context registers | 142 | 30 | 172 |
| Context numbers | 3426 | 712 | 4138 |
| Plan registers | 32 | 0 | 32 |
| Section registers | 35 | 18 | 53 |
| Sample registers | 78 | 19 | 97 |
| SF registers | 12 | 1 | 13 |
| Plans | 675 | 100 | 775 |
| Sections | 781 | 61 | 842 |
| Black and white film | 47 | 14 | 61 |
| Digital photographs | 2003 | 862 | 2865 |

Table 29: Quantification of fieldwork records

Finds and Environmental Quantification

5.1.2 All finds have been washed, quantified and bagged or boxed. Total quantities of the main finds categories per period are listed below. The totals refer to the quantities of a given material in all features assigned to a specific period, including residual and intrusive material.

| <i>Period</i> | <i>Pottery (kg)</i> | <i>Animal bone (kg)</i> | <i>Struck flint (kg)</i> | <i>Baked clay/CBM /briquetage (kg)</i> |
|-------------------------|---------------------|-------------------------|--------------------------|--|
| Neolithic to Bronze Age | 3.297 | 0.079 | 18.944 | 19.544 |
| Iron Age | 15.296 | 18.848 | 0.092 | 1.040 |
| Roman | 103.984 | 76.635 | 0.540 | 15.161 |
| Medieval | 1.394 | 0.624 | - | 0.967 |
| Total | 123.971 | 96.186 | 19.576 | 36.712 |

Table 30: Quantification of finds by period

5.1.3 Environmental bulk samples were collected from a representative cross section of feature types and locations. Bulk samples were taken to analyse the preservation of micro- and macro-botanical remains. The samples taken during both phases of work are summarised by feature type in Table 31 and by period in Table 32.

| <i>Sample type</i> | <i>Ditch</i> | <i>Pit</i> | <i>Posthole</i> | <i>Tree throw</i> | <i>Burial</i> | <i>Other</i> | <i>Total</i> |
|--------------------|--------------|------------|-----------------|-------------------|---------------|--------------|--------------|
| Flotation | 108 | 74 | 30 | 95 | 48 | 34 | 389 |
| Pollen | | | | | | 1 | 1 |

Table 31: Quantification of samples by feature type

| Sample type | Meso/Neo | Bronze Age | Iron Age | Roman | Medieval | Undated | Total |
|--------------------|-----------------|-------------------|-----------------|--------------|-----------------|----------------|--------------|
| Flotation | 100 | 19 | 91 | 143 | 6 | 24 | 389 |
| Pollen | | 1 | | | | | 1 |

Table 32: Quantification of samples by period

Range and Variety

- 5.1.4 Features across the sites included ditches, pits, wells, postholes, gullies, midden spreads, inhumation burials, cremations and tree throws. The ditches were mainly boundary or enclosure ditches of varying sizes. Large pits with organic/waterlogged primary fills were interpreted as wells. There were a number of structures on several of the sites, including Iron Age post-built structures, Mid-Late Iron Age ring gullies and Roman ring gullies.

Condition

- 5.1.5 Preservation of features was good across the excavation areas, although it is difficult to determine the level to which features have been truncated. The only site where truncation was noticeable was at Site Y1 where the features and midden spread identified during the 1993 excavations had been completely ploughed away. The thin cover of topsoil, minimal subsoil and soft sand natural, along with modern ploughing, can be considered to be the cause. Further truncation as a result of medieval ridge and furrow was evident in 15 of the 27 excavation areas.

5.2 Radiocarbon dating

- 5.2.1 During the archaeological works a number of features were identified as having the potential for more close dating via radiocarbon dating. The below table highlights the features considered to have the highest potential.

| Site | Fill number | Cut number | Feature type |
|-------------|--------------------|-------------------|---------------------|
| A2 | 2085 and 2110 | 2083 | Bustum burial |
| D5 | 6612 | 6611 | Burial |
| D6 | 7047 | 7046 | Burnt posthole |
| H1 | 4011 | 4001 | Large burnt pit |
| J2 | 4724 | 4723 | Burial |
| J2 | 4726 | 4734 | Burial |
| W1b | 9302 | 9022 | Tree throw |
| W1b | 9339 | 9083 | Tree throw |
| W1b | 9366 | 9073 | Tree throw |
| N2 | 10025 | 10027 | Pit |
| Y1 | 11002 | 10003 | Ditch |
| Y1 | 11014 | 11013 | Ditch |
| Q1 | 730 | 729 | Burial |
| Q1 | 13502 | 13504 | Burial |

Table 33: Suggested radiocarbon samples

6 RESEARCH AIMS AND OBJECTIVES

6.1.1 The research aims and objectives for the project are based on those in *The Archaeology of the East Midlands: an archaeological resource assessment and research agenda* (Cooper 2006) and *East Midlands Heritage: an updated research agenda and strategy for the historic environment of the East Midlands* (Knight *et al.* 2012). The relevant sections from these are noted in italics below, followed by a brief discussion as to how the results of the fieldwork from the Covenham to Boston pipeline can contribute to the debate on the specific research themes and objectives.

