'Aspects of Later Prehistoric Settlement in Lincolnshire: a Study of the Western Fen Margin and Bain Valley'

by Peter Chowne.

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ABSTRACT

The objective of this research was to examine the development of settlement in Lincolnshire during the 4th-1st millennia B.C. by a detailed investigation of two contrasting areas, the western fen margin and the Bain Valley.

To understand how the fen margin settlements evolved it was necessary to study the development of the ancient landscape. This was achieved by a combination of fieldwalking, examination of aerial photographs and by recording fenland drainage sections. By studying the soils and their depositional history it was possible to relate drying out and flooding episodes to the traditional fenland sequences. The excavation of a Bronze Age and Iron Age settlement at Billingborough was described in detail and compared with similar remains from other sites.

The Bain Valley was studied by a combination of survey and excavation. An area between Ludford and Tattershall was investigated by fieldwalking transects across the valley and onto the Wolds. A detailed survey of two flint scatters was undertaken. The results of two major excavations at Tattershall Thorpe were presented. One was a Neolithic settlement with associated ceramics and lithic industry the other an Iron Age defended enclosure with waterlogged ditch deposits.

The two study areas were then compared, contrasted and discussed in a broader context. Results of the research suggest that a mixed agricultural economy developed on the western fen margin in the Bronze Age and a predominantly pastoral economy in the Bain Valley and on the Wolds. Early in the 1st millennium, in a period of increasing wetness and flooding, settlement patterns changed with the Witham Valley becoming the focus of attention a role it continued to play in the Iron Age. A shift towards semi-urban settlement takes place in the 1st century B.C. with the formation of major Iron Age centres. Extensive land divisions also appear at this time and it is suggested that these may relate to the territories of these centres.

ABBREVIATIONS

Abbreviations in the Bibliography are as recommended by the Council for British Archaeology except for some foreign journals where the title of the periodical is given in full to assist the reader.

mm.	millimetres
cm.	centimetres
m.	metres
km.	kilometres
ha.	hectares
OD	Ordnance Datum
R.C.H.M.	Royal Commission on Historical Monuments
N.G.R.	National Grid Reference
CO-ORD	" " "
EXT:	exterior surface
INT:	interior surface
DIA:	diameter
MES	Mesolithic
NEO	Neolithic
BA	Bronze Age
LBA	Late Bronze Age
IA	Iron Age
RB	Romano-British
AS	Anglo-Saxon
MED	Medieval
PME	Post Medieval

Radiocarbon dates are presented as bc when uncalibrated and B.C. when calibrated. Where possible the calibration has been made using the tables of Pearson and Stuiver (1986). When a date falls outside of the range of their calibrations the tables of Ralph *et al* (1973) have been consulted.

ACKNOWLEDGEMENTS

During the period of my research and in the production of this thesis I have received help in various ways from many people. It is impossible to thank them all here and omission from these acknowledgements does not imply ingratitude.

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Finally, I offer thanks to my wife Anne who has, as always, supported me with love and patience. This thesis is dedicated to her and to the memory of my mother Rosemary Chowne who never lived to see its completion.

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INTRODUCTION

The research on which this thesis is based developed from excavations carried out by the author at Billingborough during 1975, 1977 and 1978. To explain the way in which the study has evolved it is necessary to consider the state of Lincolnshire prehistory prior to the Billingborough excavations.

In 1933 and 1934 C. W. Phillips published a major review of archaeology in Lincolnshire. Part I was devoted to the topography of the county and a summary of antiquarian activity followed by a description of the monuments and museum collections, by period, up to the Bronze Age/Iron Age transition. Part II was concerned with the Iron Age, Romano-British and Anglo-Saxon periods. In the 1930s Phillips also produced several papers on Neolithic long barrows in Lincolnshire (1932, 1934) and in 1936 a full report on his excavations at the Giants' Hills long barrow. This remained the only substantial excavation of a prehistoric site in the county to be published until 1976.

Phillip's work on the county was supplemented by a paper published by C. F. C. Hawkes in 1946 on the occasion of the Royal Archaeological Society's visit to Lincoln.

Bronze Age studies began with the research of P. J. Davey into the distribution of metalwork (1971) and the publication of a corpus with discussion in 1973.

Some excavations did take place on Bronze Age sites such as the funerary monuments at Salmonby and Stainsby in the 1950s and Butterbump in the early 1970s but the definitive accounts of this work have yet to appear in print. However, in 1976 J. May produced an extensive

review of Lincolnshire's prehistoric archaeology. This book, written in 1974, describes all the significant material in museum collections and private hands, discusses the work of antiquarians and archaeologists and includes plans of unpublished sites such as Stainsby. All this information was presented within the broader context of British prehistory.

The publication of Prehistoric Lincolnshire was closely followed by Simpson's account of his 1963-5 excavations of a Bronze Age round barrow cemetery in the Welland Valley at Tallington (Simpson, 1976).

From the excavations at Billingborough in 1975 and 1977 it was clear that Bronze Age settlements, rich in artefacts, existed on the fen margin in Lincolnshire (Chowne, 1978). A reassessment of fieldwalking collections made by the Cardyke Research Group, primarily from the fen margin between Bourne and Anwick, demonstrated that the settlement at Billingborough was but one of several and that sites also existed on the limestone uplands in the Grantham area (Chowne, 1977).

When I began research my objective was to describe the results obtained from Billingborough in a local and regional context using, in the main, published information and material in museums. It soon became apparent that this approach would merely be an extension of the work of Phillips, May and Davey and do little to advance our knowledge of the prehistoric environment, economy and society. More primary data, of a non-funerary nature, was clearly required therefore the greater part of my research has been in the field with museum collections only being examined to answer specific questions. Two areas of Lincolnshire were selected for detailed study, the Fenland and the Bain Valley (Fig. 1).

The site at Billingborough lies on the edge of the silt fen ideally placed to exploit the fertile well-drained gravels, freshwater fen, salt marsh and the upland clays and limestone. However, much of the evidence for prehistoric activity lies buried under several metres of alluvium and new techniques for the study of fenland deposits were developed. The results of this work appear in Chapter 1. Chapter 2 is devoted to field survey and aerial reconnaissance. The excavations at Billingborough are the subject of Chapter 3.

The Bain Valley was selected as the second study area for several reasons. Firstly nothing was known about the prehistoric archaeology of the valley; secondly within the valley and on its slopes are a variety of geological forms and soil types as on the fen edge; and thirdly the Bain Valley, at its lower end, merges into the fenland. In Chapter 4 the environmental background is considered. This is followed, in Chapter 5, by the results of field survey. Chapters 6 and 7 are given over to the excavations of two different sites at Tattershall Thorpe.

In the final section of the thesis, Chapters 8 and 9, the two study areas are compared, contrasted and discussed in a broad context.

Whilst research was in progress a major survey of the fenland was initiated by the Fenland Project. Inevitably their work has overlapped with my research but as yet little of the Fenland Project work has been published. The writer has been in close contact with individuals working in the field and therefore kept up to date with developments. However, no information published after September 1985 is considered in this study except in exceptional cases where it has been possible to consult recent publications whilst writing Chapters 8 and 9.

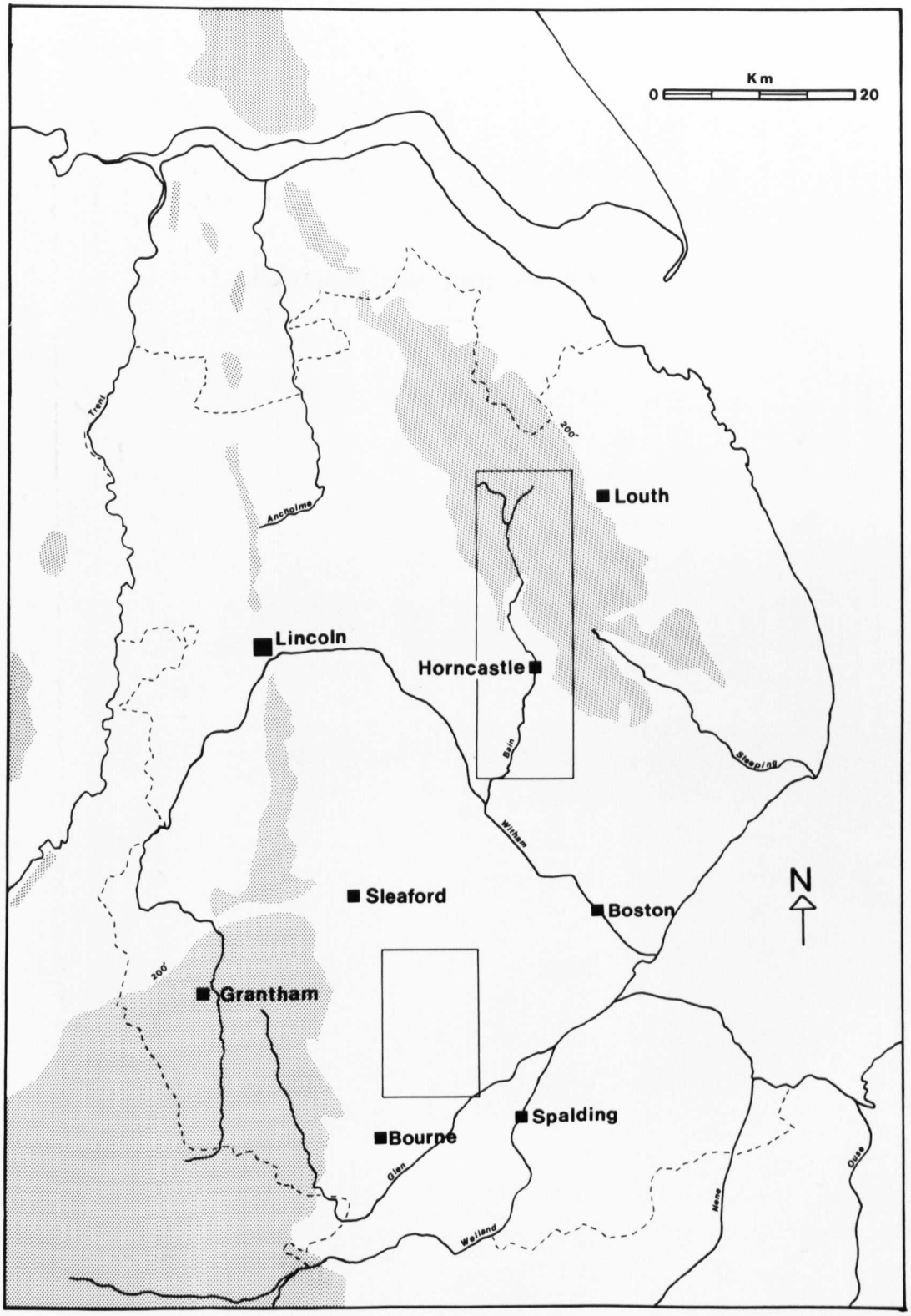


Figure 1. Location map of study areas.

PART ONE

THE WESTERN FEN MARGIN

CHAPTER ONE

The Environmental Background

1.1. Geology and Topography

The Fenland is an area of approximately 2024 sq. km. which seldom rises more than 5 m. above sea-level. To the north and south are uplands of chalk which once formed a continuous ridge bisected by major river channels. Jurassic rocks, mainly limestone and ironstone, lie to the west. Erosion of the chalk by the rivers resulted in the creation of a basin extending into what is now the North Sea. Glacial action, isostatic change and variations in sea-level have led to the deposition of clays, gravels and alluvium in the Fenland basin. This natural process continued, more or less unchecked, until the onset of extensive drainage work in the seventeenth century.

During the last glacial stage, the Devensian, most of the Fenland basin was covered by an extra-glacial lake. Ice extended from the eastern Wolds around their southern edge as far as the modern parishes of Stickney, Stickford and Sibsey. By about 13000 B.P. the ice had retreated leaving behind deposits of till (boulder clay) (Kent, 1980).

The eustatic rise in sea-level during the early post-glacial period resulted in the deposition of clay, silts, sands and gravels on the coast, in the river valleys and the Fenland. This rise in sea-level together with the gradual change to an oceanic climate led to growth of extensive tracts of peat in the north Fens, Ancholme, Trent and Humber valleys (Smith, 1958). Radiocarbon dates obtained from peat at Kingston upon Hull suggest that

this process took place during the seventh millennium B.C. (6890 ± 100bc IGS-C14/100 and 6970 ± 100bc IGS-C14/99) (Gaunt & Tooley, 1974).

A similar date can be postulated for the growth of peat in the southern Fenland. Microliths with an associated flint industry were recorded by Clark (1933) at Peacock's Farm, Shippea Hill, Cambridgeshire. The flints were found in a thin sandy layer in the lower peat. A study of the pollen remains by Godwin dates this layer to zone VI c.

The southern Fenland environment has been subjected to a considerable amount of research particularly the stratigraphy, sea-level changes and vegetational history (Skertchly, 1877; Miller and Skertchly, 1878; Godwin, 1940; Willis, 1961; Churchill, 1970; Godwin, 1978; Shennan, 1982).

A general sequence for the southern fenland deposits is presented below.

Table 1.

DEPOSIT	POLLEN ZONE	DATE B.C.	
Upper peat			LBA
		2400-2000	
Fen clay	VII b	3000	Neolithic
	VII		
Lower peat	VI		Mesolithic
Jurassic or Oxford Clay			

It is stressed that this is a simplified sequence. There are innumerable local variations and with the continuous developments of scientific dating techniques the chronology of the sequence will be refined.

Although, as indicated above, there has been a limited amount of research into the nature of Fenland and riverine deposits in the south and north of the county the central area has been almost totally neglected. The reasons for this are that surface peats do not extend into this area and it has been assumed that marine silts blanket the area thus making research into prehistoric deposits difficult if not impossible. Exceptions to this have been the pioneering works of Swinnerton (1931, 1932), Smith (1970) and Simmons (1980). Romano-British coastlines, sea-level changes and drainage have been studied by Hallam (1961) and Simmons (1979).

The central Fenland area extends from the River Slea/Kyme Eau in the north to the beginning of the peat in the south at Dyke. Between these two points is an extensive tract of clays and silts bounded to the east by the Wash; and thinning out to the west as the land rises up to the Jurassic limestone ridge which reaches a height of 90 m. just east of Grantham. Billingborough village is situated 16 km. south of Sleaford between the 15 m. and 7 m. contours at a point where the limestone dips beneath fen-edge gravels. A series of west/east watercourses, fed from springs, run from the limestone through the gravels, clays and silts, to drain into the seventeenth century Forty Foot Drain. East of the Car Dyke these watercourses, known locally as lodes, have been canalised, probably in the Romano-British period (Simmons, 1979). The precise origin of the fen-edge gravels is uncertain but they are undoubtedly river terrace gravels probably from an early course of the

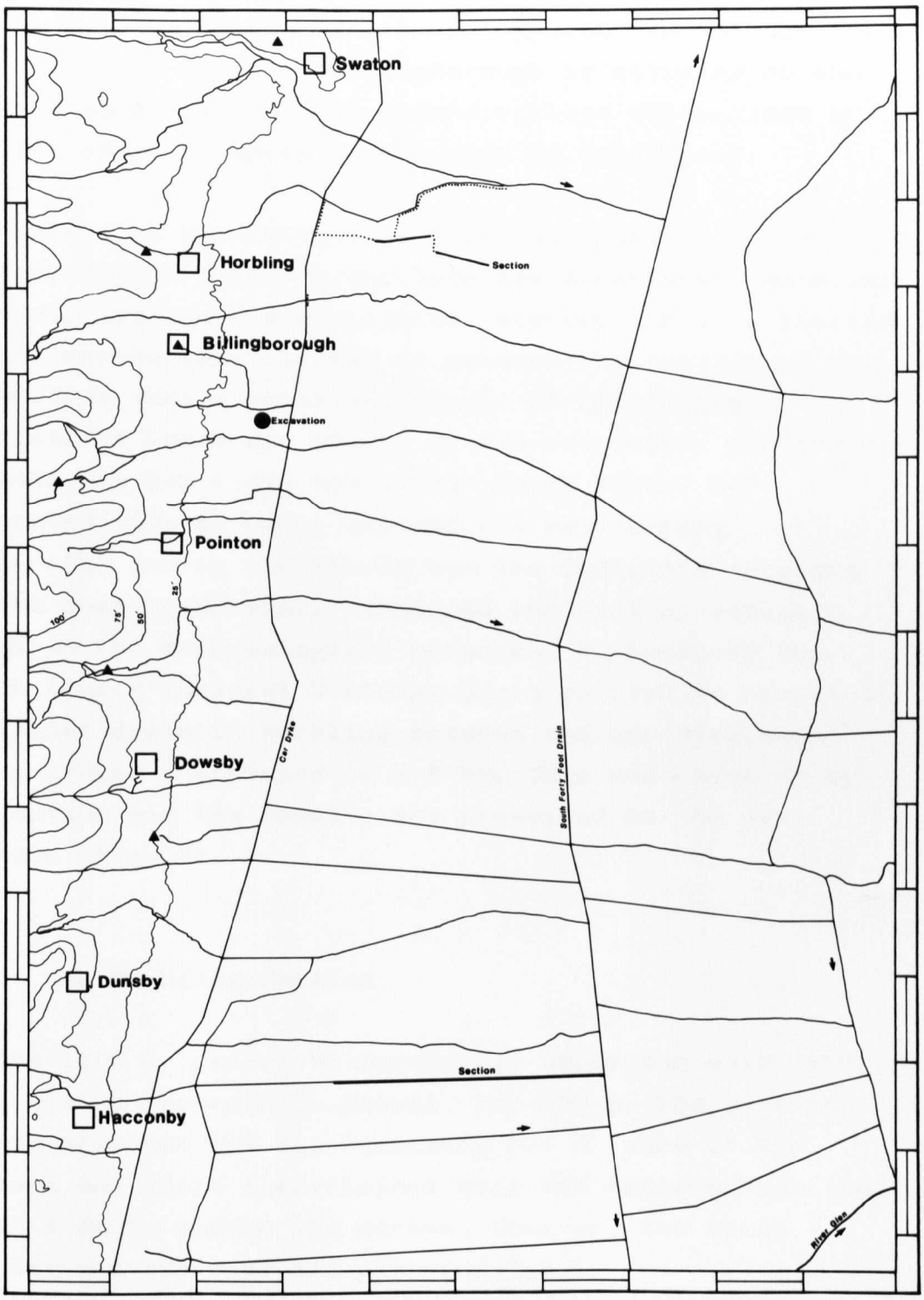


Figure 2. Location map of Horbling Fen section; Hacconby Fen section; and Billingborough excavations.

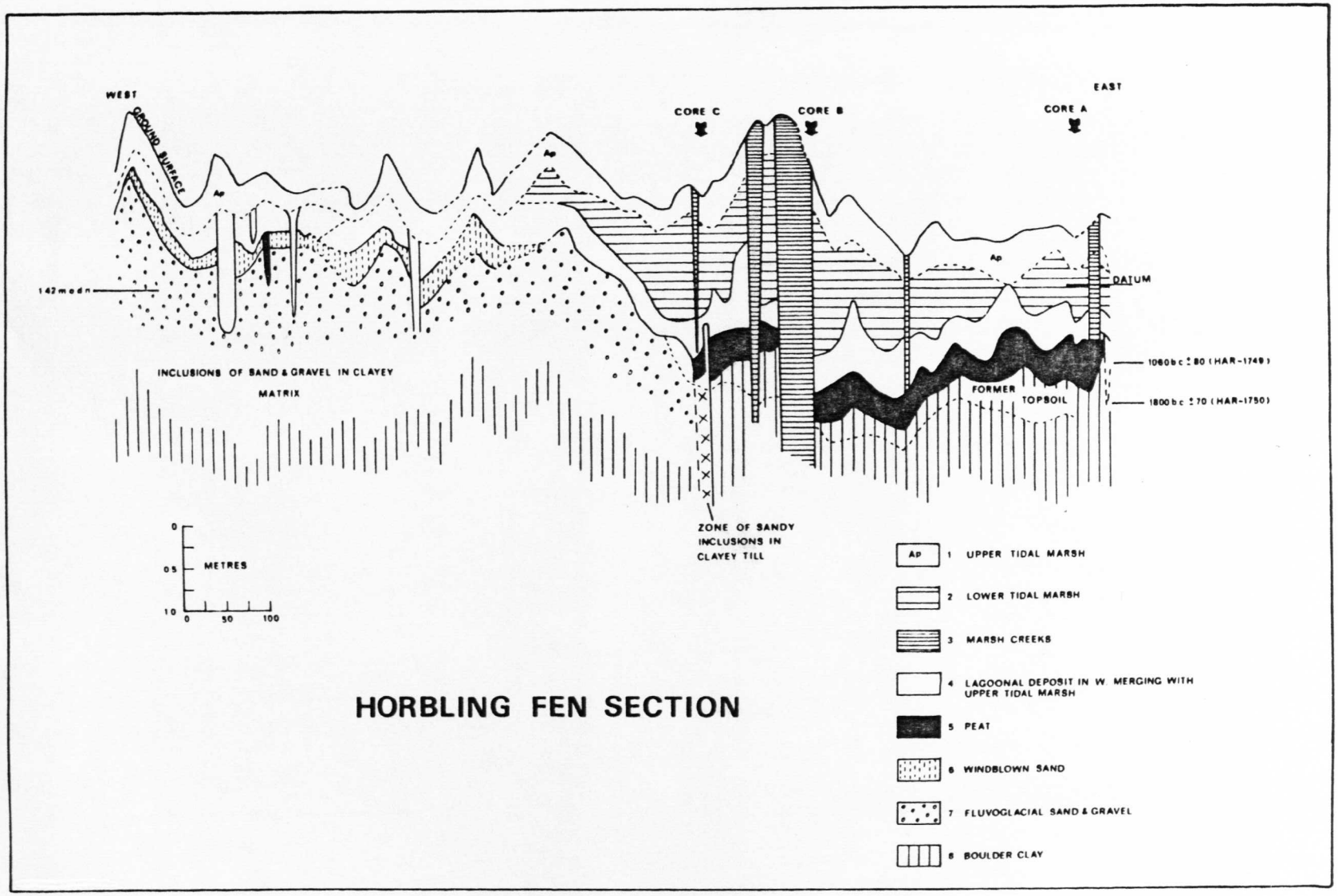
Witham. To the north of Billingborough is the village of Horbling which, like all of the fen-edge villages between Bourne and the River Slea, is located on the spring line. The excavated site at Billingborough is situated on the gravels south-east of the modern village 500 m. west of the fen (Fig. 2; springs indicated by triangles).

The extensive excavations at Billingborough produced evidence for Bronze Age and Iron Age structures, material culture, landscape organisation, economy and to a limited extent environment. It was to enhance the results of the excavation that a means was sought to record the prehistoric landscape which, it was suspected, continued beneath the fen clays and silts. Smith (1970) had attempted this by using the records made during commercial boring operations but the sediments recorded by the companies rarely contained the sort of detail required for archaeological purposes. Fortunately the Black Sluice Internal Drainage Board decided to re-cut an west/east drain in Horbling between the Car dyke and Cross Drove, a distance of 2.3 km. This was recorded by the author and the results are presented in the next section (Fig. 3).

1.2. The Horbling Section

Of the 2300 m. re-cut by mechanical excavator only 1200 m. could be recorded in detail. For 250 m. the section ran north/south and the remaining 850 m. were at the western end where insufficient soil was removed from the drain side to expose the strata. However, the whole section was observed and photographed.

The methods chosen to record the section were as follows. A dragline with toothed bucket was employed by the



HORBLING FEN SECTION

Figure 3.

drainage authority. this meant that the section was uneven and the strata obscured. Cleaning of the entire length of drain was not possible so a section 2 m. wide was cleaned by hoe and trowel every 20 m. or when a feature was encountered. A temporary bench mark was established at the western limit of the section and a datum line extended from it. The entire length of the re-cut drain was recorded photographically using a 35 mm. camera equipped with a 35 mm. focal length lens. Colour transparencies were found to provide the most accurate colours and were the easiest medium to use in the field (see wallet at rear of volume). All features were photographed in close up and general views of the section made. Every 20 m. levels were taken at the top of the section and at the interface of layers, and the strata recorded in detail. The entire section was drawn at a scale of 1:50 with features at 1:20. Cores were extracted by mechanical auger at three points in the section. These were 6" diameter and 2 metres in depth. A detailed study of the cores was carried out by the Soil Survey of England and Wales. Samples were taken for pollen analysis and radiocarbon dating at the western end of the section.

Detailed soil and feature descriptions, levels and the catalogue of photographs are presented as Appendix I.

Interpretation of Results

Results of the Horbling Fen investigation are presented in the form of a section drawing (Fig. 3). The section is best considered in two parts as a dramatic change in the nature of the deposits takes place at 471 m. from datum.

The basal layer visible at the eastern end of the section (6) is a chalky till deposited in a glacial period, probably the Devensian but this is by no means certain (Pl. 1). Above this layer is a palaeosol (5) which

PLATE 1. Horbling Fen section at 8 m. from datum

PLATE 2. Horbling Fen section general view of western part of section

contains pockets of charcoal (7) dated by radiocarbon assay to 1800 ± 70bc (HAR-1750). When calibrated according to the method suggested by Pearson and Stuiver (1986) this date falls in the range 2145 - 2195 B.C. On top of palaeosol is a layer of peat (4) formed in a freshwater fen environment. A radiocarbon date of 1060 ± 80bc HAR-1749 has been obtained from a bulk peat sample. In calendar years this converts to 1280 B.C. This date compares favourably with one of 1198 ± 57bc (BM-1410) (1435 B.C. when calibrated) from Billingborough obtained from charcoal found in an enclosure ditch abandoned as a result of freshwater flooding. Further evidence to support this argument will be presented in Chapter 3. Freshwater fen conditions were replaced by a still water lagoon. This is represented by a layer of clay (3) the profile of which clearly follows the undulations in the former land surface. A thick layer of marine clay (2) overlay the lagoonal deposit indicating a change to tidal saltmarsh cut by creeks (Feature Nos. B - E; G; K) as can be seen around the Wash in the Boston area today (Pl. 3). The change to a marine environment was also detected at Billingborough.

A dramatic change takes place at 471 m. from datum. The palaeosol (5) and peat (4) die out and the lagoonal clay (3) continues and merges with tidal marsh deposits (17). Sand and gravel mixed with till (14) appears in the section where the peat dies out. The land also starts to rise considerably from this point possibly indicating a prehistoric coastline.

West of a point 944 m. from datum a palaeosol re-appears (18) in the form of windblown sand (Pl. 2). It continues to the end of the section where it enters the plough zone. The effect of the sea is not so apparent in the

western part of the section although the layer of marsh clay (17) with its creeks can still be detected.

A peat filled ditch (Feature H) was located 797 m. from datum. This feature was cut through the palaeosol and sealed by marsh clay. No direct dating evidence for the ditch was found but it is suggested that a Bronze Age date is most likely. Additional evidence for this suggestion will be presented in Chapter 2. Another ditch, 2 m. wide was located 943 m. from datum (Feature J). Its form suggests a natural watercourse.

When considered with the excavated evidence from Billingborough the results of the Horbling Fen section have proved to be invaluable. However, we are dealing with a relatively small area of Fenland so when a major drain was re-cut in Hacconby Fen a second section was recorded (Fig. 2).

1.3. The Hacconby Section

The Hacconby section differs from the Horbling example in several aspects. Instead of running out of the fen onto the margin it starts at the Forty Foot Drain in the lowest part of the fen and stops just over 3 km. to the west approximately 2 km. from the margin. At Horbling the depth of section rarely exceeded 3 m. with 50 cm. of water in the drain whilst at Hacconby it reached 9 m. with 1.5 m. of water (Pl. 4). The Hacconby section was also unstable to the extent that re-cutting was abandoned after a major collapse of the bank and public highway carried on it. For these reasons a slightly different method was adopted for recording the section.

PLATE 3. Natural salt marsh at Frampton

PLATE 4. Natural creek at Frampton in the process of silting up; note the laminated section centre left

The first 100 m. from the datum was cleaned by mechanical excavator, work was then abandoned, and after several weeks test scrapes were made at irregular intervals along the drain. A 2 m. wide section was cleaned by hoe and trowel at each test scrape. The length re-cut by machine was cleaned at 25 m. intervals. Each cleaned area was photographed, levelled, drawn and the soils recorded. Samples were taken for radiocarbon dating.

For soil descriptions, levels and section locations see Appendix II.

As it was impossible to record the strata between cleaned sections a drawing comparable to Figure 3 has not been produced. Twelve individual section drawings are presented in Figures 4-7. Distance from the datum is given at the top of each section. Modern sea-level is indicated by the symbol 0-. Scales are 1:50 vertical, 1:20 horizontal except at 169.35 from datum where the horizontal scale is also 1:50.

Interpretation of results

The lower levels of the section between 23.5 and 1581 m. from datum are comparable to those recorded in the Horbling section. A chalky till forms the basal layer (10). This is sealed by a palaeosol (9) which is directly below a layer of peat (8). Charcoal from the palaeosol yielded a radiocarbon date of 1560 ± 70bc (HAR-5657). When calibrated this date falls in the range 1830 - 1880 B.C. As at Horbling a lagoonal deposit (7) and a tidal marsh clay (6) overlay the peat layer (8). Above the tidal marsh deposit is a layer of silt (4/5). A second peat layer (3) is associated with the silt. At the eastern end of the section the peat forms a continuous layer on top of the silt but by 142.5 m. from datum it is an integral part of the silt layer. At 169.5 m. from

datum the peat is present only in the form of isolated pockets. By 502.5 m. from datum it appears again as a continuous layer. The anomaly at 169.5 m. from datum can be explained by the presence of a large marsh creek (12) which would have formed a slightly raised area thus inhibiting the growth of peat. Another marsh creek was located at 1581 m. from datum (15).

