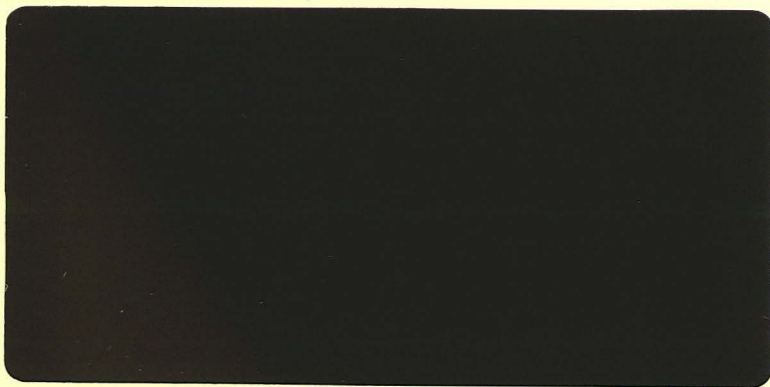


99/12

**ARCHAEOLOGICAL INVESTIGATION
OF LAND ADJACENT TO
MEADOW DROVE,
BOURNE,
LINCOLNSHIRE
(BMD97 and BMD98)**



A P S
ARCHAEOLOGICAL
PROJECT
SERVICES



11 22 JUL 09
ack 12/2/99

Lincolnshire County Council
Archives Dept

ARCHAEOLOGICAL INVESTIGATION
OF LAND ADJACENT TO
MEADOW DROVE,
BOURNE,
LINCOLNSHIRE
(BMD97 and BMD98)

Work Undertaken For
Anglian Water Services Ltd

Report compiled by
Paul Cope-Faulkner BA AIFA

June 1999

National Grid Reference: TF 1085 2121
~~TF 108 211~~
City and County Museum Accession No: 304.97

A.P.S. Report No: 48/99



EVIDENCE LI 3054 Geophysics
LI 3055 Fieldwalk
LI 3057 Test pits
+ LI 3060 Metal detect
LI 3061 Excavation
LI 3069 WB

SOURCES LI 7788
LI 7789

34114 Brenza Ave
30650 Iron Age LI 22880
30651 Undated LI 22881
30652 Medieval LI 22882
30653 Roman LI 22883

CONTENTS

List of Figures

List of Plates

1.	Summary	1
2.	Introduction	1
2.1	Definition of Archaeological Excavation	
2.2	Planning Background	1
2.3	Topography and Geology	1
2.4	Archaeological Setting	2
2.5	Chronology	3
3.	Aims	3
4.	Methods	3
5.	Results	4
5.1	Geophysical Survey Results	4
5.2	Evaluation Results	4
5.3	Excavation Results	4
6.	Discussion	5
7.	Assessment of Significance	8
8.	Effectiveness of Techniques	9
9.	Conclusions	9
10.	Acknowledgements	9
11.	Personnel	10
12.	Bibliography	10
13.	Abbreviations	11

Appendices

1	Specification for Archaeological Field Evaluation
2	Bourne Meadow Drove, Geophysical Survey <i>Engineering Archaeology Services</i>
3	Context Descriptions
4	The Prehistoric Pottery, <i>Carol Allen</i>
5	The Struck Flint, <i>Tom Lane</i>

- 6 Environmental Archaeology Report, *James Rackham*
7 Extract form *Criteria for the scheduling of ancient monuments*
8 The Archive
9 Glossary

List of Figures

- Figure 1 General Location Plan
Figure 2 Site Location Plan
Figure 3 Trench location Plan
Figure 4 Plan of pits and postholes
Figure 5 Pit sections
Figure 6 Posthole sections
Figure 7 Plan of the Middle Bronze Age ring ditch
Figure 8 Sections through the Middle Bronze Age ring ditch
Figure 9 Plan of the undated enclosure ditch
Figure 10 Section through the undated enclosure ditch
Figure 11 Prehistoric pottery
Figure 12 Prehistoric flints

List of Plates

- Plate 1 General view of the excavated area
Plate 2 The Early Bronze Age pit
Plate 3 The Middle Bronze Age ring ditch
Plate 4 The later Iron Age pit
Plate 5 Section through the undated enclosure ditch

1. SUMMARY

An archaeological investigation was undertaken on land adjacent to Meadow Drove, Bourne, Lincolnshire. This was in response to a proposal to insert a water pipeline across the site. Neolithic (4500-2250 BC) and Middle Bronze Age (1800-1000 BC) artefacts have previously been recovered from the field surface. Medieval (AD 1066-1500) ridge and furrow had also been noted as existing on the site.

In consequence, a geophysical, fieldwalking and test-pitting evaluation was carried out along the pipeline route. This was later supplemented by the excavation of the pipeline easement.

These investigations revealed a sequence of prehistoric remains. Early Bronze Age (2250-1800 BC) archaeology comprised a buried soil and a pit containing pottery fragments. A Middle Bronze Age ring ditch was partially revealed and lay within a large undated rectangular enclosure. Both the ring ditch and enclosure extended beyond the investigation area. No structural elements were found, although the pottery and animal bone suggests a settlement.

The use of the site effectively ceased until the later Iron Age (200 BC-AD 50), whereupon a pit indicates recommenced use of the site.

Finds recovered from the investigation include a quantity of pottery, including Early Bronze Age beaker and Collared Urns. Flints were also recovered and a number of animal bones of domestic and wild species retrieved.

2. INTRODUCTION

2.1 Definition of Archaeological Evaluation, Excavation and Watching Brief

Archaeological evaluation is defined as 'a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land. If such archaeological remains are present Field Evaluation defines their character and extent, quality and preservation, and it enables an assessment of their worth in a local, regional, national or international context as appropriate' (IFA 1997a).

Archaeological excavation is defined as 'a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the Project Design', (IFA 1997b, 1).

An archaeological watching brief is defined as 'a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons within a specified area or site on land, where there is a possibility that archaeological deposits may be disturbed or destroyed' (IFA 1997c).

2.2 Planning Background

Anglian Water notified the Lincolnshire County Council Archaeology Section of their intention to lay a pipeline across land

alongside Meadow Drove, Bourne, Lincolnshire. The Assistant County Archaeological Officer identified the area as archaeologically sensitive and recommended that investigations be carried out on part of the route in order to determine the archaeological implications of the proposed pipeline construction.

As a result, Archaeological Project Services was commissioned by Anglian Water Services Ltd to undertake an archaeological evaluation of land adjacent to Meadow Drove, Bourne, South Kesteven District, Lincolnshire. The archaeological evaluation was carried out in accordance with a specification designed by Archaeological Project Services and agreed by the Assistant Archaeology Officer of Lincolnshire County Council (Appendix 1).

Following the evaluation phase, excavation was carried out on 70m length of the pipeline route on the west side of Meadow Drove and north of Mill Drove. A watching brief was also maintained during pipe laying groundworks in the vicinity. No specification or brief was set for the excavation or watching brief.

2.3 Topography and Geology

Bourne is situated 26km south of Sleaford and 15km northeast of Stamford in South Kesteven District, Lincolnshire (Fig. 1).

The site under investigation is located alongside Meadow Drove, immediately north of Mill Drove, a distance of 1.6km northeast of Bourne town centre as defined by the Market Place. Situated at a height of 4m OD, the site is centred on National Grid Reference TF 1085 2118²¹ (Fig. 2).

The local topography describes a gentle, almost imperceptible, slope to the east and the relatively level fenland of south

Lincolnshire.

Local soils are the Badsey 2 Association, typically fine loamy soils (Hodge *et al.* 1984, 319). These are developed over fen gravels, which in turn overlie a solid geology of Jurassic clays, probably the Oxford Clay formation (GSGB 1964).

2.4 Archaeological Setting

Meadow Drove and Mill Drove, Bourne are located in an area of known archaeological remains of prehistoric and later date. The site lies on the fen edge, just beyond the limit of marine and freshwater flooding.

The earliest activity identified dates to the Late Neolithic period and is represented by flint artefacts found within the investigation area by the Fenland Survey (Hayes and Lane 1992, 130).

Middle and Late Bronze Age pottery was also retrieved by the Fenland Survey across the investigation area. This pottery was concentrated within an area of dark soil and a total of 93 sherds was collected (*ibid.*, Gazetteer). Quantities of fired clay, possibly representing a ploughed out hearth, and animal bone were also recorded.

Aerial photographs indicate a L-shaped ditch within the investigation area (Figs. 2 and 3) with an apparent entrance on the northwest side. The ditch is probably part of a much larger enclosure, the remainder probably obscured by present agricultural regimes and the two roads that form the south and east boundaries of the site.

Later prehistoric and subsequent Romano-British activity appears to have moved to the west where settlements of this period have been identified north of Mill Drove. Excavations have revealed a Middle Iron Age ditch overlain by Late Iron Age and

Romano-British settlement (Tipper and Field 1995, 1). Medieval activity in Bourne is concentrated towards the present town centre, 1.6km to the southwest. However, the investigation site lies within the medieval field systems of Bourne and traces of ridge and furrow have also been recorded from the site (Hayes and Lane 1992, 139).

2.5 Chronology

The following dates and periods apply to those used in the following texts.

<i>Period</i>	<i>Approximate date range</i>
Neolithic	4200-2250 BC
Early Bronze Age	2250-1850 BC
Middle Bronze Age	1850-1200 BC
Later Iron Age	100 BC- AD 50
Romano-British	AD50-410
Medieval	AD 1066-1500

3. AIMS

The aims of the initial evaluation, as detailed in the specification (Appendix 1), were to establish the presence or absence of archaeological deposits and determine, if present, their extent, state of preservation, date, type, vulnerability, documentation, quality of setting and amenity value. The purpose of this identification and assessment of deposits was to establish their significance, in order to facilitate recommendations for an appropriate mitigation strategy that could be integrated with any proposed development programme.

4. METHODS

Pre-excavation

A geophysical survey was carried out to establish the presence of buried

archaeological remains. This was carried out using a magnetometer over an area of 0.12ha along 10m transects.

Following the geophysical survey, fieldwalking was undertaken across the site. Individual finds were plotted using a Geodolite Total Station Theodolite (TST). At the same time samples of the topsoil were sieved for surviving artefacts. A metal detector survey was also employed to test for surviving metallic artefacts.

Excavation

The easement for the new pipeline was stripped by machine to the surface of undisturbed archaeological layers. Prior to cleaning a 10m grid was established across the excavation area.

Thereafter, features or deposits were cleaned and excavated by hand. Each archaeological deposit or feature revealed was allocated a unique reference number (context number) with an individual written description. A photographic record was compiled, sections were drawn at a scale of 1:20 and plans were surveyed by Geodolite. Recording of deposits encountered during the evaluation was undertaken according to standard *Archaeological Project Services* practice.

Environmental samples were taken at the discretion of the site supervisors and were taken in accordance with guidelines established by Murphy and Wiltshire (1994, 2).

Post-excavation

The site records were checked and ordered to ensure that they constituted a complete Level II archive and a stratigraphic matrix of all identified contexts was produced. A list of all contexts and interpretations appears as Appendix 3. Finds recovered from those deposits excavated were examined and a period date assigned where possible.

Phasing of the stratigraphic matrix was assigned based on artefact dating and the nature of the deposits and recognisable relationships between them.

5. RESULTS

5.1 Geophysical Survey Results

The whole of the proposed pipeline easement was scanned by magnetometer survey. No features were identified. Slight fluctuations relate to the underlying geology. A full report of the geophysical survey appears as Appendix 2 with diagrams.

5.2 Evaluation Results (BMD 97)

Fieldwalking and Test-Pitting Results

Surface visibility was poor to moderate and much of the investigation area was obscured by crop stubble. The fieldwalking recovered a large amount of post-medieval pottery. Small quantities of medieval and Romano-British pottery were also retrieved. Several flint fragments and two sherds of Beaker pottery were found. The position of these finds was plotted using a Geodolite TST. Distribution of the finds was assessed visually. There were no obvious patterns within the finds distribution, though there is more of a concentration of artefacts towards the southern extent of the site

Metal Detector Survey

Conditions were not ideal for metal detector survey and limited the effectiveness of the survey. Excluding tin cans, a total of eleven artefacts were recovered, all of which are believed to be 20th century in date and includes buttons, shotgun shell-cases and air gun pellets. Additionally, a single fragment of lead and three copper alloy fragments were retrieved. Although the survey conditions were poor, the discovery of small

items like air-gun pellets suggests that the survey was effective and there are no large prehistoric metallic objects in the ploughsoil.

5.3 Excavation Results

Following specialist analysis a total of six groups were recognised.

Group 1 -	Natural deposits
Group 2 -	Early Bronze Age deposits
Group 3 -	Middle Bronze Age deposits
Group 4 -	Later Iron Age deposits
Group 5 -	Undated deposits
Group 6 -	Modern deposits

Archaeological contexts are described below. The number in brackets are the context numbers assigned in the field.

Group 1 Natural deposits

The earliest deposit encountered was a brownish yellow silt containing occasional small angular stones (002). Identified as natural subsoil, this deposit is likely to have been formed through alluvial action.

Group 2 Early Bronze Age deposits

Located at the southern end of the investigation area and overlying the natural silts was an area of mottled grey silt (010) some 10m by 5m in extent. Containing charcoal in small quantities, this was interpreted as either an occupational layer or the possible remnants of a buried soil.

Cut through deposit (010) was a circular feature (053), measuring c. 1.1m in diameter and 0.4m deep. Two fills were recorded, a primary fill of grey silty clay (052) and a secondary fill of grey clayey silt (051). Two sherds of different collared urns were found and thus place the pit within the early part of the 2nd millennium BC.

Group 3 Middle Bronze Age deposits

Located towards the southern end of the investigation area was an oval feature (032) some 1.6m long by 1.2m wide. A single deposit of brown and red mottled clay containing Middle Bronze Age pottery (033) filled the feature and obscured a further cut (034). This second feature, possibly a posthole, had a diameter of 0.3m and was 0.35m deep and contained a black to dark brown humic silt (035). It was not possible to determine further the relationship between these two features.

Located partway along the pipeline easement were the remains of a ring ditch (049 and 054). Two sections were excavated through the ditch, the southernmost (Fig. 8, Section 6) revealing a homogenous fill of mottled grey, black and brown silty clay. The northern section (Fig. 8, Section 8) was more complex, containing dark brown and grey silty clays, some with pottery, (055, 056 and 058) with an intermittent deposit of brownish red gravel (057).

Group 4 Later Iron Age deposits

Cut through the Early Bronze Age deposit (010) was an oval feature (040) containing two fills, the upper of greyish brown clayey silt (038) and a primary fill of yellow brown silty clay 80mm thick (039). The pit was a maximum 0.9m both long and wide and was 0.35m deep. Nine sherds of later Iron Age pottery were recovered from this feature.

Group 5 Undated deposits

Located towards the north of the excavated area was an east-west linear cut (068) up to 3.8m wide and 1.7m deep. This ditch crossed the full width of the investigation area. Aerial photographs indicate an extension of the ditch to the west where after a short distance it turns south. Above a

primary fill of greyish brown silty clay with gravel (083) were 11 secondary deposits, ranging from grey silty clays (072, 074), brown silty clays (073, 076, 077, 078, 080, 082) to reddish brown silty clay with sand (075), grey clayey silt (079) and reddish brown silt and gravel (081). Identified as an enclosure ditch, there was no indication of an internal or external bank or evidence of recutting the ditch. Pottery was retrieved from the fill, but proved undatable due to its poor condition.

The remaining undated features comprise five postholes (041, 043, 061, 063 and 069) located evenly across the southern part of the site. No form or pattern can be discerned from the distribution of the postholes.

Group 6 Modern deposits

Although not necessarily modern, a number of naturally created features were also revealed during the investigation. Usually comprising irregular cuts, these features (036, 059 and 065) are thought to be formed through animal disturbance.

Located at the north end of the field examined were dumped spreads of brick (004) and brown silt (003) used for hardstanding at the access point to the field.

All deposits were sealed by a brown clayey silt topsoil (001) that measured 0.2m thick.

6. DISCUSSION

A natural deposit (Group 1) of silt with gravel is probably derived from alluvial activity and is identifiable with the so-called fen gravel, encompassing all the gravel types found in the Fens. It is probable that these relate to the First Terrace deposits and the high silt content can narrow this down further to the final stages of First Terrace

aggradation as described by Booth (1983, 8).

These First Terrace deposits have provided a focus for Bronze Age activity in the fenland and underlie the barrow cemetery at Crowland (Abbey Gravels), the barrow cemetery at Deeping St. James and the Billingborough settlement and late Devensian gravels form the focus for the recently excavated settlement and field systems at Welland Bank, Deeping St. James (*pers. comm.* M. Dymond).

As mentioned above, a number of Neolithic flints were retrieved from the site during the Fenland Survey. However, evidence for Neolithic activity proved scarce during the excavation and of the 43 struck flints, none are specifically Neolithic in date.

The Early Bronze Age (Group 2) features comprise a possible buried soil and a single pit that contained two sherds of a collared urn. Another collared urn sherd and a beaker sherd were also found during the investigation. This evidence can be regarded as quite significant as pottery and domestic features of this period do not survive well. Early Bronze Age features at Welland Bank also comprised shallow hollows set within a buried soil (*pers. comm.* D. Trimble).

A sample from the pit contained pottery, bone, charcoal, burnt flint, fired earth and charcoal. A single grain and two weed seeds were found, but were unidentifiable to species. No indication of crop processing was found (chaff, straw, quernstones, *etc.*) and it appears likely that cereals were brought in from elsewhere, as has been suggested for the complex site at Fengate, Peterborough (Pryor 1984, 206). Sheep/goat and cattle bones were found in higher numbers than other domestic animals, such as horse. The domestic economy was supplemented by wild species as represented by three aurochs (wild ox) bone fragments

and possibly the pig.

Features of the Middle Bronze Age (Group 3) comprised the ring ditch, a pit and a posthole. The ring ditch is one of the largest features identified during the investigation. As the pipeline easement only affected part of the ring ditch, a substantial portion of the feature still remains preserved beneath the adjacent field and unexcavated. Without further investigation it is impossible to determine if this was a barrow. No internal features were identified and no connection with a barrow could be ascertained.

If this ring ditch represents a barrow, it would probably have been constructed in the earlier Bronze Age and the Middle Bronze Age pottery retrieved from the ditch fill would indicate that the surrounding ditch was still open in the later 2nd millennium BC. The ring ditch has an estimated diameter of 11m (outside edge). Diameters of the barrow ditches from Deeping St. Nicholas indicate 26-30m as typical at that barrow cemetery although a single barrow had a diameter of 9m with a small cremation located off centre (Lane 1994, 10). The setting of this ring ditch may also be important. It has been noted that many Lincolnshire barrows are located on slightly higher land, often adjacent to the fenland (Chowne 1980, 303). Bronze Age funerary remains so situated are found at Washingborough, Walcott, Anwick as well as Deeping St. James, all in a similar locale to Meadow Drove.