6.2 General

'Travelling exhibitions of recent research work should be encouraged, enhancing the dissemination of knowledge'.

6.2.1 As a result of the length of the pipeline route – some 60km – the most immediate way to disseminate the findings of the archaeological works would be to give talks in towns and villages along the route of the pipeline. This would ensure that as many people as possible learned about the works.

'Synthesis at a regional scale of the results of fieldwalking surveys. Recommended as a means of highlighting intra-regional contrasts in the spatial distribution of artefacts'.

6.2.2 Prior to the archaeological works, an extensive scheme of fieldwalking was undertaken along the pipeline. Approximately 35km of the easement (totalling c.105 hectares in area) and six compound/lagoon areas (approximately a further four hectares) were systematically fieldwalked and the findings documented. The results of the fieldwalking survey gave an insight into the areas of potential archaeological significance across the varying landscapes. It is advisable that this information be incorporated with any other fieldwalking surveys carried out within Lincolnshire, as was done during the Fenland Project (Lane 1993).

6.3 Environmental

'Can we clarify the range of new crops, regional variations in the introduction of species, the relative importance of cultivated and gathered food and changes in diet'.

6.3.1 Environmental samples taken during all phases of work have provided a wealth of information. This will enable detailed environmental analysis to be undertaken of a wide range of activity sites, of varying archaeological dates and across a variety of landscapes. Furthermore, it will also be possible to make comparisons between contemporary samples from different landscapes in order to identify noticeable traits/differences in character. Environmental remains as evidence for cultivated soils are seen on all the earlier prehistoric sites (namely W1a, W1b and W4). There are two findings of note from the environmental results. Firstly, the recovery of stinking mayweed from the Mesolithic/Neolithic tree throw on Site W1b is interesting as this species is thought to be a Roman introduction and thus would not be expected in samples of a Neolithic date. Secondly, the environmental results from the Middle Bronze Age midden spread at Site Y1 showed rare preserved plant remains: this is unusual for a deposit directly related to settlement activity.

6.4 Late Mesolithic to Early Neolithic

'How can we elucidate further the transition from the later Mesolithic to the earlier Neolithic'

- 6.4.1 There are very few excavated sites belonging to the Late Mesolithic and Early Neolithic periods and most information, predominantly relating to the Mesolithic, is derived from surface collections. There is therefore a distinct need for detailed typological and metrical analysis of lithic assemblages in order to understand any technological changes between the two periods. It has also been noted that Late Mesolithic and Early Neolithic sites are commonly found within the same geographical locations. With these points in mind the typological and technological analysis of the assemblages from Sites W1a, W1b and W4 (all located within 150m of each other) has the potential to contribute to several research objectives.

'How far can we elucidate by targeted excavation the character of sites represented by surface lithic scatters'

- 6.4.2 Systematic fieldwalking of the pipeline easement prior to any invasive works identified a number of flint scatters, the most notable of which were in Fields N3 and W4. Field N3 produced a total of 17 struck flints (consisting of three cores, eight flakes, four chunks and two chips), whilst Field W4 produced 64 flints (five retouched, four cores, 18 flakes, 28 chips and one burnt). Both these assemblages included Early Neolithic elements (small blades and cores) alongside later Neolithic/Early Bronze Age pieces (short, fat flakes and thumbnail scrapers). Archaeological trenching and open area excavation in these locations identified archaeological features of contemporary and later date, including Neolithic tree throws containing flint debitage and in one case (on Site N3) an associated assemblage of Early Neolithic pottery.

'What light may further site-based studies of lithic reduction sequences shed upon spatial and temporal variations in the organisation of lithic production and changes in lithic technology'

- 6.4.3 The systematic excavation of the large tree throw on site W1b produced an assemblage of 6759 struck flints. It was apparent that at least two discrete reduction technologies were present within the assemblage. These related to the knapping of two distinct types of raw materials: a fine grained translucent/semi opaque flint, generally grey/brown in colour and utilised in the production of a narrow blade microlith technology; and a coarse grained opaque flint, whitish grey in colour, principally worked for biface manufacture. It is likely that they represent two distinctive episodes of stone working and occupation activity associated with or near to the tree throw. These two, clear types of raw material may also aid in the provenancing of raw lithic materials and thus help in identifying patterns of mobility. However, the presence of one microlith made from the same raw material as the biface reduction sequence implies that the struck lithic assemblage could also represent a transitional site and this should be considered during further work on the material. Detailed typological and metrical analysis of this lithic assemblage has the potential to aid in the understanding of lithic technological changes between the Late Mesolithic and Early Neolithic periods.

6.5 Neolithic and Early to Middle Bronze Age

'Can we obtain a clearer understanding of temporal and spatial variability in the duration of settlement activity'

- 6.5.1 Of the 27 sites excavated, only six contained activity relating to multi-period use (namely H1, J2, W1b, W4, N2 and N3). The greatest longevity was identifiable at Sites N2 and N3, where continuous activity from the Early Neolithic through to the Iron Age was seen. These two sites were situated just 170m apart and it is quite likely that they were part of the same settlement. Relatively large assemblages of lithic material and pottery were recovered from both. With regards the flint assemblage, the presence of struck lithics that displayed late prehistoric technological traits alongside Mesolithic/Neolithic stone working traditions, could be invaluable in helping to understand the nature of settlement at the site.