There is some evidence for human activity visible in the recorded section. At 77.6 and 142.5 m. from datum depressions in the till (10) may represent ditches contemporary with the formation of the palaeosol. However, as the former land surface is extensively leached this interpretation should be treated with caution. More positive evidence human activity can be demonstrated at 112.6 m. from datum where the peat layer (8) contained a considerable amount of charcoal which provided the radiocarbon date cited above. Associated with this burnt material is a disturbance in the upper surface of the peat in the form of a depression filled with clay (11).

Higher in the section at 1581 m. from datum more evidence for human activity can be seen. Here the section cuts through a broad shallow ditch which contained fragments of animal bone probably from sheep. Adjacent to the section is an extensive Romano-British settlement and it is suggested that both the ditch and bones belong to this site (Phillips, 1970, Pl. XI). Another ditch, probably Romano-British, appears at 1851 m. from datum in the same stratigraphical context but with no associated artefacts. In the lower part of this section and at 3008 m. from datum the lagoonal deposit (7), lower peat (8), palaeosol (9) and till (10) have been replaced by a silty clay (17) and a gleyed clay (18). This suggests that the western part of the recorded section was permanently under water.

PLATE 5. Hacconby Fen section general view of eastern part of section

PLATE 6. Hacconby Fen section at 169.35 m. from datum

The upper peat (3) at this point is scorched indicating an extensive peat fire; there is no evidence to suggest whether or not this was a natural or man made occurrence.

1.4. Conclusions

Using the evidence from the two recorded sections it is possible to suggest a general model for the evolution of the western fen area. The model will be further refined when the results of field survey, excavation and molluscan analysis are considered in Chapters 2 and 3.

i. At the end of the third millennium B.C. dry land conditions prevailed for at least 5 km. from the present day fen margin in an easterly direction. A palaeosol had formed at and often below the present day sea-level. However in the lowest part of the fen at Hacconby open water existed and this probably extended southwards to the Cambridgeshire peat fens where it is represented by the fen or buttery clay dated to pollen zones VII and VIIb probably around 3000 - 2400 B.C.

ii. In the latter part of the second millennium B.C. freshwater flooding created suitable conditions for the growth of peat over a wide area. The absence of substantial tree remains such as bog oaks suggests that the peat formed in a relatively clear landscape. The evidence from the Horbling Fen and Hacconby Fen sections adds to the suggestion of a period of climatic deterioration during the later Bronze Age (Piggott, 1972).

iii. During the early part of the first millennium B.C. the area was totally flooded by the sea. There then

followed a regression period with limited drying out and the formation of tidal marsh conditions.

iv. Dry land conditions returning in the late first millennium B.C./early first millennium A.D. assisted by Roman fen drainage schemes (Simmons, 1979).

v. Freshwater flooding as indicated by the growth of peat over Romano-British features in the Hacconby section. This probably occurred during the middle part of the first millennium A.D. following the collapse of the Roman administrative system.

PLATE 7. Hacconby Fen section at 1851 m. from datum

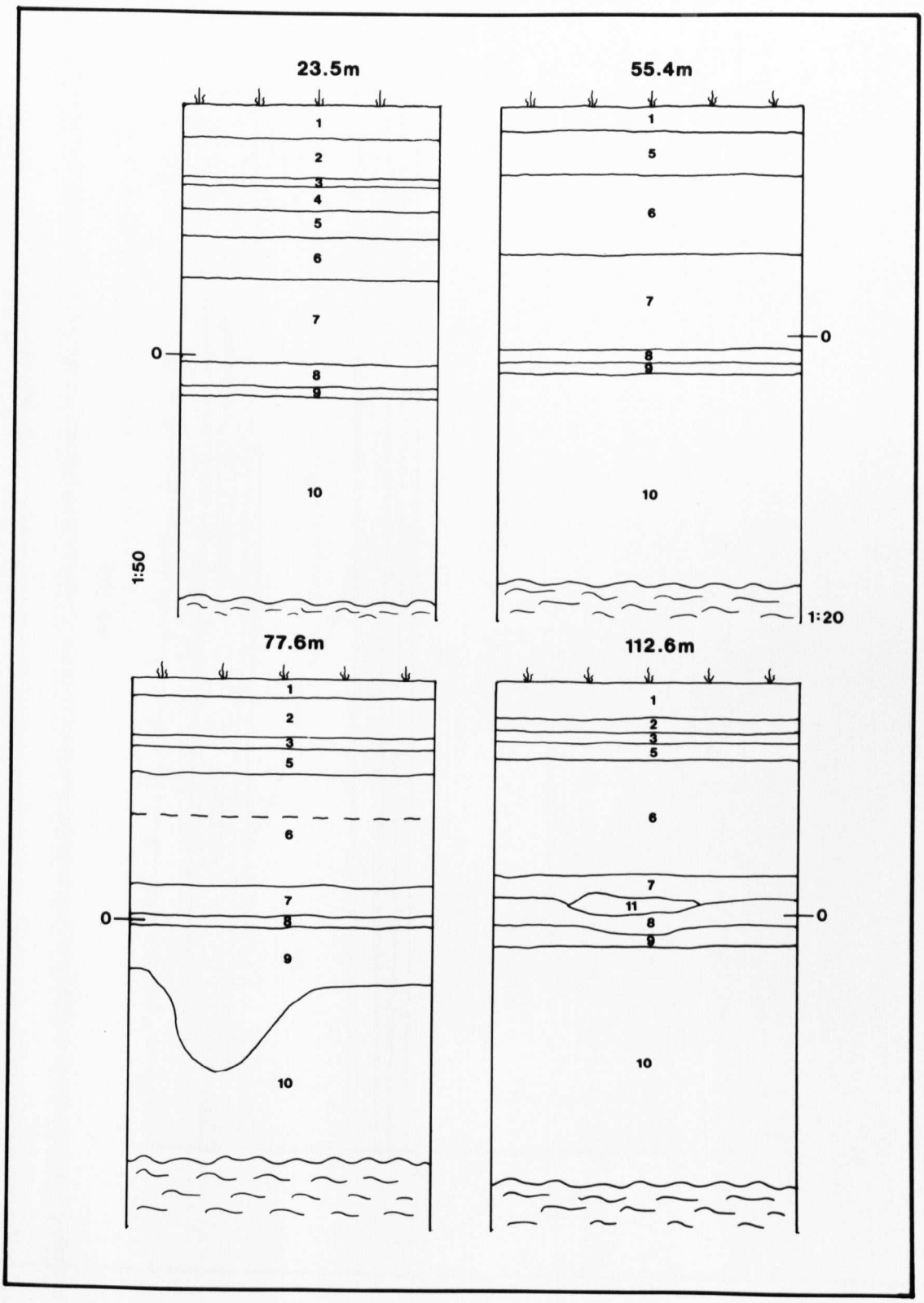


Figure 4. Hacconby Fen section drawing

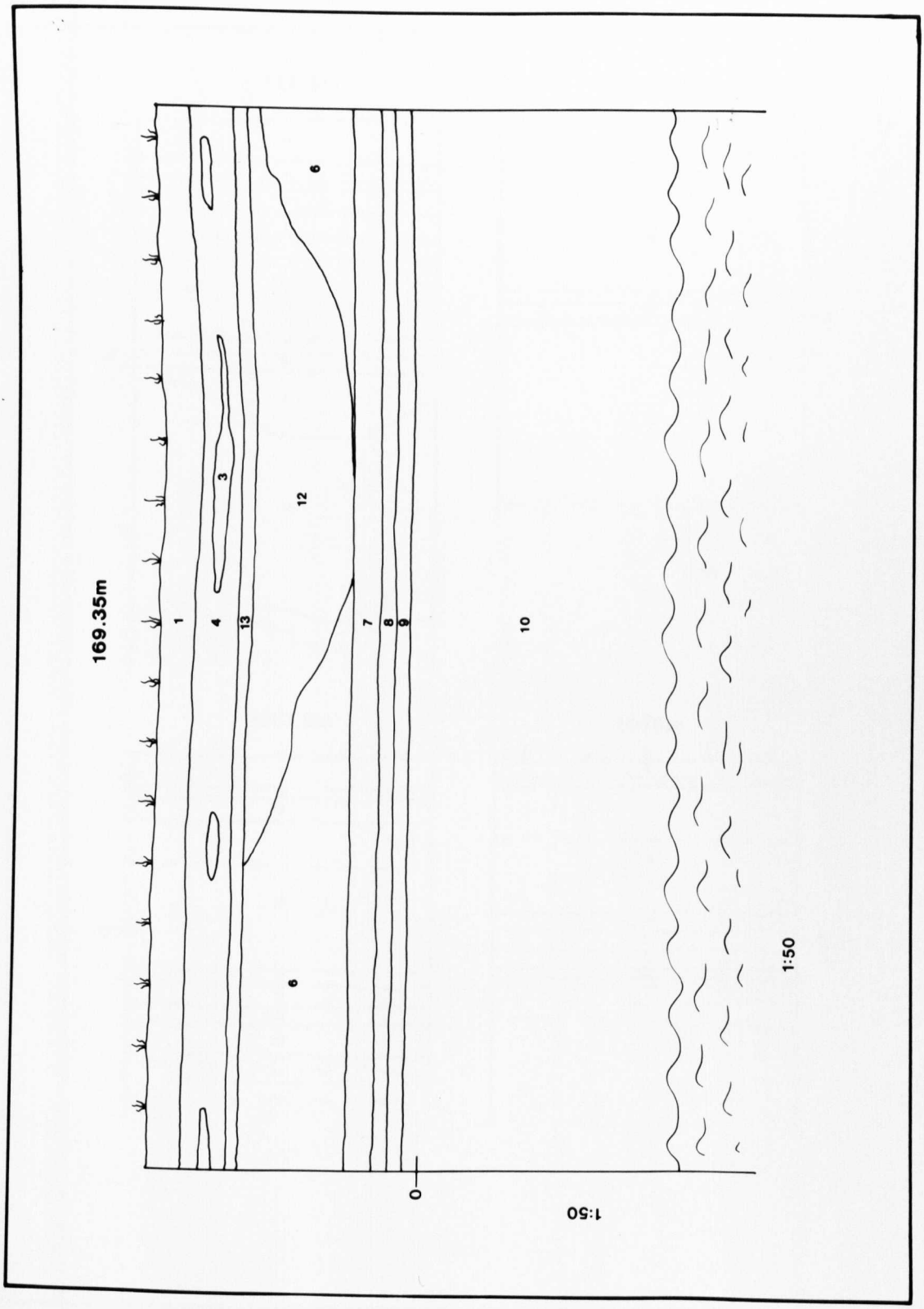


Figure 5. Hacconby Fen section drawing

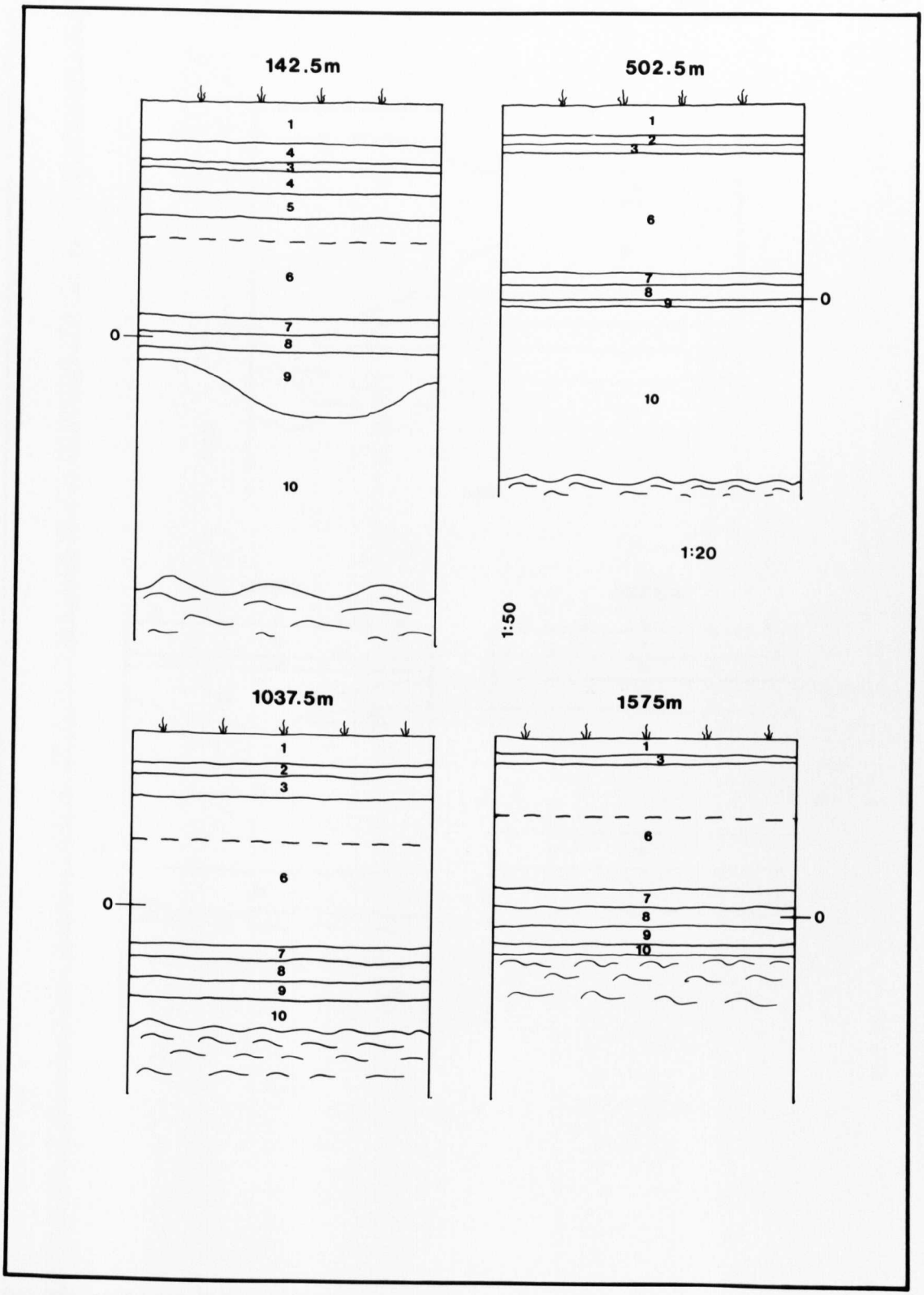


Figure 6. Hacconby Fen section drawing

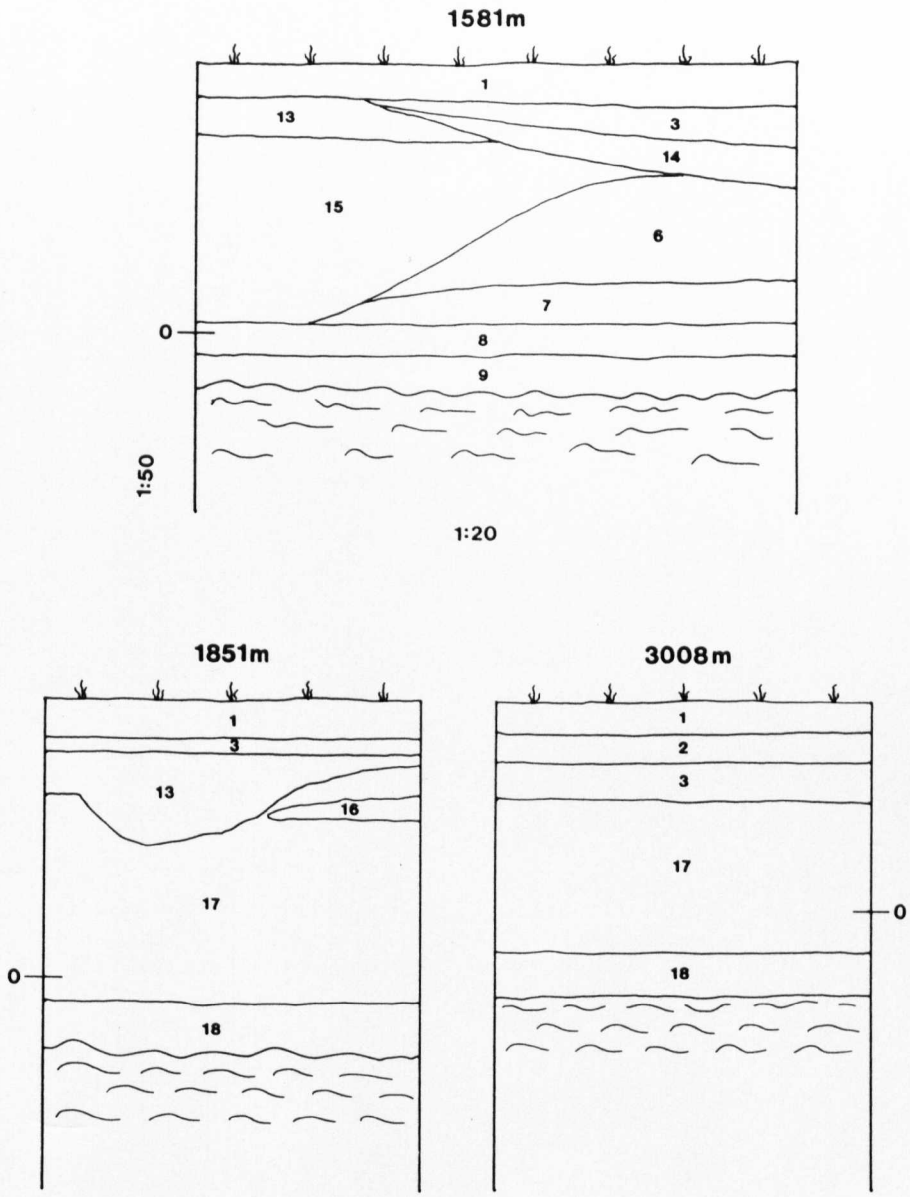


Figure 7. Hacconby Fen section drawing

CHAPTER TWO

Settlement on the Western Fen Margin

2.1. The Evidence from Field Survey

The purpose of the survey was to test the environmental model suggested above and to view the Billingborough excavations in a broader context. Particular emphasis was placed on the relationship between surface soils and artefact distributions.

A transect 1 km. wide and 16 km. long was selected for study. The limits of the transect were based on the Ordnance Survey national grid lines TF09 - TF25 (eastings), TF33 - TF34 (northings). At its western end the survey area rose to 150' and descended in an easterly direction on to the fen margin terminating deep in the fen at a height of less than 10' above sea-level (Fig. 8). Four major soil types are represented in the survey area. At the western end limestone was covered by clay with pockets of sandy soil. A series of west/east streams flow out of the limestone through a narrow strip of fen edge gravel to a wide expanse of clay with silted creeks. The course of these streams has been altered by man although the present position of the Ouse Mere Lode follows closely that of a major creek close to the South Forty Foot Drain. To the east of the clay with creeks, which is the lowest part of the fen, lies an extensive area of silt which continuous beyond the limits of the transect (Fig. 9). Within the survey area every arable field was walked at intervals of 25 m. and artefacts of all periods collected. The distribution of finds and any soilmarks were plotted on to copies of 1:10560 maps and a record sheet filled in. Surface soils were also recorded and the subsoil to a depth of 1 m. using a hand-operated

bucket auger. Pasture fields were inspected for traces of earthworks. Recently cleaned ditch sections were also inspected.

Results of the survey are presented in the form of a series of distribution maps (Figs. 10 - 12). Additional information on the maps comes from the sites and monuments records at the City and County Museum, Lincoln and the Trust for Lincolnshire Archaeology, Sleaford and Chowne (1977). A catalogue of the sites located during the survey can be found in Appendix III. Post-prehistoric material is included here as its presence or absence is a useful indicator as to environmental conditions which may have encouraged the deposition or erosion of deposits thus restricting the visibility of prehistoric material on the field surface. Discussion of the post-prehistoric material is beyond the scope of this thesis.

Only two prehistoric sites were located during the survey (Fig. 10). These were both found on the fen edge gravels and form part of the Billingborough complex of Bronze Age and Iron Age settlement. The other three find spots shown within the transect refer to earlier finds of stone axes. Horizontal shading indicates the possible position of the Iron Age coast *circa* 200 B.C. as suggested by Simmons (1980).

Evidence for activity during the Romano-British period was more common. Again the coastline is based on that suggested by Simmons. The presence of a considerable number of settlements in area thought to have been under water suggests that further work on the Romano-British material is required.

Medieval sites were found at the eastern and western ends of the transect; the area between being interpreted as

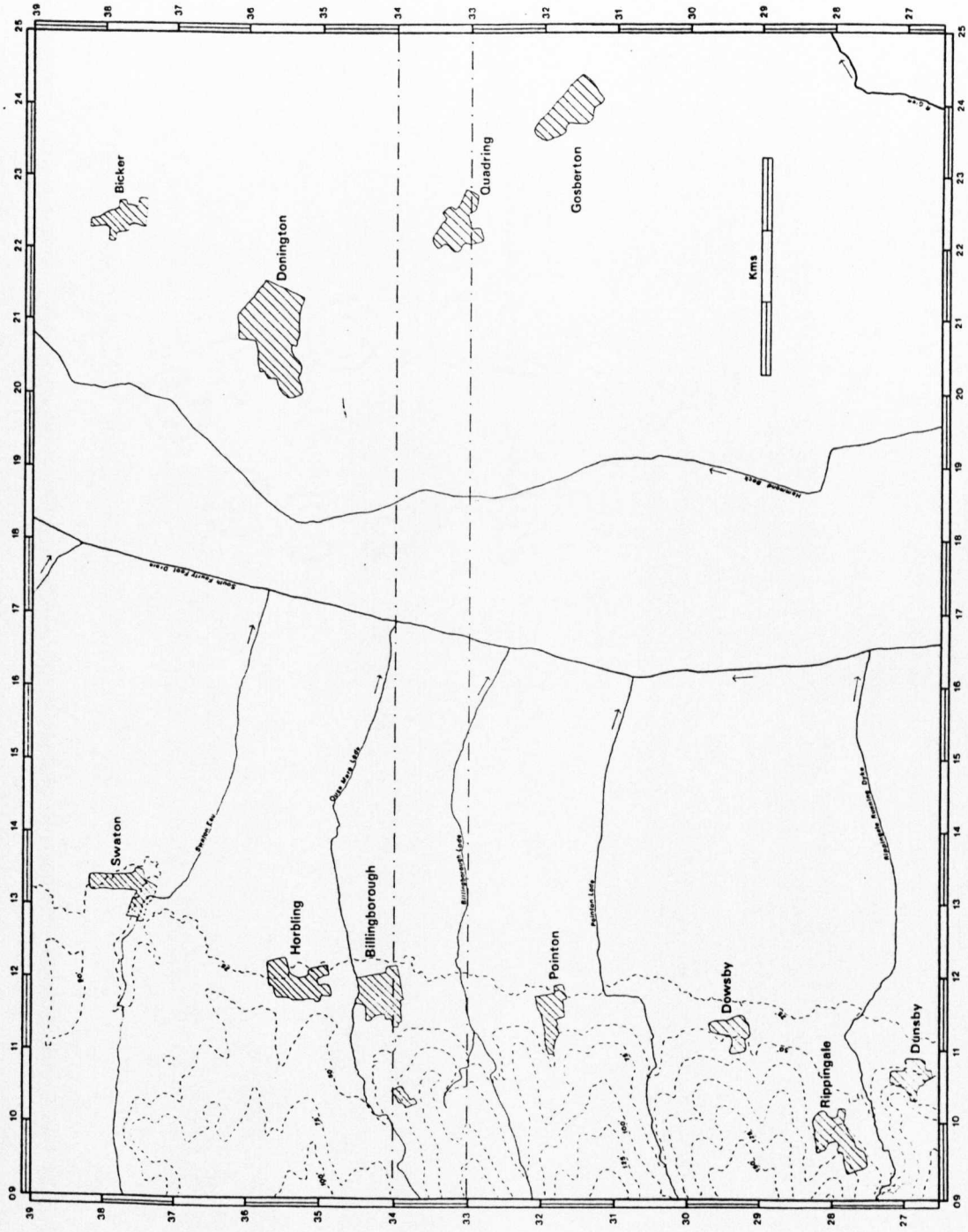


Figure 8. Location of survey transect.

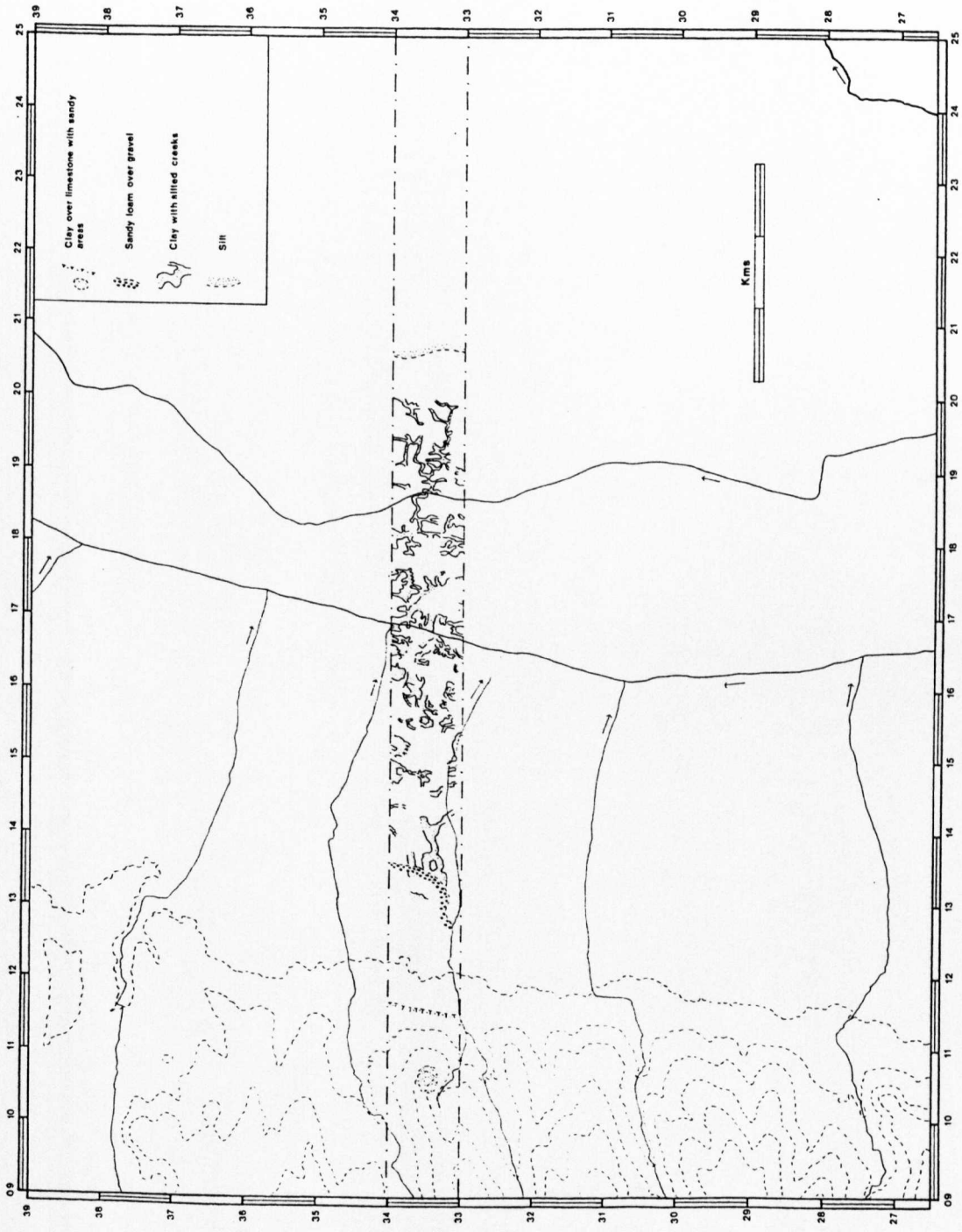


Figure 9. Surface soils recorded within the survey transect.