Animal bones recovered from this phase indicate that cattle is more dominant than sheep/goat. Pig and horse are still present. Wild species include red deer and wild duck with a thrush sized bird, vole, water vole and frog/toad.

The Fenland Survey first identified this site and recorded Middle Bronze Age and Late

Bronze/Early Iron Age pottery from the site (Hayes and Lane 1992, 135). A ploughed out hearth and fired clay fragments, including daub were also noted. This firmly indicates a settlement, although this was not confirmed during the actual excavation of the site.

No material or features survive from the Late Bronze Age until the later Iron Age. An early 1st millennium BC marine inundation has been recorded at Billingborough (Chowne *et al.* forthcoming, 178) and freshwater flooding was occurring at Fengate at the same time (Pryor *et al.* 1985, 305). A lack of finds from this period has previously been commented upon with particular emphasis placed on the tools of bronze and iron being recycled and pottery having poor survival characteristics (*ibid.* 306).

A single pit of the Iron Age was located towards the southern end of the excavated area. This paucity of features would suggest that any settlement of this period lay further afield. Middle and Late Iron Age material has been recovered from excavations carried out 500m to the west. Similar pottery has also been recovered from the excavations at Billingborough (Appendix 4) where it has been placed in the 1st century BC.

Undated features include the enclosure ditch excavated in part towards the north end of the site, with cropmarks indicating its western and northern limits and defining its rectangular shape. Any trace of the east and south sides are probably masked by the modern roads. If this is the case, the ring ditch is located at the centre of the enclosure with the area of pits located to the south. The cropmarks show an entrance on the west side, presumably to provide access to the uplands rather than the lower lying fenland. Although pottery was recovered from its fills, it was in too poor a condition to date

the enclosure. However, the fact that the ring ditch is located centrally and the relative higher numbers of Middle Bronze Age features coupled with the results from the Fenland Survey may indicate a date of between 1850-1000 BC for the enclosure.

The area enclosed by this ditch (based on excavated and cropmark evidence) suggests an extent of approximately 0.4 hectares, which is almost twice the size of the Middle to Late Bronze Age enclosure at Billingborough (Chowne *et al.* forthcoming, 175).

A number of undated postholes were also identified. These form no coherent patterns that may indicate structures or internal boundaries within the enclosure.

Romano-British and medieval pottery was recovered from both fieldwalking and test-pitting of the site. As no features were assignable to this period, these finds are likely to represent nothing more than discarded rubbish incorporated into midden mounds and later spread on the land to improve fertility of the soil.

The local environment contemporary with phases of use of the site has not been determined due to insufficient environmental indicators recovered from the sieving of samples. Water vole and either frog or toad remains were retrieved from the samples and might indicate the proximity of water holding features, either man-made or natural. The presence of Red Deer and pig implies the existence of woodland not too far away

There is, in comparison to other excavated sites in Lincolnshire, a paucity of features within the enclosure ditch. It is considered probable that many features have been removed through recent agricultural activities. Medieval ridge and furrow has

been recorded from the site. Such a long history of ploughing has probably limited the potential survival of most shallow features. Thus, those features examined are likely to have been the deepest within the area. However, the presence of an Early Bronze Age soil contradicts this and may indicate localised soil survival.

7. ASSESSMENT OF SIGNIFICANCE

For assessment of significance the *Secretary of State's criteria for scheduling ancient monuments* has been used (DoE 1990, Annex 4; see appendix 5).

Period:

Deposits and features of the Bronze and Iron Ages were recorded during the excavation. The Bronze Age phase appears to be defined by a ring ditch and an undated enclosure. Ring ditches are characteristic of the Bronze Age though enclosures are not period specific and examples are known from the Bronze Age through to the medieval period.

Rarity:

Bronze Age sites are not particularly rare and a number of examples have been identified in Lincolnshire. However, few of these sites have been excavated or examined in detail.

Documentation:

Records of archaeological sites and finds made in the Bourne area are kept in the Lincolnshire County Sites and Monuments Record and in the relevant parish file of the South Kesteven District Community Archaeologist.

This area was reported upon during the Fenland Survey and the results of this survey have been published. This work represents the first site-specific report.

Group value:

Several archaeological features were identified and were identified as belonging to the Early and Middle Bronze Age and the later Iron Age. This cluster of differing periods indicates moderately high group value. This is enhanced by the proximity of the Late Iron Age site at Mill Drove to the west and the detailed survey of the fenland.

Survival/Condition:

Known agricultural activity at the site is likely to have had a detrimental effect on the overall survival of archaeological features.

Features recorded during the excavation survived in relatively good condition. Artefact survival was poor, although this is likely to be the result of pottery manufacture in those periods represented.

Fragility/Vulnerability:

As the pipeline will impact into natural deposits, all archaeological deposits are under threat. Continued modern agricultural activity is also likely to have a detrimental affect on any surviving archaeology.

Diversity:

Low functional diversity is indicated as few of the features could be assigned a purpose, apart from the enclosure ditch.

Moderate to high period diversity is indicated by the Early and Middle Bronze Age features and subsequent later Iron Age material.

Potential:

Potential for the presence and survival of further archaeological remains outside of the excavated area is considered high. No more than 25% of the enclosure was excavated as part of this work and known features (the ring ditch and enclosure ditch) survive to the west.

Although no waterlogged features were revealed during the site operations, water level was recorded at a height of 3.15m OD. The possibility exists of waterlogged deposits being present in deep features elsewhere within the enclosure.

8. EFFECTIVENESS OF TECHNIQUES

The strategy of using fieldwalking and open area excavation was, on the whole, effective. Geophysical survey produced relatively poor results, probably as a result of low magnetic variation recorded within the soil.

Open area excavation provided the most data regarding the site with a number of features recorded. However, functions of particular features could not be ascertained.

Environmental sampling also produced relatively poor results. However, this is characteristic of the period as deposits of this date often contain moderately low densities of environmental material.

9. CONCLUSIONS

Archaeological investigation on land at Meadow Drove, Bourne was carried out because a known site was to be affected by the insertion of a water pipeline.

Investigations revealed an undated section of an enclosure which defined the limits of Early and Middle Bronze Age and later Iron Age features. Early Bronze Age deposits comprise a pit and a buried soil. A Middle Bronze Age ring ditch was located centrally within the enclosure. The ring ditch remains were well preserved and extended westwards beyond the investigation area.

The site was apparently abandoned in the

later Bronze Age and earlier Iron Age, probably due to worsening climatic conditions as observed at similar sites in Lincolnshire and Cambridgeshire. A later Iron Age pit may be associated with a substantial settlement of the period to the west.

Environmental and economic factors were not forthcoming, although sheep/goat and cattle appear to have been the principal source of meat. This was probably supplemented by meat from hunted animals and imported cereal.

Agricultural activity is believed to have had a detrimental effect on the archaeological remains. However, there is potential for further features to survive in the western portion of the enclosure as indicated by the survival of the Early Bronze Age buried soil.

10. ACKNOWLEDGEMENTS

Archaeological Project Services would like to acknowledge the assistance of Camilo De Souza and John Self of Anglian Water Services Ltd for commissioning the fieldwork and post-excavation analysis. Access to the site to carry out the work was kindly provided by the landowner, Mr T. Pick and his tenant, Mr J. Myers, through Mr A. Smith of Connell Estate Agents of Bourne. The work was coordinated by Gary Taylor and this report was edited by Tom Lane. Jenny Stevens, the Community Archaeologist for South Kesteven District Council permitted examination of the relevant files. The metal detector survey was carried out by John Viner.

Comments on the recent excavations at Welland Bank were kindly given by Dale Trimble and Mark Dymond.

11. PERSONNEL

Project Coordinator:

Gary Taylor

Supervisors:

Neil Herbert and Jenny Young

Surveying:

Neil Herbert and Dale Trimble

Site Assistants:

Alex Brett, Toby Fox, Martin Griffiths, Edward Lewis, Ian McGregor, Rene Mouraille, Gary Taylor, Fiona Walker

Finds Processing:

Denise Buckley

Finds Illustration:

David Hopkins

Environmental Processing:

Edward Lewis

Illustration:

Paul Cope-Faulkner and Phil Mills

Post-excavation Analyst:

Paul Cope-Faulkner

12. BIBLIOGRAPHY

- Booth, S.J., 1983, *The sand and gravel resources of the country between Bourne and Crowland, Lincolnshire. Description of 1:25,000 sheet TF11 and parts of TF01 and TF21*. Mineral Assessment Report of the Institute of Geological Sciences No. **130**
- Chowne, P., 1980, 'Bronze Age Settlement in South Lincolnshire', in Barret, J. and Bradley, R. (eds), *Later Bronze Age, Part ii*, BAR British Series **83**
- Chowne, P., Cleal, R.M.J., Fitzpatrick, A.P. and Andrews, P., forthcoming, *Excavations at Billingborough, Lincolnshire, 1975-8; A Bronze-Iron Age Settlement and Salt-working Site*, East Anglian Archaeology
- DoE, 1990, *Archaeology and Planning, Planning Policy Guidance note 16*
- French, C.A.I., 1994, *Excavation of the Deeping St. Nicholas Barrow Complex, South Lincolnshire*, Lincolnshire Archaeology and Heritage Report Series No. **1**
- GSGB, 1964, *Bourne, Solid and Drift geology*, 1:63,360 map series Sheet **143**
- Hayes, P.P. and Lane, T.W., 1992, *The Fenland Project No. 5: Lincolnshire Survey, the southwest Fens*. East Anglian Archaeology **55**
- Hodge, C.A.H., Burton, R.G.O., Corbett, W.M., Evans, and Seale, R.S., 1984, *Soils and their Use in Eastern England*, Soil Survey of England and Wales **13**
- IFA, 1997a, *Standard and Guidance for Archaeological Field Evaluations*
- IFA, 1997b, *Standard and Guidance for Archaeological Excavations*
- IFA, 1997c, *Standard and Guidance for Archaeological Watching Briefs*
- Lane, T.W., 1994, 'The site in its setting and adjacent salvage excavations' in French, C.A.I., *Excavation of the Deeping St. Nicholas Barrow Complex, South Lincolnshire*, Lincolnshire Archaeology and Heritage Report Series No. **1**
- Murphy, P.L. and Wilshire, P.E.J., 1994, *A guide to sampling archaeological deposits for environmental analysis*, unpublished document

Pryor, F., 1984, *Excavation at Fengate, Peterborough, England: The Fourth Report*, Northamptonshire Archaeological Society Monograph 2/Royal Ontario Museum Archaeology Monograph 7

Pryor, F., French, C.A.I., Crowther, D., Gurney, D., Simpson, G. and Taylor, M., 1985, *The Fenland Project No. 1: Archaeology and Environment in the Lower Welland Valley Volume 2*, East Anglian Archaeology 27

Tipper, J. and Field, N., 1995, *Excavations of a Late Iron Age/Romano-British settlement at Mill Drove, Bourne*, Unpublished LAS report

13. ABBREVIATIONS

APS	Archaeological Project Services
BAR	British Archaeological Reports
DoE	Department of the Environment
IFA	Institute of Field Archaeologists
GSGB	Geological Survey of Great Britain
LAS	Lindsey Archaeological Services

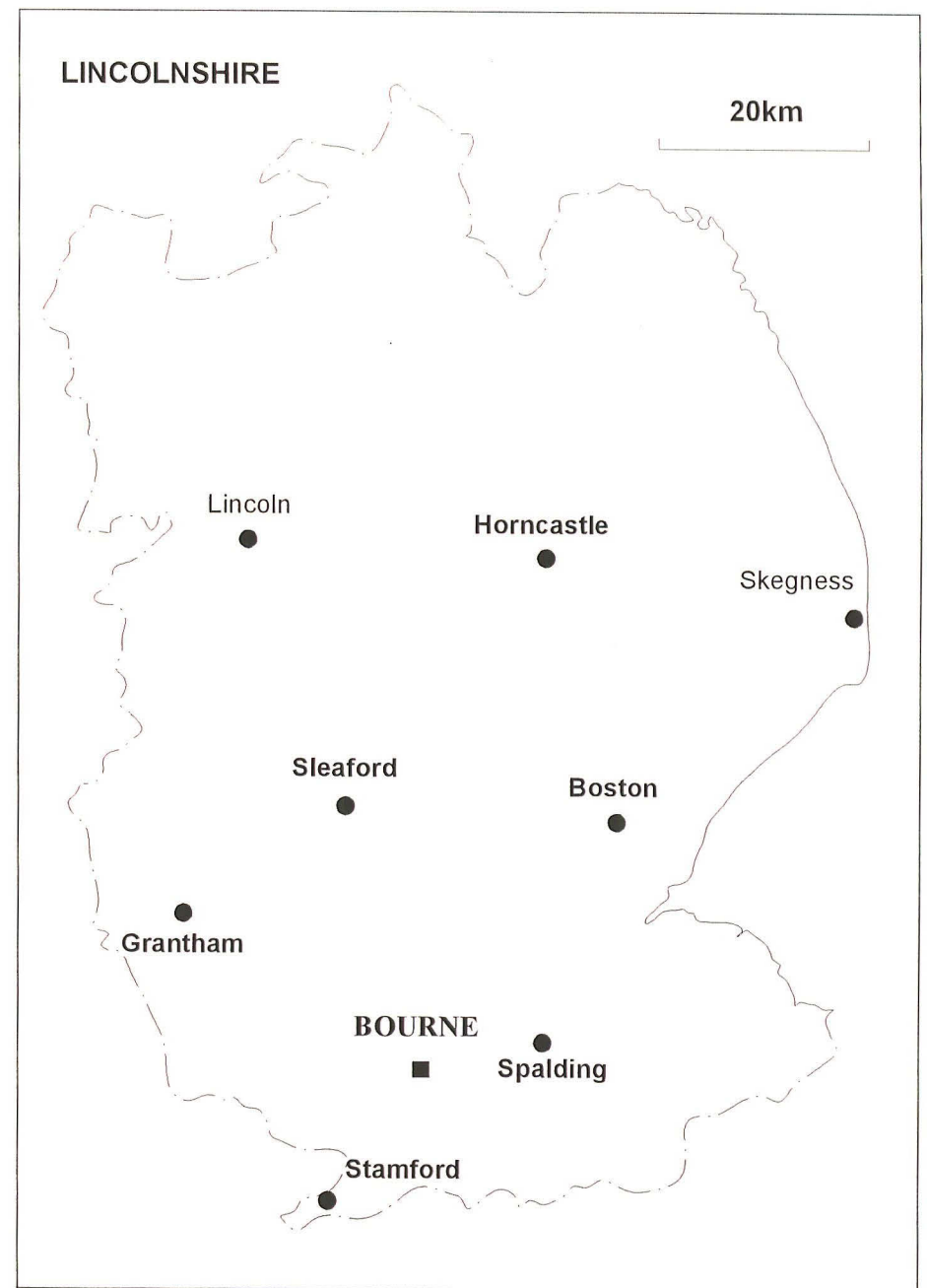
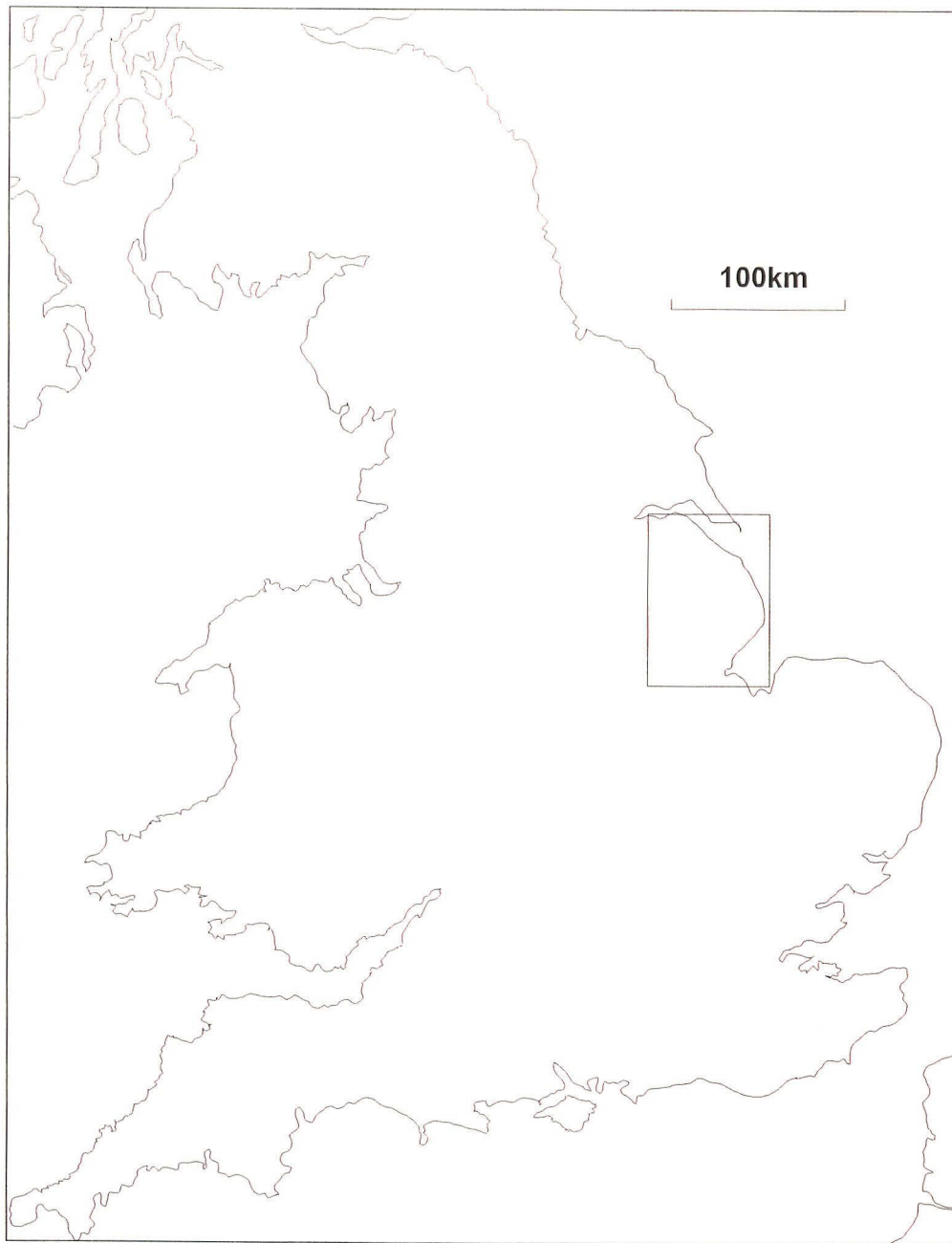
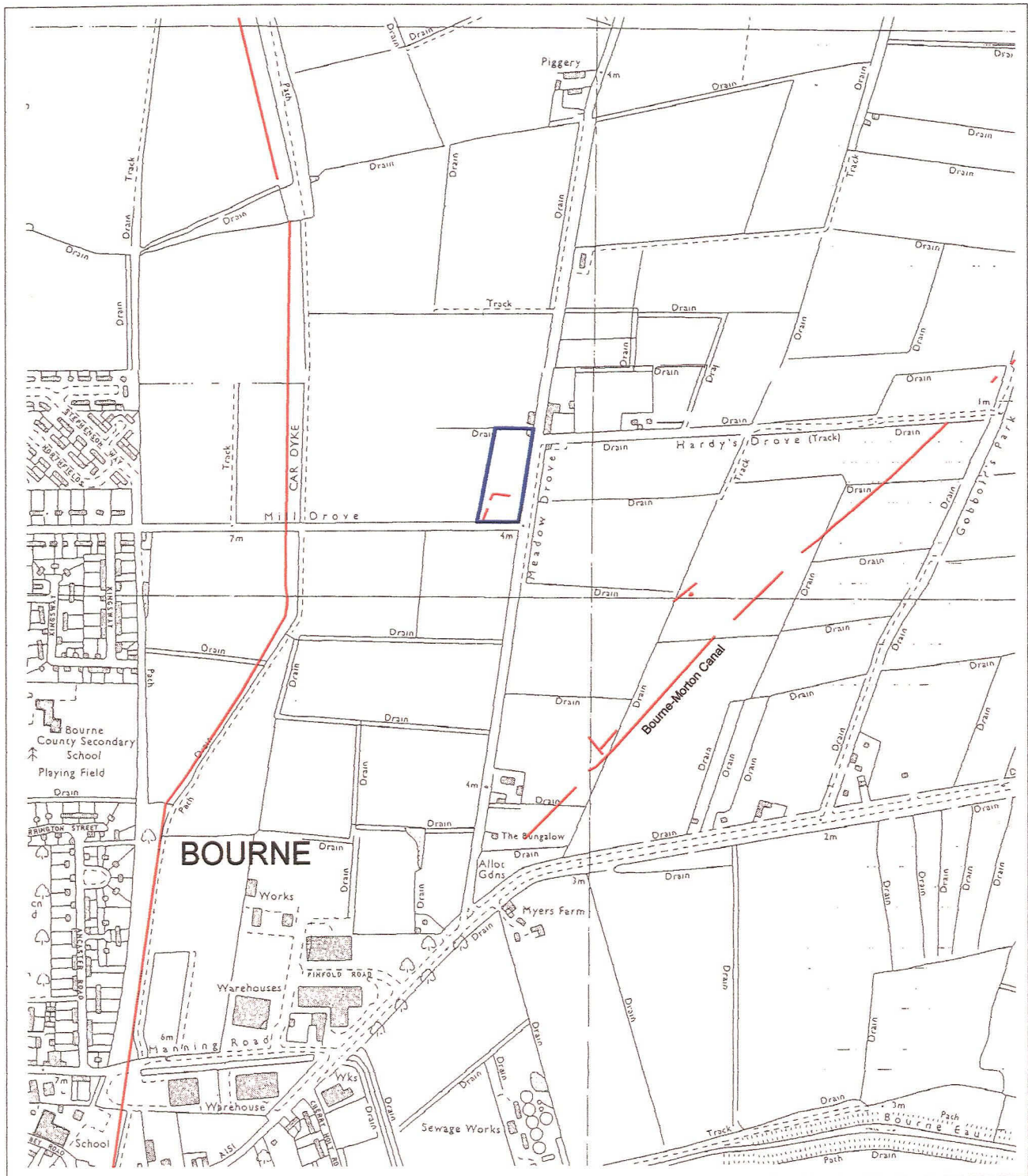