'Further refine our knowledge of the selective use of particular landscapes for ritual, agriculture and other activities'

- 6.5.2 The pipeline travels through a varied landscape, beginning in an area of flat arable farmland before moving through the Lincolnshire Wolds, then toward the fen edge and on into the peaty fenland itself. The investigation of this changing landscape offers great potential for understanding the effect of topography on activity. Neolithic and Bronze Age activity was only identified in the central portion of the pipeline route, where the route moves from the Wolds into the fen edge (on Sites J2, W1a, W1b, W4, N2, N3 and Y1). Of these sites, the midden spread at Site Y1 was the most notable evidence for Middle Bronze Age settlement in the immediate environs.

'When did the first field and boundary systems develop, how did this vary regionally and what processes may underlie their development'

- 6.5.3 The formation of coherent field systems is first noted in the Middle Bronze Age period. Due to the great distance and varied terrains covered by the pipeline easement, there is potential to discuss any regional variations within these field and boundary systems. Bronze Age activity was identified on seven of the excavated sites (H1, W1a, W1b, W4, N2, N3 and Y1), with field and boundary systems seen across four of them (H1, W1a, N3 and Y1). The earlier features identified on these sites could aid in interpreting the origins of these field systems and how they developed. Associated Bronze Age features can also aid in understanding their development.

'Rock art'

- 6.5.4 There are no specific research aims relating to rock art. However, the findings at Site W4 are undoubtedly important. The Research Framework only makes reference to cup and ring marks. Rock art has been identified in Derbyshire, Leicestershire (the adjacent counties to Lincolnshire) and Northumberland. A site in Lockington, Leicestershire revealed a carved stone positioned within a ring ditch which may have been used as a marker. It may be possible to draw some parallels between this site and the stone at Site W4. Carved stones are associated with ceremonial and burial monuments, thus the stone found here may aid in the study of regional decorative styles of rock art and potentially address the variations in character of funerary practise. How this carved stone, of probable Neolithic date, became part of an Iron Age enclosure is a question which requires further research to see if any parallels across the country can be found.

6.6 Iron Age and Roman

'Why did large nucleated settlements emerge during the Late Iron Age in areas such as Lincolnshire and Northamptonshire, and can we clarify further their character, functions and how they related to one another and to other settlements of the period'

6.6.1 The vast majority of the archaeology seen along the pipeline was of a Late Iron Age/Early Roman date. As a result, there is the potential for much to be learnt about the origins and development of these settlements. On sites such as D3 to D6, which were all exclusively Mid to Late Iron Age in date, characteristic settlement patterns were observed. These four sites were only a few hundred metres apart, and an attempt should be made to determine whether they represented small, nucleated settlements or elements of a single, very large settlement with segregated activity areas. A further nucleated settlement was seen at Site H1 where features associated with occupation, such as ring gullies, were seen within a large defensive enclosure.

'Excavations are needed to examine the full range of activities at salterns and settlements within the Lincolnshire Fens'

6.6.2 Excavations at Site S10, on the periphery of Sibsey, have revealed evidence for salt production. During this period, Sibsey would have been much closer to the sea, with brackish water from the marsh extremely close by. Holding tanks and ditches, potentially bringing brackish water to the site, were seen along with briquetage associated with the salt-making process. This is likely to have been a small scale salt-making site, but it needs to be compared with similar sites within the Fenland area, such as at Morton, Wrangle, Langtoft and Market Deeping.

'How did field and boundary systems relate to earlier systems of land allotment, and how did these boundary networks develop over time?'

6.6.3 The large number of Iron Age and Roman sites excavated should elucidate some of the reasons behind the relative longevity of some of the sites, in contrast to the brevity of others. Examples of the former include the archaeological landscape identified at Brinkhill, where evidence of Iron Age and Roman land use was recorded. Also, the three Middle Iron Age ring gullies identified via the geophysical survey at Site V3, which lay on the periphery of an extensive area of complex archaeology. The evaluation here identified the features as Roman, suggesting that a nascent, relatively small Iron Age settlement was expanded and further settled into the Roman period.

'What patterns can be discerned in the location of settlements in the landscape?'

6.6.4 These archaeological works are the largest single piece of work to be carried out in Lincolnshire. The pipe route travels over an expanse of varied terrain (including flat arable farmland, the Lincolnshire Wolds, the fen edge and Fenland landscape), providing adequate scope for an in depth discussion of this landscape. The reasons behind periodic changes in preference for different aspects of this landscape is a subject that needs to be addressed. For example, it is worthy of note that the multi-period sites excavated during these works were all located on ground between 30m and 60m OD, while single period sites were seen at a height of between 2m and 20m OD.

'Investigate how landscapes and rural settlements have varied between the upland and lowland zones'.