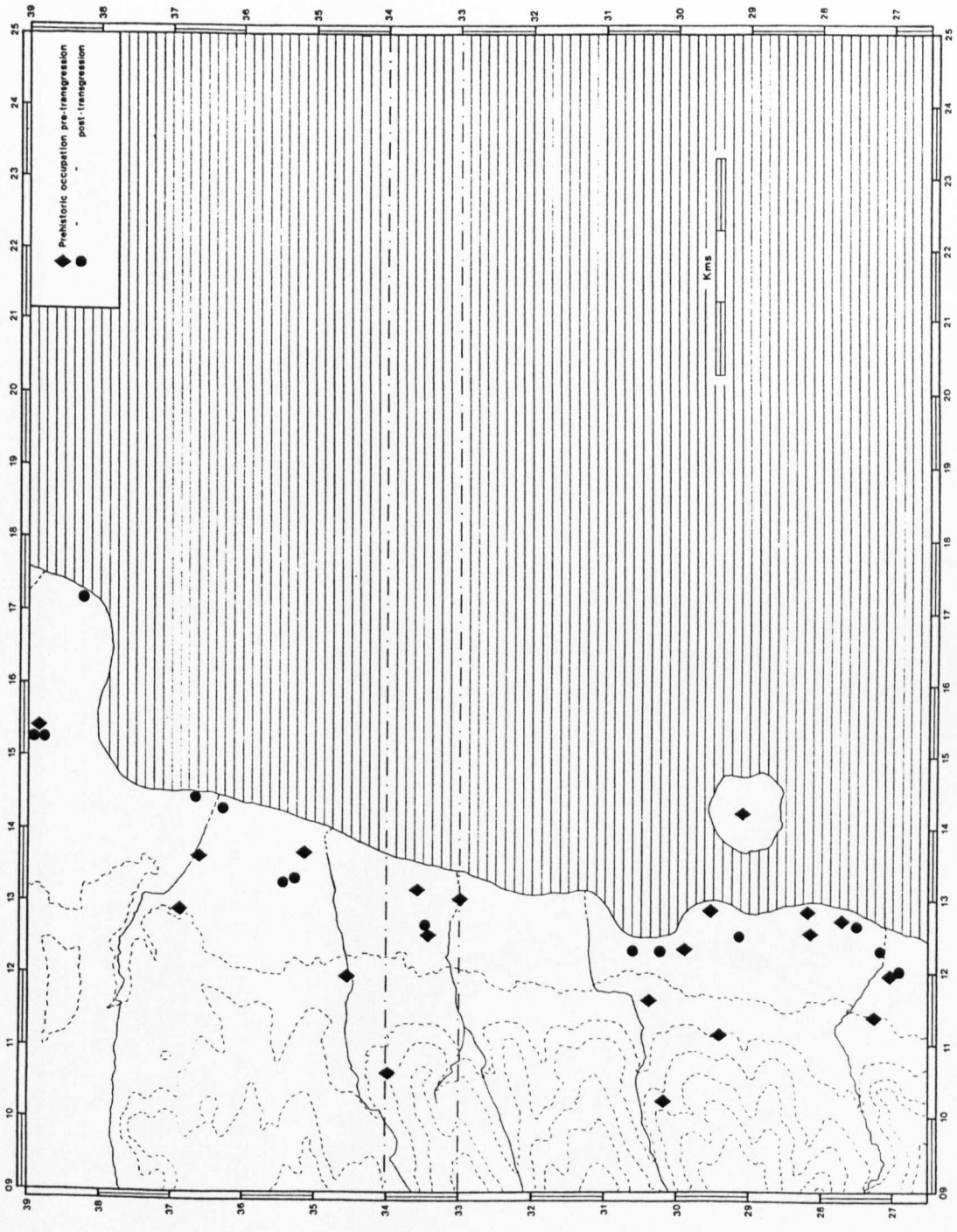


Figure 10. Prehistoric sites on the western fen margin recorded from survey and museum archives

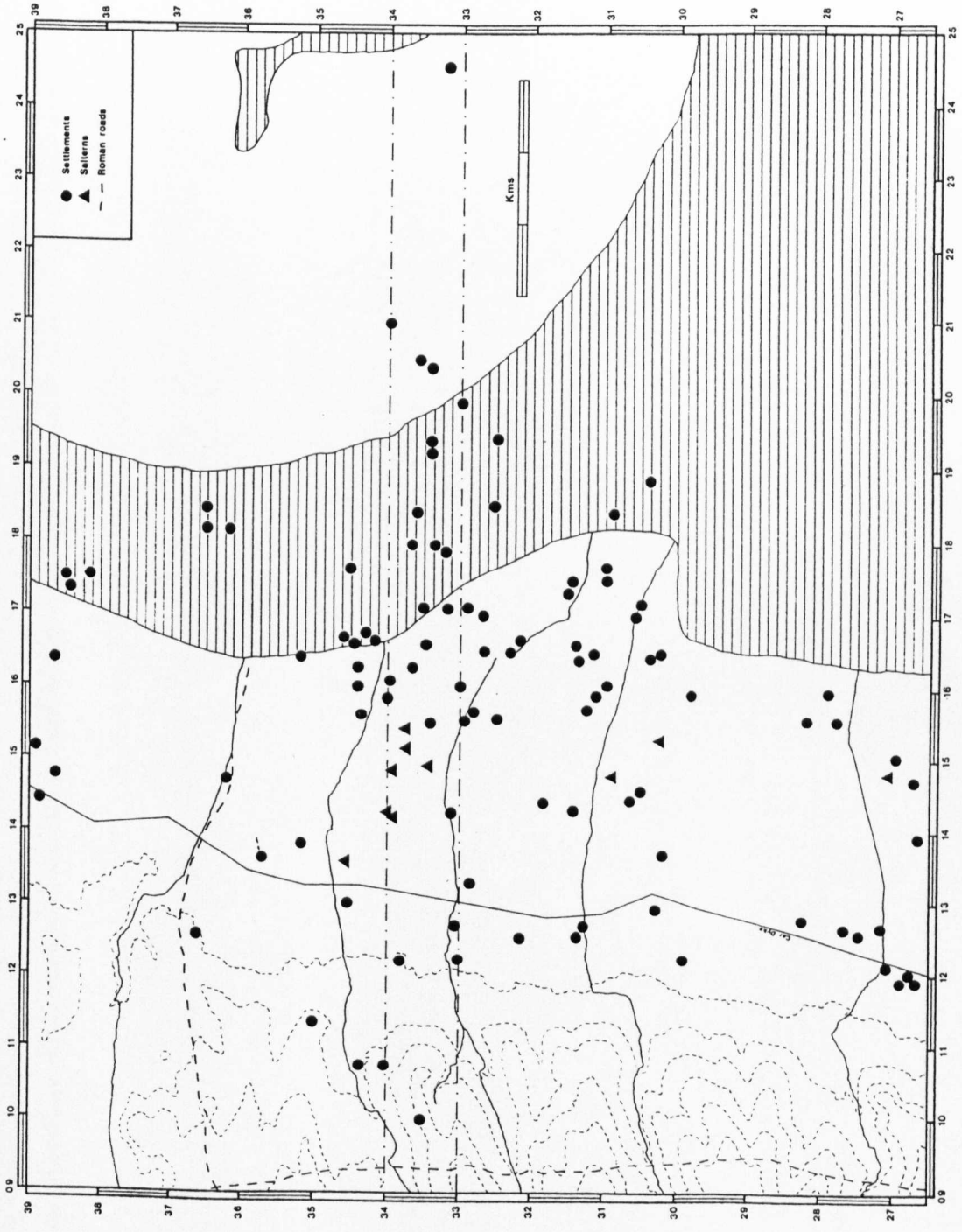


Figure 11. Romano-British sites on the western fen margin: the evidence from survey and Simmons (1980).

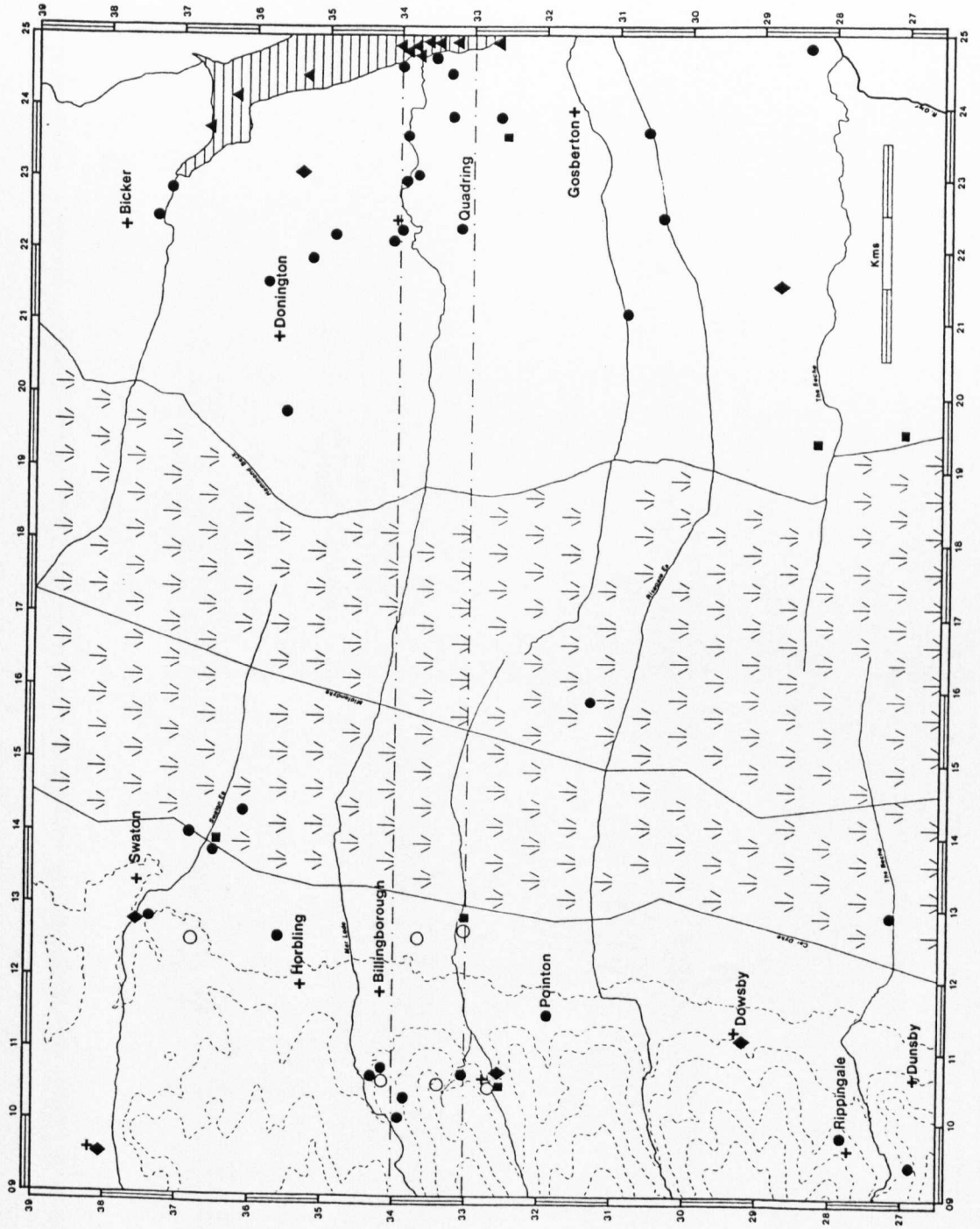


Figure 12. Anglo-Saxon and Medieval sites on the western fen margin: the evidence from survey and Hallam (1965).

fen. The location of Bicker Haven at the eastern end of the section is based on the work of Hallam (1965).

2.2. The Evidence from Aerial Reconnaissance

During the past ten years the western fen margin has been subjected to fairly intensive aerial reconnaissance mainly by J. Pickering, Cambridge University Aerial Photographic Unit and the Royal Commission on Historic Monument Air Photograph Unit. This works compensates for a lack of flying in the 1960s when areas such as the Welland Valley were receiving a considerable amount of attention (R.C.H.M., 1960). However, there has been little attempt to interpret the information available for the fen edge. Exceptions being the experimental plotting by the R.C.H.M. (Hampton, 1983); general discussions by Pickering (1978, 1979) and by the writer (Chowne, 1980).

As aerial photography is continuing in this area it was not considered appropriate to carry out a programme of detailed plotting particularly as when research began plotting programmes were not readily available for microcomputers. Also many of the photographs lack features which could be used as fixed points for plotting. The method chosen to study this important body of information was to inspect every available photograph in the Air Photographs Unit, at the National Monuments record in London (which includes the J. Pickering and Cambridge material) supplemented by several flights undertaken by the author. Vertical cover in the Trust for Lincolnshire Archaeology sites and monuments record was also consulted. Crop and soilmarks were then sketch plotted at a scale of 1:10560 (Figs. 14 - 18). The Billingborough South and Billingborough North cropmark

complexes are based on the computer plots published by Hampton (1983) and plotted at 1:2500 (Fig. 13).

2.3. Discussion of the Aerial Photographic and Field Survey Evidence

Billingborough North and South Complexes (Fig. 13; Pl. 8) The principal feature of the South complex is a linear ditch which extends from Pointon Road, on limestone, across the fen edge gravel for approximately 1 km. Attached to the northern side of the ditch are a number of small enclosures some with visible entrances. To the south are several enclosures but these tend to be isolated and not linked as with the northern examples. The eastern end of the complex terminates in a series of field boundary ditches which overlay a group of enclosures three of which have been investigated by excavation (Chapter 3). To the north and south are several isolated enclosures, square or rectangular often with entrances. South-east of the complex is a pasture field containing a trapezoidal earthwork scheduled under the Ancient Monuments Act as a moated site. On early Ordnance survey maps this site was described as a Roman Camp. Inspection in the field demonstrates that the eastern ditch incorporates part of the Car Dyke the Roman origin of which is not in doubt. However, at the western end of the field are a series of slight banks which continue in the adjacent arable field as cropmarks and in one case as a soilmark visible at ground level. It is suggested that here is a continuation of the Billingborough South Complex in the form of banks and probably filled ditches. If this interpretation is correct then there is supporting evidence for the suggestion that banks were an important component in the

PLATE 8. Aerial photograph of the Billingborough South cropmarks from the south

PLATE 9. Horbling Drove complex from the north

landscape and settlement earthworks as discussed below in Chapter 3.

Dating of these cropmarks by surface material is difficult as apart from a general background scatter of Medieval and Post-Medieval pottery (probably from manuring of the open field system) only three concentrations of occupation material were found here. A considerable quantity of later Bronze Age pottery; flints, primarily scrapers, waste and barbed and tanged arrowheads; animal bone and a Group VI stone axe were found just east of the Car Dyke in the area marked by a circle on Figure 13. A small quantity of later bronze Age pottery was found just north-west of the pasture field that contains the moat. By far the greatest quantity of surface material has come from the excavated area (Fig. 2). The collection includes later Bronze Age pottery, flints, animal bone, briquetage and a small amount of Iron Age pottery. Over the greater part of the cropmark complex no surface material has been found despite intensive fieldwalking on several occasions. This is in total contrast to the cropmark sites on clay or silt in the fen. These produce vast quantities of pottery, quern fragments and animal bone (Hallam, 1970). It should also be noted that Iron Age pottery is frequently found on salt making sites along the fen margin (Simmons, 1980). How then can this lack of surface material over the Billingborough South complex be interpreted? Several suggestions can be made:

a) the function of the enclosures and ditches was such that no occupation debris was generated;

b) debris was deposited but it has not survived ploughing or the prevailing soil conditions;

c) the cropmarks belong to an aceramic non-flint using period.

Suggestion c) can almost certainly be discounted. Excavation has demonstrated that the linear ditch with attached enclosures and field system post-dates the marine transgression which took place in the early part of the first millennium B.C. The complex pre-dates the Romano-British settlement of the fens and was almost certainly out of use when the Car Dyke was constructed around A.D. 125. A late Bronze Age or Iron Age date seems likely: neither were aceramic in this area although, as will be demonstrated in Chapter 3, flint went out of use at Billingborough at the end of the second millennium B.C.

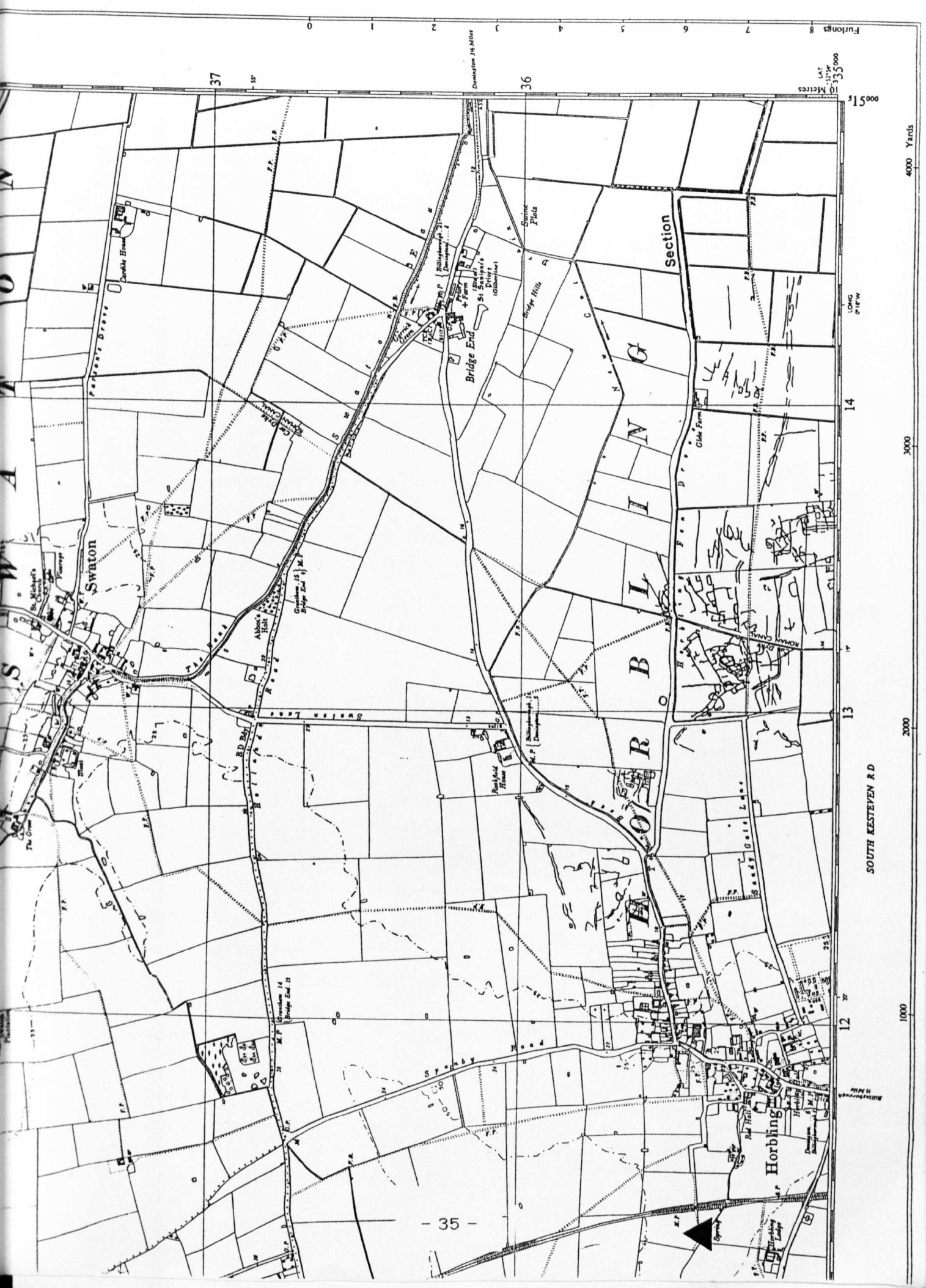
As some of the late Bronze Age and early Iron Age pottery discovered during the Billingborough excavations is friable suggestion b) must be considered a possibility. This does not, however, account for the lack of animal bone on the field surface when compared to the excavated area. The pH of the sub-soil has been determined as 8.1 - 8.3 and the topsoil pH was found to be between 7.4 and 8.3. In fact this high pH must in part account for the excellent preservation of bone and pottery in the excavated features.

The function of the Billingborough South complex must now be considered a). Although the drainage of the area has been extensively modified from Roman times onwards it is still possible to follow the pattern of watercourses from the high ground in the west through the fen margin to the Car Dyke and sometimes beyond into the fen (Fig. 2). The edge of the limestone ridge which runs north/south through the study area is drained by a series of springs which form the basis for the Lodes (see Chapter 1). In

the Medieval period villages were founded just below the spring line between the 25' and 50' contour. The major cropmark complexes on the fen margin gravels are placed to take full advantage of the local topography. Both Billingborough South and North have as their major component a linear ditch that has been extensively recut. Billingborough North was fed from what is now the Ouse Mere Lode. This system was modified in the Romano-British period to feed into the Car Dyke but the underlying irregular pre-Roman cropmarks can clearly be seen on the aerial photograph. Billingborough South was supplied with water from the spring which feeds the Marsedike possibly leaving the settlement area *via* the Cow Gate Drain (Fig. 13; springs indicated by triangles on Figs. 13 - 18).

Some of the small enclosures attached to the linear ditches at Billingborough South have been observed as cropmarks at ground level in dry summers. Several have been measured at the eastern end of the complex and were found to be approximately 20 m. x 20 m. with ditches producing cropmarks 1.25 m. wide. No internal feature have been recorded nor having any surface finds been made despite intensive fieldwalking. Circular cropmarks, probably from round structures have been recorded close to the enclosures but again with no surface finds. Whilst the precise function of the enclosures cannot be established without further excavation the most likely use for them is as a means of stock management. As will be described in Chapter 3 the economy of the Iron Age settlement phases was based on very intensive sheep farming. The small enclosures would have been used during tupping, lambing and shearing. A similar system, using hurdling, was in use on the South Downs until fairly recently (D. Chowne, pers. comm.). As saltmarsh conditions prevailed just east of the complex a supply of freshwater was essential, hence the linear ditch. If this

Figure 14. Horbling Fen Drove cropmark complex.



interpretation is correct then a lack of occupation on the field surface is not surprising. Features of the type described above are unlikely to produce large quantities of artefacts.

Similar cropmark complexes have been recorded in the Welland Valley at Baston and Maxey, Cambs. (R.C.H.M. 1960) and on the clays of the Midlands (J. Pickering, pers. comm.). Discussion of the excavated ditches and enclosures will appear in Chapter 3.

Horbling Fen Drove Complex (Fig. 14; Pl. 9 - 11)
This complex differs considerably from those at Billingborough North and South. Instead of a series of enclosures attached to a linear ditch there is a palimpsest of ditches representing enclosures, droveways and field boundaries probably of several different periods. The complex is cut by two major Romano-British features, the Car Dyke running north/south and a road running west/east from Sandy Gate Lane *via* several major settlements at least as far as Donington. The Horbling Fen section is situated at the eastern end of Horbling Fen Drove.

This site is very similar to examples at Fisherwick, Staffordshire (Smith, 1979); Claydon Pike, Oxfordshire (Miles and Palmer, 1983) and numerous other examples in the Upper Thames region (Hingley and Miles, 1984). The Horbling site should, on the basis of these comparisons, be regarded as a fairly typical middle Iron Age agricultural settlement. Use of the site during the Romano-British period is indicated by a strong rectilinear element in some of the enclosure forms as at TF13653505 (Pl. 11). An earlier ditch system can be observed just to the west of this spot. It takes the form of a linear ditch with attached field boundary ditches

PLATE 10. Horbling Drove complex from the south-west

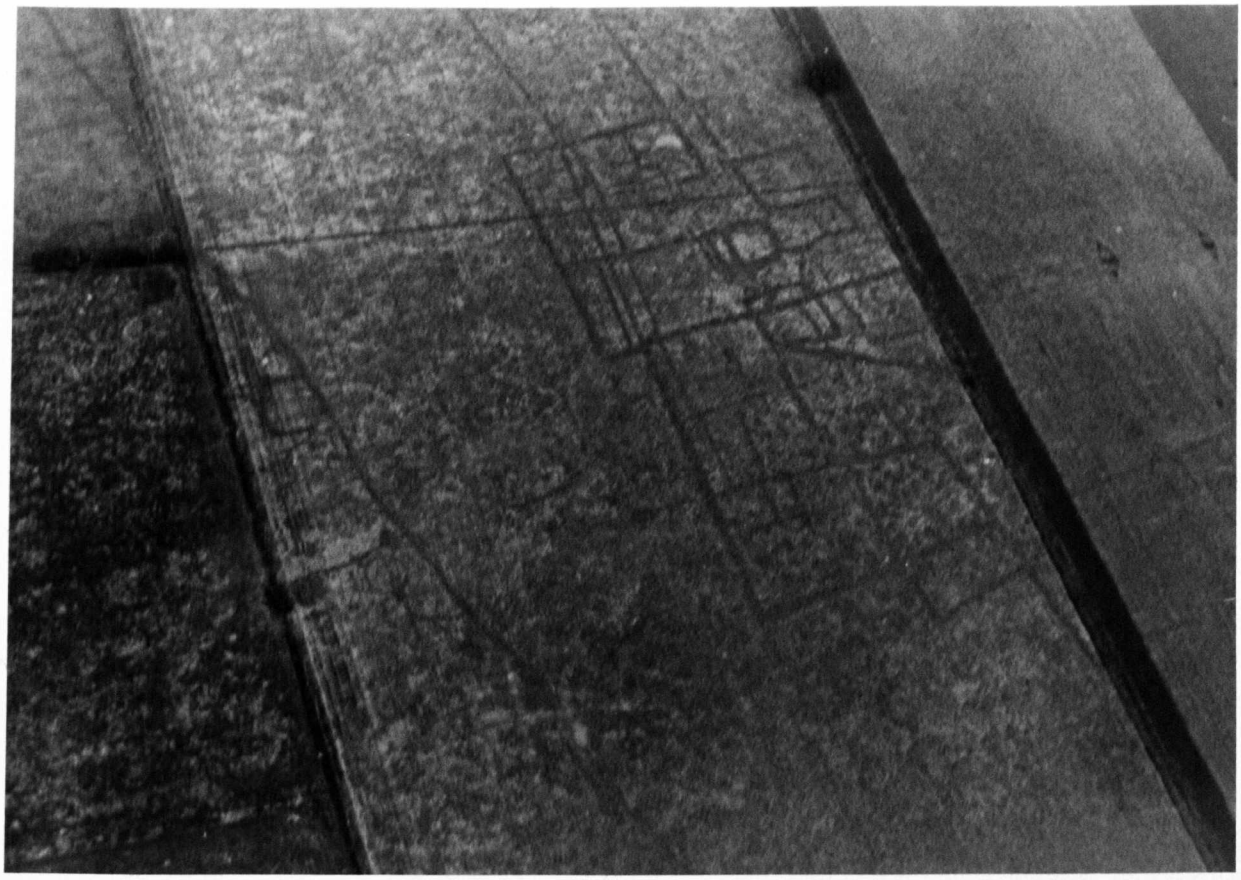


PLATE 11. Aerial photograph of a field system, enclosure and circular structure adjacent to major Romano-British settlement in Horbling Fen from the south

and a circular structure linked to it by a small gully. This is probably part of the ditch system which appears sealed by marine deposits in the Horbling Fen section if so a late second/early first millennium date is suggested for the field system. The similarity between this field system with attached round house and the Newark Road, Fengate, example should be noted (Pryor, 1984).