Figure 1 - General Location Plan



 Investigation Area

 Cropmarks

Figure 2 - Site Location Plan

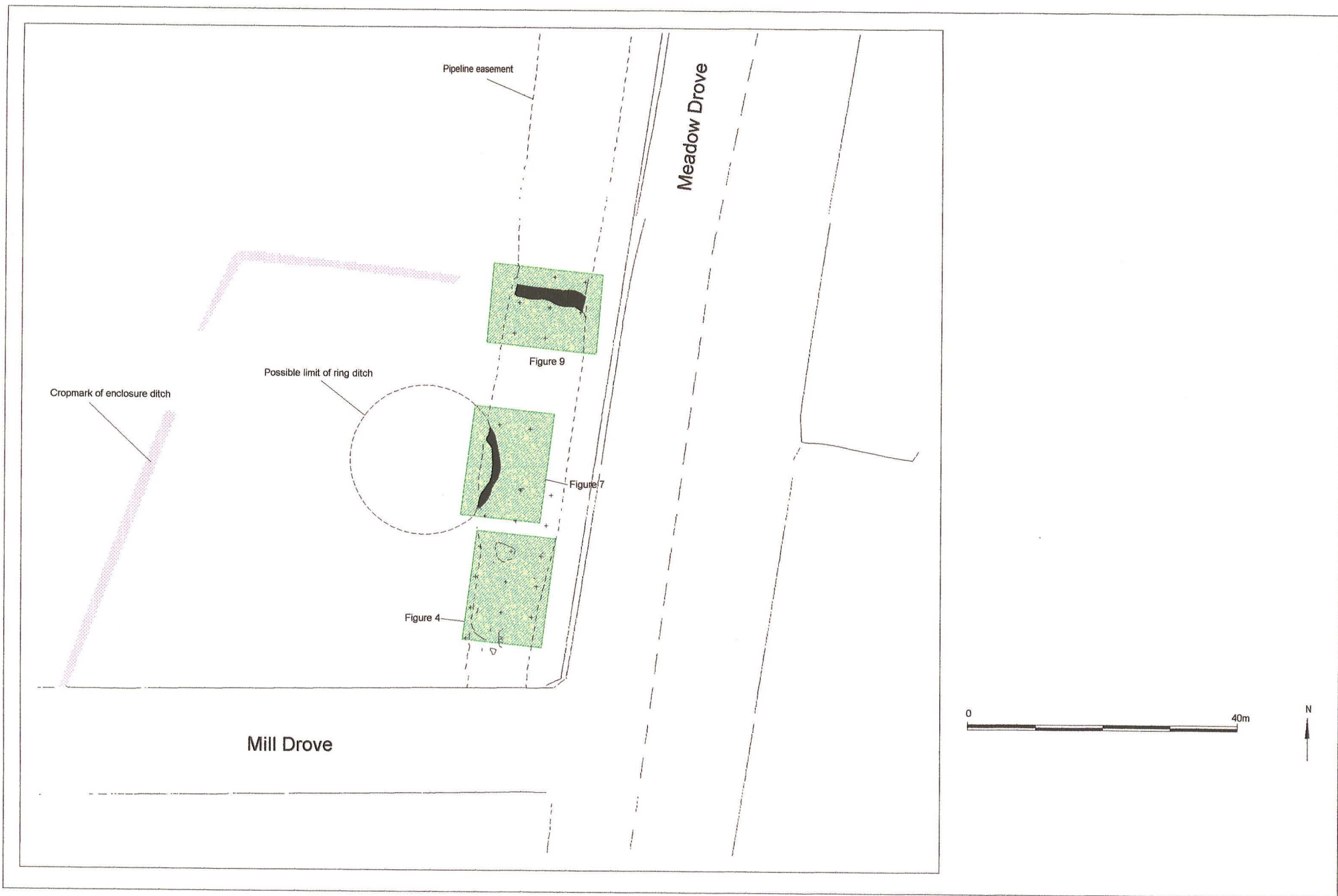


Figure 3 - Trench Location Plan

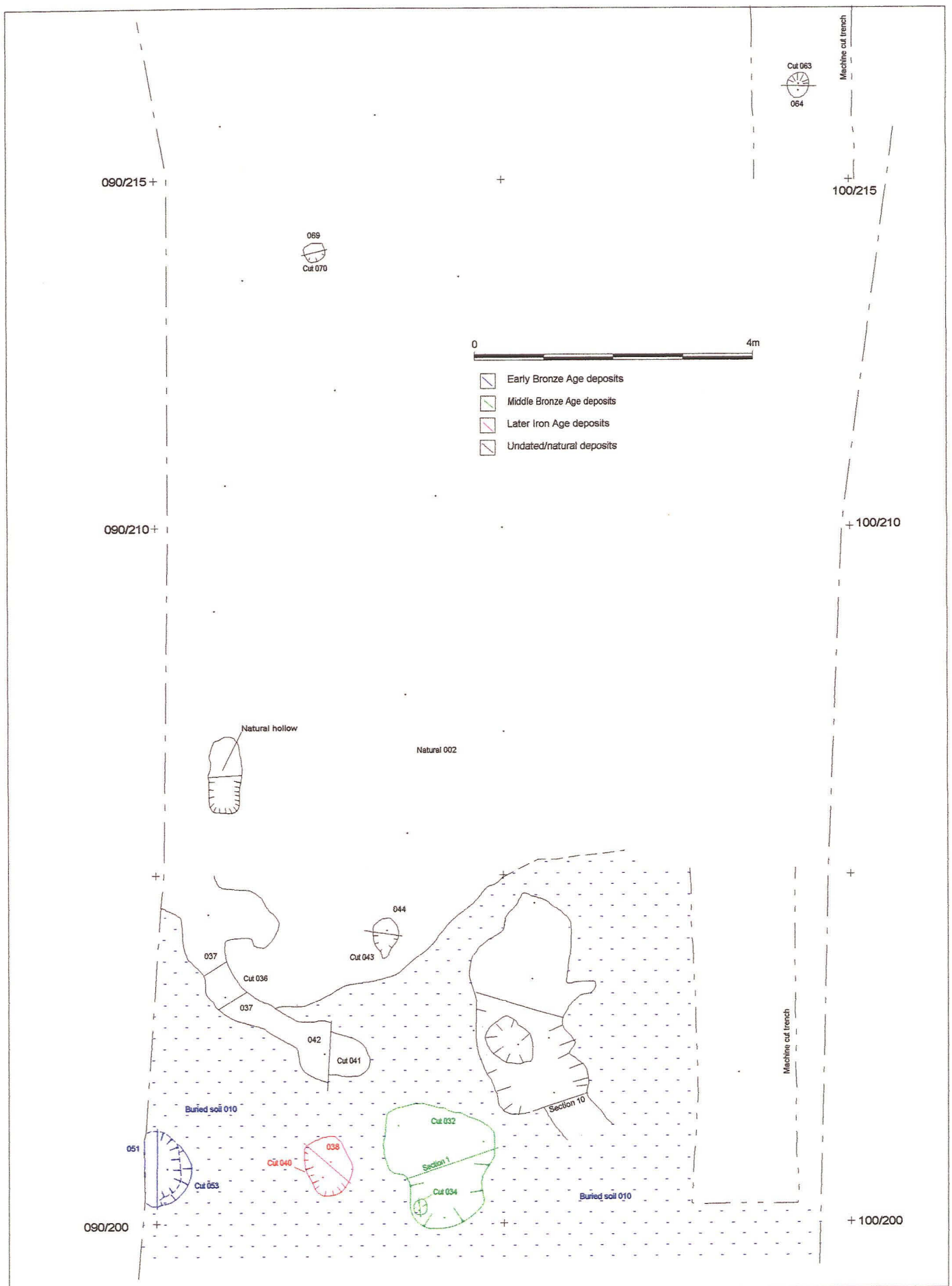
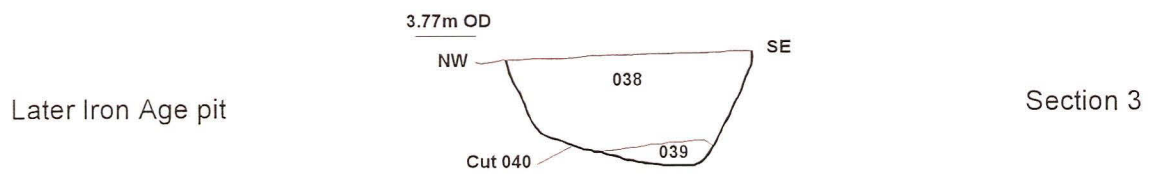
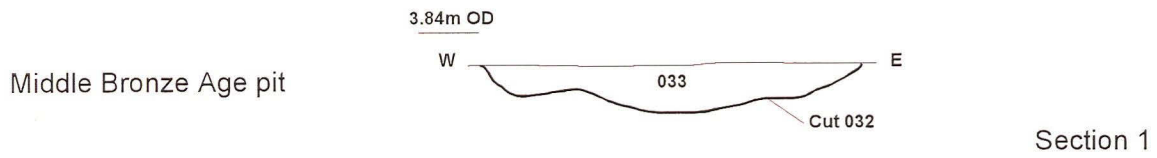
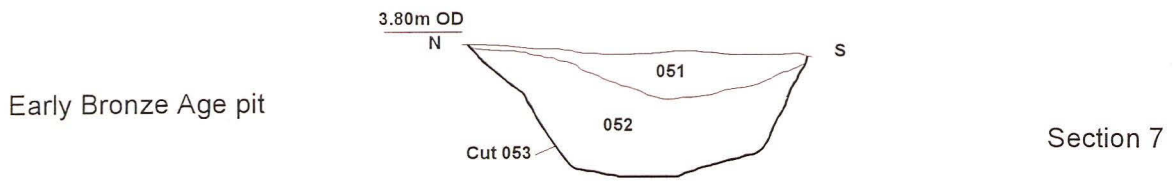
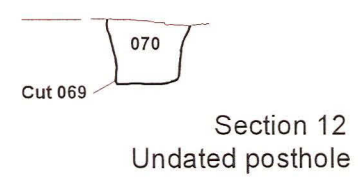
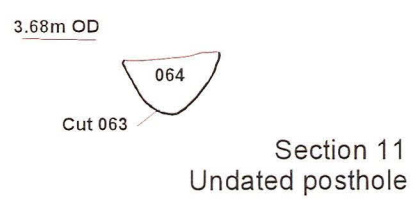
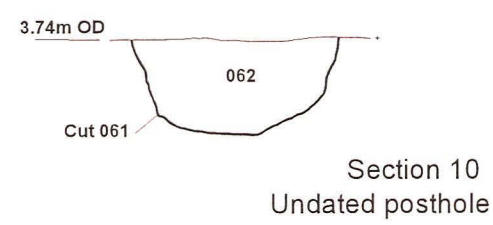
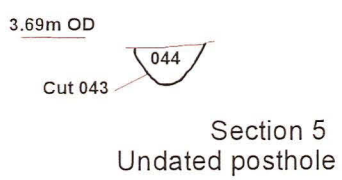
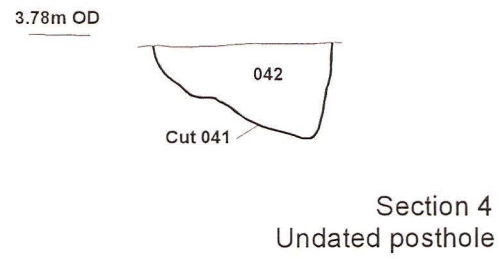
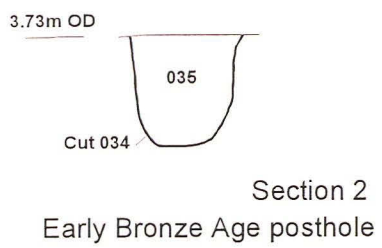


Figure 4 - Plan of pits and postholes



Sections of Pits

Figure 5 - Pit sections



Sections of Postholes

Figure 6 - Posthole sections

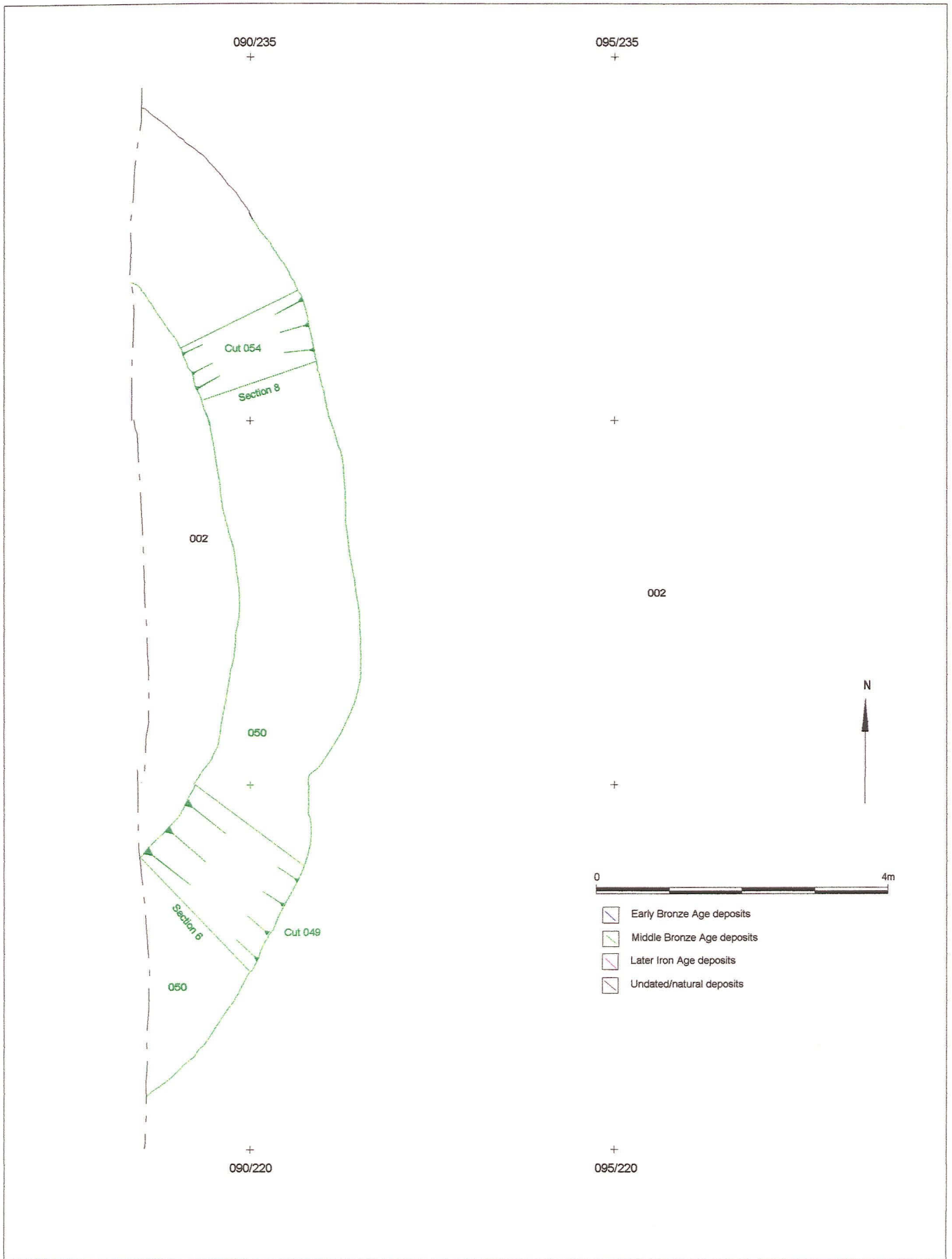
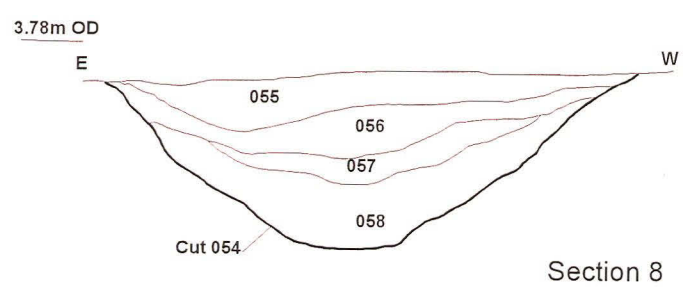
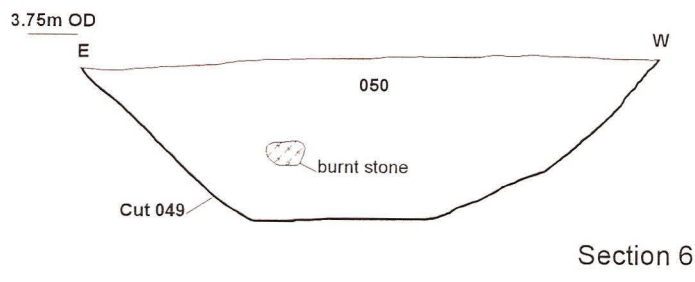