- 6.6.5 Again, due to the varied landscapes covered by the pipeline easement, interpretation of variations between upland and lowland zones is possible. The lowland is seen at the northern and southern portions of the pipeline. Broadly, these areas were utilised by the Iron Age and Roman populations, settling upon the clay natural and utilising the nearby fenland. The upland zones contain a sand natural, settled on and worked throughout the Neolithic to Late Bronze Age.

7 METHODS STATEMENTS FOR ANALYSIS

7.1 Stratigraphic Analysis

- 7.1.1 Context, finds and environmental data will be analysed using an MS Access database. The specialist information will be integrated to aid dating and complete more detailed phasing of the site.

7.2 Illustration

- 7.2.1 All site plans and selected sections will be digitised using QGIS and report and publication figures will be created in Adobe Illustrator. Finds recommended for illustration will be drawn by hand, or photographed as appropriate.

7.3 Documentary Research

- 7.3.1 Primary and published sources will be consulted using the Lincolnshire Historic Environment Record, aerial photographs and comparable sites locally and nationally.

7.4 Artefactual Analysis

Earlier Prehistoric Pottery

- 7.4.1 The Earlier Neolithic Plain Bowl ware sherds from Site N2 and the Middle Bronze Age sherds from Site N3, which compare well with domestic Deverel-Rimbury vessels found at Billingborough (Chowne *et al.* 2001), should all be drawn. The 24 sherds of Beaker from Site W4 should also be drawn. Clarification of fabric types between the Sites N2 and N3 should be carried out to see if they were in fact part of one large settlement. Further investigation needs to be undertaken into the pottery and associated baked clay assemblage from feature **10027** at Site N2. Comparisons between the contemporary pottery from different sites (such as N3 and Y1) should be carried out in order to draw conclusions about the spread of local wares and the possibility of exchange between settlements.
- 7.4.2 The Middle Bronze Age assemblage is of interest. Knight, in his 2002 discussion of first millennium pottery of the region between the Humber and Nene rivers, notes that the pottery does not conform to the classic Deverel-Rimbury style of southern Britain but comprises bucket and barrel-shaped vessels in grog-tempered fabrics, often plain or sparsely decorated (2002, 123). These vessels have been found in both domestic and funerary contexts and date to the latter half of the second millennium BC. The pottery found on sites N3 and Y1 appear to be of this tradition.

Iron Age and Roman Pottery

- 7.4.3 The assessment catalogue will be reviewed and integrated with the site data. Where material has been identified as important to the interpretation of Sites it will be studied in more detail. Relevant sherds will be selected for illustration; priority will be given to material that has not been published elsewhere.
- 7.4.4 The fabrics and forms contained within the Late Iron Age and Romano-British assemblage are typical of this period and area. This pottery, therefore, makes a significant contribution to the growing corpus of data excavated and recorded to a high level across Lincolnshire. The pottery needs to be analysed in its site specific, local and regional context. The assemblages from contemporary sites in geographically different locations will be compared to assess whether the local wares are the same.

- 7.4.5 The cremation vessel from Trench 119 has a hole deliberately punched through its base. The vessel looks to be copying a Crambeck form (Tyers 1996, fig 235, no. 3), if so, this would be later Roman. Further analysis of this vessel is also recommended.

Post-Roman Pottery

- 7.4.6 The assessment catalogue will be reviewed and integrated with the site data. The bulk of the post-Roman pottery assemblage came from Site T2, with a smaller assemblage seen from Site U3. Overall, this is a small but potentially important group of post-Roman pottery as groups of pottery pre-dating the 13th century in this area are critical to the understanding of early Boston and its environs.
- 7.4.7 The ceramic assemblage recovered suggests that there are possible peaks of activity in the Late Saxon, Saxo-Norman, medieval and late medieval periods. Before the late 10th century the pottery from Boston's hinterland (especially from Kirton and Old Leake) suggests a close link with Lincoln, where the sequence is well understood. Somewhere between the late 10th and early/mid 11th centuries the pottery supply to the area seems to change and wheel thrown shell-tempered wares similar to, but not identical to, both the Lincoln and St. Neots industries appear in assemblages. This assemblage should be retained for further study and comparisons be made with other sites of the same date.

Struck Flint

- 7.4.8 No comprehensive typological or metrical cataloguing of the material has yet been undertaken and this should be regarded as a priority, both for the purposes of archiving and to provide a tool for approaching the further analysis of this material. A selection of the assemblage should also be illustrated.
- 7.4.9 The diagnostic pieces within the assemblage from Site J2 indicate the presence of lithic technologies spanning the Mesolithic through to the Bronze Age. It is recommended that the blade debitage, the edge utilised blades and the obliquely blunted and notched blade form the focus of a comparative study in order to see if any further technological details can be derived and thereby clarify their techno/chronological character. The results of this analysis should then be published as a note in any forthcoming publication.
- 7.4.10 The bulk of the assemblage from Site N2 is likely to represent Mesolithic/Neolithic/Early Bronze Age stone working traditions and, given the Bronze Age and Iron Age date of the site, is therefore residual lithic material. Nevertheless, some of the assemblage shows technological characteristics reconcilable with late prehistoric reduction strategies and is probably associated with the occupation of the site 6. It is therefore recommended that the assemblage is rescanned in association with the site stratigraphic narrative and finds report/s in order to isolate the potential late prehistoric struck lithics. Full technological analysis will help to define the technological characteristics of the assemblage. This will not only benefit the interpretation of the site but provide a comparative data set for the future study of late prehistoric struck lithic assemblages from the region.
- 7.4.11 The main focus of the further analysis will be the large Late Mesolithic and Early Neolithic assemblage recovered from the tree throw at Site W1b. It seems reasonable to suggest that the assemblage is secure in terms of its stratigraphical associations. Full typological and metrical analysis of the assemblage will characterise the diagnostic tools and the technology of the assemblage and should also help to draw out differences in the use of the two types of raw material represented. Spatial analysis