The Millthorpe Complex and Hoe Hills (Fig. 15; Pl. 12 - 14)

The Millthorpe complex straddles the parish boundary between Pointon and Sempringham and Dowsby (TF124321 - TF122306). At its southern end it consists of a series of irregular enclosures linked by a south/north linear ditch. An irregular droveway runs west/east into the complex and continues to the east as an area defined by two parallel ditches. It is suggested that the droveway was extended at a later date possibly in the Romano-British period. The northern part of the complex is of a different character. The single linear ditch with enclosures attached is replaced or obscured by a dense concentration of rectilinear ditched enclosures typical of Romano-British settlements in the fens (Pl. 12, 13). Large quantities of Romano-British pottery and a coin hoard have been found during fieldwalking of the northern part of the site (P. Hayes, pers. comm.). Two lengths of triple linear ditch of the type described by Pickering (1978) lie just west of the complex. Dating of these ditches is uncertain but they are generally considered to be pre-Roman. At Millthorpe the Romano-British element of the complex certainly lies on top of the triple ditch system. The function of these major ditch systems is not known although the Millthorpe and Heckington examples do have a close relationship with major springs. It is possible that these triple ditches replaced the single ditch with attached enclosures during the later part of

PLATE 12. Aerial photograph of an Iron Age settlement at Pointon from the east

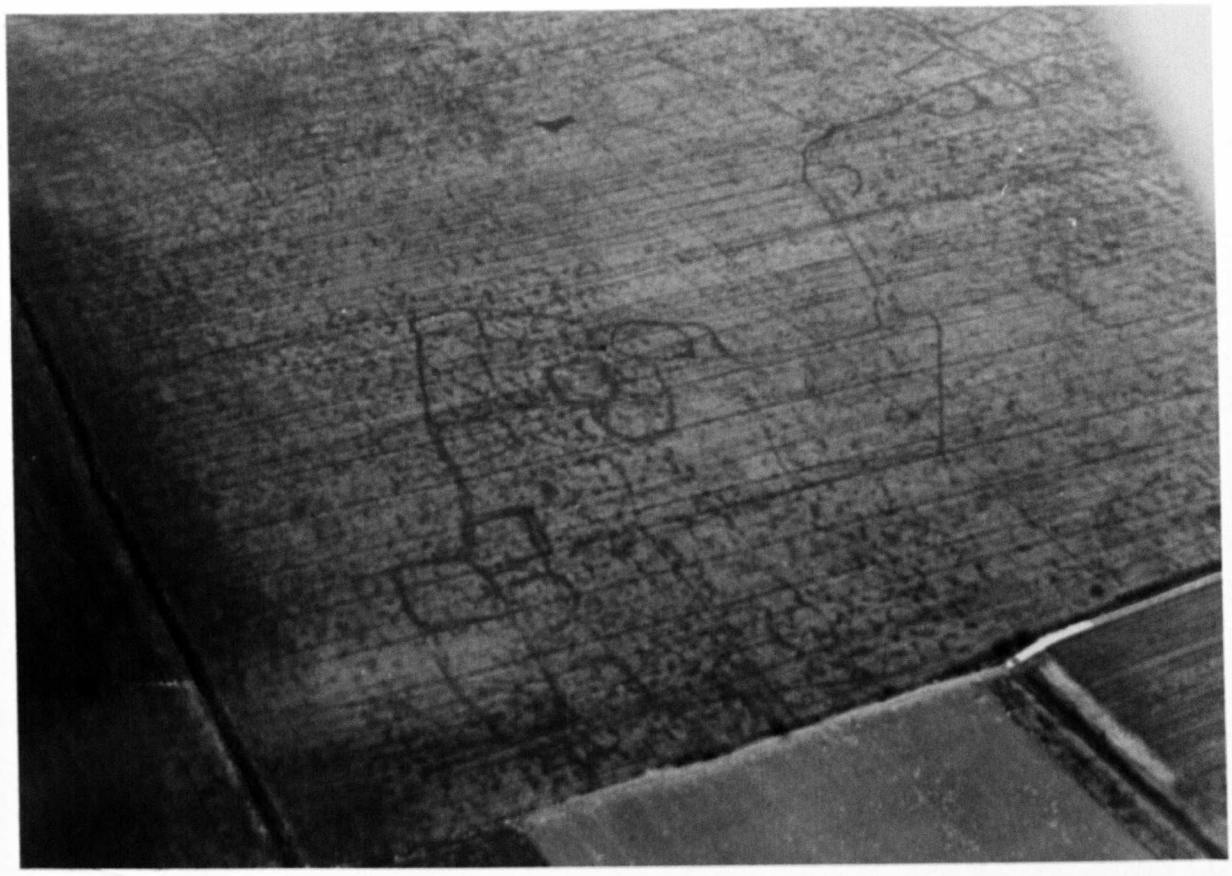


PLATE 13. Aerial photograph of an Iron Age settlement at Pointon from the south-east

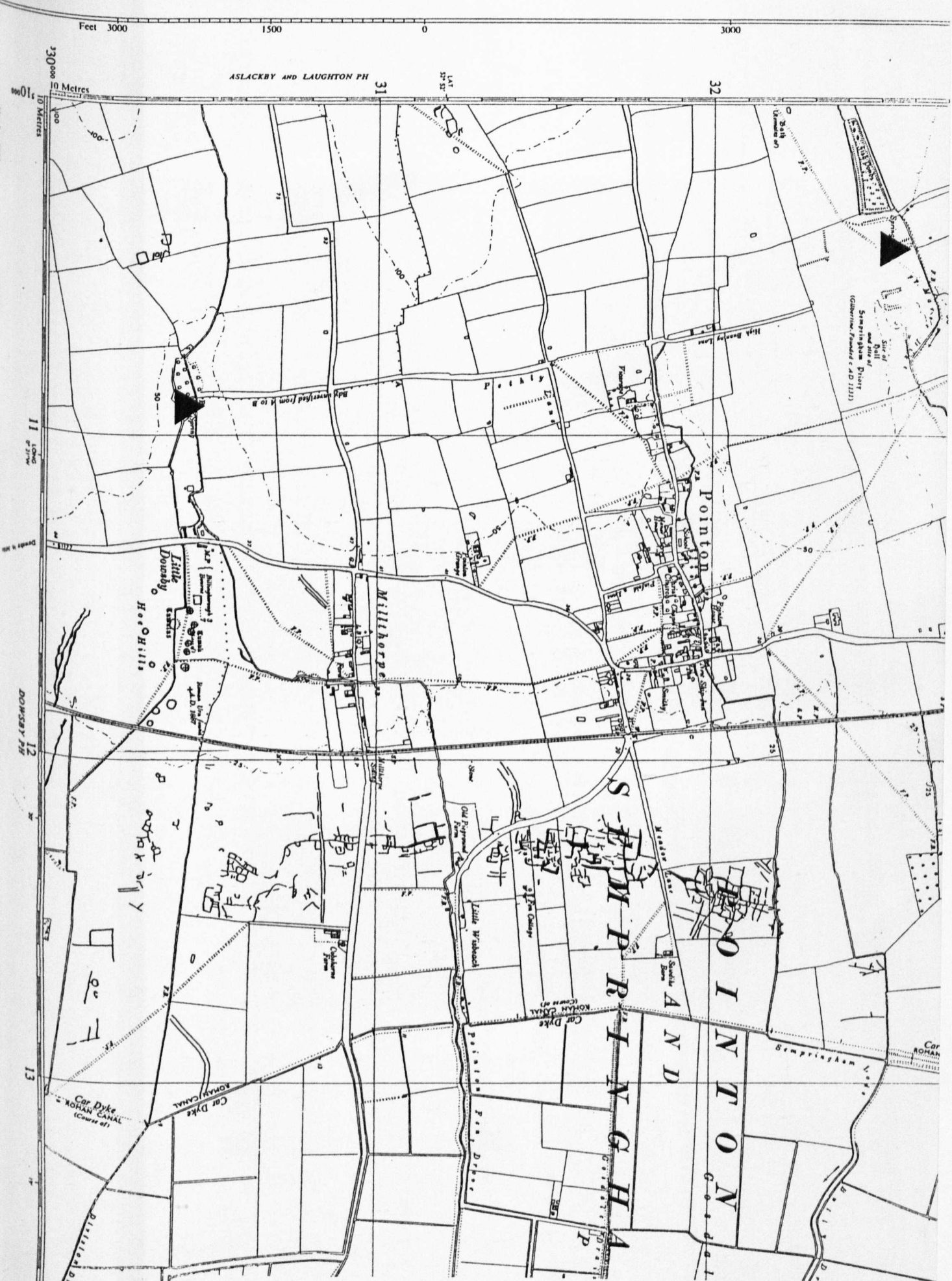


Figure 15. Dowsby Hoe Hills cemetery cropmarks.

the Iron Age. This point will be considered further in Part Three of the thesis.

Immediately south of the main enclosure group (TF124303) is an area of small round cropmarks with attached enclosures (Pl. 14). This arrangement can be paralleled with the Middle Iron Age enclosure phase at Farmoor, Oxfordshire (Lambrick and Robinson, 1979).

Just to the west of this site is the round barrow cemetery known as Hoe Hills. The mounds have been completely levelled and the scale of the cemetery can only be appreciated from the air. At least fifteen barrows can be recognised and a small square enclosure. Field survey of the site produced a few pieces of flint waste and a sherd of collared urn probably dating to the middle part of the second millennium B.C. The location of the cemetery is of considerable interest. It lies adjacent to a major spring which still flows vigorously into the Division Drain. An ancient watercourse can be seen on aerial photographs to the south of the cemetery (Fig. 15). This close relationship between barrow cemeteries and springs is can also be seen to the south at Rippingale, Hacconby and Morton.

The Rippingale Cemetery (Fig. 16)
This cemetery consists of a large ring ditch and two smaller examples. Again they are situated beside a major spring fed watercourse. To the north and south of the cemetery are short lengths of pit alignment.

The Hacconby Cemetery (Fig. 17)
Four ring ditches have been located between the Car Dyke and Hacconby village with an outlying example to the north just in the parish of Dunsby.

PLATE 14. Aerial photographs of Iron Age structures and enclosures at Dowsby/Pointon from the south-east

The Morton Complex (Fig. 18)
Nine ring ditches have been located in this complex. There are also a number of enclosures to the south in Dyke parish and, amongst the ring ditches three pennanular ditches and a pit alignment. Pennanular ditches similar to the Morton examples were also found at Farmoor (Lambrick and Robinson, 1979). Although the ring ditches at Morton may well represent round barrows the possibility of this being an Iron Age settlement cannot be discounted. As with the sites described above it is situated on a major spring-fed watercourse.

The picture that emerges from the aerial reconnaissance and the field survey is one of extensive settlement on the fen margin but only for certain periods. There is little evidence for settlement prior to the construction of the barrow cemeteries of the early/middle second millennium. A few Neolithic flints have been located in Rippingale and a leaf-shaped arrowhead in Horbling. However, the existence of a developed palaeosol with some evidence for human disturbance was located in the Hacconby and Horbling sections dating to the end of the third millennium B.C. There is certainly no evidence for Neolithic settlement or ritual activity on this part of the fen margin at least. This is in total contrast to the limestone heath west of the fen edge and the Bain Valley. The dating evidence from the Billingborough excavations suggests that the barrow cemeteries were out of use by the time the first settlements were established. However, none of the barrows have been investigated and this statement must be treated with caution.

After the early first millennium B.C. marine transgression the fen margin was exploited on a large scale by farming communities who were extremely well adapted to the fen margin environment. Their demise began

in the second century B.C. when urban centres such as Old Sleaford were established.

This discussion will be continued in Part Three of the thesis when the Bain Valley evidence has been presented.

Figure 16. Rippingale Grange Farm cemetery cropmarks.

Figure 17. Hacconby Drove cemetery cropmarks.

Figure 18. Morton Drove cemetery cropmarks.

CHAPTER THREE

Excavations at Billingborough

3.1. Introduction

Excavations took place at Billingborough in 1975, 1977 and 1978. An interim note has been published on the 1975 and 1977 excavations (Chowne, 1978). Some discussion of the 1978 excavation can be found in Chowne (1979). The site was discovered by B. B. Simmons during fieldwalking as part of a research project on the Car Dyke. A dense concentration of Bronze Age pottery was found lying on a slightly raised area bisected by a field boundary ditch and hedge. In 1975 an area 40 m. x 7 m. was investigated. This was extended to 60 m. x 38 m. in 1977 and then to 100 m. x 60 m. in 1978 when aerial photographs became available (Figs. 19, 20). A substantial monograph is in the process of preparation (Chowne, forthcoming). It is not my intention in this thesis to present a full excavation report. What I hope to do is describe the relevant prehistoric artefacts and structures and discuss the site in its local and wider context.

The site was in use from the middle part of the second millennium B.C. until the end of the first millennium B.C. During the Middle Ages the settlement was badly damaged by plough furrows from an 'open field' system. Prehistoric occupation of the site can be divided into a series of phases, these are slightly different to those suggested in the interim report (Chowne, 1978). The main changes in the site phasing are that phases 1 and 2 are not seen as separate entities but as continuous development. Phases 3A and 3B are now regarded as contemporary. All feature numbers are prefixed by their year of excavation, major features such as ditches are

sometimes subdivided, *e.g.* 77 [*year*] 43 [*context: ditch*] g [*layer within ditch*] = 7743g.

Phasing is summarised in Table 2 below.

Table 2.

PHASE	PERIOD	DESCRIPTION	PHASE 1978
1	Bronze Age	Enclosure	1 and 2
2	Bronze Age	salt making	Saltern
3	Iron Age	Enclosures	3A and 3B
4	Iron Age	Field system	4

3.2. The Bronze Age Phase 1

The Enclosure

The Bronze Age settlement Phase 1 took the form of a trapezoidal enclosure, ditched on the north, east and west sides. Within the enclosure were pits, postholes, hearths and gullies (Fig. 21). Ridge and furrow and a modern ditch ran through the enclosure in a north/south direction. Some of these plough furrows were up to 1 m. deep and have undoubtedly destroyed Bronze Age features thus making reconstruction of building plans extremely difficult (Fig. 22). However, the presence of the modern field boundary ditch was a mixed blessing in that although the ditch itself removed some features and severely damaged others its banks did protect some very slight structural remains and a small area of the Bronze Age land surface from destructive modern agricultural practises.

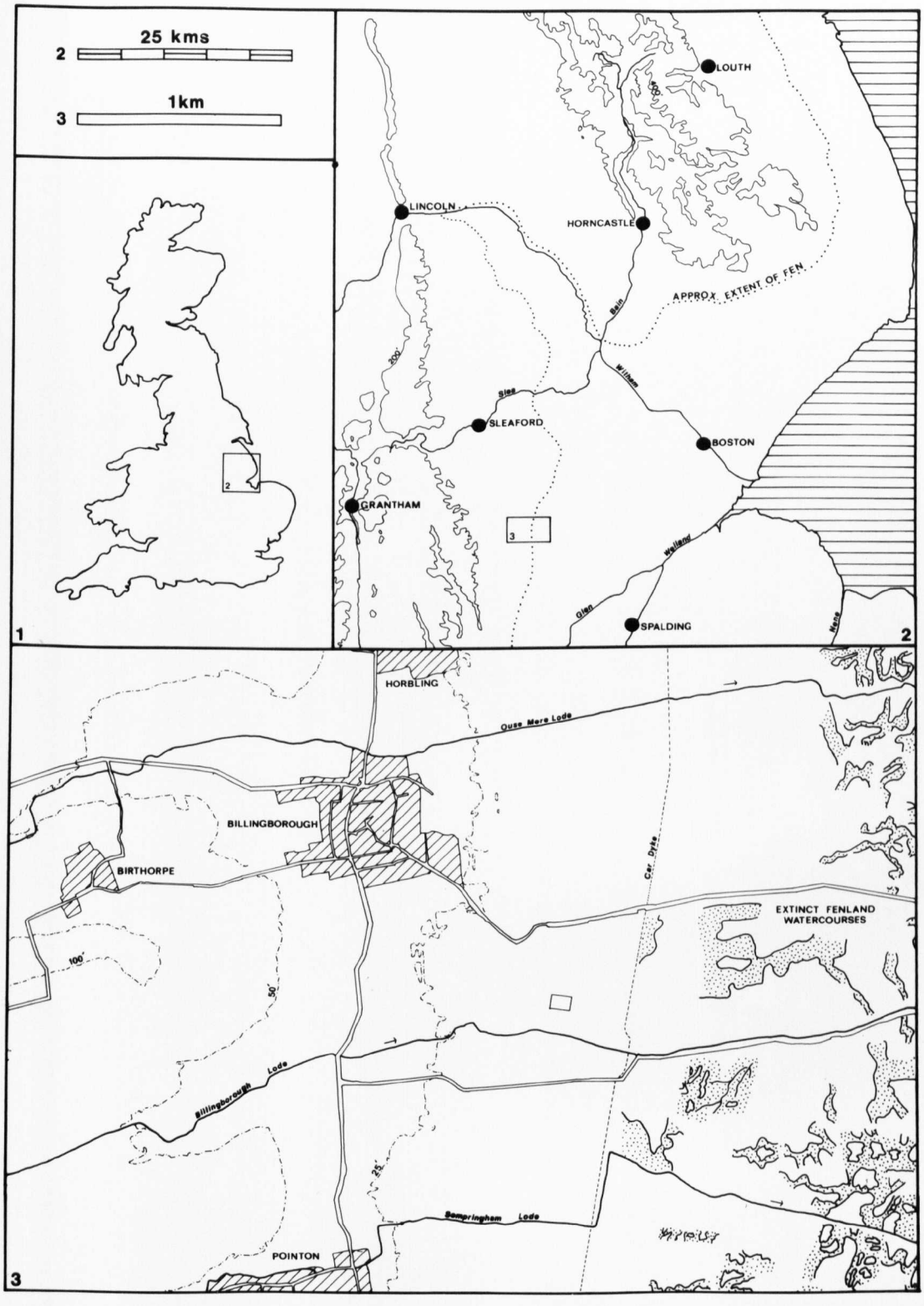


Figure 19. Billingborough excavation location map.

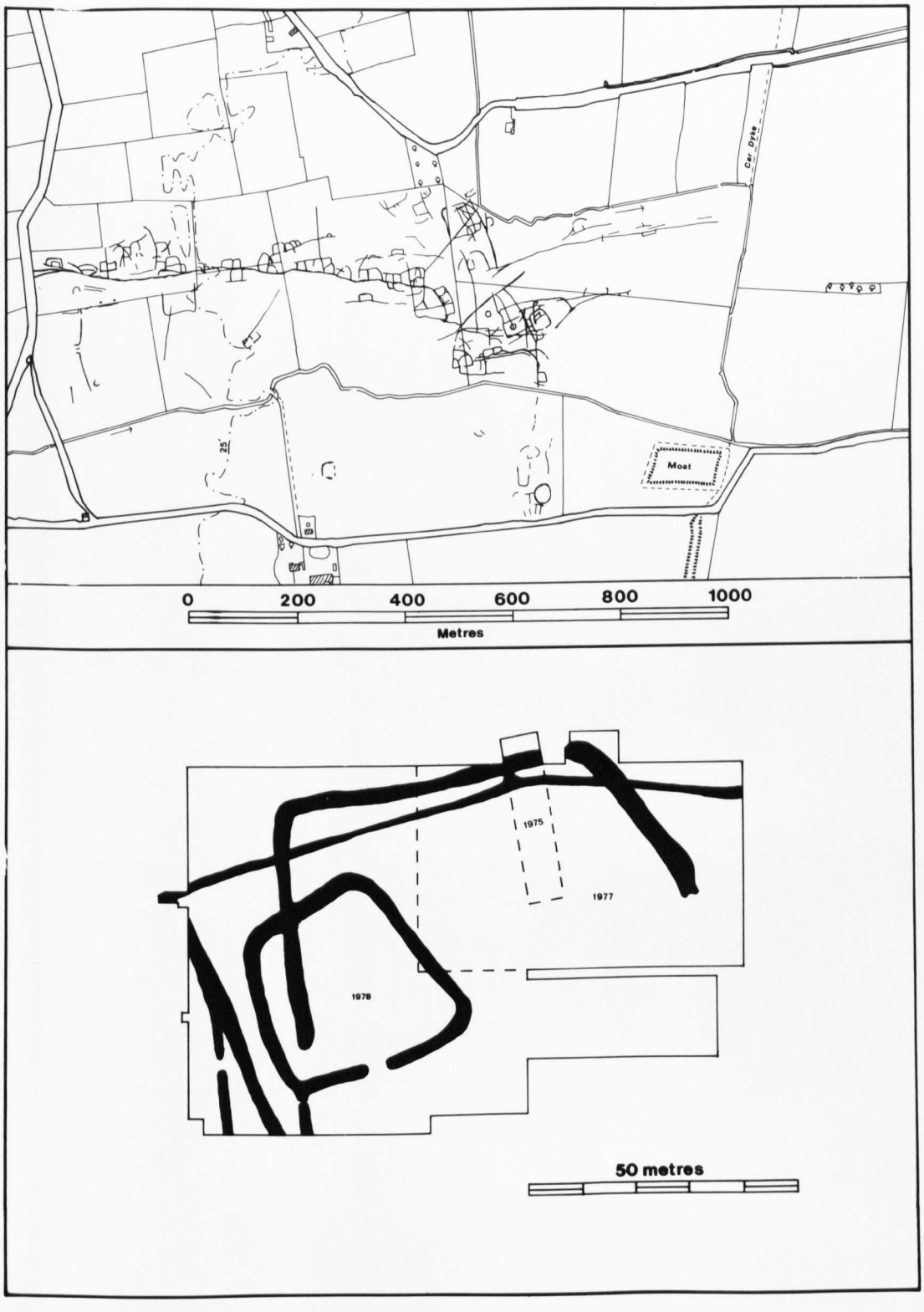


Figure 20. Billingborough excavation cropmarks and excavation areas in relation to main ditches

Each side of the enclosure ditch had a different depositional history. Only the eastern side (7743) was allowed to silt up naturally. During the Iron Age the northern side (7510) was recut and the western side (78145) was deliberately backfilled (Figs. 23, 24). The lower levels of the three sides of the enclosure ditch were very similar:

7510e = 7743h = 78212	silty clay
7510c = 7743f	silty clay with gravel from ditch sides
7510d = 7743g = 78164	silty clay

These layers were rich in occupation debris, pottery, animal bone and to a lesser extent fired clay, bone tools, flints and one bronze object. Most of this material was found in 7510d = 7743g = 78164 and was probably deposited just before the enclosure was abandoned. The pottery from these levels came from well-fired, grog-and-sand tempered bucket urns frequently decorated with cordons, bosses and fingertip impressions (Fig. 25, P1 - P30). Charcoal from 7510d yielded a radiocarbon date of 1198 ± 57bc (BM-1410) (1435 B.C. when calibrated). Also found in this layer was a bronze awl (Fig. 46, No. 1), several clay fire-bars (Fig. 47, Nos. 2 - 5) and axially perforated cylindrical loomweights (Fig. 51, Nos. 87 - 90; Fig. 52, Nos. 91 - 95). The bronze awl is of a type normally dated to the Middle Bronze Age (Rowlands, 1976). A similar date can be suggested for the loomweights as these frequently occur on Deverel-Rimbury settlements in southern and eastern Britain, *e.g.* Fengate, Cambridgeshire (Pryor, 1976), Black Patch, Sussex (Drewett, 1982, p. 372; Fig. 34 nos. 1-4), Thorny Down, Wiltshire (Stone, 1941), Kingston Buci, Sussex (Curwen and Curwen, 1931), Park Brow, Sussex

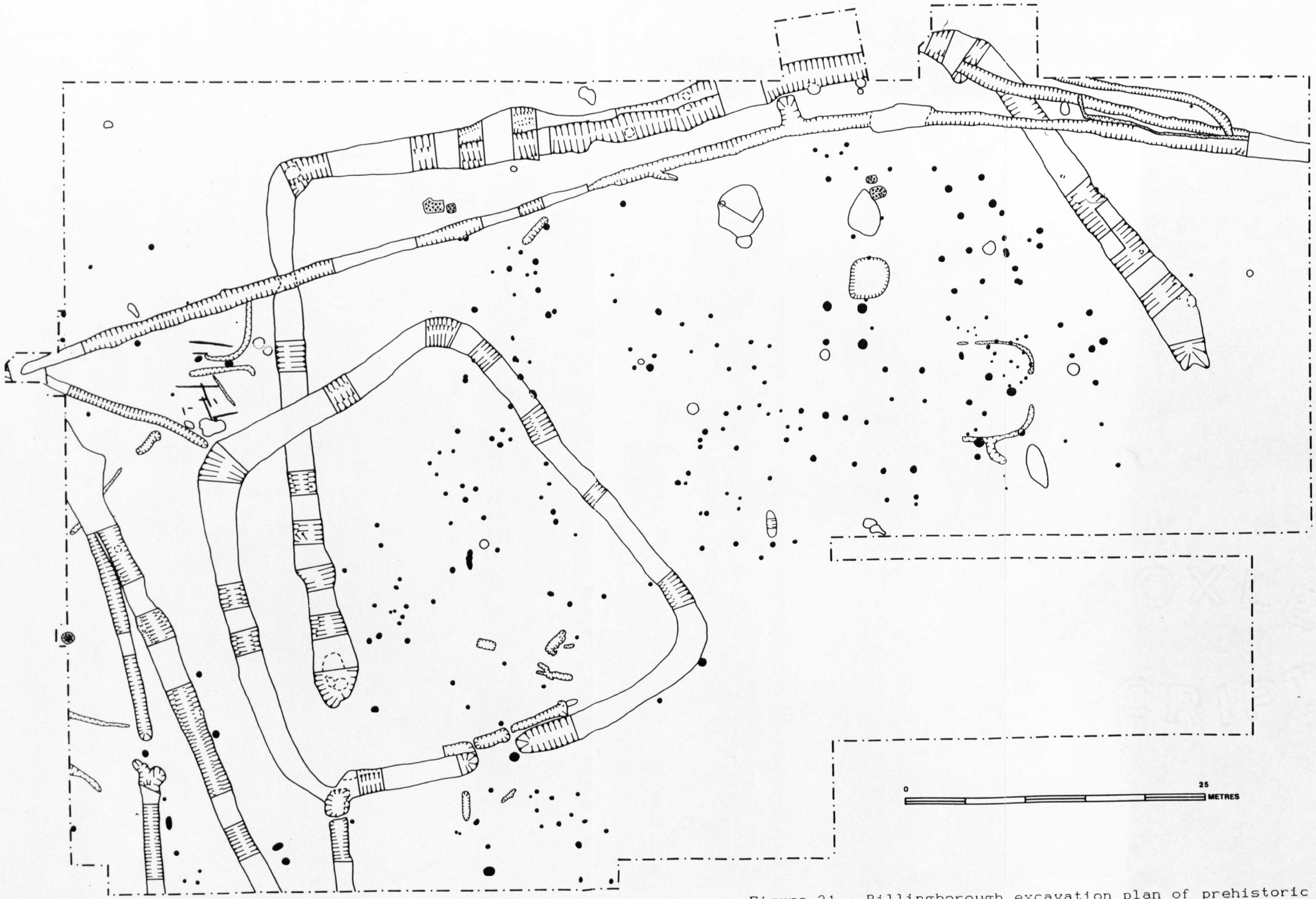


Figure 21. Billingborough excavation plan of prehistoric features

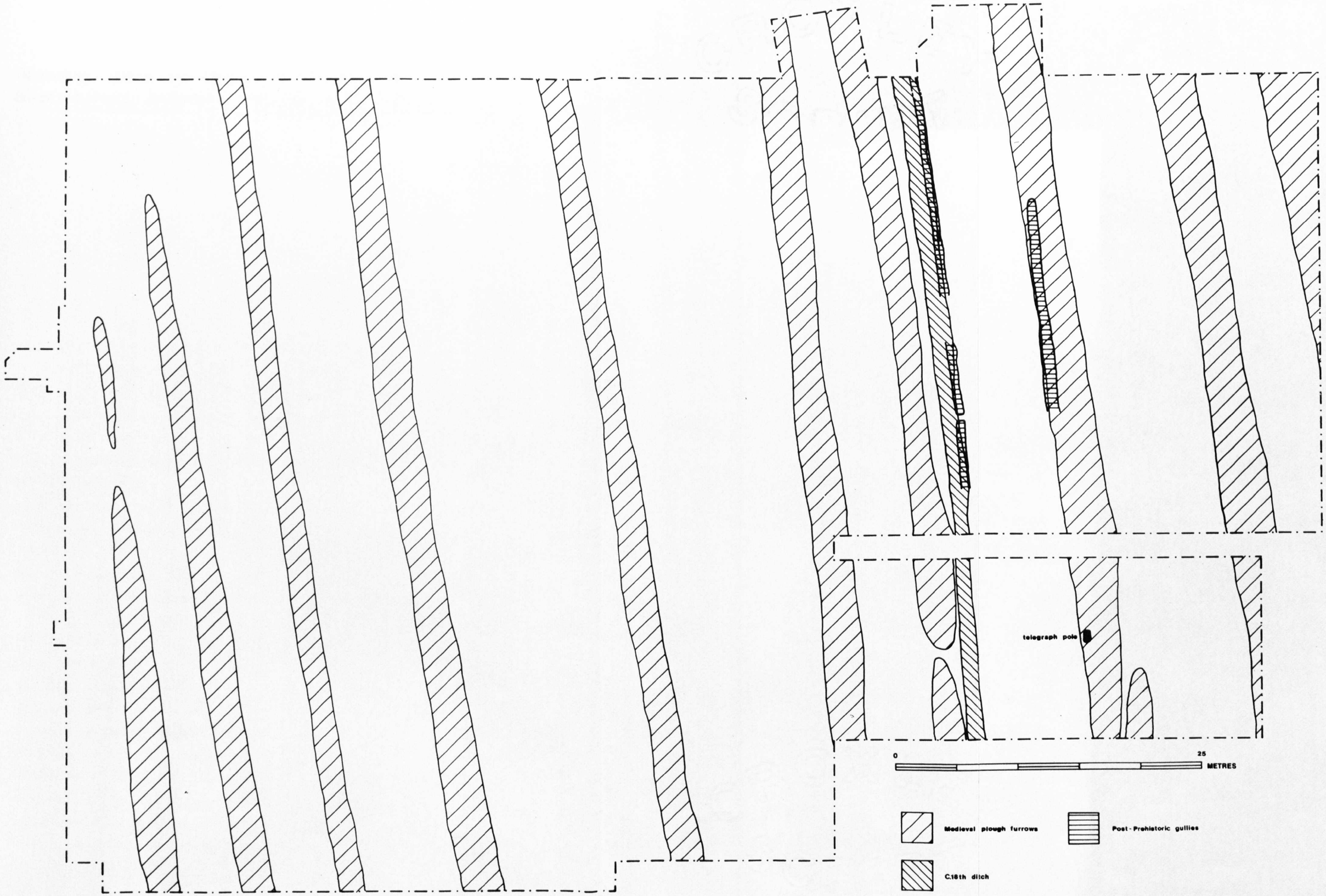


Figure 22. Billingborough excavation plan of post-prehistoric features.

(Wolseley, Smith and Hawley, 1927), Aldermaston Wharf and Knight's Farm, Berkshire (Bradley *et al*, 1980).

The eastern side of the enclosure ditch (7743) continued to silt up naturally. Pottery from the upper layers (7743b, 7743c) is of a slightly different character (Fig. 27, P110 - P112, P129). Shell is used for the first time as a tempering agent and different forms are present such as the angular shouldered jar P111 and the convex necked vessel with fingernail impressed decoration P110. The uppermost layer in this part of the enclosure ditch was composed mainly of wood ash and silt (7743). It had a very distinctive pinkish-white colour which is a result of burning brackish material such as dried marine grasses, peat or wood that has absorbed salt water. Charcoal, mainly hazel/alder with some hawthorn, from this layer has been dated to 460 ± 80bc (HAR-2523) and when calibrated 450 B.C. thus confirming a post-marine transgression date. Two hearths (7511, 7512) made of the same material were found in association with briquetage and pottery from phase 2, the salt making episode. This layer has proved a useful indicator of contexts which pre-date the salt making phase as it forms the upper layer of many features within the enclosure.

During the Iron Age occupation of the site the northern side of the enclosure ditch (7510) was disturbed by the cutting of a series of east/west gullies (7796, 7797, 77107). At the western end these follow the line of the enclosure ditch and continue to the eastern limit of the excavation where they are cut by a field boundary ditch (779) (Fig. 21). The basal layer of the recut (7510b) was rich in animal bone, molluscs and pottery. Sherds P857, P858 and P861 are typical suggesting that the re-cutting took place during phase 3 (Fig. 39).