Figure 7 - Plan of the Middle Bronze Age ring ditch



Sections through Middle Bronze Age Ring Ditch

Figure 8 - Sections through the Middle Bronze Age ring ditch

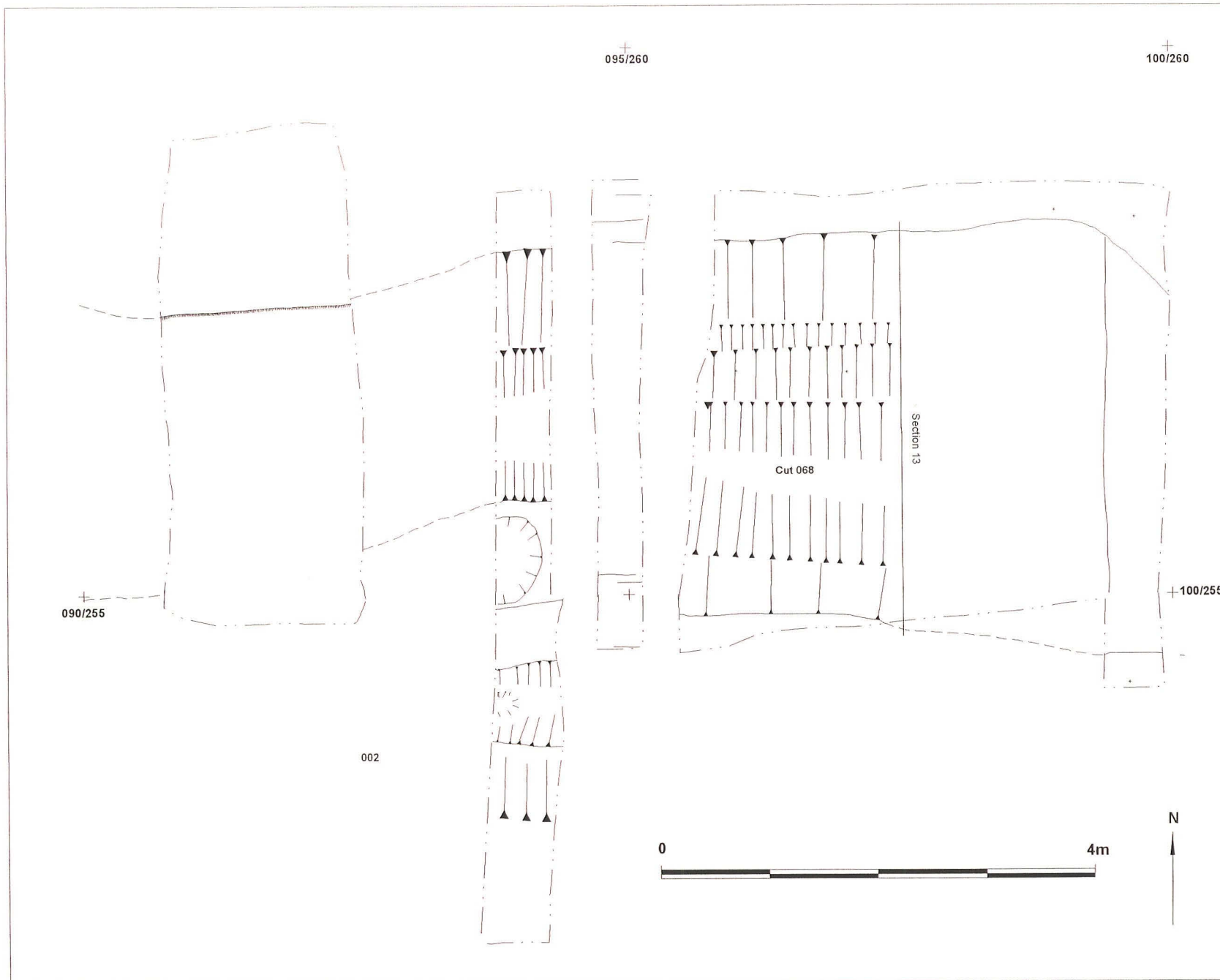


Figure 9 - Plan of the undated enclosure ditch

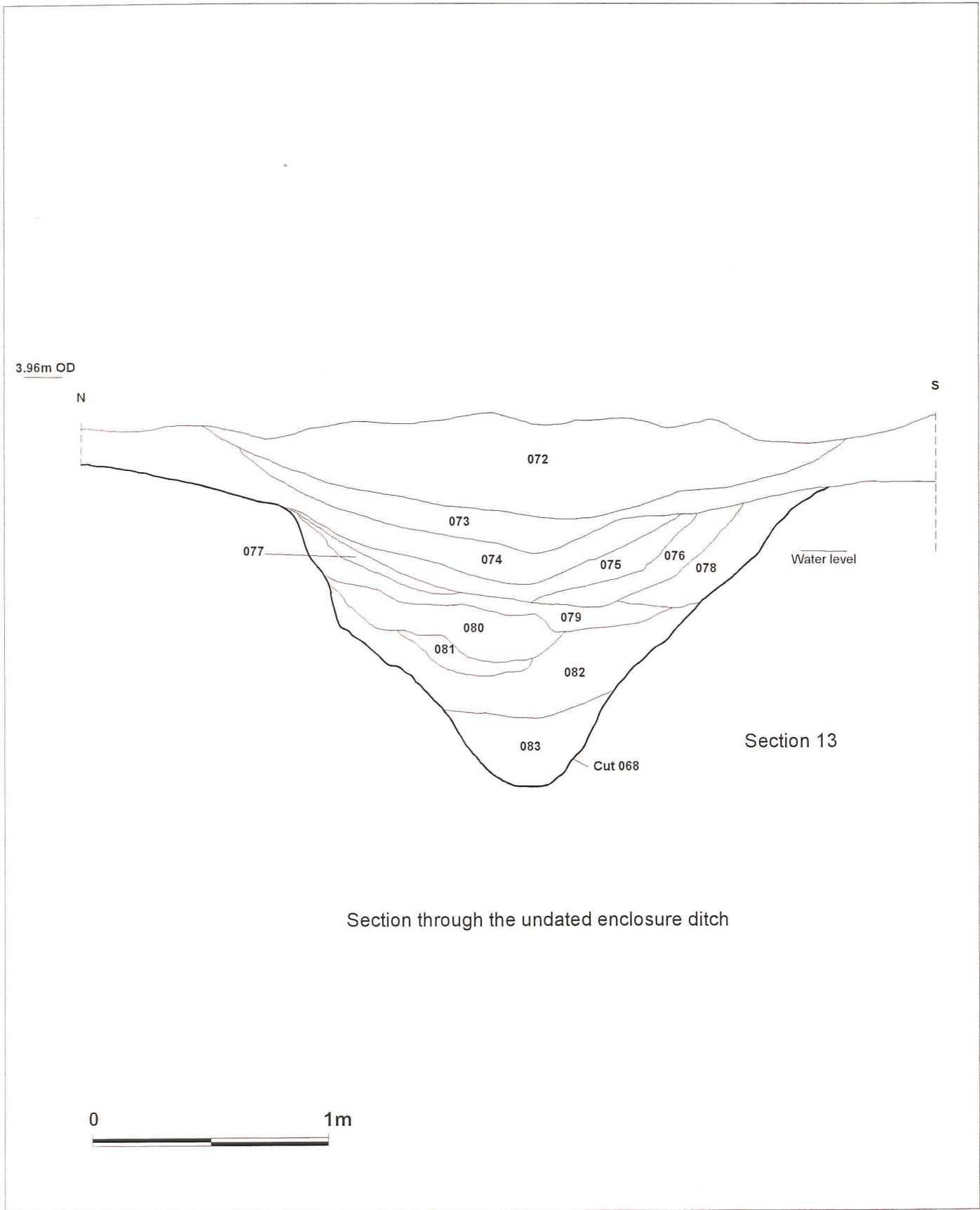


Figure 10 - Section through the undated enclosure ditch



Plate 1 - General view of the excavated area,
prior to cleaning, looking north



Plate 2 - The Early Bronze Age pit, looking west (scale 1m)



Plate 3 - The Middle Bronze Age ring ditch,
looking northeast (scale 1m)



Plate 4 - The later Iron Age pit,
looking northeast (scale 0.5m)

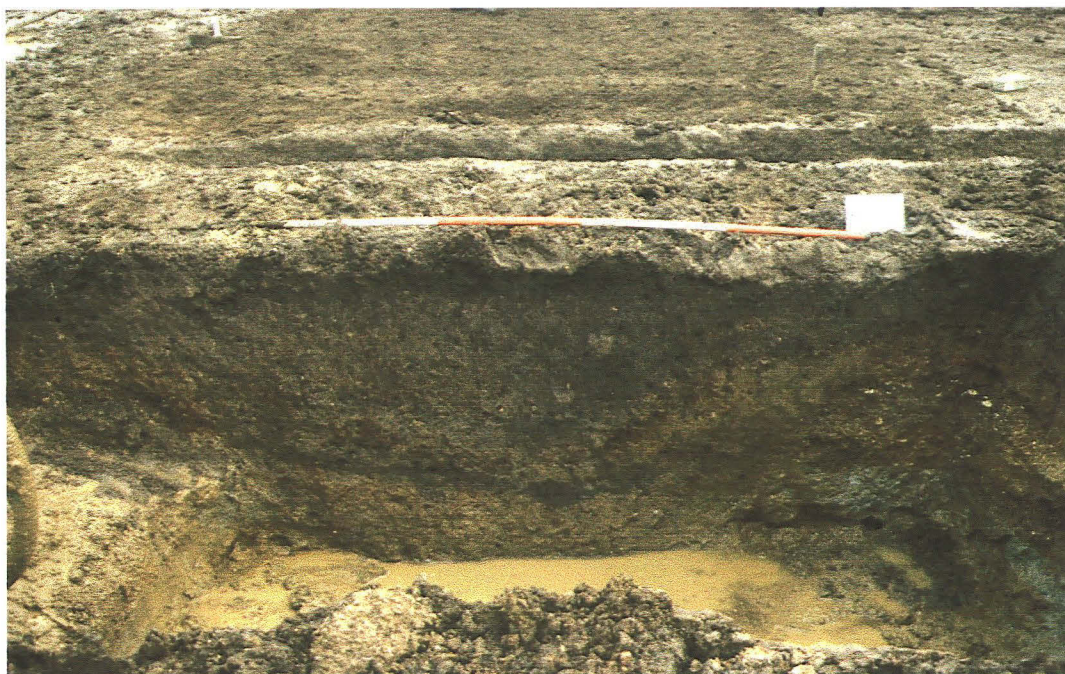


Plate 5 - Section through the undated enclosure ditch,
looking west (scale 2m)

Appendix 1

SPECIFICATION FOR THE ARCHAEOLOGICAL FIELD EVALUATION OF LAND AT MEADOW DROVE, BOURNE

1 SUMMARY

This document comprises a specification for the archaeological field evaluation of land at Meadow Drove, Bourne.

A Bronze Age settlement is located at the site and is represented by quantities of pottery of the period in the topsoil. Cropmarks of possible rectangular enclosures have also been observed at the site.

A water pipeline is proposed to traverse the area. The archaeological works are being undertaken to provide information to assist the management of the archaeological remains.

The archaeological work will consist of a programme of geophysical survey, fieldwalking, test pitting and metal detector surveys in order to determine the site focus and survival.

On completion of the fieldwork a report will be prepared detailing the findings of the fieldwork. The report will consist of a text describing the nature of the archaeological remains located and will be supported by line drawings and photographs.

2 INTRODUCTION

- 2.1 This document comprises a specification for the archaeological field evaluation of land at Meadow Drove, Bourne, Lincolnshire, national grid reference TF 108 211. Refer to Figures 1 and 2 for site location.
- 2.2 The document contains the following parts:
 - 2.2.1 Overview
 - 2.2.2 The archaeological and natural setting
 - 2.2.3 Stages of work and methodologies to be used
 - 2.2.4 List of specialists
 - 2.2.5 Programme of works and staffing structure of the project

3 SITE LOCATION

- 3.1 Bourne is situated 26km south of Sleaford and 15km northeast of Stamford in the administrative district of South Kesteven. The site is located to the northeast of the town, alongside Meadow Drove, national grid reference TF 108 211.

4 DEVELOPMENT BACKGROUND

- 4.1 A water pipeline is planned to traverse an area of known archaeological remains. Lincolnshire County Council Archaeology Section have requested that an archaeological evaluation be undertaken prior to development.

5 SOILS AND TOPOGRAPHY

- 5.1 The site lies at approximately 4m OD on flat and level land. Soils of the area are Badsey 2 Association fine loamy soils over calcareous gravel (Hodge *et al.* 1984 101).

6 ARCHAEOLOGICAL OVERVIEW

- 6.1 A Bronze Age settlement has previously been found at the site. Flint artefacts of probable neolithic date have been recovered from the field surface but the main artefact type found is Bronze Age pottery. Additionally there is evidence of a hearth at the site, with fired clay brought to the field surface by ploughing (Hayes and Lane 1992, 130-5). Cropmarks of a possible rectangular enclosure also occur at the site.

7 AIMS AND OBJECTIVES

- 7.1 The aim of the work will be to gather sufficient information to enable the Archaeological Officer for Lincolnshire County Council to formulate an appropriate policy for the management of the archaeological resource of the site.
- 7.2 The objectives of the work will be to:
- 7.2.1 Determine the likely extent of archaeological activity present within the site.
 - 7.2.2 Determine the spatial arrangement and focus of the archaeological remains present within the site.
 - 7.2.3 Assess the survival of archaeological remains at the site.

8 GEOPHYSICAL SURVEY

8.1 Reasoning for this technique

- 8.1.1 The geophysical survey of the site will use fluxgate gradiometer. This technique enables large areas to be investigated rapidly and the results facilitate the rapid identification of the likely archaeological potential of the site.
- 8.1.2 The effectiveness of the technique is limited by background magnetic susceptibility and the ground cover which ideally should be minimal.

8.2 Methodology

- 8.2.1 The easement width in the area of the known archaeological site will be surveyed in detail.

8.3 Report

- 8.3.1 A report will be prepared on completion of the survey detailing the methodologies used and the results of the work. The areas and nature of archaeological activity will be shown on a series of computer generated plots and the anomalies encountered will be interpreted. The report will be prepared in accordance with the English Heritage (1995) document *Geophysical Survey in Archaeological Field Evaluations*, Research and Professional Services Guideline 1.

9 FIELDWALKING

9.1 Reasoning for this technique

- 9.1.1 Fieldwalking facilitates the identification of the extent and focus of potential archaeological sites and will complement the results of the geophysical and other surveys. The limiting factor on the effectiveness of this technique is the condition of the surface of the site that must be ploughed and weathered, and with minimal crop coverage.

9.2 Site Operation

9.2.1 The entire 15m width of the pipeline easement, for a distance of approximately 50m, will be examined. The survey will be undertaken using the walk-through method based on 4 transects spaced at 5m. Finds recovered from the surface of the field will be referenced to their position along each transect using a geodolite surveying instrument. This will enable the identification of spatial distributions and concentrations of artefacts.

9.3 Report

9.3.1 The results of the fieldwalking will be incorporated in a consolidated report that considers the findings of the all fieldwork aspects.

9.3.2 Artefacts recovered during the fieldwalking will be submitted to the appropriate specialists for identification and dating.

9.3.3 The results of the fieldwalking survey will be presented in a written report supported by illustrations on appropriate scale site plans. The text will detail the methodologies used and summarise the results. The results (artefact distributions) will be plotted on to scale site plans in terms of date of artefact and, if appropriate, class of material. As far as possible, the report will attempt to interpret the results and place them into a local, regional and national context, where relevant.

10 **TRIAL PITTING AND SIEVING**

10.1 Reasoning for this technique

10.1.1 Trial pitting enables an accurate indication of artefact density across a site to be obtained. It also has the potential to reveal buried remains.

10.2 General Considerations

10.2.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the evaluation.

10.2.2 The work will be undertaken according to the relevant codes of practice issued by the Institute of Field Archaeologists

10.3 Methodology

10.3.1 Trial pits, each approximately 15litres in volume, will be excavated every 5m along the fieldwalking transects. The location of the pits along the transects will be staggered by 5m. Each will be manually excavated and then the soil sieved through a 5mm mesh to enable the recovery of artefacts.