should also be undertaken in order to clarify if any depositional patterning can be determined between the two main raw material types. This analysis may also help to define any spatial patterning to the different elements of each reduction strategy, which could also inform on the stratigraphical integrity of the lithic assemblage.

- 7.4.12 Refitting should also be undertaken, especially in relation to understanding the technological sequences employed in the biface reduction strategy. New technology comprising rectified photography and scanning computer software will be available in the near future and it is believed that elements of the assemblage would lend itself to this new approach to refitting analysis.
- 7.4.13 It is also recommended that microwear analysis is undertaken on the W1b assemblage. This will involve a pilot study on selected artefacts in order to assess the degree of edge preservation across the assemblage. If the results of the preliminary study prove effective then a further sample will be submitted for further detailed microwear study in order to understand the utilisation of modified and unmodified lithic pieces within the assemblage. The results of the technological, spatial, refitting and microwear analyses should then be presented in any forthcoming publication.

Metalworking Waste

- 7.4.14 Little needs to be done with the metalworking waste. XRF or SEM analysis should be carried out on crucible fragments to identify the metals being worked. Full description of the fabric and form of the crucible fragments should be undertaken.

Baked Clay

- 7.4.15 The assemblage needs to be integrated with the site data, noting presence of potential structures/hearths associated with particular daub or lining assemblages. A large fragment from a possible pyramidal loomweight, found in context 11041 from Site Y1, is of interest. The pottery from Y1 suggests a Middle Bronze Age date, however loomweights found on Middle Bronze Age sites are cylindrical rather than pyramidal, which is a form associated with Later Bronze Age and Early Iron Age occupation. It would be of use to obtain radiocarbon dating to confirm the chronology of this site. An illustrated report should also be prepared for inclusion into the publication.

Briquetage

- 7.4.16 The briquetage assemblage needs to be integrated with the site data, alongside being fully catalogued, including writing full fabric and form descriptions. Local and regional parallels should be sought, such as the assemblage from Morton (Lane & Morris, 2001). An illustrated report should also be prepared for inclusion into the proposed publication.

CBM

- 7.4.17 The assemblage needs to be integrated into the site data, noting presence of potential structures/hearths associated with particular daub or lining assemblages. No pieces require illustration.

Worked Stone

- 7.4.18 The artefacts need to be fully described for the publication report and the contexts of deposition of several be further investigated (most notably the processing slab from Site A2 and rotary quern halves from Site H1). The stone types used should also be placed in their local and regional context in order to determine whether they provide

any indications of high status that would add to our understanding of quern manufacture and supply in the region.

- 7.4.19 Five items are recommended for illustration: the processing slab (SF202) from Site A2, the two quern halves from Site H1, the hammerstone from Site Y1 and the processing tool from context 121 found during the Evaluation in Trench 14 (within Site D3).

Glass

- 7.4.20 Conservation needs to be carried out for the glass beads. Alongside this, archival catalogue entries should be completed and the bead illustrated for inclusion into the publication.

Worked Bone

- 7.4.21 Archival catalogue entries should be completed and the worked bone illustrated for inclusion into the publication.

Jet and Shale

- 7.4.22 Archival catalogue entries should be updated to incorporate any refinement available after cleaning, and completed. An illustrated report should be prepared for inclusion into the proposed publication.

Metalwork

- 7.4.23 In addition to the conservation, archival catalogue entries should be completed. An illustrated report should be prepared for inclusion into the publication, the findings from which should be incorporated into the main stratigraphic text.

7.5 Ecofactual Analysis

Human Skeletal Remains

- 7.5.1 Although the assemblage is small, collectively the human skeletal remains have great potential to contribute to current understanding of funerary practices, demography, physical attributes and the health of individuals during the Iron Age to Roman periods within a single landscape.
- 7.5.2 The skeletons from the J2 inhumation burials have high overall potential and the skeletons from Q1 have medium potential. Whilst all but neonate skeleton 4736 were highly fragmented, the surface condition of the remains was good, meaning that the bones can be examined fully for pathology. In addition, in the case of skeleton 4637 from J2, the bones of the skull and neck should be examined in detail to look for direct evidence of decapitation. For most of the skeletons there is potential for estimating age and sex, although in two of the slightly less complete Q1 skeletons, refining an age beyond 'adult' may not be possible. Whilst the high level of fragmentation in the Q1 skeletons precludes the estimation of stature, it will be possible to estimate stature for the J2 skeletons, with some reconstruction of long bones.
- 7.5.3 The cremation deposits from Site A2 were deemed to have high potential for further analysis. *Bustum* burial deposit 2083 from Site A2 has a huge overall weight, and the presence of numerous large, identifiable fragments means that biological parameters (i.e. sex and age) and lesions of pathology can be explored in detail. This is extremely important given that the initial assessment suggests that more than one individual may be present. The cremated bone recovered from ditch fill 2141 also has high potential for