The western side of the enclosure ditch (78145) was disturbed during phase 2. Directly on top of the phase 1 layers was a thick layer of clean gravel (78147) which is best interpreted as deliberate back-filling of the ditch by levelling the enclosures internal bank. At the ditch terminal a large pit (78256, 78257) was cut through the gravel. This contained wood ash, briquetage, pottery, *e.g.* (Fig. 31, P345 - P348) and charcoal which yielded a radiocarbon date of 540 ± 100bc (HAR-3101). Unfortunately this date is difficult to calibrate falling as it does in an area of fluctuation on the calibration curve (Pearson and Stuiver, 1986). Two date ranges are possible: 590 - 630 B.C. or 730 B.C. The former is preferred on the basis of pottery types found in the pit. Sealing the gravel layer and the pit was a layer (784/7810) rich in pottery (Fig. 34, P517 - P561). Amongst the collection were sherds with expanded rims (P520, P521). Harding (1972) has noted the similarity between these pottery forms, in Oxfordshire, and bronze cauldrons. This comparison could also extend to the Billingborough sherds particularly P521. A similar vessel was also found at the fort at Breedon-on-the-Hill, Leicestershire (Wacher, 1976-77). If the close relationship between metal cauldrons and the pottery imitations is accepted a date in the range 650 to 550 B.C. seems likely for the deposition of layer (784/10) (Harding, 1972, p. 78).

It was suggested above that the source of the gravel incorporated in the ditch filling was an internal bank. Evidence for the presence of a bank can also be seen by the position of postholes within the enclosure; these were rarely found within 3 m. of the ditch. Those that do lie within the phase 3 enclosure and are probably contemporary with it (Fig. 21). Although no evidence for a fourth side to the enclosure was found the internal features do stop abruptly on a line between the two ditch

terminals thus suggesting that some form of barrier existed. Clearly this was not a ditch or substantial fence. A bank, perhaps topped by a hedge or palisade seems the most likely explanation.

Bronze Age Structures

Plough damage and disturbances of the subsoil by later occupiers of the site makes the positive identification of structures difficult. However, certain types of structure can be recognised principally in the eastern part of the enclosure (Figs. 53, 54).

At least six four-post structures have been identified (77113-7793-7763-7737), (7791-7734-7790-77100), (77105-77114-77103-77106), (77171-77180-77163-77195), (7541-7546-7539-7545), (776-7755-775-7778) undoubtedly other examples existed. Unfortunately environmental conditions were such that neither plant remains or seeds were found in the vicinity of the structures. The four-post structures were probably used for the storage of crops and seeds although alternative functions for some of them cannot be ruled out (Ellison and Drewett, 1971).

There is a certain amount of evidence to suggest that the interior of the enclosure may have been sub-divided. An alignment of posts (7777-7786-7785-7782-77126-7726b-7726a) run equidistantly across part of the enclosure and may represent a fence although they may be one side of a rectangular structure. Unfortunately this part of the site suffered from the deepest Medieval plough furrows. Some of the random postholes belong to later phases such as (7798) which contained a charred post from a large oak timber. This has yielded a radiocarbon date of 440 ± 70bc (HAR-2483) and when calibrated 430 B.C. placing this posthole firmly in phase 3. Posthole profiles are presented in Figs. 57 - 60.

Also pre-dating the salt making phase are a round house (77102) and a possible sunken-floored structure (752). Both of these were sealed by wood ash from the salt making phase but are later than the four-post structures.

The western side of (77102) was destroyed by the post-Medieval field boundary ditch, however, it was in this area that the Bronze Age land surface (7742) was best preserved so that several stake holes and the very ephemeral foundation trench/drainage gully of the house were detected (Pl. 15). There was also a concentration of fired clay fragments, mainly loomweights, in this area.

Structure (752) was approximately 4 X 3 m. and 50 cm. deep with a posthole at each end on the long axis. The sides were near vertical and showed little sign of extensive weathering. It was sealed by a layer of wood ash indicating that it was a slight hollow during the salt making phase which, as indicated above, dated to the late 6th or early 5th century B.C. Pottery lying on the gravel bottom of this feature also belongs to the pre-salt making phase *e.g.* P190 (Fig. 29). This near complete vessel belongs to the 'post Deverel-Rimbury' tradition as defined by Barrett (1976) and therefore most probably dates to the 11 - 9th century bc.

Also assigned to the Bronze Age phase are pits (7774), (7570) and (77118) (Fig. 53). The former was an irregular shaped pit, the bottom of which could not be defined, filled with lenses of gravel, iron pan and silty clay, cut by pit (778) which contained wood ash and briquetage fragments. The nature of the filling of (7774) suggests that this pit possibly contained a tree and that at some point the pit was deliberately backfilled. This interpretation is supported by the fact that no features were cut within an area of eight metres around the pit.

PLATE 15. Billingborough Bronze Age structure (77102) from the east

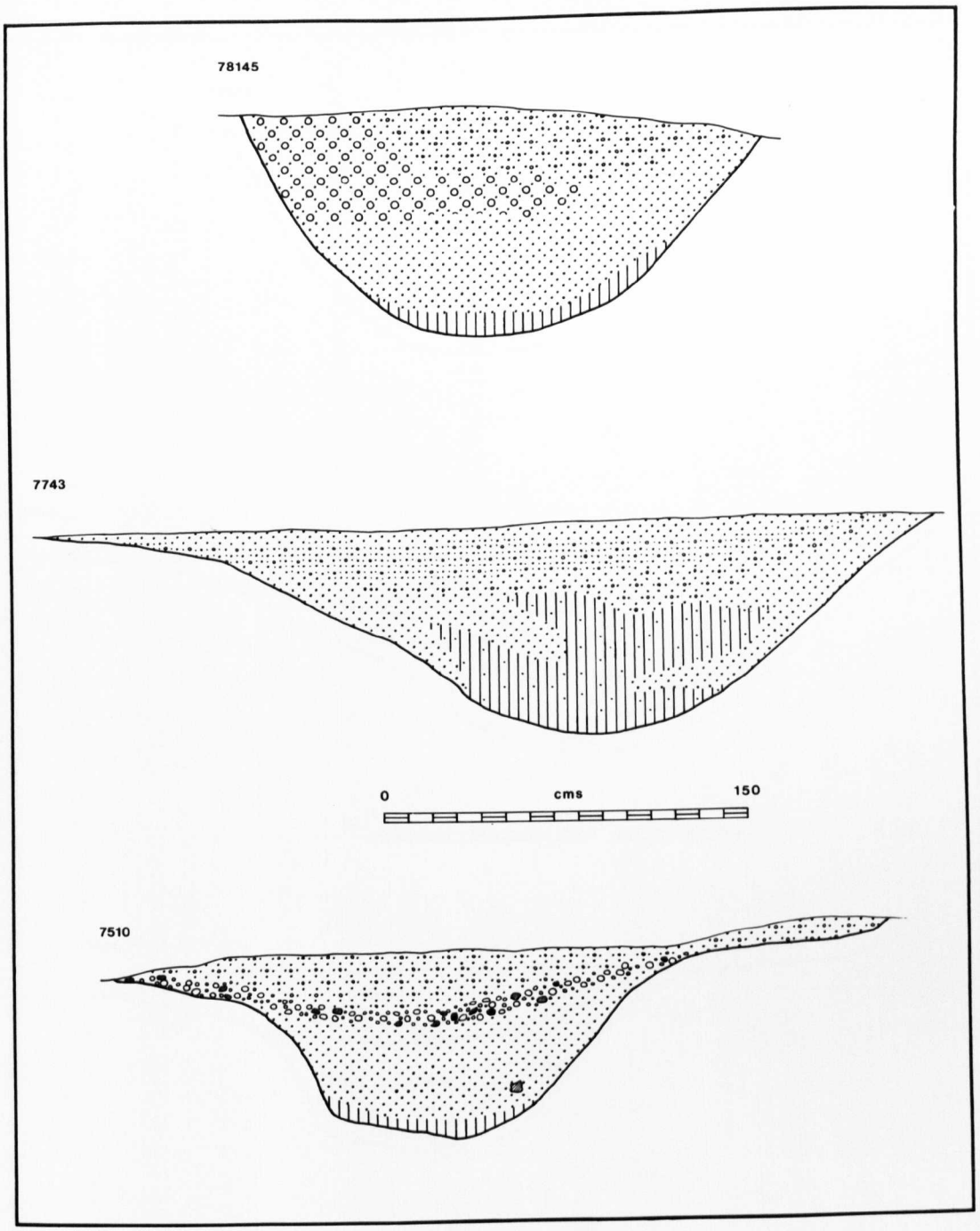


Figure 23. Billingborough Bronze Age enclosure ditch sections

This area was not cut by Medieval plough furrows. Pit (7570) underlay a salt making hearth (7512) and had also been backfilled although the sides and base were clearly defined. This feature is best interpreted as a small quarry, perhaps for flint. No artefacts or domestic rubbish was found within it. Pit (77118) was disturbed by the phase 4 field boundary ditch (779) and the post-Medieval field boundary ditch. A small amount of filling was *in situ* and this contained Late Bronze Age pottery P191 - P195, P200, P205 and P207 (Fig. 29). Whilst some of these sherds are residual from the earliest occupation of the site P192, P194 and P207 are of considerable interest. Compared with the earlier material they are fine and well-made with shell temper. Stylistically, and in fabric, they are similar to vessels from Maxey (May, 1981). Although undated, hearths (7816 and 7817) may belong to the Bronze Age (Fig. 55).

The Flint Industry

The excavations at Billingborough produced 653 flints, consisting of 30 cores, 11 pieces of irregular workshop waste, 341 unretouched flakes, and 271 retouched or utilised pieces from the following contexts:

phase 1 contexts - 156 flints
derived or unphased contexts - 150 flints
Medieval and later contexts, including the plough soil - 347 flints.

As so few of the flints are stratified and the sample is very small any conclusions drawn from the flint industry must be of a very general nature. No differences between the categories listed above were identified, in flint knapping techniques or in the types of retouched pieces produced. Therefore they are regarded as one assemblage from the Bronze Age phase.

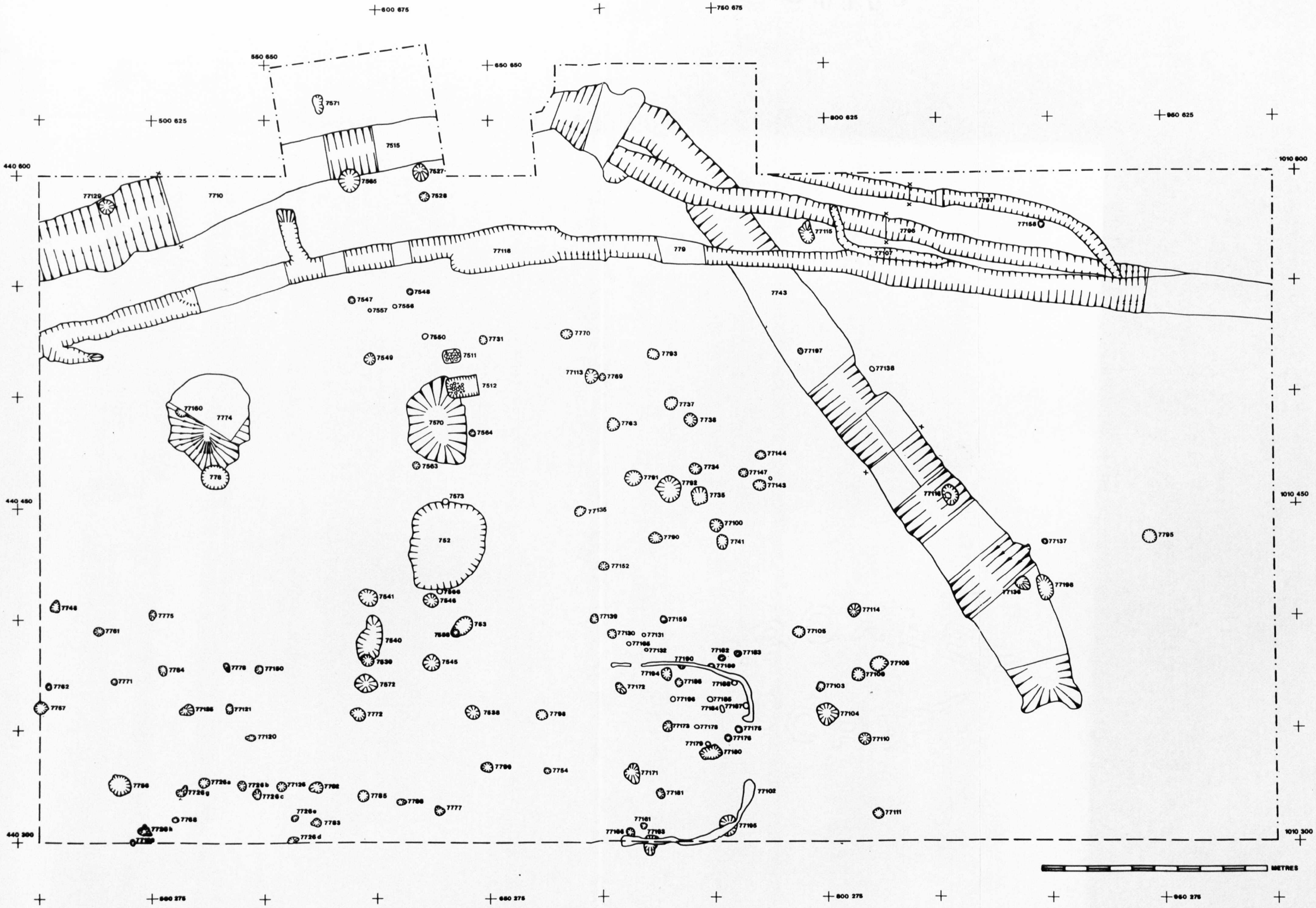


Figure 53. Billingborough excavation plan north-east.

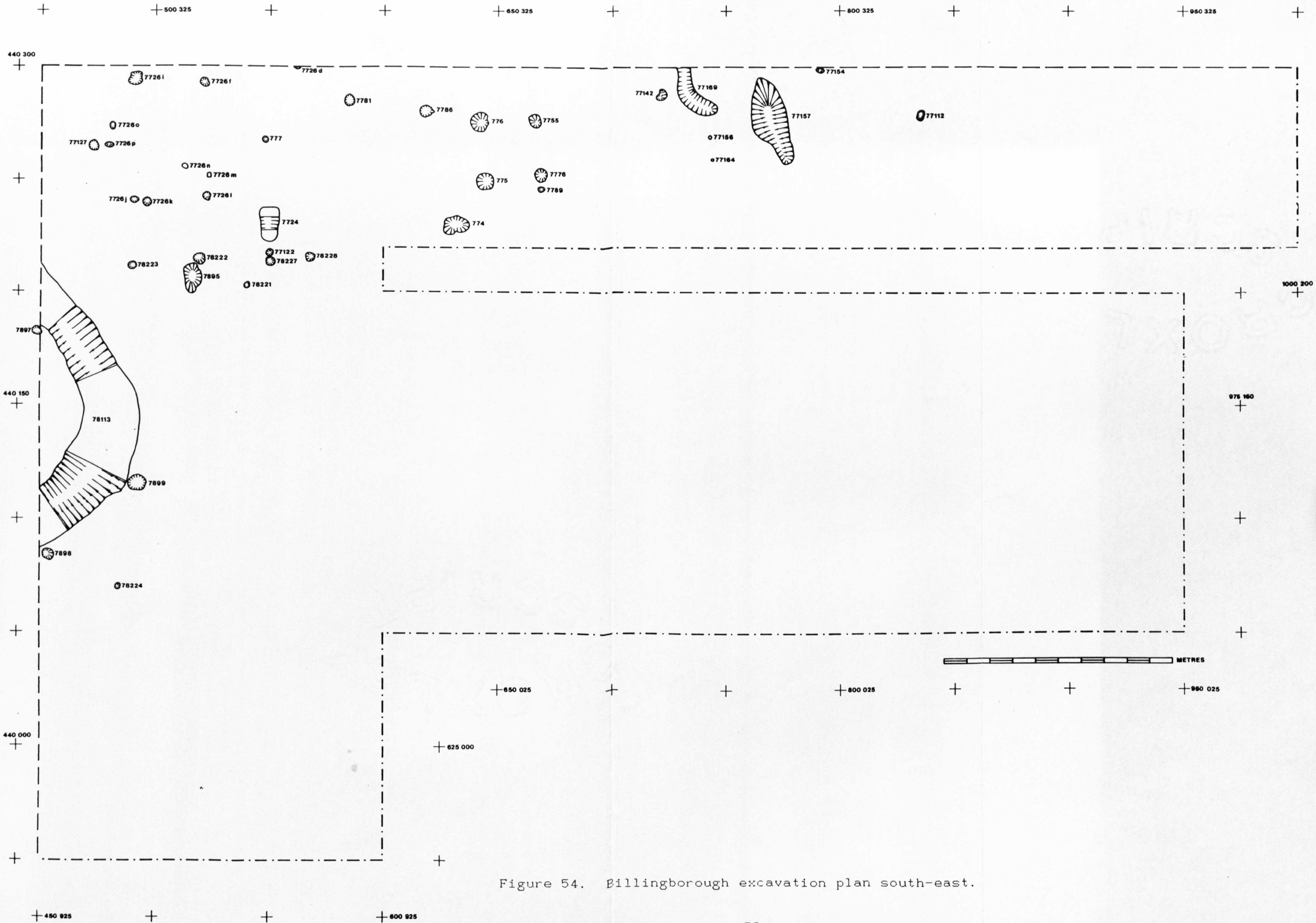


Figure 54. Billingborough excavation plan south-east.

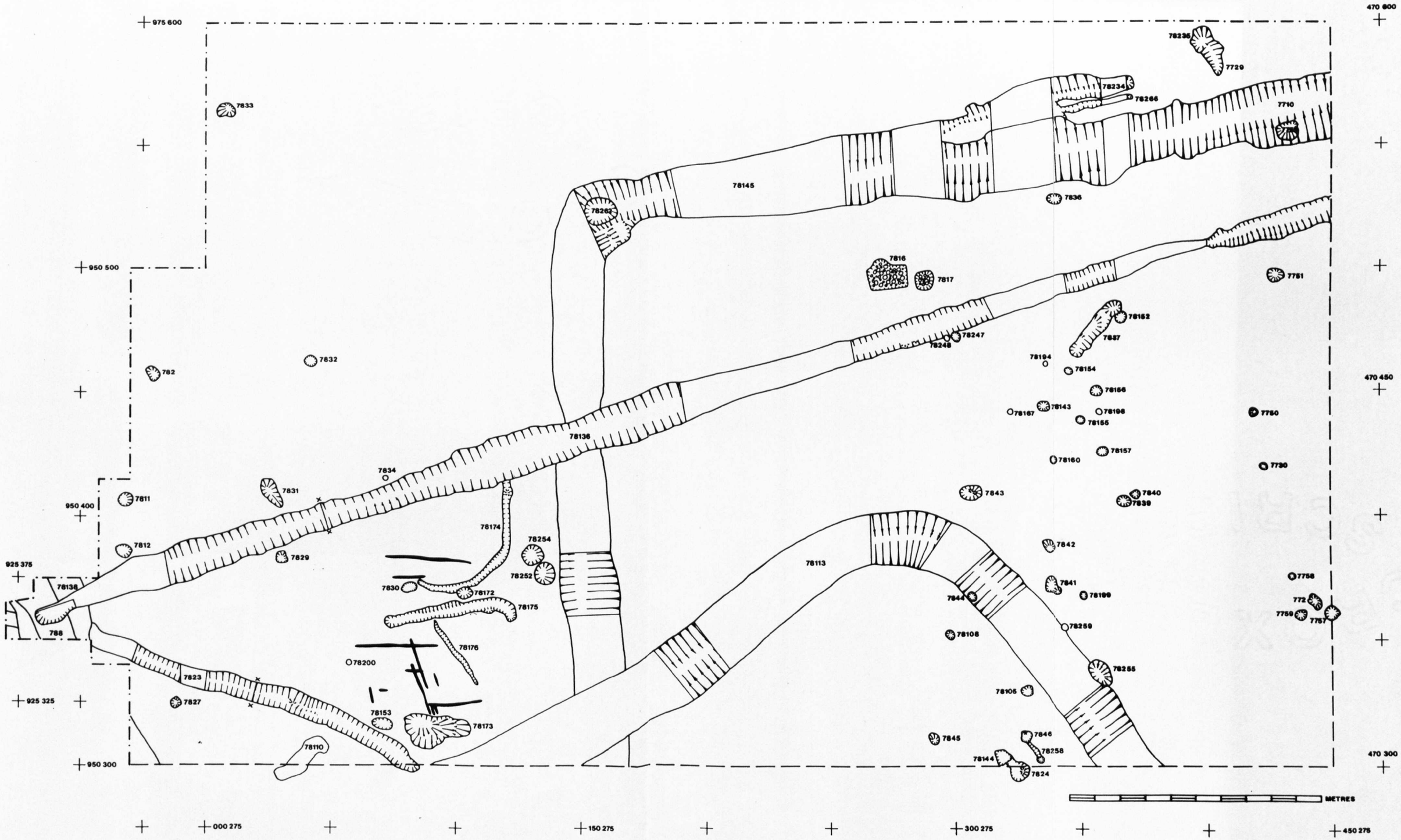


Figure 55. Billingborough excavation plan north-west.

PLATE 16. Billingborough Bronze Age structure (78174)

The predominant shape of the non-retouched flakes is typical of 'late' flint knapping techniques, as is the less controlled nature of retouch on the scrapers and the lack of finely worked pieces. The utilised and retouched flake types are similar to those found on other second millennium sites (Fig. 61).

The scrapers from Billingborough are closely comparable in style with those from Newark Road, Fengate (Pryor, 1980) and Mildenhall Fen and Plantation Farm (Clark, 1933, 1936); with the squat flakes often exhibiting an obtuse angle between the striking platform and the primary flake surface; many retaining areas of cortex and the retouch including examples of bold, stepped edges. As at Mildenhall Fen the use of thermally fractured pieces is noted, although the lack of disc and end-of-blade scrapers is not paralleled at Billingborough. However, the decrease in the size of scrapers noted at Fengate between the later Neolithic and Bronze Age sites is not reflected at Billingborough. In fact, the length, breadth and thickness histograms (Fig. 62 and 63) for Billingborough scrapers are directly comparable with those for the later Neolithic at Fengate, rather than the Bronze Age examples, although the source of raw materials at both sites was similar. The Billingborough scrapers are closely comparable with those from Itford Hill (Holden, 1972), Boscombe Down East (Stone, 1936) and Thorny Down (Stone, 1941).

Other retouched flints were a barbed and tanged arrowhead, part of another, four serrated flakes, two fabricators and five miscellaneous pieces. No awls or borers were found.

The Bone Industry

Artefacts of antler and bone were found in Bronze Age

contexts (Fig. 64, 1 - 16). The collection consists of bone points (4, 5, 7, 10, 11); pins (12, 14); needles or bodkins (6, 8, 9); gouge (3); an antler pick (13) and antler offcuts (1, 2, 15, 16).

Points

The most common stratified bone artefacts found at Billingborough are points or awls, generally associated with leatherworking - as pegs used for stretching pelts, and as awls for piercing holes through the skins prior to sewing. Bone points, were in use throughout prehistory. Bronze Age examples have been found at Mildenhall Fen (Clark, 1936) and at the later Heathery Burn Cave (Greenwell, 1894) and Fyfield Bavant Down (Clay, 1924), The tip of an awl from Black Patch (Drewett, 1982, p.372 Fig. 34, No. 12) is very similar to an example from Billingborough (5).

Pins

Often points are referred to as pins (Clay, 1924) causing problems in terminology. Here, point is used to cover a multitude of implements of supposed similar function; pin for the fine, solid sectioned, narrow artefacts which could also be tips of fine needles (12, 14).

Needles

Needles or bodkins (6, 8, 9) do not always survive intact as the eye is more fragile than the tip. Bronze Age examples were found at Mildenhall Fen (Clark, 1936).

Socketed Gouges

These were probably used as skinning knives (Wainwright, 1979). The Billingborough example (3) is a Type B according to the classification of Cunnington (1923).

Antler

One antler pick (13) was found stratified at Billingborough. Sawn off tines (1, 2, 15, 16) are probably not roughouts for tools since often the pointed end shows signs of abrasion, probably consistent with use as burnishing tools or for softening leather, as suggested by Smith and Simpson (1966) with regard to the Overton Hill barrow finds.

Stone Objects

Although objects (1 and 4) were not found in stratified Bronze age contexts they possibly belong to this phase (Fig. 68).

Number 1 is part of a jet spacer bead with a V-perforation and *pontillé* decoration. This type of bead is common from Early and Middle Bronze Age sites *e.g.* in amber from Upton Lovell, Wiltshire (Annable and Simpson, 1964) and in jet from Melfort, Argyll (Inv. Arch. GB. 25). The source of the jet was probably the Whitby area of Yorkshire.

A similar Bronze Age date can be suggested for the fragment of battle-axe (4). This was made from Group XVIII stone the source of which is at Whin Sill, Northumberland.

Metalwork

In addition to the bronze awl (1) discussed above a small fragment of wire (3) and part of a razor (2) were found in stratified contexts (Fig. 46). The bronze knife (11) and ring date to the Bronze Age but were found in later contexts and within the enclosure.

The razor is a small fragment possibly from a Class II example of the Middle Bronze Age (Piggott, 1946;

Rowlands, 1976). Similar razors have been found at Black Patch, Sussex (Drewett, 1982, p. 360, Fig. 29, No. 1); All Cannings Cross (Cunnington, 1923, p. 121, Pl. 19, No. 2) and the Heathery Burn Cave, Co. Durham (Greenwell, 1894, p. 98). South Lodge Camp, Cranborne Chase, Dorset produced two razors, the bifid example was ribbed on one face (Pitt Rivers, 1898, p. 23, Pl. 238, Nos. 3 and 4) similar to one from High Toynton, Lincs. (Davey, 1973, p. 92, No. 225). The closest parallels to the Billingborough razor are from Broughton, Lincs. (Davey, 1973, p. 99, No. 235; May, 1976, p. 76, Fig. 41, No. 5) and Stainsby, Lincs. (Davey, 1973, p. 99, No. 233; May, 1976, p. 79, Fig. 43).

Broad bladed flat bronze tanged knives also occur in the later Middle Bronze Age. One from Salmonby, Lincs. was classified as a razor by Davey (1973, p. 99 No. 234) but later resolved by May (1976, p. 80, Fig. 44, No. 7) to be a knife, similar to that from Black Patch (Drewett, 1982, p. 360, Fig. 29, No. 2). There is always the possibility that the Billingborough razor could be a contemporary knife.

Spiral (finger) ring (10) is an incomplete example of a common Bronze Age artefact, which could be of six or seven coils, of varying width, and sometimes decorated. The two from Black Patch (Drewett, 1982, p. 360, Fig. 29 Nos. 3 and 4) are thicker towards the middle coils. The one from the Barton Bendish hoard, Norfolk, and the three from Stump Bottom, Sussex, (Smith, 1959) are thinner and more like the Billingborough example.

Dagger blade (11) is without tang and fairly narrow with a short blade - double edged from a dagger or dirk. More than 50 segments of undistinguished blades were recovered from the Langdon Bay cargo (Muckelroy, 1981, p. 283)

which may well be similar, though of a larger size, similar to the example in the Caythorpe hoard, Lincs. (Davey, 1973, p. 113, No. 385) which is of the same proportions but 168 mm. long. The narrower blade from Black Patch (Drewett, 1982, p. 360, Fig. 29, No. 8) was identified as a rapier; the nearest parallel to Billingborough (11) is a blade from New Barn Down, Sussex (Curwen, 1934).

Fired Clay

The fired clay material from Billingborough consists of pieces of firebar (Fig. 47, Nos. 2, 3, 5) and cylindrical axially perforated loomweights (Fig. 51, Nos. 87 - 90, Fig. 52, Nos. 91 - 94) and a clay fragment *possibly* from a socketed axe mould although the piece is so small and abraded that this interpretation must be treated with extreme caution.

The loomweight fragments from Billingborough are of typical Middle/Late Bronze Age bun-shaped or cylindrical form, as found at Fengate (Pryor, 1976), Blackpatch, Sussex (Drewett, 1982, p. 372, Fig. 34, Nos. 1 - 4), Aldermaston Wharf and Knight's Farm, Burghfield, Berkshire (Bradley, *et al*, 1980, p. 177 - 217), Thorny Down, Wilts (Stone, 1941), Kingston Buci, Sussex (Curwen, 1931), Park Brow, Sussex (Wolseley, Smith and Hawley, 1927). Many of them are poorly fired and there is considerable variation in size and weight, even amongst those from the same site, such as at Itford Hill, Sussex (Burstow and Holleyman, 1957).

Decorated cylindrical examples are rare, and apart from fragments from Fengate with punctuate impressions (Pryor, 1980, p. 126, Fig. 75, No. 4) Billingborough (94) seems to be unique, although fingertip decoration is occasionally found on spindlewhorls (Chowne, 1981).

Pottery

Some of the Bronze Age pottery from Billingborough has been described above in the section relating to the chronology of the enclosure ditch filling. It is not necessary to present here a full pottery report or to cite examples for every interesting sherd. Instead the pottery is discussed in general terms with reference to other important collections in southern England. However, the full range of stratified pottery is illustrated in Figures 25 - 45 with descriptions as Appendix IV.

There are two groups of Bronze Age pottery from the excavations:

1) coarse, hard, well-fired, grog tempered urns with fingertip and occasionally stabbed or grooved decoration. Sometimes this occurs on cordons which are often featured on otherwise plain vessels. Cord impressed decoration is extremely rare;

2) softer, finer, shell and grog tempered jars, plain or with stamped or fingernail impressed decoration.

Group 1 is considered to represent pottery contemporary with the construction and use of the enclosure. Group 2 pottery was deposited in the upper filling of the enclosure ditch and in pits and structure (752).