10.3.2 Throughout the duration of the fieldwork a photographic record will be compiled.

10.3.3 Should human remains be encountered, they will be left *in situ* with excavation being limited to the identification and recording of such remains. The local environmental health department and the police informed.

10.3.4 Finds collected during the fieldwork will be bagged and labelled according to the individual deposit/trial pit from which they were recovered ready for later washing and analysis.

10.3.5 The spoil generated during the trial pitting will be returned to the trial pit following sieving.

10.3.6 The precise location of the trial pits within the site and the location of site recording grid will be established by an EDM survey.

11 METAL DETECTOR SURVEY

11.1 Reasoning for this technique

11.1.1 Metal detection permits the recovery of metallic objects from the surface and body of the ploughsoil.

11.2 Methodology

11.2.1 The survey will be undertaken over the area also subject to fieldwalking. Finds recovered will be referenced to their position using a geodolite surveying instrument. This will enable the identification of spatial distributions and concentrations of artefacts.

12 POST-FIELDWORK ANALYSIS AND REPORT

12.1 On completion of site operations, the records and schedules produced during the trial trenching will be checked and ordered to ensure that they form a consolidated archive. All photographic material will be catalogued.

12.2 All finds recovered during the fieldwork will be washed, marked, bagged and labelled. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at the City and County Museum, Lincoln.

12.3 Finds will be sent to specialists for identification and dating.

12.4 On receipt of the specialist information, a report detailing the results of the evaluation will be prepared. This will consist of:

12.4.0.1 A non-technical summary of the findings of the evaluation.

12.4.0.2 A description of the archaeological setting of the site.

12.4.0.3 Description of the topography and geology of the evaluation area.

12.4.0.4 Description of the methodologies used during the evaluation and discussion of their effectiveness in the light of the findings of the investigation.

12.4.0.5 A text describing the findings of the evaluation.

12.4.0.6 Plans of the trial pit locations showing the density of artefacts, by date and class, in each.

12.4.0.7 Plans of the fieldwalking results showing the density of artefacts, by date and class.

12.4.0.8 Plans of the distributions of objects recovered by the metal detector survey showing the date and class of each artefacts, where possible.

12.4.0.9 Interpretation of the artefact distribution patterns identified, with particular reference to the results of the geophysical survey..

12.4.0.10 Specialist reports on the finds from the site.

12.4.0.11 Appropriate photographs of the site.

12.4.0.12 A consideration of the importance of the archaeological remains encountered, in local, regional and national terms.

13 ARCHIVE

13.1 The documentation, finds, photographs and other records and materials generated during the evaluation will be sorted and ordered into the format acceptable to the City and County Museum, Lincoln. This sorting will be undertaken according to the document titled *Conditions for the Acceptance of Project Archives* for long term storage and curation.

14 REPORT DEPOSITION

14.1 Copies of the evaluation report will be sent to: the client, Anglian Water Services Ltd; the Lincolnshire County Sites and Monuments Record; and the South Kesteven Community Archaeologist.

15 PUBLICATION

15.1 A report of the findings of the evaluation will be published in Heritage Lincolnshire's annual report and an article of appropriate content will be submitted for inclusion in the journal of the Society for Lincolnshire History and Archaeology. Notes or articles describing the results of the investigation will also be submitted for publication in the appropriate national journals: *Medieval Archaeology* and *Journal of the Medieval Settlement Research Group* for medieval and later remains, and *Britannia* for discoveries of Roman date.

16 CURATORIAL MONITORING

16.1 Curatorial responsibility for the project lies with County Archaeological Officer. Seven days notice in writing will be given to the curator prior to the commencement of the project to enable them to make appropriate monitoring arrangements.

17 VARIATIONS TO THE PROPOSED SCHEME OF WORKS

17.1 Variations to the scheme of works will only be made following written confirmation from the archaeological curator.

17.2 Should the archaeological curator require any additional investigation beyond the scope of the brief for works, or this specification, then the cost and duration of those supplementary examinations will be negotiated between the client and the contractor.

18 SPECIALISTS TO BE USED DURING THE PROJECT

18.1 The following organisations/persons will, in principal and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

<u>Task</u>	<u>Body to be undertaking the work</u>
Geophysical survey	Engineering Archaeological Services
Conservation	Conservation Laboratory, City and County Museum, Lincoln.
Pottery Analysis	Earlier Prehistoric: Dr Carol Allen, independent specialist Later Prehistoric: Dr D Knight, Trent and Peak Archaeological Trust
Other Artefacts	J Cowgill, independent specialist, though dependent upon the date and type of material recovered
Human Remains Analysis	R Gowland, independent specialist, or S Mays, Ancient Monuments Laboratory

19 **BIBLIOGRAPHY**

English Heritage, 1995 *Geophysical survey in archaeological field evaluation*, Research and Professional Services Guideline 1

Hayes, PP, and Lane, TW, 1992 *The Fenland Project Number 5: Lincolnshire Survey, the South-West Fens*, East Anglian Archaeology 55

Hodge, CAH, Burton, RGO, Corbett, WM, Evans, R, and Seale, RS, 1984 *Soils and their use in Eastern England*, Soil Survey of England and Wales 13

Appendix 2

BOURNE, MEADOW DROVE, GEOPHYSICAL SURVEY Engineering Archaeological Services Ltd

INTRODUCTION:

NGR Centred on TF 1083 2105

LOCATION AND TOPOGRAPHY

The area surveyed lies immediately to the west of Meadow Drove, Bourne and immediately north of Mill Drove. The area is flat with a sparse stubble cover. The northern and eastern sides of the survey is marked by deep drainage ditches. The soil is a clayey loam.

ARCHAEOLOGICAL BACKGROUND

Aerial photographic evidence suggests an enclosure adjacent to the survey area. This is recorded as BOU 10 in the Sites and Monuments Record.

AIMS OF SURVEY

It was hoped that a magnetometer survey would detect and locate any possible features and activity areas and thus clarify the archaeological significance of the site..

SUMMARY OF RESULTS

No archaeological features were detected.

SURVEY RESULTS:

AREA

An area of approximately 0.12 Ha was surveyed in detail using magnetometry.

DISPLAY

The results are displayed as a Grey Scale Image.

RESULTS

Detailed Survey:

No archaeological features were located within the survey area.

MAGNETIC SUSCEPTIBILITY

A soil sample was obtained from the survey area.

Sample	Volume susceptibility χ^v	Mass susceptibility χ^m
Grid 1	18	17.1

CONCLUSIONS

No archaeological features were detected.

It is a fundamental axiom of archaeological geophysics that the absence of features in the survey data does not mean that there is no archaeology present in the survey area only that the techniques used have not detected it.

Surveyed by Ian Brooks.
December 1997

TECHNIQUES OF GEOPHYSICAL SURVEY:

Magnetometry:

This relies on variations in soil magnetic susceptibility and magnetic remanance which often result from past human activities. Using a Fluxgate Gradiometer these variations can be mapped, or a rapid evaluation of archaeological potential can be made by scanning.

Resistivity:

This relies on the variations in the electrical conductivity of the soil and subsoil which in general is related to soil moisture levels. As such, results can be seasonally dependant. Slower than magnetometry' this technique is best suited to locating positive features such as buried walls that give rise to high resistance anomalies.

Magnetic Susceptibility:

Variations in soil magnetic susceptibility occur naturally but can be greatly enhanced by human activity. Information on the enhancement of magnetic susceptibility can be used to ascertain the suitability of a site for magnetic survey and for targeting areas of potential archaeological activity when extensive sites need to be investigated. Very large areas can be rapidly evaluated and specific areas identified for detailed survey by gradiometer.

INSTRUMENTATION:

1. Fluxgate Gradiometer - Geoscan FM36
2. Resistance Meter - Geoscan RM4/DL10
3. Magnetic Susceptibility Meter - Bartington MS2

METHODOLOGY:

For Gradiometer and Resistivity Survey, 20m x 20m or 30m x 30m grids are laid out over the survey area. Gradiometer readings are logged at either 0.5m or 1m intervals. Data is down-loaded to a laptop computer in the field for initial configuration and analysis. Final analysis is carried out back at base.

For magnetic scanning transects 10m apart are laid out across the survey area any features detected are measured and their position shown on the location map.

For Magnetic Susceptibility Survey a large grid is laid out and readings logged at 10m intervals along traverses 10m apart, data is again configured and analysed on a laptop computer.

Appendix 3

CONTEXT DESCRIPTIONS

EBA = Early Bronze Age
 MBA = Middle Bronze Age
 LIA = Later Iron Age
 Mod = Modern
 Und = Undated

No.	Description	Interpretation	Phase
001	Mid to dark brown silt with occasional gravel, 0.2m thick	Topsoil	Mod
002	Brownish yellow silt with subangular stones	Natural	Nat
003	Mid brown silt with tile, brick and charcoal	Dump to provide firm access	Mod
004	Firm red and brown crushed brick and tile with silt	Dump to provide firm surface	Mod
005	Light to mid grey silt	Fill of 006	Und
006	Oval cut, 0.56m x 0.46m by 0.23m deep	Small pit	Und
007	Cancelled context		
008	Cancelled context		
009	Cancelled context		
010	Mid mottled grey silt	Occupation layer	EBA
011	Cancelled context		
012	Cancelled context		
013 - 030 Assigned to finds from fieldwalking			
031 Assigned to finds from the spoilheap			
032	Oval cut, 1.6m x 1.2m by 0.25m deep, concave sides, uneven base	Possible pit	MBA
033	Firm brown and red mottled silty clay	Fill of 032	MBA
034	Circular cut, 0.3m diameter by 0.35m deep, steep sides concave base	Posthole	MBA
035	Firm black and brown silt	Fill of 034	MBA
036	Irregular cut, 3.5m x 0.6m by 130mm deep	Animal disturbance	Mod
037	Dark brown silt	Fill of 036	Mod
038	Soft greyish brown clayey silt, 0.27m deep	Fill of 040	LIA
039	Soft yellow brown silty clay, 80mm thick	Fill of 040	LIA
040	Oval cut, 0.9m x 0.9m by 0.35m deep, steep sides, concave base	Pit	LIA
041	Irregular cut, 3.5m long x 0.55m wide by 0.29m deep	Animal disturbance	Mod

No.	Description	Interpretation	Phase
042	Mottled grey silt	Fill of 041	Mod
043	Linear cut, 0.59m x 0.22m by 0.14m deep	Root disturbance	Mod
044	Grey sandy silt	Fill of 043	Mod
045	Semi-circular cut, vertical sides, flat bottom	Posthole	Und
046	Dark grey silt	Fill of 045	Und
047	Unused context		
048	Dark grey organic silt	Fill of enclosure ditch	Und
049	Curvilinear cut, 12m length visible by 1.65m wide by 0.55m deep, concave sides, rounded base	Ring ditch	MBA
050	Firm dark greyish brown silty clay	Fill of 049	MBA
051	Mid grey brown clayey silt	Fill of 053	MBA
052	Mid grey silty clay	Fill of 053	MBA
053	Circular cut, 1.1m diameter by 0.4m deep, concave sides, rounded base	Pit	EBA
054	Curvilinear cut, as (049)	Same as 049	MBA
055	Dark brownish grey silty clay	Fill of 054	MBA
056	Dark brownish grey silty clay	Fill of 054	MBA
057	Firm reddish brown silty sand	Fill of 054	MBA
058	Dark brownish grey silty clay with coarse sand	Fill of 054	MBA
059	Irregular cut, 1.5m wide by 0.22m deep, gradual sides undulating base	Animal disturbance	Mod
060	Grey silt	Fill of 059	Mod
061	?Linear cut, 0.65m wide by 0.31m deep	Indeterminate feature	Und
062	Dark grey silt	Fill of 061	Und
063	Sub-circular cut, 0.36m x 0.3m by 0.17m deep, concave sides, rounded base	Posthole	Und
064	Brownish grey sandy silt	Fill of 063	Und
065	Linear cut, 0.52m wide by 0.19m deep	Animal burrow	Mod
066	Mid greyish brown clayey silt	Fill of 065	Mod
067	Light brownish grey clayey silt	Fill of 059	Und
068	Linear cut, 3.8m wide by 1.7m deep, uniform sides, possible rounded base	Enclosure ditch	Und
069	Brownish grey silty clay	Fill of 070	Und
070	Circular cut, concave sides rounded base	Posthole	Und

No.	Description	Interpretation	Phase
071	Mid brown clayey silt	Overburden	Mod
072	Dark brown grey silty clay	Fill of 068	Und
073	Dark grey brown silty clay	Fill of 068	Und
074	Dark brownish grey silty clay	Fill of 068	Und
075	Reddish brown silty clay with coarse sand	Fill of 068	Und
076	Yellowish brown silty clay	Fill of 068	Und
077	Yellowish brown silty clay	Fill of 068	Und
078	Greenish brown clayey silt	Fill of 068	Und
079	Dark brownish grey clayey silt	Fill of 068	Und
080	Light yellowish brown silty clay	Fill of 068	Und
081	Reddish brown silt and gravel	Fill of 068	Und
082	Light greyish brown silty clay	Fill of 068	Und
083	Light greyish brown silty clay with gravel	Fill of 068	Und
084	Assigned to finds from field to the south		
085	Brownish grey silty clay	Fill of 086	Und
086	?Circular cut, 0.64m by 0.45m deep	Pit	Und
087	Dark brown silty clay	Fill of 088	Und
088	?Circular cut, 0.34m wide by 0.35m deep	Pit	Und
089	Assigned to finds from 068		
090	Same as 055		MBA
091	Same as 058		MBA
092	Same as 055		MBA
093	Same as 058		MBA
094	Same as 055		MBA
095	Same as 058		MBA

Appendix 4

THE PREHISTORIC POTTERY

Carol S.M. Allen

1. QUANTITY

A total of 1,132 grammes of prehistoric pottery was found on this site in a variety of contexts as described below. This comprised 117 sherds of pottery and 30 fragments: there were no complete or near complete vessels. A number of sherds have some form and decoration and these are illustrated in Figure 11. A full catalogues of the pottery found, with the number of sherds and the weight for each context is provided.

2. FABRICS

The pottery was manufactured from clay with tempering materials included, which facilitated the forming, drying and firing of the pottery, as well as aiding its eventual day to day use. The inclusions indicate four main fabric groups from which the pots were made, with 77% of the sherd material containing shelly limestone material for tempering.

The four fabric groups recognised are: SHMM (shell moderate quantity and medium size: 48% of the total by weight), SHSM (shell sparse quantity medium size: 29%), GRSC/QUMF (grog sparse quantity coarse size, with quartz medium quantity and fine size: 14%) and QUMF (quartz medium quantity fine size: 9%).

All these inclusions, fossil shell and limestone, grog (that is crushed pre-fired pottery pieces) and quartz (sand), are common tempering materials for prehistoric pottery in this region. The quantities and types of tempering material are described in detail, together with full information on the colours and firing of the sherds.

3. SOURCE OF TEMPERING MATERIALS

The site lies about 4km from the Jurassic clays, and in particular from the Great Oolite clays which are known to contain very similar and suitable tempering materials (Allen 1991). In studies of pottery fabrics it has been concluded that potters may be willing to travel up to 5km from their settlement in search of clay, inclusions and fuel (Arnold 1976), and therefore the use of materials obtained within this distance does not necessarily indicate trading or exchange. However, thin section analysis would be required to make an accurate assessment of the nature and origin of the shell inclusions. Also the grog inclusions, which are crushed fired pottery, could have been obtained from vessels on site, but again thin section analysis would be required to be clear whether the grog came from locally produced pottery. Quartz could be obtained from nearby water courses.

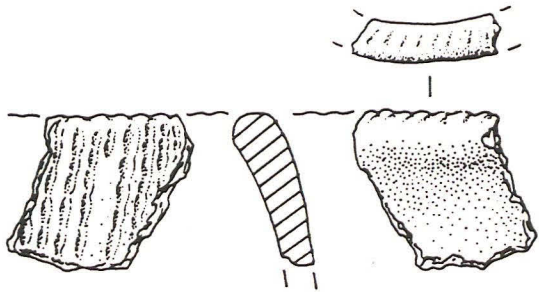
4. FORM AND DECORATION OF THE SHERDS

The pottery found on this site falls into three main periods, Early Bronze Age, Middle Bronze Age and later Iron Age. The contexts in which the pottery was found and a closer indication of the date of the pottery sherds is given in Section 5 below.

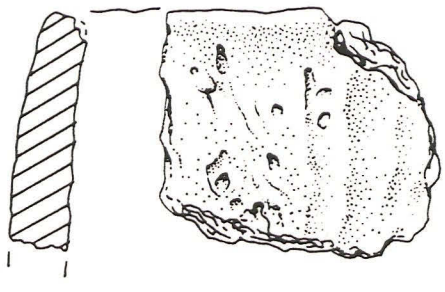
4.1 Early Bronze Age Collared Urn Sherds

Three pottery sherds which can be recognised as Early Bronze Age Collared Urn type were found on the site: one was found during fieldwalking (026: area 90/125). This sherd has a rounded rim with fine vertical twisted cord decoration on the exterior (Figure 11, 1). The sherd is very abraded and in poor condition, due to weathering on the surface and leaching of the shelly fabric (SHMM), but it is very likely part of a Collared Urn. It is comparable to other vessels of this type and period found in the region, for example at Dunston (Allen 1988, 177; Longworth 1984, 889) and Lenton, both in Lincolnshire (Allen 1988, 271; Longworth 1984, 894).