full analysis, which is fortunate given that the nature of this deposit, that is, whether it originally formed part of the *bustum* burial, is unclear. Further analysis of both deposits may allow for their relationship, or otherwise, to be investigated. One of the key factors in interpreting cremation deposits is whether there is potential to explore the formation process *i.e.* the horizontal and vertical distribution of individual bone fragments (McKinley 2004b, 13). This will indeed be possible for both the *Bustum* burial and the urned burial from the Trench 119 (near Site V2), given that they were excavated in spits and/or by individual context and quadrant.

- 7.5.4 It is recommended that all of the human remains are fully analysed and a publication report compiled in accordance with national guidelines (Brickley and McKinley 2004; English Heritage and the Church of England 2005; English Heritage 2002). For the articulated skeletons, this would involve a formal inventory of each skeleton and, where possible, age, sex and stature estimation. In addition, non-metric traits will be scored as present, absent or not recordable, and any lesions of pathology (skeletal and dental), will be fully recorded, including differential diagnoses. Eight of the articulated skeletons had teeth surviving. In addition to the potential they have for exploring dental pathology, they also afford the potential for exploring the geographic origins and diets of the individuals by the application of isotope analysis.
- 7.5.5 Comparisons with other, contemporary sites will be key to the interpretation of these burials, placing the site into a regional and national context. *Bustum* burials are not a particularly frequent find in Britain (Philpott 1991, 49), so it is necessary to compare how *Bustum* burial 2083 compares with others found in the country.

Faunal Remains

- 7.5.6 A number of Middle Iron Age sites in Lincolnshire are available for comparison with those from the pipeline. These include Outgang Road (Albarella, 1997), Dragonby (Harman, 1996), Barholm (Harman, 1993) and Ingleborough (Baker, in press). The majority of faunal material by weight and NISP was recovered from Roman contexts. The larger sites can be usefully compared to others such as Dragonby (Harman, 1996) and Billingborough (Iles, 2001). The saltworking site at Sibsey (Site S10) can be compared to others at Morton Fen and Blackborough End (Albarella & Mulville, 2001). Regional reviews such as King (1984) and Maltby (1981), may also be of use in characterising the faunal material from the pipeline.
- 7.5.7 There is potential for further analysis of a number of sites, most notably A2, B4, D3, D5, J2 and especially S10. Full recording of these sites is recommended. Smaller assemblages with sufficient ageable epiphyses, adjacent to larger sites such as B3 and D4, should be recorded also, if the larger assemblages prove significant after analysis.

Molluscs

- 7.5.8 The mollusc assemblage has been fully analysed and recorded. No further investigation is necessary.

Environmental Remains

- 7.5.9 The extensive sampling strategy across the pipeline route has demonstrated that many of the features contain plant remains preserved by carbonisation. The initial assessment has highlighted 13 samples with the potential for further archaeobotanical study.

- 7.5.10 The environmental samples have provided evidence for the relationship between agricultural developments and settlement and social change. Charred plant remains provide evidence of domestic and agricultural activities, whereas waterlogged plant remains are more likely to represent plants growing in the immediate vicinity. Pollen originates from a wide area and is an indicator of the type of local landscape and the broader environment. This evidence needs to be studied in conjunction with other assemblages such as the faunal remains in order to ascertain the character of the local environment.
- 7.5.11 Further study of the selected environmental samples can be tied in with the sampling results from other sites in the region. The sample of most interest is from the Late Mesolithic/Early Neolithic tree throw at Site W1b, where charred seeds of stinking mayweed were collected. This is thought to be a Roman introduction and thus would not be expected in samples of a Neolithic date. Thus, it may be worth having some of the plant remains radiocarbon dated.

8 REPORT WRITING AND ARCHIVING

8.1 Report Writing

8.1.1 Tasks associated with report writing are to be decided following the production of the Post Excavation Assessment.

8.2 Storage and Curation

8.2.1 Excavated material and records will be deposited with, and curated by, Lincolnshire County Council in appropriate county stores under the Site Code CWTW11 and the county Accession number LCNCC:2011.102. A digital archive will be deposited with OA Library/ADS. LCC HET requires transfer of ownership prior to deposition (see Section 11). During analysis and report preparation, OA East will hold all material and reserves the right to send material for specialist analysis.

8.2.2 The archive will be prepared in accordance with current OA East guidelines, which are based on current national guidelines.