Group 1

This group is best regarded as a regional variant of the Deverel-Rimbury tradition of southern Britain. Its nearest parallel is in the pottery from the Bronze Age occupation layer in the top of the Neolithic mine shaft at Grimes Graves, Norfolk excavated in 1971 (Longworth, 1981). There are also similarities with some of the pottery from Ardleigh, Essex (Erith and Longworth, 1960).

In Lincolnshire this type of pottery is frequently found on the fen margin and limestone uplands (Chowne, 1977) ploughed out from settlements and from cemeteries (Lane and Chowne, 1987). Pottery from Stainsby is also closely related to the Billingborough material. This group of urns from a barrow were associated with a bronze razor and faience beads. May (1976) suggests a date of around the fifteenth century B.C. for these beads. The pottery from a cremation cemetery at Long Bennington is stylistically similar to the Billingborough material but is completely different in fabric being much softer and poorly fired (May, 1976). This may, however, be the result of soil conditions or its mode of deposition. The vessels published by Phillips (1934) from the Grantham area are also part of this general distribution of group 1 pottery in southern Lincolnshire.

Group 2

This collection of pottery belongs to the 'post Deverel-Rimbury' tradition as defined by Barrett (1976) and (1980). To date Billingborough and Tattershall Thorpe (see Part Two below) are the only sites to have produced material of this type from Lincolnshire. The range of ceramics that make up the 'post Deverel-Rimbury' tradition is best seen in the collections from Rams Hill, Berkshire (Bradley and Ellison, 1975), the Thames Valley (Bradley, *et al*, 1980), Essex (Barrett, 1978).

Discussion of the Bronze Age economy and environment will form part of the general discussion at the end of this chapter.

3.3. The Bronze Age Phase 2

Salt Making

Structures

Occupation of the site in this phase was represented by hearths and pits. Two hearths (7511, 7512) were well preserved being protected by the post-Medieval boundary ditch bank (Fig. 53). They were rectangular structures made primarily of wood ash, burnt clay fragments, crushed briquetage, and pottery (Fig. 32, P368 - P371, P377, P382, P393, P403). There was no evidence for a superstructure of any sort. Although firebars and other pieces of kiln furniture were found scattered all over the site none were found *in situ*.

Pits (7795, 778, 7756) and (78256, 78257) were used during the salt making process (Figs. 53, 56). They all contained wood ash charcoal flecks and crushed briquetage. A complete, though in hundreds of pieces, vessel was found in (7795). As discussed above (78256, 78257) were cut into the western terminal of the Bronze Age enclosure ditch. A small amount of pottery was found in pits (778, P360; 7756, P359. Fig. 31) the sherds from (256, 257; P345 - P354, P356 - P358. Fig. 31) have been described and discussed above. Charcoal from pit (78257) yielded a radiocarbon date of 540 ± 100bc (HAR-3101) the late 6th or early 5th century B.C.

Fired Clay Objects

The briquetage from Billingborough has been divided into four basic categories with several subdivisions within some of these groups. Although many thousands of sherds of possible evaporating vessels were found on the site, none are large enough to attribute to a particular typology.

Category 1, small pedestals

Small pedestals with a narrow, usually oval-sectioned, rod with rounded head and flared foot. Up to *c.*100 mm. long. Only one foot and several heads survive from Billingborough (Fig. 47, 12, 13), (Fig. 48, 28), (Fig. 49, 45 - 47), (Fig. 50, 74, 75).

Category 2, pedestals

(a) Fishtail or spatulate terminal. By far the largest group. These pedestals are found in the Halle/Saale area of Central Germany in the Early Bronze Age (Matthias, 1976) and in Britain in the Late Bronze Age at Mucking, Essex (Jones, 1977); Northey, Peterborough (Gurney, 1980) and Fengate (Pryor, 1976) and at Helpringham, Lincs. (Simmons, 1975) a Middle Iron Age salt making site (Fig. 47, 1, 7 - 10), (Fig. 48, 18, 23, 26, 27), (Fig. 49, 34, 36 - 44, 54 - 59), (Fig. 51, 82).

(b) Gently tapering bar with flared foot (Fig. 47, 14), (Fig. 49, 33), (Fig. 50, 69 - 73). Numbers 72 and 73 have squared sections, others have rounded sections. Both types are found in the Iron Age Essex Red Hills (de Brisay, 1974; Rodwell, 1979). Cylindrical pedestals are the earliest evolutionary step from the vessel foot (Riehm, 1961) in the Bronze Age. Fragments of three cylindrical rods were found at Orsett, Essex (Hedges and Buckley, 1978) and four from Helpringham all Iron Age in date.

Category 3, blocks

(a) Rectangular blocks with parallel sides and faces (Fig. 48, 24), (Fig. 49, 35, 52), (Fig. 50, 60 - 67, 78). These are all incomplete and could well be of the same sub group as (b) but more probably parallel the short squared pedestals from Helpringham.

(b) Tapering or wedge shaped blocks, either trapezium shaped or with straight sides and flared foot (Fig. 47, 4, 15), (Fig. 48, 17, 19, 20, 30 - 32), (Fig. 49, 48 - 51, 53), (Fig. 50, 79, 80), (Fig. 51, 83 - 86). Some of these are incomplete. Similar blocks were found at Halle/Saale, Germany (Matthias, 1976) and one with T-bar top from L'Ileau near Nalliers (Riehm, 1961, p. 186, Fig. 2). Mucking, Essex (Jones, 1977) has the nearest parallels. There is a fragment of an apparently large example (20 cm. wide) from Helpringham.

(c) Tapered blocks with perforation (Fig. 48, 21, 22).

Category 4, spacers

Spacers or bridging pieces of clay moulded by hand were placed between vessels, to give extra support and also to keep the dishes from overlapping. These were fired during the evaporating process, and survive bearing imprints of rims (Fig. 47, 11), (Fig. 50, 68, 76 - 77). See also May (1976, p. 150, Fig. 74, Nos. 1 - 3) and Swinnerton (1932, p. 249, Fig. 9).

The evidence for salt making at Billingborough probably represents a single short-lived episode that took place in the Late Bronze Age. It was not an industry of the type established on the Lincolnshire coast and fen margin during the Middle Iron Age. There is very little evidence for Bronze Age salt making in Britain. Salt was being produced at Fengate (Pryor, 1976, 1980) and Northey, Cambridgeshire (Gurney, 1980) and Mucking, Essex (Jones, 1977) or at least briquetage was dumped at these sites. However, there is evidence for salt production from the Neolithic onwards in Europe. It is suggested that similar methods may have been used during the British Bronze Age (Gouletquer, 1974, Nenquin, 1961).

3.4. The Iron Age Phase 3

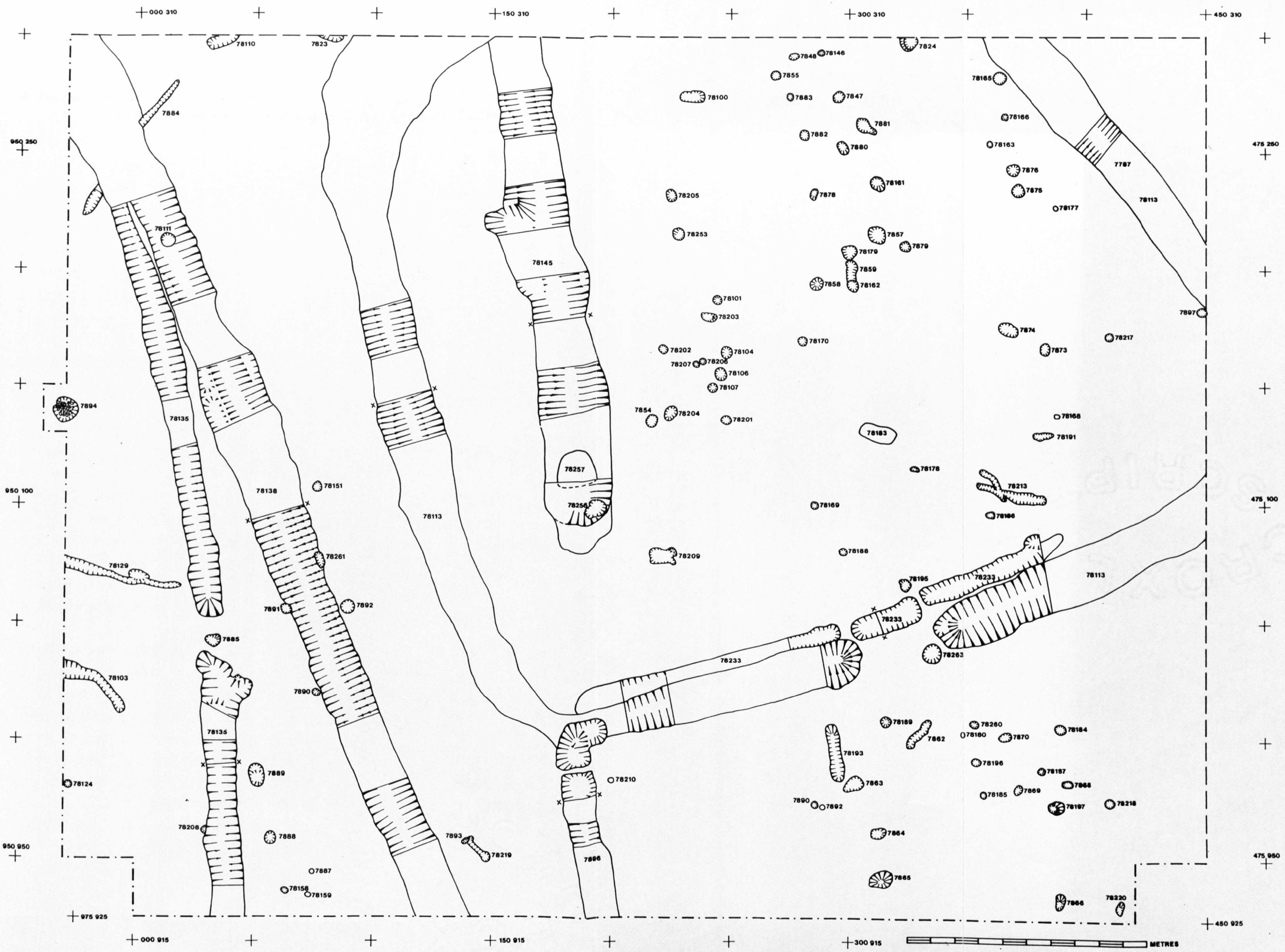
After the salt making episode at Billingborough two enclosures and a series of gullies were were constructed (Fig. 21). One enclosure (78113) was completely exposed and found to be sub-square in plan with a south facing entrance. The other (78135) was rectangular and only the eastern short side and a small area of the interior was available for excavation (Fig. 56). Aerial photographs have shown that this enclosure contained a substantial round house.

Enclosure (78113)

Although approximately 20 m. of the enclosure ditch were excavated very few artefacts were recovered from the ditch. This was in complete contrast to all of the other enclosure ditches and must reflect the different function of this enclosure. Small abraded sherds of Middle Iron Age pottery and residual Bronze Age were found in the ditch. The ditch was recut on several occasions and has a shape typical of modern hand-cleaned fenland field drains (Fig. 69). There can be little doubt that this ditch was cleaned out regularly. This may be a reflection of the groundwater conditions or more likely an indication that it had to function as an efficient barrier. No positive evidence for a bank was found but layer (78109) may have been eroded into the ditch from an internal bank. If this did exist then it would probably have been topped by a hedge or palisade.

None of the features within the enclosure appear to have been contemporary with the ditch. However, these features cannot be assigned to any phase although they do cluster within the Bronze Age enclosure as noted above.

Figure 56. Billingborough excavation plan south-west



A large posthole was located at the entrance to the enclosure (78263) and another just within the ditched area (78195). These were from a substantial gate which opened to a complex of posts, possibly part of a fence system, to the south. The ditch that apparently blocks the entrance dates to a later phase.

Clearly this enclosure was not for human habitation therefore the most likely use for it was as a stock compound. This conclusion will be considered further when the economic and environmental evidence is discussed.

Enclosure (78135)

The ditch of this enclosure is slight when compared to (78113) and its filling of a completely different character (Fig. 70). Pottery, in considerable quantities, fired clay, animal bones, jet and metalwork were found in the short length of ditch available for investigation.

Within the enclosed area were two gullies (78103, 78129) and a hearth lined with pebbles (7894). When considered with the cropmark of a substantial round structure there can be little doubt that this enclosure was primarily for human occupation.

Ditches and Gullies

During this phase a series of ditches and gullies were cut, and recut. Ditch (7823) (Fig. 55) may have held posts although this is by no means certain (Fig. 70). The most important recut was (78234) which removed the upper layers of the northern side of the Bronze Age enclosure ditch (Figs. 55) (7510b and 7510 on Fig. 24). This recut was rich in pottery, animals bones and molluscs. It also contained a votive deposit of a La Tène 'poker'.

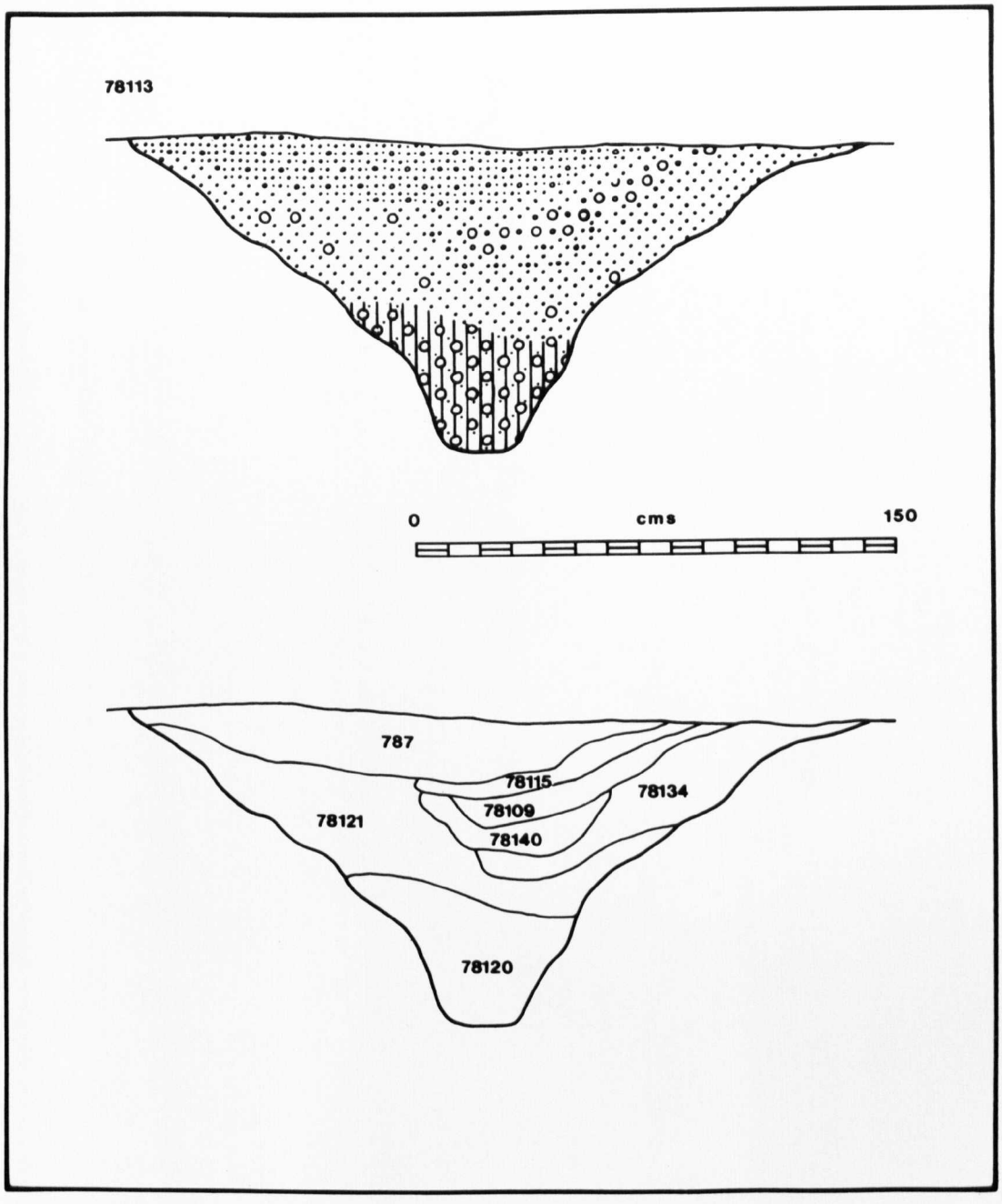


Figure 69. Billingborough enclosure (78113) ditch sections.

Structures

During this Middle Iron Age phase occupation took place outside of the enclosures as well. Traces of a circular structure and related gullies were found at site location 100375 (78174, 78175, 78176, Fig. 55). These remains were slight and only preserved because of a slight depression at this point which had allowed a layer of flood silt and gravel to accumulate thus sealing the features and a series of plough marks. It was this flood layer that contained the battleaxe fragment described above.

The Bone Industry

Bone points and pins continued in use during the Iron Age at Billingborough with no changes in style or in their method of manufacture. However, some other bone objects were found in contexts dating to this phase.

Pit (78257) produced a notched bone (Fig. 64, 18). The scoring is irregular and thus not likely to be deliberate. The marks could be the result of wear from twine or corded handles, perhaps from a bucket or similar vessel, the bone providing an easier grip when extracting ?water from the pit.

Objects 25 (Fig. 65), 58 and 59 (Fig. 67) were probably dress fasteners.

The other bone and antler objects are of unknown function, or just show saw marks, particularly on horn cores.

Stone

A slightly asymmetric highly polished jet bead with rounded sides, flat ends and an oval perforation was found in enclosure ditch (78135) (Fig. 68, 2).

The block of jet (Fig. 68, 3), now broken, was cut in preparation for working. The small hole discernible at one end may well have been made by a compass point in a similar way to a shale fragment from Maiden Castle (Wheeler, 1943) which was marked with faint concentric rings around a definite central indentation.

Also found in the ditch (78135) was a polishing stone or rubber (Fig.68, 5). It is very highly polished and worn, and could have been used to burnish pottery or for softening resilient material such as leather prior to working. Rubbing stones have been found at many Iron Age sites. A similar flat smoothed oval stone was found at Cold Kitchen Hill (Nan Kivell, 1925, p. 190, Pl. XIV).

Metalwork

Bronze objects (Fig. 46, 5 - 7) were found in enclosure ditch (78135).

Curved pin (5) has a small ring head and long shank. This may be a derivation the true ring-headed pins developed from the swan's neck pins in the Early Iron Age (Dunning, 1935). A similar pins were found at Gussage All Saints (Wainwright, 1979, p. 110, No. 3005) and from Maiden Castle (Wheeler, 1943, p. 268, Fig. 87, No. 7), though they are not exact parallels.

Brooch (6) and pin (7) have an external chord which suggests that they pre-date the Nauheim type and are therefore no later than the first part of the first century B.C.

A bronze bracelet (Fig. 46, 9) belongs to this phase although it was discovered in a phase 4 context. There is an exact parallel for this bracelet from All Cannings Cross (Cunnington, 1923, p. 119, Pl. 18, No. 5).

Bridle spur (12), from the topsoil, is part of the head stall of the horse's harness, attached to the bit with chains, and to the reins at the cheek, originally literally spurred to urge the horse into action. The earliest examples, from pre-Roman Etruria, were heavy, with three large points at the centre forming a channel for the harness chain between two holes and acting as the spur, often decorated on the upper face with a zoomorphic design. The curious shape led to consideration of these as bow-pullers, but finds of them still with chains threaded through (Smith, 1916) led to a revision of ideas. By the earliest Iron Age the spur had modified to a central boss on a quatrefoil mount in Britain, eventually flattened to a vestigial button. Almost all have knobbed loops like the Billingborough example. More decorative quatrefoil bridle-spurs come from Stanwick, North Riding, Yorkshire (MacGregor, 1962, p. 39, Fig. 4, No. 4); Mildenhall, Suffolk; Castarley Camp, Wiltshire; Colchester, Essex; and there are two differing ones from Pimperne, Dorset (Smith, 1916). The plainer one from the Polden Hill hoard, Somerset (Brailsford, 1975, p. 233, Fig.7) like the example found near Firle Beacon, East Sussex (Smith, 1916) are very similar in style to the Billingborough object despite the extra loops. A unique example from Old Sarum near Salisbury has only two loops, but the central boss is replaced by a third hole, possibly for inlay, surmounted by a flattish zoomorphic design in the form of a bird (Stevens, 1937). The example with central boss, and a pair of loops, from Wittenham Clumps, Berkshire (Rhodes, 1948) is the nearest parallel, although it has knobs on the sides of the boss possibly representing the last vestiges of a four-square design. Chronologically it would seem as though the Etruscan spurred mount developed with a flatter quatrefoil in Britain, to revert in the Later Middle Iron Age to a pair of loops with central boss, such as this one.

Two iron artefacts were found in relation to enclosure (78135) an awl (Fig. 46, 2) from the ditch and a very corroded brooch spring (3) from gully (78103) within the enclosure.

By far the most important iron object to have been found at Billingborough is the hearth shovel (Fig. 46, 1) which was deliberately broken and carefully laid in the bottom of a recut in the northern side of the Bronze Age enclosure ditch (Pl. 17). These objects were described as 'pokers' from the long handle and evidence of being used with fire in the form of burnt blades by Rodwell (1976). (It is in fact extremely similar to bread-shovels still used in bakeries and is the principle tool in the Italian *pizzeria*).

Although of the same basic form it is different from all those described by Rodwell (1976) - the three from Witham have long tapering blades, and none of those illustrated from other sites has a knobbed shank, but some of the more fragmentary examples have similar blades.

At Hunsbury, Northamptonshire (Fell, 1936) six smaller tools were found, none complete, most having smaller blades than the Billingborough example.

Twelve hearth shovel blades varying in length from 50 mm. to 12 cm. and in shape from oblong to spatulate, were found at Manching, Germany (Jacobi, 1975), only one complete with handle. Eight other handles survived, all square or oblong in section and with knobbed ends. Three were partly twisted to give greater tensile strength. Other handle fragments with ringed ends were interrupted as poker or fork handles tying in with complete examples of both.

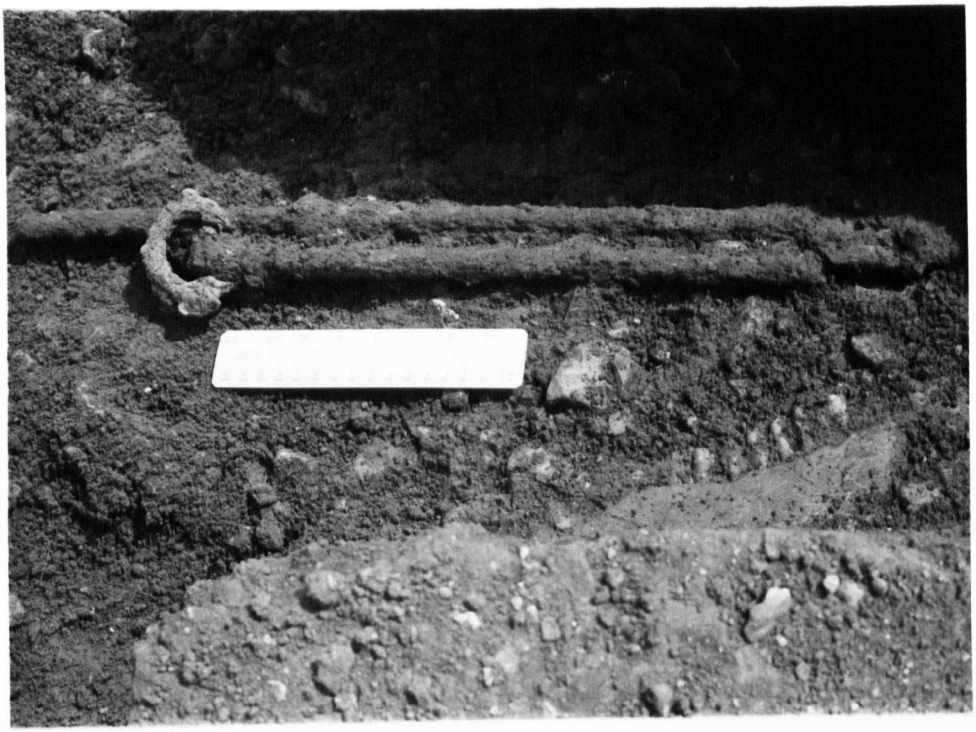


PLATE 17. Billingborough iron 'poker' *in situ*. Scale 170 mm.

This apparent dichotomy between knobs and rings would seem to be a question of locality, more than actual function, as the complete examples found in Britain tend to have ringed ends and a rounded section.

The example from Southcote, Berkshire (Piggott and Seaby, 1937) is very similar to the Billingborough object - it is 94 cm. long, the handle has a ringed end, and it was found buried in a pit. At Garton Slack (Brewster, 1980) a pit in the bottom of a silo contained another, carefully hidden under straw, alongside a poker and a pair of tongs.

This association with blacksmiths tools would tend to agree with the theory (Saunders, 1977) that these are indeed 'slices' used for manoeuvering and stirring fuel in the forge - at a safe distance. In his consideration of smithing techniques and functional analysis Saunders (1977) also points out that tools would be treasured and thus handed down reverently from generation to generation. The supposed 'ritual' deposit of these same tools, singly or as part of a cache, in pits or ditches could then be just a measure of safekeeping, especially when seen to have been actually hidden. There was, in fact, evidence from Billingborough for metalworking, principally smithing in the form of buns of iron slag, hearth lining and a tuyere fragment.

Fired Clay

One small triangular loomweight was found in enclosure ditch (78135) (Fig. 52, 98). The nearest parallel is one from Verulamium (Wheeler and Wheeler, 1936, p. 178, Fig. 25) which has only a single perforation.

Larger triangular examples occur at Ancaster Quarry (May, 1976), Willington, Derbyshire (Elsdon, 1979), Winklebury

(Smith, 1977, p. 113, Fig. 40) and Orsett, Essex (Hedges and Buckley, 1978).

Pottery

Pottery from the enclosure ditches is illustrated in Figs. 33 - 37, and sherds from the recut of the Bronze Age enclosure ditch in Fig. 39.

The collection is typical of a Middle Iron Age settlement in the East Midlands containing scored pottery in Cunliffe's 'Breedon-Ancaster' group (1974), *e.g.* (P462, P502, P571, P615, P857, P858, P861, P866). In addition to scored pottery finer wares were also found, particularly in enclosure ditch (78135), *e.g.* (P576, P579, P584, P598, P599, P600, P603, P616). The massive jar (P710) was discovered lying on the bottom of the enclosure ditch. Rim (P588) may belong to this vessel.

May (1976, p. 140) has suggested a third century B.C. date for the main occupation at Ancaster Quarry based on metalwork associations. One of the brooches from this site may date to the fifth century B.C. indicating that the settlement could have started early in the Iron Age. Pryor has suggested a similar date range for Group 1 and 2 pottery from Padholme Road and the Cat's Water site at Fengate (Pryor, 1984, p. 161). Group 1 pottery at Fengate consisted of hand-made vessels with high shoulders and fingertip impressions often on the rim-top. These are similar to sherds from Billingborough (Fig. 34, P523, Fig. 37, P729); West Harling (Clark and Fell, 1953); Scarborough (Smith, 1928) and Staple Howe (Brewster, 1963). Group 2 pottery at Fengate is comparable to the scored pottery from Billingborough and Ancaster (May, 1976). This is also the main type of pottery found on salt making sites along the fen margin between Sleaford and Bourne. One such site has been partially excavated at

Helpringham (Simmons, 1975). Charcoal from the latest hearth discovered at the site provided a radiocarbon date of 230 ± 80bc (HAR-2280). A date of 380 ± 90bc (HAR-3102) was obtained from charcoal beneath the hearth. When calibrated these dates fall in the range 340 B.C. 320 B.C. or 200 B.C. and for the later date 400 B.C. (Stuiver and Pearson, 1986).

3.5. The Iron Age Phase 4

During phase 4 the nature of settlement changed at Billingborough. The enclosures were abandoned to be replaced by a field system the main elements of which were an east/west ditch (78136, Fig. 55) and a north/south ditch (78138, Fig. 56).

Field System Ditch (78136)
Almost 100 m. of this ditch were excavated. The approximate width was 65 cm. and depth 50 cm. It had been recut on several occasions and very few artefacts were recovered and those that were tended to be residual in nature. A paucity of contemporary finds is not surprising in a field boundary ditch when the fields may well be a considerable distance from settlement areas. At its eastern end the ditch cut several other short lengths of ditch (7796, 7797) which may have been earlier boundaries. It was, in turn, cut by gully (77107, Fig. 53). One of these ditches (7796, Figs. 71, 72) contained, in its lower filling, a bronze brooch of the Hod Hill type (Fig. 46, No. 8).

Field System Ditch (78138)
This ditch was a much more substantial feature being approximately 2 m. wide and 60 cm. deep. There was evidence for recutting on at least four occasions (Figs.