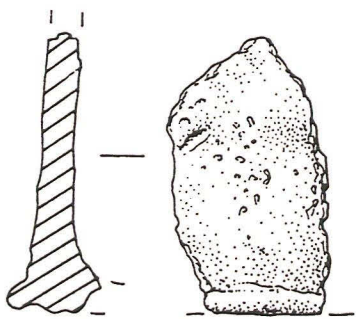
Within pit (053) in the south of the site two further Early Bronze Age sherds were found. A bevelled rim sherd with



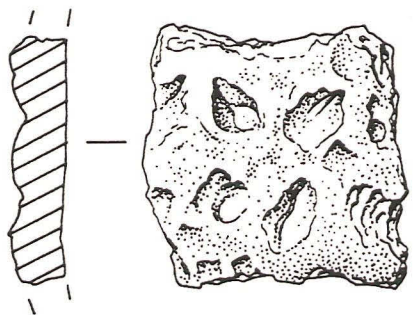
Dr. 1



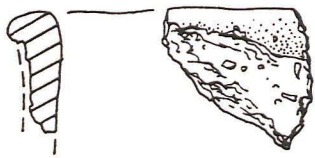
Dr. 2



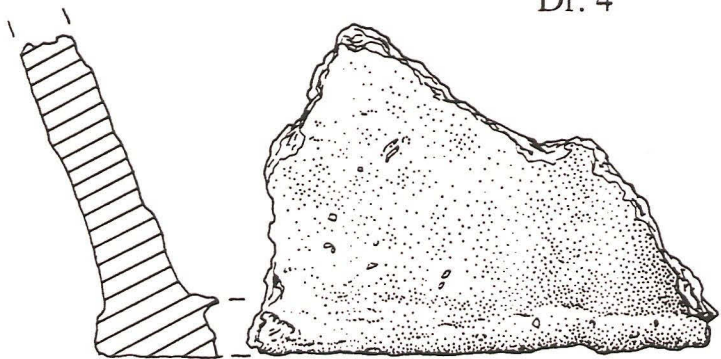
Dr. 3



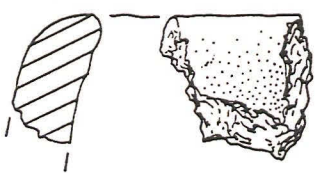
Dr. 4



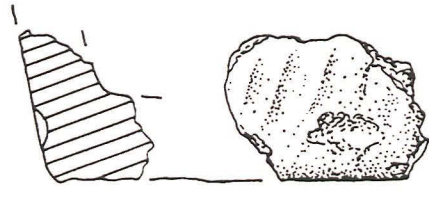
Dr. 5



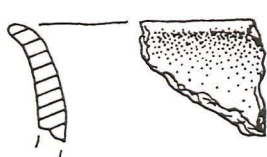
Dr. 6



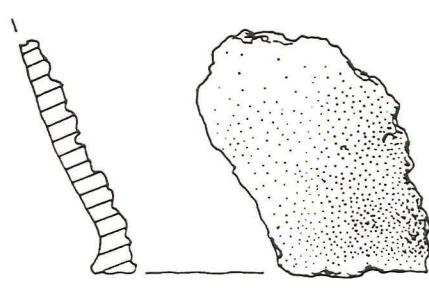
Dr. 7



Dr. 8



Dr. 9



Dr. 10



0 5 10 cm

Figure 11 Prehistoric pottery

random fingernail decoration (Figure 11, 2: fabric SHMM) which appears to be from the collar of a collared urn was found in the upper fill (051), and in the lower fill (052) was a further sherd, this time undecorated, from the bottom of a collar (Figure 11, 3: fabric SHSM). These sherds are also in the tradition of similar material found elsewhere in the region. At Salmonby (Allen 1988, 426), an undecorated collared urn was found, and at Risby, Lincolnshire (Allen 1988, 390) random fingernail decoration is seen on a sherd of a similar vessel.

4.2 Middle Bronze Age Pottery

A number of contexts have Middle Bronze Age pottery and some of the sherds illustrated and described below have form and decoration which clearly identifies the type. The pottery is apparent in some of the fills of the partial ring ditch, in the finds plotted from the cleaning layer, and within pit (032). The fabric of these sherds varies, as many are shelly and some are grog or quartz tempered. In general the pottery has an oxidised buff to orange exterior and grey interior and core. A number of undecorated body sherds were also found which are very likely to be of Middle Bronze Age date and these are identified in the catalogue and discussed in section 5 below.

Fabrics, form and colour of the sherds are comparable with pottery from other sites of this period in the region, such as Billingborough (Chowne *forthcoming*) and Pasture Lodge Farm (Allen 1987). The form of this type of vessel is usually bucket-like, with a flat base and simple gradually out-turning profile. Often, these vessels are seen as a variant of Deverel Rimbury ware, but they are more comfortable as part of a Midlands regional group of Middle Bronze Age pottery (Allen 1987; Allen 1997). Many pots have rounded rims and the pottery is often undecorated, although finger tip decoration is sometimes apparent on the upper body of the vessels. The material from Bourne Meadow Drove clearly illustrates these features.

A well-fired body sherd with finger-tip decoration was found during cleaning prior to excavation (1136: Figure 11, 4: *cf* Billingborough 23.32). In the second fill of the ring ditch a broken rounded rim was excavated (056: Figure 11, 5: *cf* Pasture Lodge Farm 13.3) and in the fourth and lowest fill of the ring ditch was the base of a vessel (058: Figure 11, 6: *cf* Pasture Lodge Farm 14.17). A rounded rim of a vessel of Middle Bronze type (1036: Figure 11, 7: *cf* Pasture Lodge Farm 13.1 and 15.40) and a flat base/body sherd (1032: Figure 11, 8: *cf* Billingborough 21.6) from a similar pot were found and plotted during the cleaning phase. All these sherds can be compared with vessels found at both Billingborough and Pasture Lodge Farm, Lincolnshire.

4.3 Later Iron Age Pottery

In pit (040) nine sherds of later Iron Age pottery were uncovered. A very fine rim was recovered (Figure 11, 9: *cf* Billingborough 27.940) from the upper fill of the pit (038), and in the same fill a well-fired and fine, although layered, body sherd from close to the base was found (Figure 11, 10: *cf* Billingborough 28.118). Both had shell tempered fabrics as at Billingborough.

4.4 Unidentified Sherds

In addition to those mentioned above there are a number of additional body sherds which fit into the fabric categories for the site but which have no recognisable form or decoration. Although very likely prehistoric these cannot be ascribed a type or date with any certainty. These sherds and fragments are shown in the catalogue as 'uncertain'. Some of the pieces are very fragmentary and are abraded and weathered, so making identification difficult. In particular, six fragments from the enclosure ditch in the north of the site (fabric SHSM) cannot unfortunately be identified.

5. CONTEXT AND DATING

5.1 Contexts

A number of sherds of Middle Bronze Age pottery were found and plotted during the initial cleaning of the site. As indicated by the sketch plan these sherds were scattered across the trench. Some lay east of the ring ditch, including the finger-tip decorated sherd 1136 (Figure 11, 4) and a few more lay around the area of the pits in the south of the trench. Two sherds were recovered from the second fill and the fourth (and final) fill of the ring ditch and a number of abraded Middle Bronze Age body sherds were found in pit (032). A single sherd was found during fieldwalking.

The Collared Urn sherds came from fieldwalking and from pit (053) to the south of the ring ditch. The later Iron Age material (originally identified by Dr. David Knight) came from another pit about 2m to the east (040).

Due to the lack of stratigraphy it is not possible to judge the relationship between the various features on the site. The pottery does not appear to be associated with human bone or cremated material. It is very likely therefore, that much of this pottery originated from a series of occupation areas of different periods, Early Bronze Age, Middle Bronze Age and later Iron Age which were located on or close to this area. This is indicated by the scattered pottery finds and the small pits containing pottery which are distributed in the south of the trench.

Middle to Late Bronze Age pottery of similar type has been found at two settlement sites in Lincolnshire. These are Billingborough, as mentioned above, and Kirkmond-le-Mire where very similar grog tempered material was found on a possible settlement location (Field and Knight 1992).

An abraded sherd, which may be Beaker, was found in early fieldwalking and this could be associated with the ring-ditch (BMD97/1015/1055/45). This could therefore have been the location of a burial or ritual site, as there seems no positive indication of a barrow. The ring ditch must have been open, and therefore in contemporaneous use when the Middle Bronze Age pottery was deposited within its fills (056 and 058). Pottery of this type has been found on several cremation cemeteries in Lincolnshire, Pasture Lodge Farm as mentioned above, at Ropsley and Humby (Lane 1995, 18-19) and Frieston and Grantham (Allen 1987). Such pottery has been found with secondary cremation burials in the barrow makeup, in the ditches, and outside the ditches at sites in southern Britain, such as Latch Farm (Piggott 1938). It is not certain whether this middle to later Bronze Age pottery in the ditches represents burial or settlement activity.

5.2 Dating

A date in the early part of the second millenium Cal. BC is usually attributed to the vessels of Collared Urn type, as proposed for charcoal associated with a Collared Urn from Barnack, Cambridgeshire (1572±38 bc BM368; Longworth 1984, 140).

Pottery of Middle Bronze Age type from Billingborough was given a date of 1520-1372 Cal. BC, but this date is now under review (Lane 1995, 19). However, a date in the middle to later second millenium BC is still considered to be appropriate for this type of bucket shaped vessel with a simple rim and finger-tip decoration (Allen 1988, 161). At Swarkestone in Derbyshire, a small bucket shaped undecorated pot of similar type was recently excavated from the remains of a sawn oak tree bole. A radio-carbon date was obtained from the wood of 3080±60 BP (Beta 104995) and this suggests a date of 1440-1145 Cal. BC (David Knight *pers. comm.*).

The later Iron Age pottery is very similar to material from Billingborough as described above, where the pottery is dated to the 1st century BC (Cleal forthcoming, 81).

At Billingborough, fabric types were seen to vary with phases of the site. In the earliest phase grog/quartz tempered pots were apparent and there was a gradual change in tempering through the phases as more shell was added, until in the fourth and final phase shell tempered wares predominated (Allen 1991; Allen forthcoming). The fabric types at Billingborough were therefore seen to be a chronological indicator of changing traditions. The lack of stratigraphy at Bourne Meadow Drove does not permit a similar interpretation, and examination of the distribution of the fabric types does not assist with the clarification of a chronological development of the features or pottery on the site.

6. SUMMARY

The excavation crosses a number of features. Pottery was excavated from some pits and ditches, and in addition sherds were recovered during fieldwalking and cleaning of the site. The pottery includes Early Bronze Age, Middle Bronze Age and later Iron age material. The ring ditch in the west of the site was open during the Middle Bronze Age period, from pottery in its fills, and this could indicate re-use of an earlier ritual or burial site. Elsewhere the pottery of the three periods probably originated from occupation areas on or close to this location. Pottery fragments from the enclosure ditch are undated. The linear nature of the excavation provides only a glimpse of promising evidence for prehistoric occupation.

7. REFERENCES

- Allen, C.S.M., 1987, 'Bronze Age Cremation Cemeteries in the East Midlands', *Proceedings of the Prehistoric Society* **53**
- Allen, C.S.M., 1988, *Bronze Age Pottery of the Second Millennium bc in the East Midlands of England* (Unpublished Ph.D Thesis, Univ. of Nottingham)
- Allen, C.S.M., 1991, 'Thin sections of Bronze Age Pottery from the East Midlands of England' in Middleton, A. and Freestone, I. (Eds), *Recent Developments in Ceramic Petrology*, British Museum Occasional Paper **81**
- Allen, C.S.M., 1997, 'Bronze Age Pottery and Fired Clay, Barton Under Needwood, Staffs', *Archaeological Excavations at Tucklehome Farm, Barton Under Needwood, Staffs*, Gifford and Partners
- Allen, C.S.M., forthcoming, 'Fabric Analysis' in Cleal, R.M.J., forthcoming.
- Arnold, D.E., 1976, 'Ecological Variables and Ceramic Production: Towards a General Model', in Raymond, J.S., Loveseth, B., Arnold, C. and Reardon, G. (eds), *Primitive Art and Technology*
- Cleal, R.M.J., forthcoming, 'Prehistoric Pottery' in Chowne, P., Cleal, R.M.J. and Fitzpatrick, A.P., *Excavations at Billingborough, Lincolnshire, 1975-8: Bronze-Iron Age Settlement and Salt-working Site*, East Anglian Archaeology
- Chowne, P., Cleal, R.M.J. and Fitzpatrick, A.P., forthcoming, *Excavations at Billingborough, Lincolnshire, 1975-8: Bronze-Iron Age Settlement and Salt-working Site*, East Anglian Archaeology
- Field, N. and Knight, D., 1992, 'A Later Bronze Age Site at Kirkmond Le Mire', *Lincolnshire History and Archaeology* **27**
- Lane, T.W., 1995, *The Archaeology and Developing Landscape of Ropsley and Humby, Lincolnshire*, Lincolnshire Archaeology and Heritage Reports Series No. **2**
- Longworth, I.H., 1984, *Collared Urns of the Bronze Age in Great Britain and Ireland*
- Piggott, M., 1938, 'A Middle Bronze Age Barrow and Deverel Rimbury Urnfield, at Latch Farm, Christchurch, Hampshire', *Proceedings of the Prehistoric Society* **4**

Table 1: Catalogue of Prehistoric Pottery

Context	Sherds No.	Frag. No.	Weight gms	Description/Comments
BMD 97 Fabric SHSM 1015/1055/45	1		1	Fine sherd, abraded, 3/4mm thick, poss Beaker, vague dec
82	1	-	9	body sherd unc
Total BMD 97	2		10	
BMD 98 Fabric SHMM Fieldwalking				
026 90/215	1	-	5	rim sherd, probably collared urn, twisted cord dec
028 90/255	3	-	44	body sherds, poss Bronze Age, very abraded
031	2	-	12	uncertain

Context	Sherds No.	Frag. No.	Weight gms	Description/Comments
Plotted Finds				
P1008	1	-	2	body sherd uncertain
P1017	2	2	4	body sherds uncertain
P1061	1	2	7	body sherd uncertain
P1070	1	-	2	body sherd uncertain
P1075	1	-	14	base sherd, very abraded: uncertain
P1107	1	-	8	body sherd Bronze Age
P1114	1	-	2	body sherd uncertain
P1120	2	-	2	body sherds uncertain
P1121	1	-	2	sm. Body sherd, prob Bronze Age
P1122	1	1	4	body sherds uncertain
P1126	1	-	1	uncertain
P1128	1	-	3	uncertain
P1138	1	-	26	body sherd, Middle Bronze Age
P1144	1	-	4	body sherd, poss Bronze Age, very abraded
P1146	2	-	3	body sherds, very abraded, uncertain
P1149	1	-	2	body sherd, uncertain
P1154	1	3	17	body sherds, very abraded, uncertain
P1159	1		13	as above
P1178	1	-	4	uncertain
P1182	1	1	2	uncertain
P1186	-	1	1	uncertain
Ring Ditch				
050	4	-	25	body sherds, probably Bronze Age
056	1	-	5	rounded rim sherd: layered
056	1	-	2	broken rim sherd
056	1	-	16	base/body sherd
056	7	1	42	body sherds, layered and abraded prob Bronze Age pot
058	1	-	88	large base/body sherd Bronze Age
Pits				
033	6	4	132	body sherds abraded Bronze Age pot
051	1	-	31	rim with possible fingernail decoration, poss Collared Urn sherd
051	1	-	7	body sherd, close to base, poss Bronze Age
060	2	-	13	body sherds, uncertain
Total SHMM	54	15	545	

Context	Sherds No.	Frag. No.	Weight gms	Description/Comments
Fabric SHSM				
Fieldwalking				
013 90/200	1	-	15	Bronze Age body sherd
020 100/230	1	-	1	fine body sherd, uncertain
021 95/240	1	-	7	body sherd, abraded, uncertain
Plotted finds				
P1002	3	-	13	body sherds, Bronze Age
P1042	1	-	4	base sherd, very abraded, uncertain
P1045	1	-	14	base sherd, Bronze Age
P1058	1	1	4	abraded, uncertain
P1083	1	-	5	body sherd, uncertain
P1105	-	1	1	layered sherd, uncertain
P1132	1	-	3	as above
P1139	1	-	6	body sherd prob Bronze Age
P1148	1	-	8	body sherd, Bronze Age
P1172	1	-	5	body sherd uncertain
P1191	2	1	18	base sherds abraded uncertain
P1192	1	-	16	body sherd uncertain
Enclosure ditch				
046	-	6	1	very abraded frags, uncertain
Unstratified				
071	1	-	2	fine rim sherd, abraded, uncertain
071	1	-	13	body sherd uncertain
Pits				
038	1	-	2	fine rim sherd, Late Iron Age
038	1	-	12	body sherd at base, late Iron Age
038	7	-	57	body sherds, late Iron Age
051	2	-	8	uncertain
052	1	-	13	sherd from collar of Bronze Age collared pot
052	5	-	53	body sherds, poss from same pot as above
060	3	3	41	uncertain
Total SHSM	39	12	322	
Fabric GRSC/QUMF				
Plotted finds				
P1006	1	-	12	body sherd, Bronze Age
P1013	1	-	18	Bronze Age sherd
P1025	1	-	19	Bronze Age body sherd

Context	Sherds No.	Frag. No.	Weight gms	Description/Comments
P1036	1	-	9	rounded rim sherd, Bronze Age bucket pot type
P1044	1	-	12	Bronze Age body sherd
P1081	1	-	15	Bronze Age body sherd
P1095	1	-	1	uncertain
P1102	1	-	5	uncertain
P1108	1	-	9	Bronze Age body sherd
P1113	1	-	6	Bronze Age body sherd
P1136	1	-	29	body sherd, decorated with rows of fingertip impressions, Middle Bronze Age
P1147	1	-	10	Bronze Age body sherd
P1151	1	2	11	Bronze Age body sherd
P1152	-	1	1	uncertain
Total GRSC/QUMF	13	3	157	
Fabric QUMF				
Fieldwalking				
018	1	-	13	Bronze Age body sherd
025	1	-	3	Bronze Age body sherd
Plotted Finds				
P1032	1	-	16	base sherd, possibly Bronze Age
P1048	1	-	2	uncertain
P1054	1	-	3	uncertain, very abraded
P1126	1	-	1	layered sherd, uncertain
P1100	1	-	7	uncertain
P1190	1	-	6	uncertain
Pit				
067	1	-	47	large abraded piece, uncertain
Total QUMF	9	-	98	
TOTAL ALL FABRICS	117	30	1,132	

Appendix 5

THE STRUCK FLINT

Tom Lane

Provenance

The material reported here is derived from several separate investigations at Meadow Drove, Bourne. Fieldwalking, trial-pitting and plotted finds came from topsoil contexts. Only eighteen struck flints came from stratified layers within features.

All the material is likely to have derived from local sources, such as river gravels.

Range

The range of material is summarised in Tables 1 to 4.

The majority of the flakes are broad and squat, which are more characteristic of later tool manufacture and a date in the 2nd millennium BC is likely. Few tools are present and the assemblage is dominated by waste material.