9 RESOURCES AND PROGRAMMING

9.1 Project Team Structure

| Name | Initials | Project Role | Establishment |
|--------------------|----------|------------------------|---------------|
| Louise Bush | LB | Project Officer/Author | OA East |
| Antony Dickson | AD | Lithics | OA North |
| Chris Faine | CMF | Faunal Remains | OA East |
| Rachel Fosberry | RF | Environmental Samples | OA East |
| Chris Howard-Davis | CHW | Small Finds | OA North |
| Alice Lyons | AL | Roman Pottery | OA East |
| Richard Mortimer | RM | Project Manager | OA East |
| Sarah Percival | SP | Prehistoric Pottery | OA East |
| Elizabeth Popescu | EP | Editor | OA East |
| Ruth Shaffrey | RS | Worked Stone | OA South |
| Helen Webb | HW | HSR | OA South |
| Jane Young | JY | Medieval Pottery | Freelance |
| TBC | | Rock Art | Freelance |
| TBC | | Illustrator | OA East |

Table 34: Project Team

9.2 Stages, Products and Tasks

9.2.1 Stages, products and tasks relating to stratigraphic analysis are to be decided following the production of the Post-Excavation Assessment, and following discussions with LCC HET and Mott MacDonald. This will be detailed in a separate Post-Excavation Analysis and Publication document. Tasks relating to specialist analysis are listed below with the approximate number of days required.

| Artefact/Ecofact | Initials | Task | No. of days |
|--------------------------------|-----------------|--|--------------------|
| Prehistoric pottery | SP | -Review catalogue and undertake further analysis -Integrate site data -Analyse pottery in its site specific and local, also -regional context -Review research aims -Write publication text -Select pottery for illustration and write catalogue -Edit and correct text and drawings -Recommend suitable assemblages for radiocarbon dating | 11 |
| Roman pottery | AL | -Review catalogue and undertake further analysis -Integrate site data -Analyse pottery in its site specific and local, also regional context -Review research aims -Write publication text -Select pottery for illustration and write catalogue -Edit and correct text and drawings | 15 |
| Medieval pottery | JY | -Review catalogue and undertake further analysis -Integrate site data -Analyse pottery in its site specific and local, also regional context -Review research aims -Write publication text | 1 |
| Lithics | AD | -Full catalogue -Full raw material, metrical, attribute and technological -analysis -Refitting exercises -Research and compilation of contemporary assemblages from the region -Write publication text | c.10 |
| Jet, glass and worked bone | CHD | -Complete archive catalogue -Research local and regional comparanda -Select items for illustration -Write publication text | 1 |
| Metalwork | CHD | -Copper alloy analysis -Ironwork analysis -Lead analysis -Silver analysis | 4 |
| Worked stone | RS | -Full catalogue -Write publication text -Research comparative material -Select items for illustration | 2.5 |
| Rock art | TBC | -Full raw material, metrical and technological analysis -Research of comparable material -Write publication text | 2 |
| Baked clay, CBM and briquetage | SP | -Full catalogue -Integrate site data noting presence of potential structures/hearths associated with particular daub or lining assemblages -Write publication text -Select objects for illustration | 3 |
| Metalworking debris | SP | -XRF or SEM analysis of crucible fragments to identify metals being worked -Write publication text | 1 |
| HSR | HW | -Analysis of 10 articulated skeletons -Analysis of 3 cremations -Sorting of cremation residues -Catalogue of skeletons/cremation deposits -Comparative site research -Full osteology and burial practice report -QA | 15 |

| | | | |
|-----------------------|-----|--|------|
| Faunal remains | CMF | -Full recording -Analysis -Write publication text | 11.5 |
| Environmental samples | RF | -Additional processing -Analysis -Tabulation and report | 10 |
| Illustration | TBC | -Illustrate selected artefacts -Produce publication figures | c.50 |

Table 35: Task list

APPENDIX A. PRODUCT DESCRIPTION

Product number: 1

Product title: Full report (analysis and publication)

Purpose of the Product: To analyse the Lincolnshire landscape and address the research aims and objectives stated in this report and to disseminate to the local community

Composition: Published report, in accordance with the relevant journal and EH guidelines

Derived from: Analysis of site records, specialist reports and data and background research

Format and Presentation: TBC

Allocated to: LB, RM

Quality criteria and method: Checked and edited by EP

Person responsible for quality assurance: EP

Person responsible for approval: EP

Planned completion date: 2015

Product number: 2

Product title: Archive completion

Purpose of the Product: To collate all elements of the physical and paper archive and deposit with the appropriate body

Composition: Paper records, artefacts, ecofacts

Derived from: Original site records, artefacts and ecofacts collected on site

Format and Presentation: Appropriately packaged

Allocated to: LB

Planned completion date: 2016

APPENDIX B. RISK LOG

Risk Number: 1

Description: Specialists unable to deliver analysis report due to over running work programmes/ill health/other problems

Probability: Medium

Impact: Variable

Countermeasures: OA has access to a large pool of specialist knowledge (internal and external) which can be used if necessary.