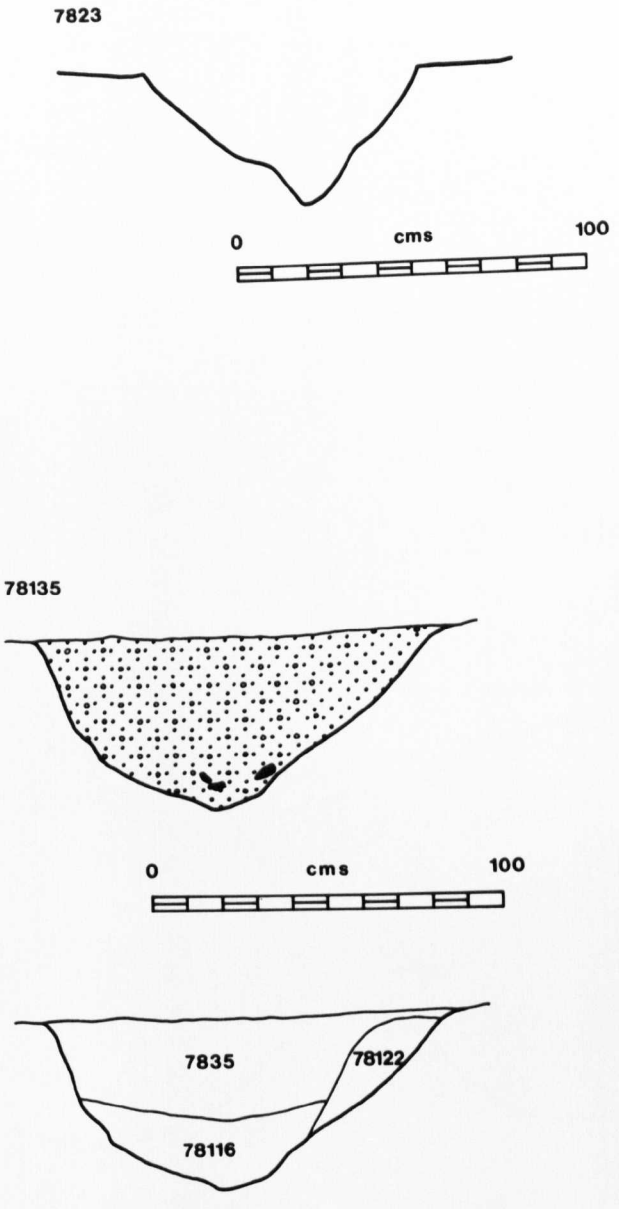


Figure 70. Billingborough gully (7823) profile and enclosure ditch (78135) sections

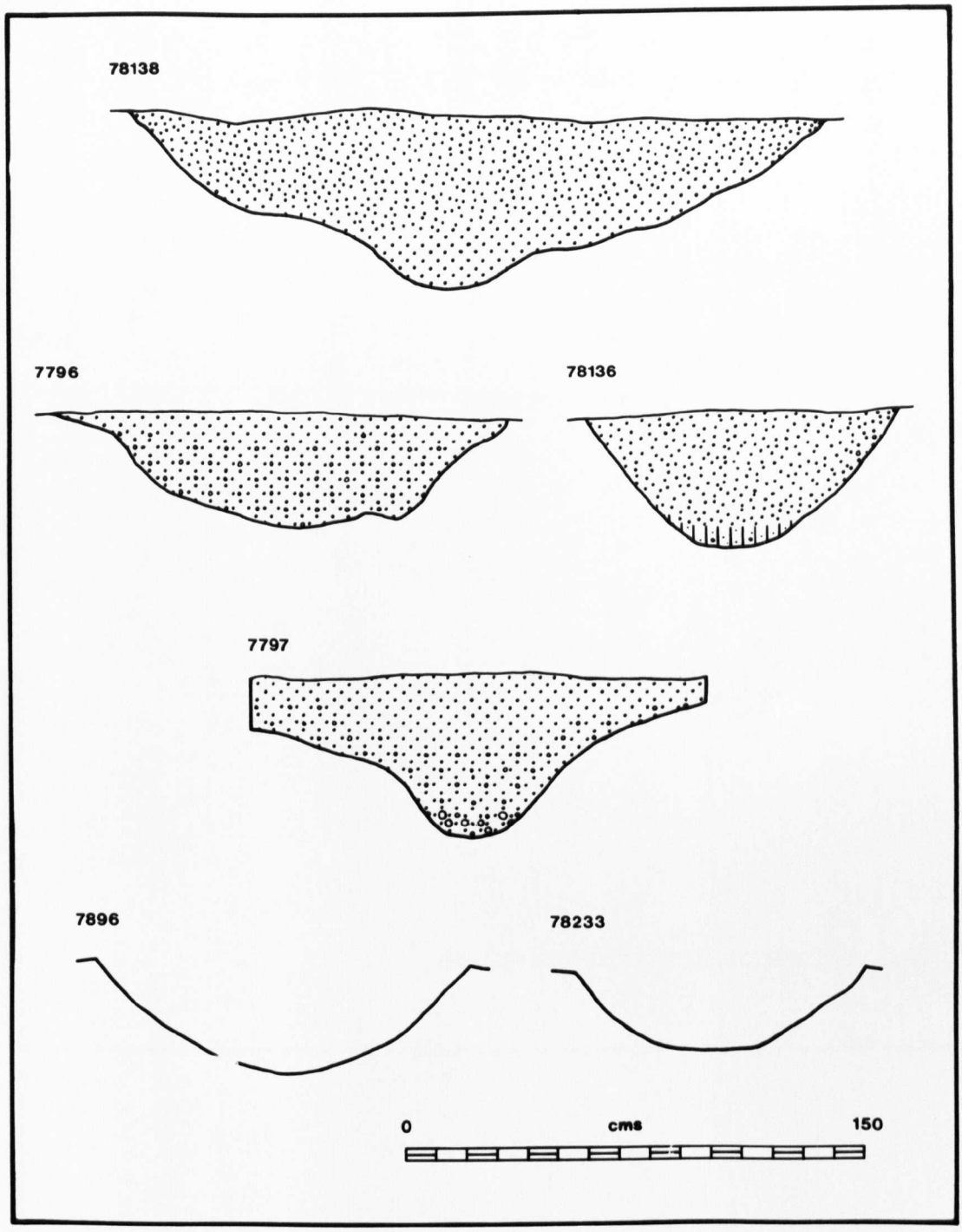


Figure 71. Billingborough field system ditches, profiles and sections

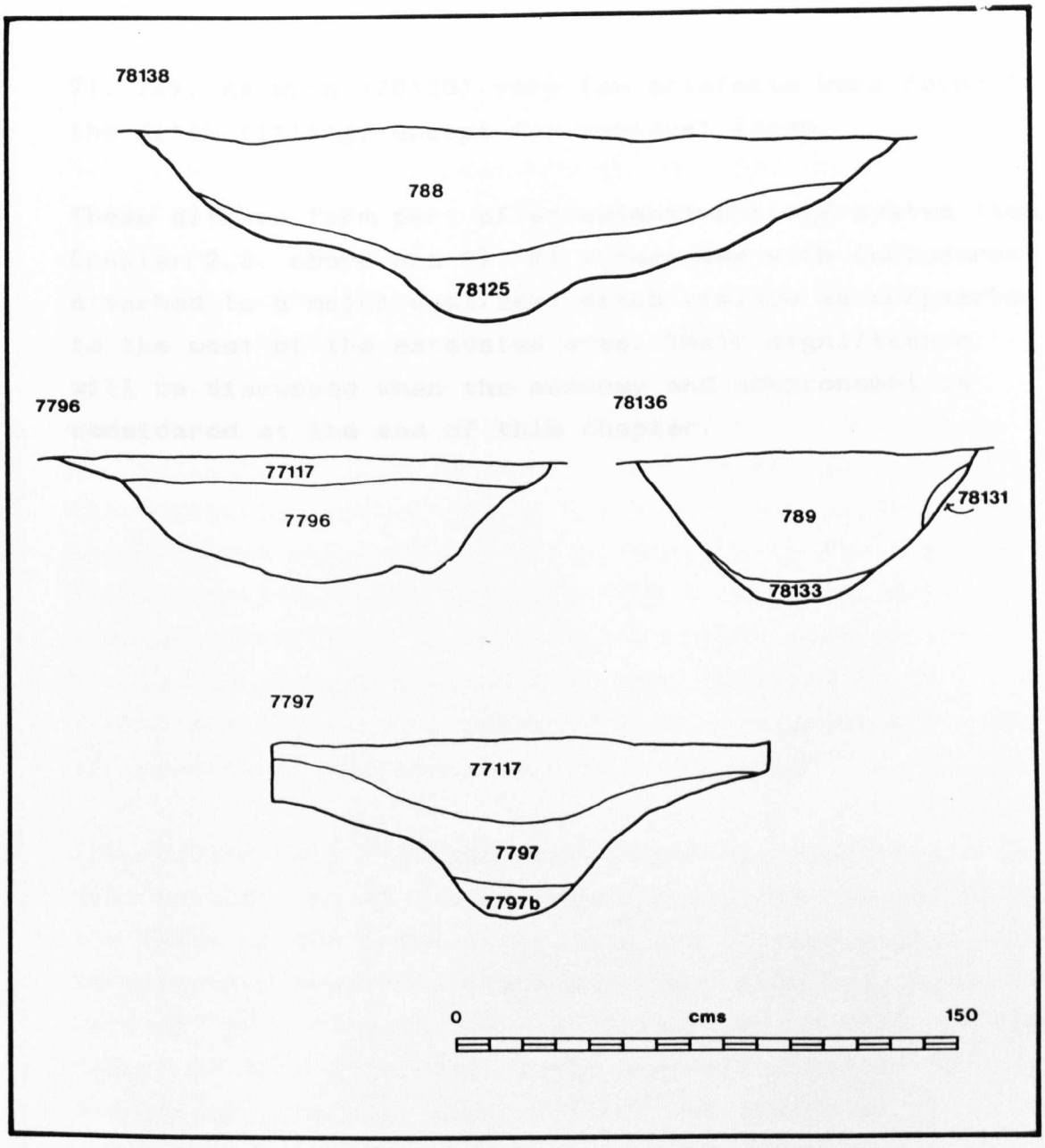


Figure 72. Billingborough field system ditches, profiles and sections

71, 72). As with (78136) very few artefacts were found in the ditch filling, except for residual items.

These ditches form part of an extensive field system (see Chapter 2.3. above and Pl. 8) integrated with enclosures attached to a major west/east ditch visible as cropmarks to the west of the excavated area. Their significance will be discussed when the economy and environment is considered at the end of this chapter.

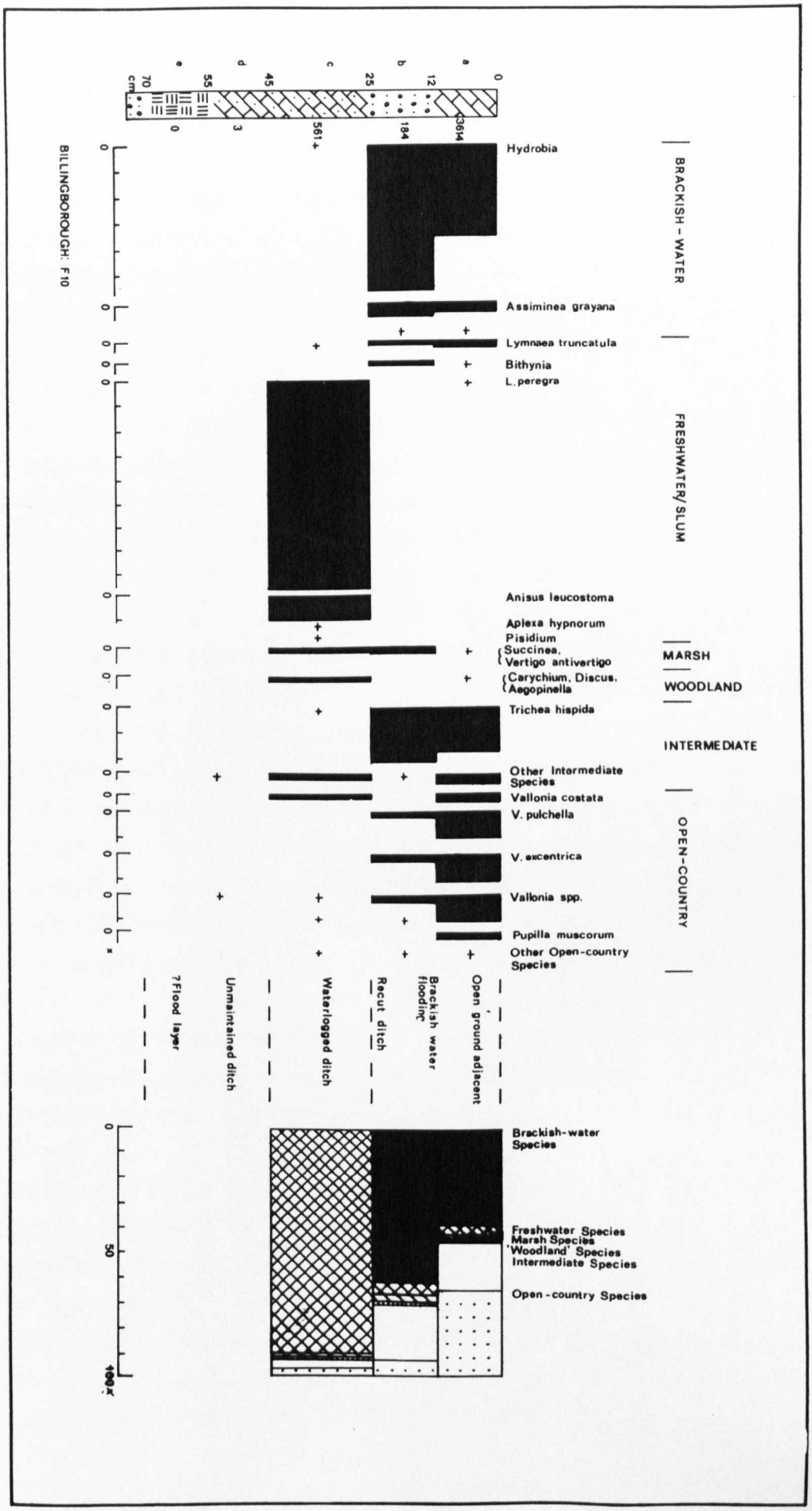
3.6. Environment and Economy

Soil conditions at Billingborough were not particularly good for the preservation of material for suitable environmental analysis. The ditch fillings were oxidised and had an average pH of 7.9. The pH of the natural subsoil averaged 8.2. None of the ditches were waterlogged or sealed by alluvium. The Bronze Age enclosure ditch was sampled for pollen but preservation was exceedingly poor. However, the high pH contributed to the exceptional condition of the Bronze Age pottery, animal bones and molluscs all of which were found in large quantities. The molluscs from a series of bulk samples extracted from the recut northern side of the Bronze Age enclosure ditch have been analysed by C. French and the results obtained make a reconstruction of the general environmental sequence possible (Fig. 73).

The results only represent environmental conditions from when maintenance of the enclosure ditch had ceased. On the basis of one radiocarbon date and pottery styles, it is suggested that this happened around 1400 B.C. Molluscs were not preserved in the clay primary ditch filling. The nature of this clay basal layer suggests a period of freshwater flooding. Layer (7510c) was dominated by freshwater/slum species (more than 90%) with some marshland, woodland and open country species. The basal layer of the recut (7510b) contained mainly brackish-water species (62%) with some intermediate and open country species. At the top of the sequence (7510a) brackish species declined (30.5%) as open country increased (57.5%)

These results suggest that the enclosure was abandoned in the closing centuries of the second millennium B.C. at a time of generally deteriorating climate (Godwin. 1966;

Figure 73. Billingborough relative histogram of molluscs.



Piggott, 1972) and rising sea level (Jelgersma, 1966; Willis, 1961). This was followed by a marine transgression which created salt-marsh conditions. It has been suggested that this incursion took place sometime between *c.* 1300 and 300 B.C. (Churchill, 1970: Godwin and Vishnu-Mittre, 1975). As the marsh dried out and the sea retreated a short episode of salt making took place. Then the later enclosures were constructed in a mainly open environment.

The environmental model based on analysis of the Hacconby and Horbling Fen sections in Chapter 1.4. can now be refined by using the results from the Billingborough excavation.

1. At the end of the third millennium B.C. dry land conditions prevailed for at least 5 km. from the present day fen margin in an easterly direction. A palaeosol had formed at and often below the present day sea-level. However in the lowest part of the fen at Hacconby open water existed and this probably extended southwards to the Cambridgeshire peat fens where it is represented by the fen or buttery clay dated to pollen zones VII and VIIb probably around 3000 - 2400 B.C.

This part of the model remains the same because the Billingborough settlement was not established until Deverel-Rimbury variant urn pottery and cremations in urnfields, as at Ropsley and Humby and Old Somerby (Lane and Chowne, 1987) came into use. The dominant pottery type found in round barrows in the area is Beaker, Food Vessel or Collared Urn (Donaldson, 1977; Simpson, 1976; Lane and Chowne, 1981) with bucket urns sometimes incorporated as secondary deposits (Greenfield, 1985). It seems likely that the Bronze Age enclosure at Billingborough was constructed *c.* 1600 - 1500 B.C. This

suggestion is further supported by the radiocarbon dates for charcoal, possibly from clearance, found in the palaeosols at Horbling Fen and Hacconby Fen, 1800 ± 70bc (HAR-1750) and 1560 ± 70bc (HAR-5657) respectively.

ii. In the latter part of the second millennium B.C. freshwater flooding created suitable conditions for the growth of peat over a wide area. The absence of substantial tree remains such as bog oaks suggests that the peat formed in a relatively clear landscape. The evidence from the Horbling Fen and Hacconby Fen sections adds to the suggestion of a period of climatic deterioration during the later Bronze Age (Piggott, 1972).

It is probable that the Bronze Age enclosure was abandoned as a direct result of climatic deterioration and rising groundwater. Sites on the fen margin would have been particularly vulnerable to variations of the water table and sea level. The radiocarbon date of 1198 ± 57bc (BM-1410) for charcoal from the secondary enclosure ditch silts compares favourably with that of 1060 ± 80bc (HAR-1749) for the peat layer at Horbling Fen.

iii. During the early part of the first millennium B.C. the area was totally flooded by the sea. There then followed a regression period with limited drying out and the formation of tidal marsh conditions.

The Billingborough site was abandoned shortly after the deposition of post Deverel-Rimbury pottery in pits and the possible sunken-floored structure (752) probably in the 11 - 9th century bc. Occupation resumed in the late 6th or early 5th century B.C. in the form of salt making.

iv. Dry land conditions returning in the late first millennium B.C./early first millennium A.D. assisted by Roman fen drainage schemes (Simmons, 1979).

As the fen margin dried out and became desalinated two enclosures were constructed at Billingborough coupled with extensive manipulation and exploitation of the natural water courses as seen from the aerial photographs. Occupation may well have been continuous from the salt making episode until the laying out of an extensive field system in the 1st century B.C./A.D.

v. Freshwater flooding as indicated by the growth of peat over Romano-British features in the Hacconby section. This probably occurred during the middle part of the first millennium A.D. following the collapse of the Roman administrative system.

The environment must have had a considerable effect upon the Bronze Age and Iron Age agricultural communities of the fen margin. Waterlogging of the soil, the degree of salinity, level of rainfall and the effectiveness of the natural drainage systems would have dictated the agricultural regimes practised. These in turn were influenced by the availability of markets, trade and the religious and social aspirations of the farming communities. These latter factors will be discussed fully in conjunction with the evidence from the Bain Valley, Britain and parts of Europe in Part Three of the thesis. However, the economic evidence for the Billingborough site must be presented here.

Animal bones form the major body of evidence for the economy. Every bone from the excavation was retained and each enclosure ditch was sampled by wet-sieving 1 m. wide

controlled sections. Recovery by hand was checked by random sieving of excavators spoil.

A total of 3416 bones have been identified by P. Hayes.

Bronze Age Phase 1 - enclosure and related deposits 1433

Bronze Age Phase 2 - salt making ---------- 278

Iron Age Phase 3 - enclosures ---------- 998

Iron Age Phase 4 - field system ---------- 707

The salt making phase sample is too small to be very useful.

Cattle, sheep/goat, pig, horse and dog were present in all phases. Sheep/goat are not often separable but goat was positively identified in phase 1 and possibly in 3. Both red and roe deer bones were present in very small numbers (1%-3%) in all phases except 4. Roe deer antler fragments were similarly present, with one piece of red deer antler in phase 1. Also found were small quantities of hare, rodents and other small mammals, birds in all phases, goose-size birds in phases 3 and 4, duck (possibly mallard) in phases 2 and 3, rook, domestic fowl in phase 4, frog/toad phase 2 and 4).

Of the major animals (by the number of bones) cattle and sheep/goat ('sheep' from here onwards) always predominate in numbers of fragments, but horse exceeds sheep in phase 4 by weight.

Pig and horse are inversely related. By numbers or weight pig is highest in phase 1, declines a little to 3, then remains constant. Horse is low in phase 1 (2%-3%) but

rises in an accelerating way, overtaking pig in 3 (weight and loose teeth) or 4 (weight, teeth and numbers of fragments).

Using epiphyseal and dental maturation the Billingborough bones are likely to represent:

Cattle: (i) phase 1 suggests traction;
(ii) no phase suggests milk;
(iii) the samples are extremely small.

Sheep: (i) phase 1 suggests meat production, fusion and dentition data agree;
(ii) phase 2 sample too small;
(iii) phase 3 fusion and dentition analyses conflict; fusion seems even more clearly meat than 1; dentition suggests an increased element of milk production;
(iv) phase 4: fusion/dentition conflict again; fusion again suggests meat production; dentition suggests wool but with some meat production. Sample sizes are low.

Provisional analysis of the bone collection suggests a very high level of sheep from the Bronze Age onwards. Deer and pig fall off after the Bronze Age indicating the continued clearance of woodland. Cattle were being used at this time for traction not for milk. The numbers of sheep increase dramatically immediately following the marine transgression. Whilst the sheep were being used primarily for meat in the Bronze Age dentition suggests an increased element of milk production in the Iron Age. In phase 4 there was increasing interest in travelling farther than walking distance indicated by a rise in the popularity of horses.

During the Bronze Age mixed agriculture was practised with sheep, cattle, deer and pig all playing a role. The presence of sheep is confirmed by the discovery of loom weights indicating weaving and bone and flint tools probably used for butchery and leatherworking. Cattle used for traction and the four-post structures suggest arable farming although it was impossible to identify what crops were grown.

The change to brackish conditions restricted the range of arable crops that could be grown (Van Zeist *et al*, 1976; Bottema *et al*, 1980). However, saltmarsh is an excellent environment for sheep farming and the construction of stock enclosure (78113) and the large number of bones confirms the importance of this species. During the Iron Age arable farming was most probably practised farther inland on the limestone uplands. The large number of storage pits at Ancaster Quarry would support this view (May, 1976).

As the marsh retreated flocks and their keepers would need to travel farther, hence the increase in horse. It is suggested that the laying out of the field system late in the Iron Age signals a return to arable farming on the Fen margin. However, as this is a period when major land divisions, in the form of triple-ditch systems, were created (Pickering, 1979); proto-urban centres established, *e.g.* Old Sleaford and Dragonby and there was increasing contact with the Roman world through trade. Politics rather than the environment may have changed the economic situation. These matters are, however, beyond the scope of my present research.

PART TWO

THE BAIN VALLEY

CHAPTER FOUR

The Environmental Background

4.1. Geology and Topography

The River Bain acts as the major drainage channel for the western Wolds. It rises at Burgh on Bain and passes through a narrow steep-sided valley to Donington on Bain where the valley widens considerably. At Horncastle the River Waring flows into the Bain. The valley broadens further at Kirkby on Bain and merges into the fens of the Witham valley at Tattershall. Throughout its 35 km. course the River Bain is joined by a number of small streams or becks. These are fed by springs at the head of small valleys (Straw, 1966).

The geology and soils of the area (Fig. 74) can be considered in three sections, from north to south:

i) from Burgh on Bain to Donington on Bain;

ii) from Donington on Bain to Hemingby

iii) from Hemingby to Tattershall.

i) The source of the Bain, at Burgh on Bain is approximately in the centre of the Chalk Wolds at a height of 135 m. above sea-level. The river runs east, through Ludford, for about 3.5 km. to West Wykeham where it turns south and enters a zone of boulder clay known as Calcethorpe Till. Glacial outwash gravels appear at Biscathorpe just before a zone of Tealby Limestone and Upper Clay at Donington on Bain. The chalk lies predominantly to the east of the valley with tills to the west. Some of the chalk is capped by clay-with-flints

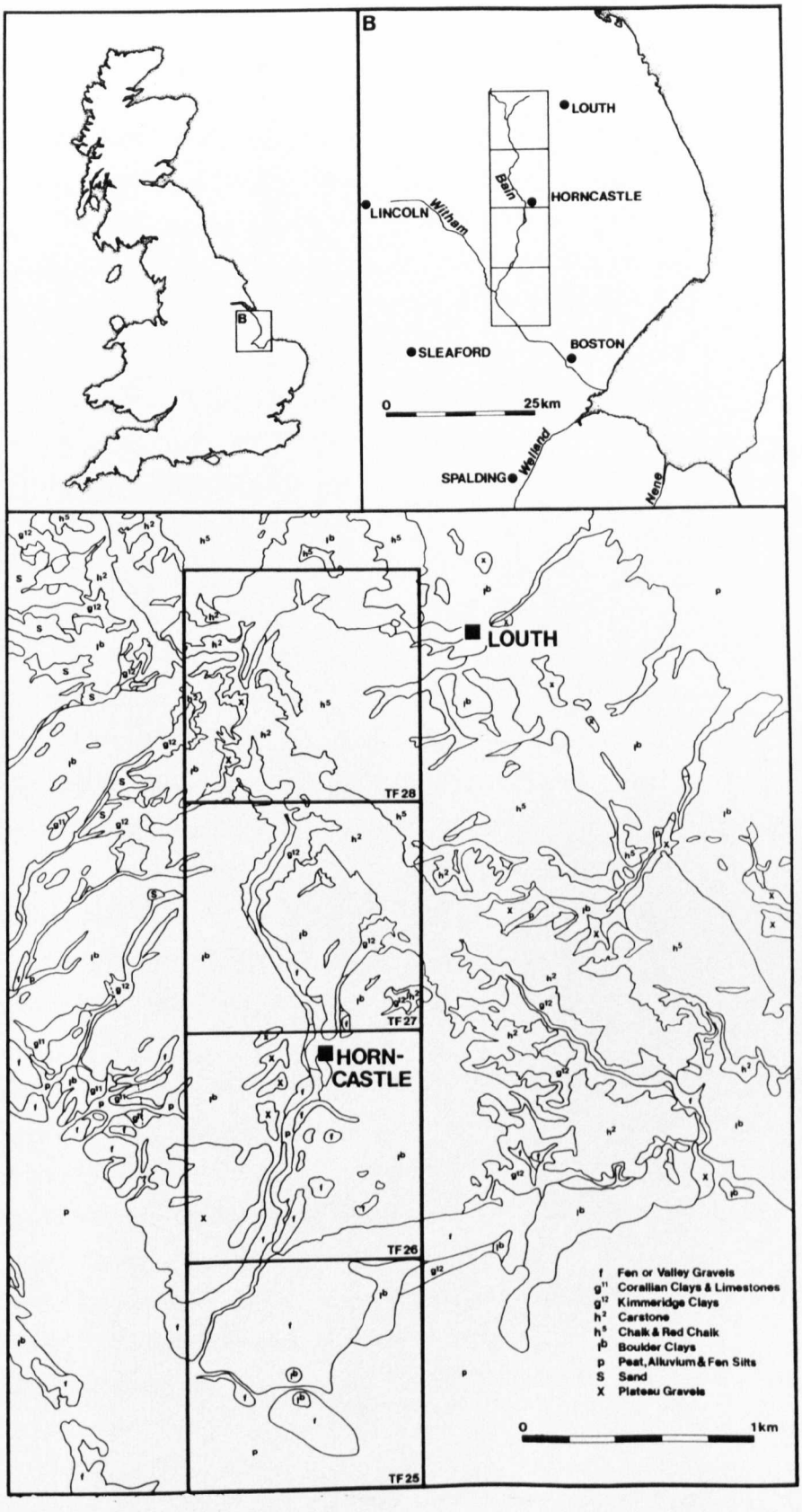


Figure 74. Bain Valley survey area geology.

which still has a soil cover with a high loessic content in parts (Catt, 1978).

Arable farming is widespread on the chalk and limestone, although this area was once important for sheep farming. Cereals, potatoes, peas and to a lesser extent sugar beet are the main crops with oilseed rape increasing in recent years. The steep slopes are still used mainly for sheep. Potatoes, sugar beet and cereals are grown on the sandy soils which tend to be acidic in nature. Irrigation is necessary in the summer months. Sheep farming and forestry are on the increase. The lower slopes of the valley are used for winter cereals but many of the areas of heavy soil are being returned to pasture (Heaven, 1978).

ii) From Donington on Bain to Hemingby the river is flanked by Kimmeridge Clay and Calcethorpe Till with an area of Spilsby Sandstone east of the river between Donington on Bain and Scamblesby.

Winter sown cereals and sugar beet are the most common crops although considerable areas of sandy soil are given over to pasture and forestry.

iii) Below Hemingby the Kimmeridge Clay ceases to be replaced entirely by Calcethorpe Till. Just north of Hemingby a gravel terrace appears to the east of the river. This extends to the west at West Ashby. The gravels continue south to the fen margin at Tattershall where they disappear under clay and peats of the Witham Valley. West of the gravel terrace in the Woodhall Spa area is an extensive tract of sand known as Kirkby Moor sand.

Cereals, sugar beet and potatoes are the main crops. However, the Kirkby Moor sands and the terrace gravels are acidic in nature and poor in quality with extensive leaching and podzolisation. They are also subject to sand blows and periods of drought requiring irrigation. Cattle and sheep farming is fairly extensive and much of the area is given over to forest.