Table 1: Flints from fieldwalking

No.	Description
08	1 waste flake
11	1 blade, 55mm long

Table 2: Flints from Trial-pits

No.	Coordinate	Description
32	1000/1020	1 waste flake
		1 burnt flint

Table 3: Plotted flints from base of topsoil (001)

No.	Description
P.1031	1 possible core fragment
P.1053	1 possible core fragment
P.1063	1 waste flake
P.1065	1 burnt flint
P.1073	1 waste flake
P.1077	1 waste flake
P.1086	1 waste flake
P.1087	1 flake, with retouched end
P.1088	1 waste flake with possible retouched edge
P.1109	1 core fragment
P.1110	1 waste flake
P.1112	1 waste flake
P.1115	1 core
P.1116	1 waste flake
P.1119	1 waste flake
P.1125	1 waste flake

No.	Description
P.1130	1 waste flake
P.1131	1 waste flake
P.1134	1 side scraper, 30mm by 25mm
P.1137	1 waste flake
P.1139	1 possible core fragment
P.1153	1 waste flake
P.1157	1 waste flake
P.1173	1 waste flake
P.1180	1 waste flake

Table 4: Flints from stratified contexts

Context	Description
013	2 waste flakes
014	1 waste flake
015	1 flake, retouched on one edge
016	2 waste flakes
017	1 waste flake
022	1 possible core fragment
023	1 waste flake
025	1 waste flake
030	1 waste flake
031	1 core 4 waste flakes
055	1 possible core
056	1 waste flake

Condition

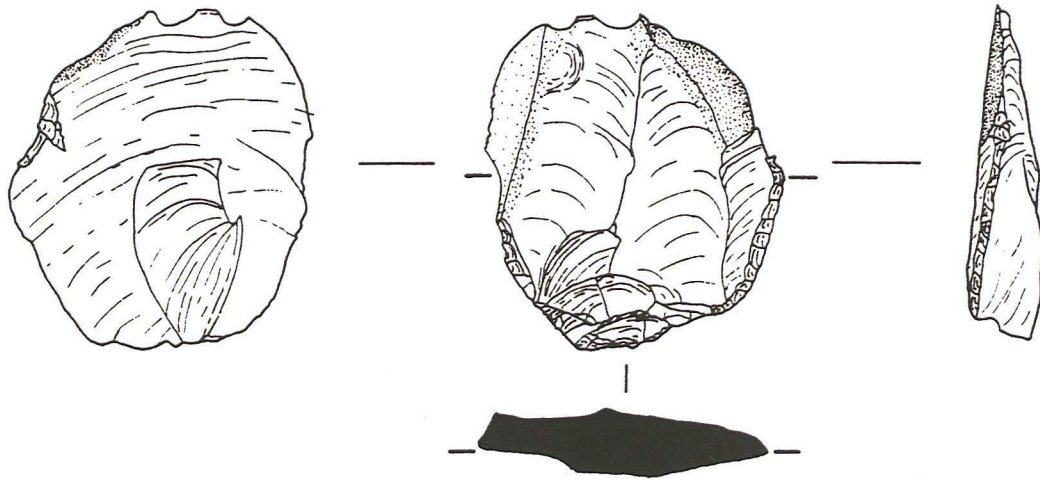
All of the material is in stable condition and presents no long-term storage problems. The assemblage should be archived by material class.

Documentation

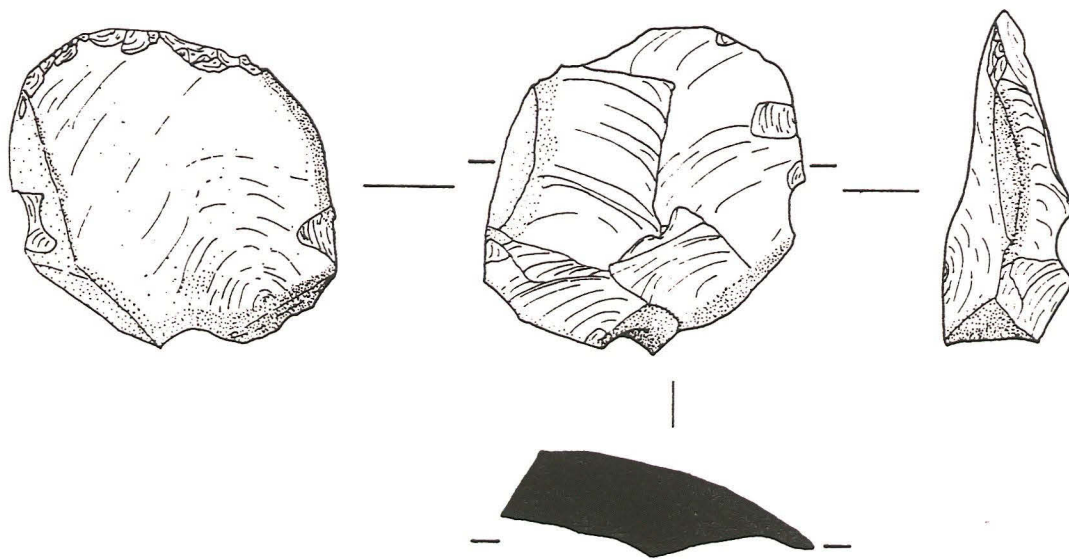
Flint assemblages from Lincolnshire have previously been produced.

Potential

Consisting of only 47 pieces, the assemblage is too small to merit statistical analysis.



P. 1134 Side scraper



015 Flake, retouched on one edge

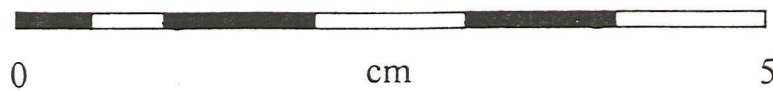


Figure 12 Worked flint

Appendix 6

ENVIRONMENTAL ARCHAEOLOGY REPORT James Rackham

The excavations by Archaeological Project Services (APS) in advance of the laying of an Anglian Water Pipeline alongside Bourne Meadow Drive, Bourne uncovered features of prehistoric date which on the basis of recovered ceramics have been dated to the early Bronze Age, middle Bronze Age and late Iron Age. A number of features were undated and others attributed to the modern era.

Animal bones were recovered during excavation and a number of soil samples were collected. The excavated bone and the flots and residues from sample processing (Table 1) were submitted for study. Not all the sample flots and residues had a full complement of information (see Table) and owing to accidents a few of the residues were lacking labels.

Table 1: Samples processed by APS for environmental analysis

site	sample	context	volume in l.	weight in kg	description	date
BMD97	53	35	10	6	possible crucible pit 034	MBA
BMD97	54		10	6.5	primary fill of cut 054	MBA
BMD98	55	60	?	8	primary fill of pit 059	und
BMD98	56	52	?	8	primary fill pit 053	EBA
BMD98	57	39	?	4.5	primary fill pit 040	LIA
BMD98	58	42	?	7	fill of animal disturbance 041	Mod
BMD98	59	82	3??	12.5	primary sequence fill of encl ditch 068	und
BMD98	61	90	?	11.5	secondary fill of ring ditch 054	MBA
BMD98	62	91	?	9	primary fill of ring ditch 054	MBA
BMD98	63	92	?	11	secondary fill of ring ditch 054	MBA
BMD98	64	93	?	13	primary fill of ring ditch 054	MBA
BMD98	65	94	?	13	secondary fill ring ditch 054	MBA
BMD98	66	95	?	?	primary fill ring ditch 054	MBA

EBA - early Bronze Age; MBA - middle Bronze Age; LIA - late Iron Age; und- undated; Mod - modern/recent.

Methods

The soil samples were processed following the standard procedures used by Archaeological Project Services and the flots and residues were submitted for study. Flots from samples 53-59 and 61-66 were received while residues from samples 53, 56, 57, 59, 61, 63, 65 and 66 were submitted. Three other residues were also received but unfortunately their labels were missing or mixed up and they had to be discarded. The flots were scanned under a lower power binocular microscope, but apart from a few small fragments of charcoal none of them produced any charred plant remains. The labelled residues were therefore dried, then refloated using a 1mm wet sieve and a 0.5mm flot sieve. These second flots and their residues were redried with the flots being scanned under the microscope and the residues sorted for archaeological and environmental finds (see Tables 2 and 3). A magnet was run through each residue in order to recover magnetised material such as hammerstone and prill.

Results

The residues of all but one of the refloated samples were composed of small and medium sharp flint gravel with occasional small pebbles and abundant concreted sediment with many root pseudomorphs. The residue of sample 59 (context 082) was in contrast a small to medium angular flint and limestone gravel with some coarse sand, but no concreted sediment.

Archaeological finds were not abundant in the sampled deposits. A few of the samples included very small

amounts of fire-cracked flint and pebble. Small quantities of fired earth were present in four, while two produced pottery, and two possible flint flakes. A single flake of hammerscale was recovered from sample 56 (context 52). The most frequent finds were fragmented pieces of burnt and unburnt mammal bone.

Table 2: Archaeological finds from the sample residues

sample	context	weight in kg	pot no/wt	fired earth	hamm scale	bone wt g.	flint flake	burnt flint	comments
53	35	6				2		+	limestone fragments
54		6.5							no labelled residue received
55	60	8							no labelled residue received
56	52	8	1/1	7	+	2		+	cracked cobble
57	39	4.5		2		3		+	
58	42	7							no labelled residue received
59	82	12.5				1			
61	90	11.5		<1		6	1		poss microlith, poss straw impression fired earth
62	91	9							no labelled residue received
63	92	11				<1		+	
64	93	13							no labelled residue received
65	94	13		1		6	1		
66	95	?	5/1			6	1		poss microlith

+ - present

Early Bronze Age

The primary fill of pit 053 in the southern area of the site is assigned to the Early Bronze Age. This was the richest sample, producing a sherd of pottery, fired earth, bone, burnt flint, a large cracked cobble stone and a relatively large flot with many comminuted fragments of charcoal. Unfortunately all of the large animal bone (probable domestic animal bone) was unidentifiable, the one charred grain was unidentifiable and only two charred weed seeds were present. This context would appear to contain merely domestic debris. The single flake of hammerscale which was recovered from the sample cannot be confidently considered as contemporary and may have moved down through the soil.

Middle Bronze Age

The bulk of the contexts assigned to the Middle Bronze Age derive from the primary and secondary fills of the curvilinear ditch (cuts 049 and 054). In addition a sample was taken from a possible crucible pit, 034, within a larger feature, cut 032 in the southern part of the excavation trench.

Animal bone is the most abundant find in the ring ditch samples, although a few small fragments of pottery were recovered from context 95 and flint and fired earth were present in some samples (Table 2). Only one of the sorted residues from the ring-ditch produced burnt flint. A small piece of fired earth from context 90 carried the parallel impressions of what may be two straw stems, perhaps suggesting a structural origin. Unfortunately the larger mammal bone was unidentifiable from all the ring-ditch samples except for a fragment of pig tooth from context 95. This context also included a fragment of the head of a femur of an unidentified wild duck. The flots from the ring ditch samples were all small (Table 3) with relatively little charcoal present. Two of the samples produced a total of three poorly preserved and unidentifiable charred cereal grains, one of these also produced a couple of charred weed seeds. Vole, water vole and frog or toad bones were present in some of the samples.

The pit sample (53) produced only bone and burnt flint finds, but also larger pieces of limestone, a number of fragments of which were burnt. Limestone (other than rolled limestone gravel) is absent from the other samples and these fragments are clearly of functional significance and are extremely unlikely to derive from the local gravels. The environmental finds included a small proportion of comminuted charcoal, two unidentifiable charred cereal grains, a charred 'sloe' stone, unidentifiable mammal bone and a fragment of a carpo-metacarpus of a thrush sized bird.

Table 3: Environmental finds from the re-floated samples

sample	cont.	flot vol.	charc	char'd grain	chaff	char'd seed	mam	bird	small vert.	burnt bone	comments
53	35	6	2	1			2	1		+	poss charred sloe stone, indet mammal bone, thrush sized bi
56	52	10	4	1		1	2	1	1	+	indet mammal bone, vole inci
57	39	4	3				2		1	+	indet mammal bone, field vole
59	82	<1	1	1			1				
61	90	<1	2				2		1	+	water vole, frog/toad
63	92	3	2	1		1	2	1	1	+	indet mammal bone, frog/toad water vole?
65	94	1	2				2		2	+	indet mammal bone, vole, wat vole
66	95	2	2	1			2	1	2	+	indet mammal bone, pig tooth vole, frog/toad, duck sp.

+ - present

Late Iron Age

A single sample from the primary fill of pit 040 in the southern part of the site has been assigned a late Iron Age date. The sample produced a little animal bone, fired clay and burnt flint. There were no charred seeds in the small charred component of the flot and only a tooth of field vole, *Microtus agrestis*, could be identified amongst the bone fragments.

Undated

Of the undated samples only 59 from context 82 was looked at. This sample produced very little, an extremely small amount of charcoal with a single fragment of charred cereal grain and a few small fragments of unidentifiable animal bone.

Conclusions

The samples have allowed little interpretation of the features. Deposits of Bronze Age date often contain very low densities of finds and environmental material and in all cases there is significantly less than one identifiable charred plant item and one gramme of animal bone per litre of sediment. Of the charred cereal grains all are unidentifiable, and although the few weed seeds are identifiable these were not taken further since they could contribute little to the study of the site. Charcoal was very fragmented and not present in any great quantity and apart from two bone fragments, a pig tooth and a duck femur, all the bone from domestic or hunted animals was too fragmented for identification. Even the presence of field vole, water vole and frog/toad in the deposits gives little real indication of the local environment of the site.

However the presence of these remains along with small quantities of fired earth, pottery, burnt flint and limestone suggests some level of domestic activity associated with the features and the ring ditch, although the field evidence for the latter has been taken to indicate a barrow ditch rather than a house gully.

Animal bone

In addition to the samples a small collection of animal bone was made during the excavation. This has been recorded following the procedures of the Environmental Archaeology Consultancy and a full archive catalogue and code key is attached (see Appendix). Fragmentation of the material was quite high and many of the pieces could be allocated to single fragments, with one or two bones being broken into a number of fragments. A substantial part of this breakage is the result of excavation and subsequent washing and drying. The total recorded fragments were 189, although the actual number of 'bits' is considerably higher.

Table 4: Summary of excavated animal bone finds

species	EBA	MBA	LIA	un-dat	field-walking	spoil-heap	Modern
Red deer		1					
Aurochs ?	3						
Cattle, dom.	10	8	1	9	5		5
Cattle size	15	16	1	7	2		9
Horse	1	1		1	1	1	2
Sheep/goat	15	9	1	6	4	1	1
Sheep		1					
Sheep size	12	3	1	1	3	2	2
Pig	2	2					
Unidentified	7	14		1		1	1

EBA - early Bronze Age; MBA - middle Bronze Age; LIA - late Iron Age; und- undated; fieldwalking- finds from fieldwalking; spoilheap - finds off spoilheap; Modern - animal disturbance.

The assemblage is not large and therefore permits little analysis. The preservation of the samples was variable with some fragments in poor condition with bone severely pitted and loss of cementum and dentine from teeth, while others remain in good condition although lacking most of their organic component. 20% of the early Bronze Age sample from occupation layer 010 shows the poorest condition, while 60% show surface pitting and some erosion, the remainder being in good condition. The poorest condition is less common in the other groups. The burial conditions are therefore likely to have had some impact on the faunal assemblage that has survived for study.

Early Bronze Age

A sample of sixty-five bone fragments was recovered and three dimensionally recorded from an occupation layer, 010, in the southern part of the site. Identified sheep/goat bones and teeth dominate in this group, with cattle almost as abundant, two fragments of pig and a single horse tooth. In addition three bones have been identified as aurochs, *Bos primigenius*, on the basis of their considerably greater size than the other cattle bone fragments in this group. Unfortunately none of these are fragments that can be measured and compared with known wild ox specimens. The majority of the finds are teeth and unidentifiable long bone fragments and the sample is too small to deserve discussion of age at death or sex, but what observations were made are recorded in the catalogue (see Appendix).

Middle Bronze Age

This group of 54 bone fragments were recovered mainly from the ring ditch, although six fragments derive from the fills of two small pits in the southern part of the site. Although identified sheep/goat bones still dominate there is an indication that cattle bones are more abundant since fragments of cattle size animal far exceed the other recorded categories. In addition to pig and horse, this assemblage also includes the radius of a red deer, *Cervus elaphus*. This group shows the first evidence for dog gnawing and its better condition is suggested by a lower proportion of teeth and a greater number of fragments with zones (see Appendix). One complete sheep metacarpus from the fill of pit 032 gives a withers height of 653mm, a little larger than the average Soay male (Clutton-Brock *et al* 1990). The sheep are generally small gracile animals and at least one lamb is evident among the remains.

Other groups

The late Iron Age group contains only four bones and those from the other columns in Table 4 are recovered from fieldwalking, animal burrows or contexts that are undated. There are no additional species present in these groups although cattle bones dominate in contrast to the dated Bronze Age contexts.

Conclusion

The animal bone sample is too small to permit any interpretive analysis. The occurrence of aurochs bones in the occupation layer, 010, is of some interest, and indicates the local survival of this species into the Bronze Age. This layer also shows a considerably greater level of post-depositional erosion and corrosion, but how this may have

effected the make up of the excavated assemblage cannot be assessed on such a small sample.

It can be presumed that the Bronze Age bone assemblages derive from domestic activity on the site and their occurrence in the ring ditch fills suggests middle Bronze Age occupation in the immediate vicinity of this proposed barrow.

Recommendations

The complete absence of charred cereal remains and low quantities of charcoal in the first flots from the soils samples suggests that the simple one process flotation of these samples in a Siraf tank was inadequate. This may in part be due to relatively high level of iron salts and the formation of sediment concretions in the deposits, but the results serve to illustrate that a double flotation process is more efficient when washing environmental samples.

The very low densities of charred plant remains in many prehistoric sediments is a limiting factor in the analysis of these remains. Sample sizes lower than 20 litres can in general therefore be expected to be inadequate for the recovery of charred cereal and seed remains. I would recommend a minimum sample size of 30 litres on all prehistoric sites unless the full extent of the deposits being sampled is smaller.

The occurrence of aurochsen bones in this assemblage is of considerable interest, but the small size of the samples from the site prohibits any detailed discussion or interpretation of the bone assemblage. However deposits with relatively high densities of animal bone, such as the ring ditch at this site, are traditionally only sectioned with the result that the quantity of animal bone collected is now rarely substantial enough for any useful analysis. I would recommend that such features are excavated in their entirety in order to recover finds and environmental assemblages that will permit useful analysis and interpretation concerning the economy and trade associations of the site.

Acknowledgements

Alison Foster refloated the samples and sorted the labelled residues.