Estimated time/cost: Variable

Risk Number: 2

Description: non-delivery of full report due to field work pressures/management pressure on Co-authors

Probability: Medium

Impact: Medium – High

Countermeasures: Liaise with OA Management team

Estimated time/cost: Variable

APPENDIX C. BIBLIOGRAPHY

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- Lane, T. & Trimble, D. 2010 *Fluid Landscapes and Human Adaptation: Excavations on Prehistoric Sites on the Lincolnshire Fen Edge 1991-1994*. Lincolnshire Archaeology and Heritage Reports Series No. 9

APPENDIX D. OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

| | | | | |
|----------------------------|--|------------|-------------|------------|
| OASIS Number | oxfordar3-140628 | | | |
| Project Name | Covenham WTW to Boston Transfer: Post-excavation Assessment and Updated Project Design | | | |
| Project Dates (fieldwork) | Start | 01-02-2012 | Finish | 01-05-2013 |
| Previous Work (by OA East) | Yes | | Future Work | No |

Project Reference Codes

| | | | |
|-----------|-----------------|-----------------------|------------------|
| Site Code | CWTW11 | Planning App. No. | |
| HER No. | LCNCC: 2011.102 | Related HER/OASIS No. | oxfordar3-111680 |

Type of Project/Techniques Used

| | |
|--------|--|
| Prompt | Planning agreement (Section 106 or 52) |
|--------|--|

Please select all techniques used:

| | | |
|--|---|---|
| <input type="checkbox"/> Field Observation (periodic visits) | <input checked="" type="checkbox"/> Part Excavation | <input type="checkbox"/> Salvage Record |
| <input type="checkbox"/> Full Excavation (100%) | <input type="checkbox"/> Part Survey | <input type="checkbox"/> Systematic Field Walking |
| <input type="checkbox"/> Full Survey | <input type="checkbox"/> Recorded Observation | <input type="checkbox"/> Systematic Metal Detector Survey |
| <input type="checkbox"/> Geophysical Survey | <input type="checkbox"/> Remote Operated Vehicle Survey | <input type="checkbox"/> Test Pit Survey |
| <input type="checkbox"/> Open-Area Excavation | <input type="checkbox"/> Salvage Excavation | <input type="checkbox"/> Watching Brief |

Monument Types/Significant Finds & Their Periods

List feature types using the [NMR Monument Type Thesaurus](#) and significant finds using the [MDA Object type Thesaurus](#) together with their respective periods. If no features/finds were found, please state "none".

| Monument | Period | Object | Period |
|----------|--------------------------------|---------|--------------------------------|
| Ditch | Iron Age -800 to 43 | Pottery | Early Prehistoric -500k to -4k |
| Ditch | Roman 43 to 410 | Pottery | Roman 43 to 410 |
| Pit | Early Prehistoric -500k to -4k | Flint | Neolithic -4k to -2k |

Project Location

| | | | |
|------------|-----------------------------|---|----|
| County | Lincolnshire | Site Address (including postcode if possible) | |
| District | East Lindsey and Boston | Covenham St Mary (535300 395852) to Boston (535533 345072) | |
| Parish | N/A | | |
| HER | Lincolnshire County Council | | |
| Study Area | 60km | National Grid Reference | TF |

Project Originators

| | |
|---------------------------|------------------|
| Organisation | OA EAST |
| Project Brief Originator | N/A |
| Project Design Originator | N/A |
| Project Manager | Richard Mortimer |
| Supervisor | Louise Bush |

Project Archives

| Physical Archive | Digital Archive | Paper Archive |
|---------------------------|-----------------|---------------------------|
| Lincolnshire County Store | OA East | Lincolnshire County Store |
| CWTW11 | XLICBPEX | CWTW11 |

Archive Contents/Media

| | Physical Contents | Digital Contents | Paper Contents |
|---------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Animal Bones | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ceramics | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Environmental | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Glass | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Human Bones | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Industrial | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Leather | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Metal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Stratigraphic | | <input type="checkbox"/> | <input type="checkbox"/> |
| Survey | | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Textiles | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wood | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Worked Bone | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Worked Stone/Lithic | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| None | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Digital Media | Paper Media |
|---|---|
| <input checked="" type="checkbox"/> Database | <input type="checkbox"/> Aerial Photos |
| <input checked="" type="checkbox"/> GIS | <input checked="" type="checkbox"/> Context Sheet |
| <input checked="" type="checkbox"/> Geophysics | <input type="checkbox"/> Correspondence |
| <input checked="" type="checkbox"/> Images | <input type="checkbox"/> Diary |
| <input checked="" type="checkbox"/> Illustrations | <input checked="" type="checkbox"/> Drawing |
| <input type="checkbox"/> Moving Image | <input type="checkbox"/> Manuscript |
| <input type="checkbox"/> Spreadsheets | <input type="checkbox"/> Map |
| <input checked="" type="checkbox"/> Survey | <input type="checkbox"/> Matrices |
| <input checked="" type="checkbox"/> Text | <input type="checkbox"/> Microfilm |
| <input type="checkbox"/> Virtual Reality | <input type="checkbox"/> Misc. |
| | <input type="checkbox"/> Research/Notes |
| | <input checked="" type="checkbox"/> Photos |
| | <input checked="" type="checkbox"/> Plans |
| | <input checked="" type="checkbox"/> Report |
| | <input checked="" type="checkbox"/> Sections |
| | <input type="checkbox"/> Survey |

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