Bibliography

Clutton-Brock, J., Dennis-Bryan, K. and Armitage, P.L. 1990 Osteology of the Soay Sheep. *Bull. Br. Mus. nat. Hist. (Zool)* 56 (1), 1-56

Appendix: Archive catalogue of animal bone from Bourne Meadow Drove, BMD98

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	comments	preservation
BMD98	13	BOS	MTT	1	F							SHAFT FRAG	3
BMD98	13	CSZ	LBF	1	F							SHAFT FRAG	3
BMD98	17	BOS	MTC	1	R				DG			SHAFT-PROX ED CHEWED-4 PIECES	3
BMD98	19	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	23	BOS	HUM	1	R	DF	6789					DISTAL HALF-VERY ERODED- 3 PIECES	2
BMD98	24	BOS	MTT	1	F							MIDSHAFT FRAG - 3 PIECES	3
BMD98	24	EQU	UM	1	R							WELL WORN - PM4 M1 OR M2?	3
BMD98	26	OVCA	TTH	1	F							FRAG CUSP	3
BMD98	27	SSZ	LBF	1	F							SHAFT FRAG	4
BMD98	28	OVCA	TTH	1	F							CUSP FRAGMENT	3
BMD98	28	SSZ	LBF	1	F							SHAFT FRAG	4
BMD98	29	OVCA	UM2	1	L					J11		CUSPS INTACT	3
BMD98	30	OVCA	TIB	1	F							DISTAL SHAFT- 3 PIECES	2
BMD98	30	CSZ	LBF	1	F							SHAFT FRAG-POROUS?	3
BMD98	31	EQU	FEM	1	R		48					MIDSHAFT-FRAGMENTED AND RECONSTRUCTED	4
BMD98	31	SSZ	UNI	1	F			B				INDET CALCINED FRAGMENT	4
BMD98	31	OVCA	LM2	1	L					J11		POST CUSP	3
BMD98	31	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	31	UNI	UNI	1	F							INDET	3
BMD98	33	OVI	MTC	1	L	DF	12345				GL-133.5 Bp-21.6 Dp-16.4 SD-12.8 Bd-24 Dd-15.8	COMPLETE- 2 PIECES	4
BMD98	33	OVCA	HUM	1	F							DISTAL SHAFT FRAG	3
BMD98	33	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	37	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	38	BOS	UM	1	F							ENAMEL FRAGS- 3 PIECES	2
BMD98	38	OVCA	SKEL	1	F					fg9h11		HUM (DN) MTT (DN) RAD SCP INN RIB MAN MAX CAL - LAMB	3
BMD98	38	CSZ	LMV	1	F			CH				DORSAL FRAG ARCH-CHOPPED	3
BMD98	38	SSZ	UNI	1	F			B				CALCINED FRAGMENT	4
BMD98	46	UNI	UNI	1	F			B				TINY FRAG CALCINED BONE	4
BMD98	48	BOS	UPM4	1	R					H12		CUSP	3
BMD98	48	OVCA	LM2	1	R					J8			4
BMD98	48	CSZ	UNI	1	F							INDET	3
BMD98	48	CSZ	UNI	3	F							INDET	3
BMD98	48	CSZ	LBF	1	F							SHAFT FRAG	4
BMD98	48	BOS	SCP	1	R	DF	1235				LG-49.2 GLP-60.3 SLC- 44.5 BG-42.5	DISTAL END - 4 PIECES	4
BMD98	48	CSZ	LBF	1	F			B				CALCINED SHAFT FRAG	4
BMD98	48	OVCA	MTT	1	F				DG			MIDSHAFT- 3 PIECES- ONE END CHEWED	3
BMD98	48	BOS	PH1	1	L	PF	12					BROKEN - 2 PIECES	3
BMD98	48	BOS	PH2	1	L	PF	12					PERIPHREAL DAMAGE	3

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	comments	preservation
BMD98	48	BOS	PH1	1	R	PF	1					PROX HALF	4
BMD98	48	BOS	HC	1	F							BASAL PART - 6 PIECES	3
BMD98	48	CSZ	LBF	1	F							SHAFT FRAG- TIB/	4
BMD98	48	OVCA	RAD	1	R							SPLIT PROX SHAFT FRAG	3
BMD98	50	BOS	SKL	1	R							ZYGOMATIC	4
BMD98	50	UNI	UNI	1	F							POSS NECK FRAGMENT OF SMZLL CSZ SCP	4
BMD98	50	OVCA	LPM4	1	F							BROKEN- 2 PIECES	2
BMD98	50	OVCA	TIB	1	F							SPLIT MIDSHAFT FRAG	4
BMD98	50	OVCA	MTC	1	F							MIDSHAFT	3
BMD98	50	OVCA	RAD	1	R		3					SHAFT- 3 PIECES	3
BMD98	50	BOS	SKL	1	F							FRONTAL- 2 PIECES	4
BMD98	50	CSZ	RIB	1	F							SPLIT SHAFT FRAG	4
BMD98	50	UNI	UNI	7	F							INDET FRAGS	3
BMD98	50	BOS	SCP	1	L		5					CAUDAL MARGIN OF NECK- 3 PIECES	4
BMD98	50	CSZ	LBF	4	F							INDET SHAFT FRAGS	4
BMD98	50	BOS	HUM	1	L		69	KN				DISTAL SHAFT-CUT ACROSS POST SURFACE	4
BMD98	50	EQU	TIB	1	L	DF	4567				SD-37.3 Bd-71 Dd-44.5	DISTAL END AND SHAFT- 2 PIECES	4
BMD98	50	CSZ	SKL	3	F							FRONTAL AND FACIAL FRAGS	4
BMD98	51	OVCA	FEM	1	F							MIDSHAFT-SMALL-POROUS-JUV-POSS SAME INDIV AS INN	3
BMD98	51	OVCA	INN	1	R		7					ISCHIAL SHAFT-SMALL-LAMB	3
BMD98	51	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	55	OVCA	MTT	1	F				DG			MIDSHAFT-BOTH ENDS CHEWED-GRACILE	3
BMD98	55	BOS	CPU	1	W		1					COMPLETE	4
BMD98	55	OVCA	HUM	1	L				DG			POST SPLIT SHAFT-GRACILE	4
BMD98	56	UNI	UNI	4	F							INDET	3
BMD98	56	CER	RAD	1	R	PF	23					MEDIAL HALF PROX END AND SHAFT-MANY FRAGMENTS-RECONSTRUCTED	4
BMD98	56	BOS	HUM	1	L		9					DISTAL SHAFT FRAGMENT	4
BMD98	56	CSZ	TRV	1	F							FRAG POST BASE SPINE	4
BMD98	56	CSZ	UNI	1	F							INDET	3
BMD98	56	SSZ	LBF	1	F							SHAFT FRAG	4
BMD98	56	CSZ	LBF	2	F							SHAFT FRAG	4
BMD98	56	SUS	SCP	1	F							FRAG CAUDAL MARGIN BLADE	3
BMD98	56	UNI	LBF	2	F							INDET-PROB HUM- SSZ OR DEER?	4
BMD98	56	CSZ	RIB	3	F							SHAFT FRAG	3
BMD98	57	CSZ	RIB	1	F							MIDSHAFT FRAG	3
BMD98	58	BOS	ATL	1	F		4					VENTRAL HALF AND PART ARCH- 3 PIECES	3
BMD98	58	BOS	TIB	1	L	DF	567				Bd-52 Dd-37.9	DISTAL END- 2 PIECES	3
BMD98	58	SUS	SCP	1	R		4					DISTAL HALF SPINE	4
BMD98	60	SSZ	UNI	1	F							INDET- 2 PIECES	3
BMD98	60	OVCA	UM2	1	R				J12			COMPLETE	3
BMD98	60	OVCA	LM3	1	L				K11/12			LAST CUSP LOST	3
BMD98	60	OVCA	HUM	1	R							DISTAL POST SHAFT FRAG	3

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	comments	preservation
BMD98	60	BOS	LPM3	1	L					G11		COMPLETE	4
BMD98	60	BOS	PH1	1	R	PF	12	KN				SL DAMAGE TO PROX END-CUT ACROSS ANT PROX END	3
BMD98	60	EQU	LM	1	L							COMPLETE-MED WEAR	4
BMD98	71	CSZ	UNI	4	F							INDET	2
BMD98	71	BOS	TIB	1	R		7		DG			DISTAL SHAFT-END CHEWED	3
BMD98	71	CSZ	UNI	1	F							INDET	4
BMD98	71	CSZ	LBF	1	F							SHAFT FRAG	4
BMD98	71	UNI	UNI	1	F							INDET	3
BMD98	71	SSZ	LBF	1	F							SHAFT FRAG	4
BMD98	71	CSZ	LBF	1	F							SHAFT FRAG	3
BMD98	71	CSZ	LBF	1	F							SHAFT FRAG- ?TIB	3
BMD98	71	BOS	ULN	1	L		3					ZONE 3 ONLY	3
BMD98	71	BOS	FEM	1	R							DISTAL SHAFT FRAGMENT-PART ZONE 4	4
BMD98	71	EQU	MTP	1	F							MIDSHAFT FRAGMENT	3
BMD98	71	EQU	MTT	1	F							PROX SHAFT FRAGMENT	4
BMD98	71	BOS	UM	1	F					12		SPLIT ENAMEL FRAGMENT	3
BMD98	71	OVCA	MTT	1	L		2					FRAGMENT SPLIT PROX END	4
BMD98	71	CSZ	CQ	1	F							VERY ERODED	2
BMD98	71	BOS	TIB	1	L		4					PROX SHAFT FRAG WITH FORAMEN	4
BMD98	84	BOS	MAN	1	L		45678			K11		ASC RAMUS- 8 PIECES	4
BMD98	89	BOS	MAN	1	R		45678			K11		ASC RAMUS- 2 PIECES	4
BMD98	1004	SSZ	RIB	1	F							SHAFT FRAG	3
BMD98	1007	OVCA	RAD	1	F							PROX SHAFT FRAG	3
BMD98	1010	SUS	HUM	1	R		69					DISTAL SHAFT	3
BMD98	1010	UNI	UNI	1	F							INDET FRAGMENT	3
BMD98	1014	CSZ	LMV	1	F	CNAN	4					CENTRUM ONLY	3
BMD98	1015	SSZ	TIB	1	F							DISTAL SHAFT FRAG- 2 PIECES	4
BMD98	1015	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1022	OVCA	LM2	1	R					J12		3 FRAGMENTS	3
BMD98	1023	OVCA	UM2	1	L					J8		COMPLETE	4
BMD98	1027	OVCA	RAD	1	L							PROX MEDIAL SHAFT-2 PIECES	3
BMD98	1033	BOS	LPM4	1	F					H7?		ENAMEL ONLY - TWO FRAGMENTS	2
BMD98	1034	BOS	LI	1	R							MED-WELL WORN	2
BMD98	1039	OVCA	UM2	1	F					J12?		ONE CUSP ONLY	3
BMD98	1043	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1043	UNI	UNI	1	F							INDET	2
BMD98	1047	OVCA	UM	1	F							ENAMEL FRAG	2
BMD98	1047	CSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1051	CSZ	RIB	1	L							PROX SHAFT FRAG	3
BMD98	1052	OVCA	CEV	1	F	CF	2					ANTERIOR PART OF VERT- 4 PIECES	4
BMD98	1055	UNI	UNI	1	F							INDET	3
BMD98	1057	CSZ	LBF	1	F			B				CALCINED SHAFT FRAG	4

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	comments	preservation
BMD98	1059	SUS	MAN	1	L					G9H9111		ANT RAMUS	4
BMD98	1060	OVCA	UM2	1	R					J11		COMPLETE-BUT 2 PIECES	3
BMD98	1066	CSZ	UNI	1	F							INDET-POSS HORSE TIB SHAFT FRAG	4
BMD98	1067	BOS	MAN	1	L							POST MEDIAL SYMPHYSEAL FRAG- 4 PIECES	3
BMD98	1068	OVCA	UM2	1	L					J8/9		COMPLETE	3
BMD98	1069	CSZ	LBF	1	F							SHAFT FRAG	4
BMD98	1072	CSZ	LBF	2	F							INDET SHAFT FRAG	2
BMD98	1076	BOS	UM2	1	R					J14		COMPLETE - SOME BREAKAGE	2
BMD98	1079	CSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1080	OVCA	MTT	1	F							MIDSHAFT FRAG	3
BMD98	1085	CSZ	UNI	1	F							INDET	4
BMD98	1090	CSZ	LBF	1	F							SHAFT FRAG- 3 PIECES- POSS MTT	3
BMD98	1091	CSZ	LBF	1	F							SHAFT FRAG- 3 PIECES	3
BMD98	1093	EQU	UM	1	R					6		LARGE-NO WEAR-PROB M1 OR 2	4
BMD98	1094	CSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1098	OVCA	UM	1	F							SPLIT CUSP	3
BMD98	1099	OVCA	UM	1	F							SPLIT CUSP-PROB SAME TOOTH AS ABOVE	3
BMD98	1111	BOS	UM	1	F							ENAMEL FRAGMENT	2
BMD98	1117	UNI	UNI	2	F							INDET	2
BMD98	1118	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1123	OVCA	LM3	1	L					K7/8		3 FRAGMENTS	2
BMD98	1124	OVCA	UM2	1	L					J12/13		COMPLETE	3
BMD98	1133	CSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1135	AUR	PAT	1	r							VERY LARGE-POSS AUROCHS?	3
BMD98	1145	SSZ	UNI	1	F							INDET	3
BMD98	1156	BOS	UM2	1	R					J12		COMPLETE	2
BMD98	1161	CSZ	UNI	1	F							INDET	3
BMD98	1163	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1163	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1163	UNI	UNI	1	F							INDET	3
BMD98	1167	AUR	INN	1	L		9					ILIAL FRAG ACETABULUM- 8 PIECES-VERY LARGE	2
BMD98	1169	SSZ	LMV	1	F							FRAG-BASE OF TRANS PROCESS	3
BMD98	1175	OVCA	MTC	1	L							SPLIT ANT PROX END	3
BMD98	1176	SSZ	LBF	1	F							SHAFT FRAG	3
BMD98	1177	SSZ	LBF	1	F			B				CALCINED SHAFT FRAG	4
BMD98	1177	UNI	UNI	1	F			B				CALCINED FRAGMENT	4
BMD98	1179	BOS	HUM	1	R		90					DISTAL MEDIAL SHAFT FRAG	4
BMD98	1183	BOS	HUM	1	F							DISTAL SHAFT FRAG	4
BMD98	1184	SSZ	RIB	1	F							MIDSHAFT FRAG	3
BMD98	1193	BOS	UM3	1	L					K12		COMPLETE-5 PIECES	3
BMD98	1194	BOS	AST	1	L		1				L1-59.8 L2-54.6 Bp-36.4 Bd-34.3	COMPLETE-SL DAMAGE	3
BMD98	1195	BOS	TIB	1	L		4					PROX POST SHAFT FRAG-WITH PART FORAMEN-V LARGE-COULD BE AUROCHS- 3 PIECES	3

Appendix 7

SECRETARY OF STATE'S CRITERIA FOR SCHEDULING ANCIENT MONUMENTS - extract from *Archaeology and Planning* DOE Planning Policy Guidance note 16, November 1990

The following criteria (which are not in any order of ranking), are used for assessing the national importance of an ancient monument and considering whether scheduling is appropriate. The criteria should not however be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case.

- i *Period:* all types of monuments that characterise a category or period should be considered for preservation.
- ii *Rarity:* there are some monument categories which in certain periods are so scarce that all surviving examples which retain some archaeological potential should be preserved. In general, however, a selection must be made which portrays the typical and commonplace as well as the rare. This process should take account of all aspects of the distribution of a particular class of monument, both in a national and regional context.
- iii *Documentation:* the significance of a monument may be enhanced by the existence of records of previous investigation or, in the case of more recent monuments, by the supporting evidence of contemporary written records.
- iv *Group value:* the value of a single monument (such as a field system) may be greatly enhanced by its association with related contemporary monuments (such as a settlement or cemetery) or with monuments of different periods. In some cases, it is preferable to protect the complete group of monuments, including associated and adjacent land, rather than to protect isolated monuments within the group.
- v *Survival/Condition:* the survival of a monument's archaeological potential both above and below ground is a particularly important consideration and should be assessed in relation to its present condition and surviving features.
- vi *Fragility/Vulnerability:* highly important archaeological evidence from some field monuments can be destroyed by a single ploughing or unsympathetic treatment; vulnerable monuments of this nature would particularly benefit from the statutory protection that scheduling confers. There are also existing standing structures of particular form or complexity whose value can again be severely reduced by neglect or careless treatment and which are similarly well suited by scheduled monument protection, even if these structures are already listed buildings.
- vii *Diversity:* some monuments may be selected for scheduling because they possess a combination of high quality features, others because of a single important attribute.
- viii *Potential:* on occasion, the nature of the evidence cannot be specified precisely but it may still be possible to document reasons anticipating its existence and importance and so to demonstrate the justification for scheduling. This is usually confined to sites rather than upstanding monuments.

Appendix 8

THE ARCHIVE

The archive consists of:

95	Context records
6	Photographic records
31	Scale drawings
66	Sample sheets
2	Processed survey data
3	Boxes of finds
1	Stratigraphic matrix
66	Processed environmental samples

All primary records and finds are currently kept at:

Archaeological Project Services
The Old School
Cameron Street
Heckington
Sleaford
Lincolnshire
NG34 9RW

The ultimate destination of the project archive is:

Lincolnshire City and County Museum
12 Friars Lane
Lincoln
LN2 1HQ

The archive will be deposited in accordance with the document titled *Conditions for the Acceptance of Project Archives*, produced by the Lincolnshire City and County Museum.

Lincolnshire City and County Council Museum Accession Number: 304.97

Archaeological Project Services Site Code:	Evaluation	BMD97
	Excavation	BMD98

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

Archaeological Project Services shall retain full copyright of any commissioned reports under the *Copyright, Designs and Patents Act 1988* with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

Appendix 9

GLOSSARY

Bronze Age	A period characterised by the introduction of bronze into the country for tools, between 2250 and 800 BC.
Context	An archaeological context represents a distinct archaeological event or process. For example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretations of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, <i>e.g.</i> (004).
Cropmark	A mark that is produced by the effect of underlying archaeological features influencing the growth of a particular crop.
Cut	A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, <i>etc.</i> Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.
Fill	Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be back-filled manually. The soil(s) which become contained by the 'cut' are referred to as its fill(s).
Geophysical Survey	Essentially non-invasive methods of examining below the ground surface by measuring deviations in the physical properties and characteristics of the earth. Techniques include magnetometry and resistivity survey.
Iron Age	A period characterised by the introduction of Iron into the country for tools, between 800 BC and AD 50.
Layer	A layer is a term to describe an accumulation of soil or other material that is not contained within a cut.
Medieval	The Middle Ages, dating from approximately AD 1066-1500.
Natural	Undisturbed deposit(s) of soil or rock which have accumulated without the influence of human activity.
Neolithic	The 'New Stone Age' period, part of the prehistoric era, dating from approximately 4500-2250 BC.
Post-medieval	The period following the Middle Ages, dating from approximately AD 1500-1800.
Prehistoric	The period of human history prior to the introduction of writing. In Britain the prehistoric period lasts from the first evidence of human occupation about 500,000 BC, until the Roman invasion in the middle of the 1st century AD.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.