The valley floor is covered with alluvium and many of the small side valleys are steep-sided and colluviated.

4.2. The Ancient Environment

Unfortunately the Bain Valley is not suitable for the type of study undertaken in the western Fens at Horbling and Hacconby. For environmental reconstruction we have to rely on more traditional methods such as pollen analysis and the study of molluscs. The lack of research in the Bain Valley means that we must look to the surrounding area for results although it must be pointed out that even here there has been little work published. The excavated sites that have produced environmental evidence are:

Giants' Hills Long Barrow 1
" " " " 2
Tattershall Thorpe Neolithic settlement
Butterbump round barrow cemetery
Tattershall Thorpe Iron Age defended enclosure

Giants' Hills Long Barrow 1
The evidence from Phillip's (1936) excavation was in the form of molluscs from a variety of locations the most important of which were a posthole, a pit (the so-called 'empty hole') and the black layer that overlay the pit.

Molluscs from Bronze Age and Iron Age hearths were also collected. The picture that emerges is one of damp scrub and grassland with ploughing in the Iron Age. However, the numbers of molluscs were rather small and these interpretations must be treated with caution.

Giants' Hills Long Barrow 2

This site was excavated in 1975/6 and some discussion of the results can be found in Evans and Simpson (1986). Three distinct phases of Neolithic activity were recognised:

(Radiocarbon dates earlier than 2000 bc have not been calibrated as these are beyond the current tables on Pearson and Stuiver, 1986)

Façade and mortuary structure five dates from 3190 ± 80bc (OxA-642) to 3020 ± 100bc (CAR-822)

Burial deposition and mound construction, five dates from 2890 ± 70bc (CAR-819) to 2700 ± 80bc (OxA-639)

Later Neolithic re-use, four dates from 2500 ± 70bc (CAR-818) to 1880 ± 60bc (CAR-816). The two radiocarbon dates from Giants' Hills 1 probably belong to this phase. They are 2460 ± 150bc (BM-191) and 2370 ± 150bc (BM-192).

Molluscs, mammal bones and charcoal from the excavation have been studied and show that prior to Neolithic activity there was closed woodland mainly of oak and hazel with some hawthorn and maple. Clearance to grassland preceded the first phase of the monument. There was also evidence for limited cultivation.

During the period of later Neolithic activity there was secondary woodland of oak, hazel, ash and yew with some

hawthorn and sloe. This was cleared to grassland in the Beaker pottery phase which followed.

Tattershall Thorpe Neolithic Settlement

This site was excavated by the author in 1981. A short note on the excavations can be found in Chowne and Healy (1985). A detailed discussion will appear in Chapter 6 comment here is concerned with the environment. Unfortunately faunal and floral remains from this site were not well preserved mainly as a result of leaching of the acidic gravels. Charcoal was found and this has provided radiocarbon dates for some features.

The earliest date, 3870 ± 60bc (HAR-4639) was for charcoal from a post-hole, possibly part of a structure. Charcoal from a pit which also contained pottery and flints yielded a date of 3150 ± 100bc (HAR-4639). This compares favourably with a date of 3250 ± 110bc (HAR-4313) from the Tattershall Thorpe Iron Age defended enclosure ditch upper levels. The third date was 2500 ± 80bc (HAR-5220) from wood (elm) lying in a deposit adjacent to the River Bain.

Butterbump Round Barrow Cemetery

As yet the results of the excavation of a Bronze Age round barrow at Butterbump in the Lincolnshire Marsh near Skegness have not been fully published. A short description can be found in May (1976, 81 - 82). However, the results of an environmental study have been published by Greig (1982). The investigation was concerned with a peat-filled depression possibly a kettlehole. Pollen analysis demonstrated that the landscape was covered with a mixed deciduous forest dominated by lime with oak and elm. A radiocarbon date of 2480 ± 90bc (HAR-2255) suggests that this part of the pollen sequence belongs to

zone VIIb. This was followed by a clearance phase perhaps contemporary with the construction of the barrows.

Tattershall Thorpe Iron Age Defended Enclosure

A Neolithic date for material from a secondary context has been referred to above. The sample was extracted from the upper levels of an Iron Age ditch. A full report on the 1979 excavations at this site has been published (Chowne, Girling and Greig, 1986) and reference should be made to the detailed environmental report in the copy appended to this thesis (in wallet at rear of volume two). The 1979 and a more recent excavation will be described in Chapter 7.

Samples of peat, rich in insect remains, plant macrofossils and pollen, were extracted from a formerly waterlogged enclosure ditch. A reconstruction of the environment and site function was possible owing to the richness of the organic ditch filling. A radiocarbon date of 400 ± 90bc (HAR-4315) for wood lying on top of the ditch organic lower levels suggests that the site was in use around 410 B.C.

Limited areas of deciduous woodland were present in the area. Oak, alder, birch willow and hazel are the main tree types represented in the pollen record. Cultivated land was present nearby as is attested by the pollen records of cereals and weeds of disturbed ground. Grasses and grassland weeds dominate the pollen record. Some species are typical of dry, acidic, sandy soil suggesting that soil degradation was well advanced by the early part of the Iron Age. The insect remains support the botanical evidence particularly the dominance of grassland in the vicinity. Over 20 species of dung beetle were identified from the site suggesting intensive grazing of the surrounding widespread grassland.

There is insufficient evidence from the Bain Valley area for a detailed reconstruction of the environment. However, some attempt must be made to interpret the information presented above and in Chowne, *et al* (1986). Therefore a tentative model for the development of the landscape is suggested below. This will be further refined when the field survey and excavation evidence has been described in Chapters 5 - 7.

The evidence from the two Tattershall Thorpe excavations and Giants' Hills 2 suggests that clearance of primary deciduous woodland took place on the chalk and the sands and gravels of the Bain Valley early in the fourth millennium B.C. Clearance on the Lincolnshire Marsh occurred later at the close of the third millennium B.C. This is not surprising as the fertile brown earth soils of the former areas would have been favoured for early agriculture. However, these would have become denuded quickly requiring the exploitation of marginal areas such as the marsh and fen. This is supported by the work of Valentine and Dalrymple (1975) at Woodhall Spa, 10 km. from Tattershall Thorpe in the Witham Valley. In a study of strata exposed in a pipeline trench they found evidence for the formation of a podzolised layer buried under peat and marine clay. Radiocarbon dates for the peat are 2255 ± 120bc (HA-192); 2205 ± 100bc (IGS-110); 2166 ± 130bc (HA-151) and 1670 ± 130bc (HA-149) suggesting a third millennium date for the growth of peat on top of a podzolised soil. Pollen analysis confirmed that the process of podzolisation began under the cover of deciduous woodland mainly, lime and oak. During the second and first millennia B.C. the distribution and nature of human occupation reflects these soil conditions as will be demonstrated in the following chapters.

CHAPTER FIVE

Settlement in the Bain Valley

5.1. Field Survey Methods and Techniques

The area chosen for survey extended to nearly 400 km² based on three Ordnance Survey 1:25000 maps (TF 25 - TF 28). As this area was too large for one person to walk intensively a sampling regime was introduced. The primary objective was to fieldwalk *c.* 20% of the selected area using a series of transects across the valley. These were intended to be 1 km. wide and 5 km. long with the River Bain in the centre of the transects. Whilst this approach appeared to be ideal at the planning stage several major problems arose during the survey. The major problem was with contemporary land use. Young oilseed rape and sugar beet are susceptible to damage by fieldwalking and, understandably, farmers are reluctant to permit access to fields planted with such crops. By the time that sufficient growth has taken place to permit careful walking between the rows of plants their leaves obscure the ground and there is often infilling from weeds. Consequently very few fields of oilseed rape and sugar beet could be walked. Another problem arose with direct drilling of cereal crops. This process involves stubble burning followed by spraying and drilling with a limited amount of disturbance to the field surface. To be effective this process is normally completed within 48 hours thus making fieldwalking impossible. Furthermore the usual problems of locating absentee landlords, gaining permission to walk on fields, the shooting season and inclement weather all placed limitations on the survey. The only way to ensure that the sample size could be maintained was to extend the transects beyond the

original 5 km² blocks hence the irregular shapes on the distribution maps (Figs. 75 and 76).

Within the transects every available arable field was walked. Pasture fields and woodlands were inspected for traces of earthworks. Individual fields were walked between rows of crops or along the contours of the valley sides at 25 m. intervals. When a site was located the interval was reduced to 5 m. All artefacts were collected and a record made of their distribution and the extent of any soil discoloration. Two sites were selected for more detailed examination, one by gridded survey the other by excavation, see below 5.4.

5.2. Results of the Survey

The results of the survey are presented in Appendix V as a computerised list of the individual site records with a summary as Table 3 and as two distribution maps (Figs. 75 and 76). These maps also show the extent of the transects, selected towns and villages and surface soils. Symbols on the maps represent concentrations of artefacts or upstanding mounds or other earthworks or cropmarks of prehistoric sites. Defining what represents a 'site' is never easy particularly in an area like the Bain Valley that has been little explored. However, as a result of the author's excavations at Tattershall Thorpe and Low Toynton this is becoming easier with regard to flint scatters which are the most common type of site encountered in the Bain Valley. A site here is regarded as a concentration of artefacts of greater density than the general background scatter of similar objects. This system works well in the survey area as many of the fields do not have a background scatter of artefacts except for post-Medieval pottery. In part this is due to

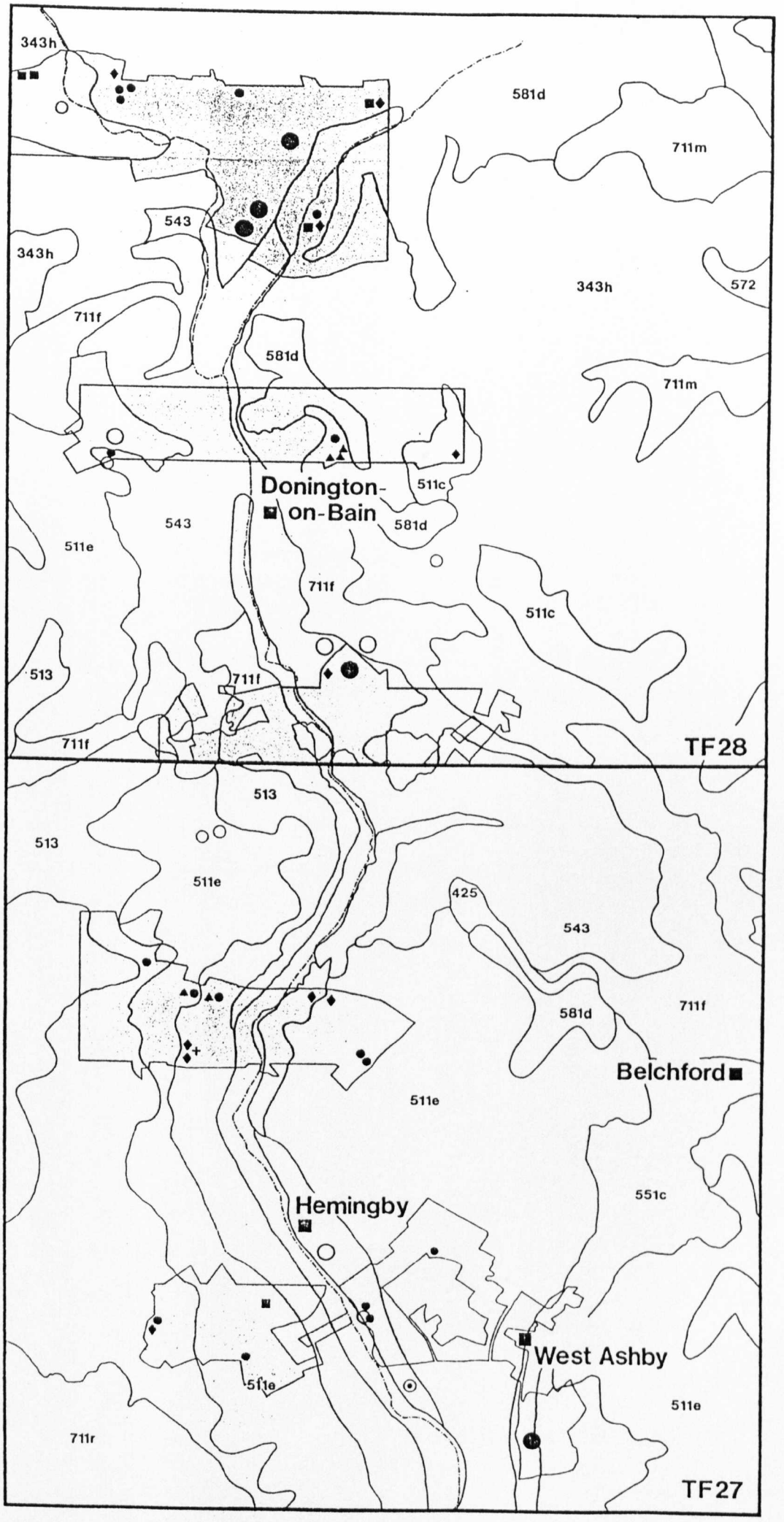


Figure 75.
Bain Valley, TF28 - TF27, distribution of soils, transects and sites located during field survey.

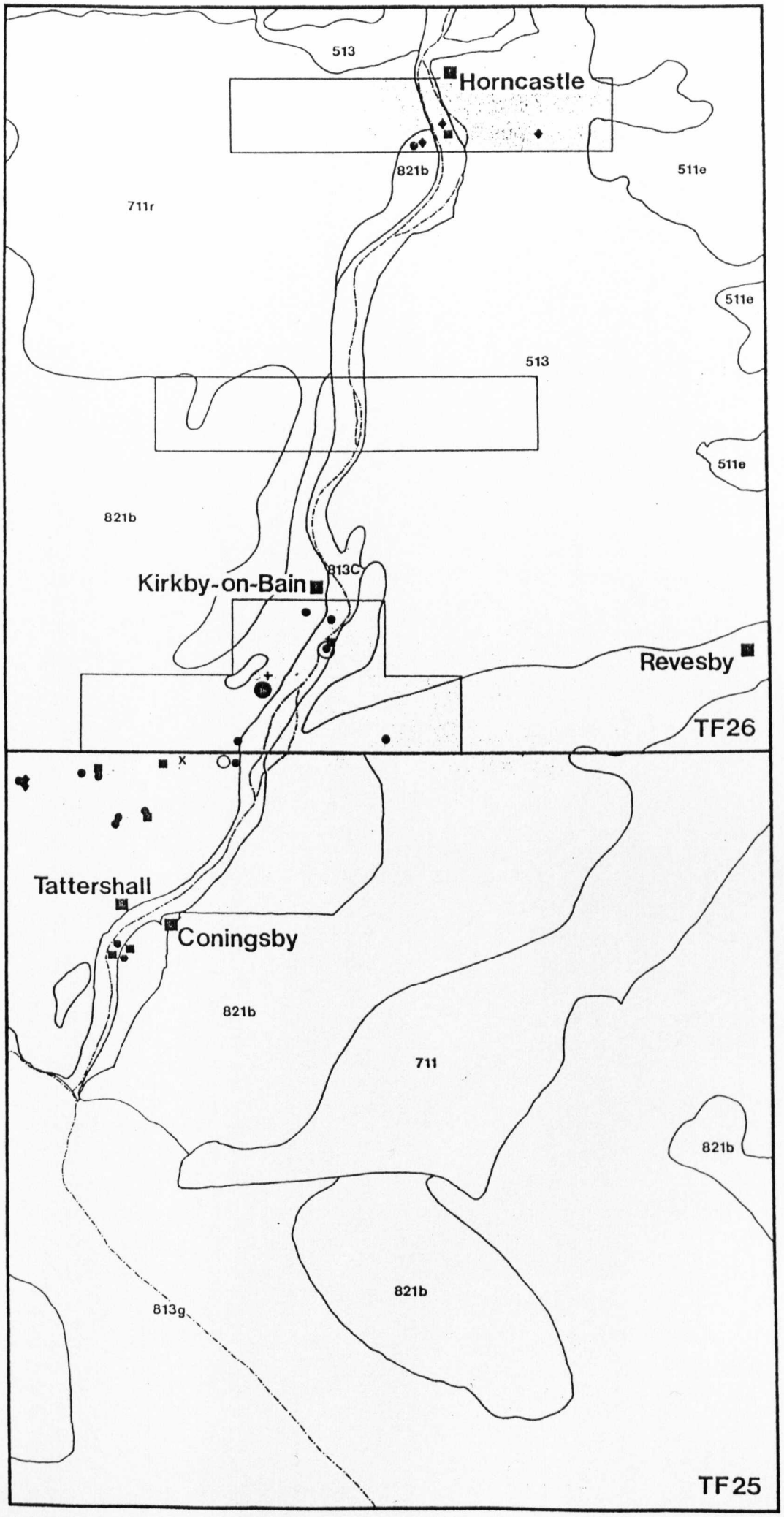


Figure 76.
Bain Valley, TF26 - TF25, distribution of soils, transects and sites located during field survey.

Table 3. Simplified version of Appendix V.

Parish	Co-ord	Tenant	Geology	Soil type	Artifacts	Dates
Baumber	TF22357618	Strawson	Chalky Till	Cannamore	Pottery*	RB
Baumber	TF21977249	Ward	Chalky Till	Cannamore	Pottery*	NEO/B
Baumber	TF23157440		Chalky till	Cannamore	Pottery	PME
Calcethorpe	TF24768884	Stubbs	Clay with flints	Charity	Pottery	RB/ME
Calcethorpe*	*	Ranby	Clay with flints	*	Flint*	*
Coningsby	TF21655750		Glaciofluvial drift	Blackwood	Pottery	MED/P
Coningsby	TF21505732		Glaciofluvial drift	Blackwood	Flints	NEO/B
Coningsby	TF22005750		Glaciofluvial drift	Blackwood	Flint*	NEO/B
Donington*	TF25658410	Stenigot*	Chalk	Panholes	Pottery	RB
Donington*	TF23908425	Stenigot*	Clay	Rowston	Flint	MES
Donington*	TF23498405	Stenigot*	Clay	Rowston	Flint	MES
Donington*	TF23808406	Stenigot*	Clay	Rowston	Flint	MES
East Wykeham	TF23058895	*	Clay with flints	Charity	Flint	NEO
Edlington	TF23127208	Read	Chalky drift & chalk	Swaffham*	Flint	NEO/B
Edlington	TF23457265	Read	Chalky drift & chalk	Swaffham*	Pottery	MED
Gayton le Wold	*	Ranby	Chalk*	Andover	Flint*	*
Gayton le Wold	TF23738449	Wallis	Clay/clay with flint	*	Flint	NEO
Great Sturton	TF22287639	Clark	Chalky drift & chalk	Swaffham*	Pottery*	RB
Great Sturton	TF22727670	Clark	Chalky Till	Cannamore	Flint	MES/N
Great Sturton	TF22357683	Clark	Chalky Till	Cannamore	Flint	MES/N
Great Sturton	TF21687732	Wattam	Chalky Till	Ragdale	Flint	NEO/B
Hemingby	TF24007690	Read	Jurrasic clay	*	Fired clay	RB
Hemingby	TF24307672	Read	Chalk Jurrasic clay	Swaffham*	Pottery*	RB
Hemingby	TF24777626	Read	Chalk	Swaffham *	Flint	-
Hemingby	TF24877613	Read	Chalk	Swaffham*	Flint	-
Hemingby	TF24207400		Glaciofluvial drift	Arrow	Flint*	NEO/B
Horncastle	TF27066838	West	Chalky Till	Cannamore	Pot/Other	-
Horncastle	TF25946837	Grant	Alluvium	Fladbury 1	Pottery*	RB/ME
Kirkby on Bain	TF227628		Glaciofluvial drift	Blackwood	Flint	NEO/B
Kirkby on Bain	TF23856172		Glaciofluvial drift	Blackwood	Flint*	NEO/B
Kirkby on Bain	TF23606172		Glaciofluvial drift	Blackwood	Flint	NEO/B
Ludford	TF21598893	*	Clay with flints	Charity	Flint	NEO
Ludford	TF21468865	*	Clay with Flints	Winchester	Flint	NEO/B
Ludford	TF21498853	*	Clay with flints	Winchester	Flint	NEO/B
Ludford	*	*	Chalky Till	Kelstern	Pot/Metal	RB
Ludford	TF20448927	Varley	-	Disturbed	Pot/Bone	MED/P
Ludford	TF20258922	Varley	-	Disturbed	Pot/Bone	MED/P
Stenigot	TF24408115	Stenigot*	Spilsby Sandstone	Imber	Pottery	RB
Tat, Thorpe	TF20305960	Harvey	Glaciofluvial drift	Blackwood	Pottery*	NEO/B
Tat, Thorpe	TF21425925		Glaciofluvial drift	Blackwood	Flint	NEO/B
Tat, Thorpe	TF23105985	Scholey	Glaciofluvial drift	Blackwood	Flint	BA
Tat, Thorpe	TF21505915		Glaciofluvial drift	Blackwood	Flint	NEO/B
Tat, Thorpe	TF21005965		Glaciofluvial drift	Blackwood	Flint*	NEO/B
Tat, Thorpe	TF21255970		Glaciofluvial drift	Blackwood	Flint*	NEO/B
Tat, Thorpe	TF21805930		Glaciofluvial drift	Blackwood	Flint*	NEO/B
Tat, Thorpe	TF23006040		Glaciofluvial drift	Blackwood	Flint	NEO/B
Tat, Thorpe	TF23756100	Harvey	Glaciofluvial drift	Blackwood	Flint	NEO/B
Tat, Thorpe	TF22225970		Glaciofluvial drift	Blackwood	Pottery	MED
Tat, Thorpe	TF20366005		Glaciofluvial drift	Blackwood	Flint	NEO/B
Tat, Thorpe	TF20406075		Glaciofluvial drift	Blackwood	Flint	NEO/B

Parish	Co-ord	Tenant	Geology	Soil type	Artifacts	Dates
Tattershall	TF211565		Glaciofluvial drift	Blackwood	Flint*	NEO/B
Tattershall	TF212572		Glaciofluvial drift	Blackwood	Flint	NEO/B
Tattershall	TF19855745		Glaciofluvial drift	Blackwood	Flint	NEO/B
Tattershall	TF19635781	Harness	Glaciofluvial drift	Blackwood	Flint*	BA
Tattershall	TF19775768	Harness	Glaciofluvial drift	Blackwood	Flint	BA
Thornton	TF25506810	Dymoke	Glaciofluvial drift	Blackwood	Pottery*	-
Tumby	TF25006023	Hawley	Glaciofluvial drift	Blackwood	Flint	NEO/B
Tumby	TF24406165	Hawley	Glaciofluvial drift	Blackwood	Flint	NEO/B
Tumby	TF244610	Hawley	Glaciofluvial drift	Blackwood	Flint*	BA/RB
West Ashby	TF25867346	Bourn	Chalky drift	Swaffham*	Flint	UN

the acidic nature of the soil which has a detrimental effect on all but the most resilient pottery. On the chalk the destruction of pottery has been brought about by intensive arable farming. Sherds on Romano-British sites for example are usually very small and abraded. However, the problem does not arise with flint objects although some sites may be obscured by alluvium, colluvium and windblown sand, the latter is a particular problem in the Tattershall Thorpe area. Although all recorded sites are shown on the distribution maps only the prehistoric examples are discussed in this thesis.

Mesolithic

Five Mesolithic sites were located during the survey. All of these were found at the head of small valleys that contain springs which eventually flow into the River Bain. Three of the sites in Donington on Bain (TF 28) were of a slightly different character to the other two in Great Sturton (TF 27). The Donington on Bain flint collection consisted of cores and microliths whereas the Great Sturton sites also had blades similar to the early Neolithic examples from Tattershall Thorpe. However, too much significance should not be given to these differences as all the collections were very small and may include later material. Also it has now become apparent that surface collections need not be representative of lithic material below the plough zone or in subsoil features as was the case at Tattershall Thorpe (Healy, 1984).

Neolithic/Early Bronze Age

Dating of flint scatters was found to be extremely difficult for the Neolithic and Early Bronze Age. Sometimes diagnostic artefacts, such as leaf-shaped arrowheads, were found but often in association with scrapers typical of later industries. For this reason no

attempt has been made to distinguish between Neolithic and Early Bronze Age sites, the division is in any case totally inappropriate for the Lincolnshire material (May, 1976).

Two major clusters of Neolithic/Early Bronze Age sites were discovered. At Calcethorpe (TF 28, Fig. 75) a dense concentration of lithic material was located on clay with flints. The site extended along a prominent ridge dominated by an extant round barrow. Although this concentration is referred to as a site it was difficult to locate specific areas of high flint density or of specific artefact type. Covering an area of approximately 700 m. by 300 m. it is not easy to interpret this site. The nature of the lithic material does help though as there was a high percentage of waste material compared with finished objects. It is suggested that the clay with flints was being exploited for raw material with some knapping on site. The flint from the Lincolnshire chalk is not of good quality nor is the gravel flint from the river valleys and fen edge. The best quality flint in Lincolnshire comes from the clay with flints. As this is the area in which the soil still has a loessic content it seems likely that it would have been favoured for early Neolithic cultivation. The presence of arable fields may well have encouraged exploitation of this flint source. Unfortunately the round barrow, a scheduled monument, is undated.

The second major concentration of Neolithic/Early Bronze Age activity was on the glaciofluvial drift sands and gravels in the Tattershall Thorpe area (TF 25/26, Fig. 76). Most of these sites are small discreet scatters of waste material with some tools covering areas normally around 20 m. in diameter. An exception to this is the

excavated site which extended to about 7 ha. (see Chapter 6).

Flint scatters were located in most of the survey area. These like the examples on glaciofluvial drift were small sometimes consisting of about 20 flints in an area 10 m. in diameter. They are considered to represent sites as often the surrounding area, sometimes for a kilometre or more, was found to be archaeologically sterile.

Later Bronze Age and Iron Age

No evidence for later Bronze Age activity was found. The only Iron Age site to be identified in the survey area was the excavated enclosure at Tattershall Thorpe (see Chapter 7).

5.3. The Aerial Photographic Evidence

Unlike the western fen margin this area has received little attention from aerial archaeologists with the exception of Paul Everson and Christine Cox. There are two major reasons for this. The area contains several major military bases engaged in active flying thus making civilian aerial reconnaissance difficult. The situation has eased in recent years with the closure of some bases and the changing use of others. Unfortunately most of TF 25 and TF 26 fall in a restricted zone although the author was able to fly in the area when the base at Coningsby was closed for maintenance. The second reason for the lack of aerial cover is the nature of the soil and underlying geology in the lower Bain Valley. Only in exceptional periods of drought such as those experienced in the summers of 1975/76 do the sands produce good cropmarks. Another problem encountered in the Bain Valley is that when cropmark sites are fieldwalked they rarely

produce diagnostic artefacts. This is particularly true of enclosures. (The aerial photographs inspected as part of this research are in the keeping of the R.C.H.M. and the Trust for Lincolnshire Archaeology).

Two classes of site that produce cropmarks and soilmarks in the Bain Valley are long barrows or mortuary enclosures and round barrows.

Long Barrows/Mortuary Enclosures

A considerable number of these oval or rectangular cropmarks have been located by Everson (1983) on the chalk of the Lincolnshire Wolds and the slopes of the Bain Valley. Whilst some may be rabbit warrens there can be little doubt that the majority are Neolithic funerary monuments. For example at Spellow Hills one barrow exists as a scheduled monument but the use of the plural Hills implies the presence of at least one more monument. This in fact appears as a cropmark on aerial photographs. Pairing of long barrows, as at Giants' Hills, Skendleby, is fairly common in Lincolnshire. Two examples were recently discovered on the edge of the Bain Valley at West Ashby. Whilst none of these recently recognised sites have been investigated their discovery does demonstrate that the extent of Neolithic funerary activity in northern Lincolnshire has been underestimated in the past (Phillips, 1932; May, 1976).

Round Barrows

Several major cemeteries are known from the survey area (May, 1976). They are normally situated on the edges of the Bain Valley in a prominent position, often the highest point in the area, as for example, to the west of the river along the Caistor High Street. Round barrows also occur on the gravel terraces of the Bain Valley sometimes as cemeteries as at Hemingby, Stenigot and

Tumby and as isolated monuments as at Tattershall Thorpe. These sites have all been field walked. They are usually ploughed completely flat and all that remains on the field surface is a scatter of lithic material. One site, at Gayton le Wold produced a sherd of Food Vessel pottery.

There is some evidence to suggest that the West Ashby area was a focal point in the Later Neolithic/Early Bronze Age. A henge monument has recently been recorded by aerial photography (Field, 1982) and just to the north a barrow cemetery at Hemingby. Prehistoric activity is well illustrated by the recently published excavation of a multiple round barrow at West Ashby (Field, 1985). The site began life as a Class 1 henge monument associated with Grooved Ware and Beaker pottery. The monument was then adapted for use as a barrow of at least six phases. Burials ranged from inhumations in coffins, one accompanied with a Food Vessel, to a cremation in a Collared Urn. During the excavation and later in the writers survey a dense flint scatter was recorded from the area immediately east of the monument overlaying a rectangular enclosure (Field, 1985, Pl. 1). Investigation of this part of the field will be described below.

5.4. The Investigation of Lithic Scatters at West Ashby and Low Toynton

As pre-Iron Age activity in the Bain Valley seems to be represented mainly by flint scatters an attempt was made to investigate these beyond assessing possible date ranges by analysis of the surface lithic material.

Field (1985) drew attention to the flint scatter adjacent to the excavated round barrow at West Ashby and to hearth

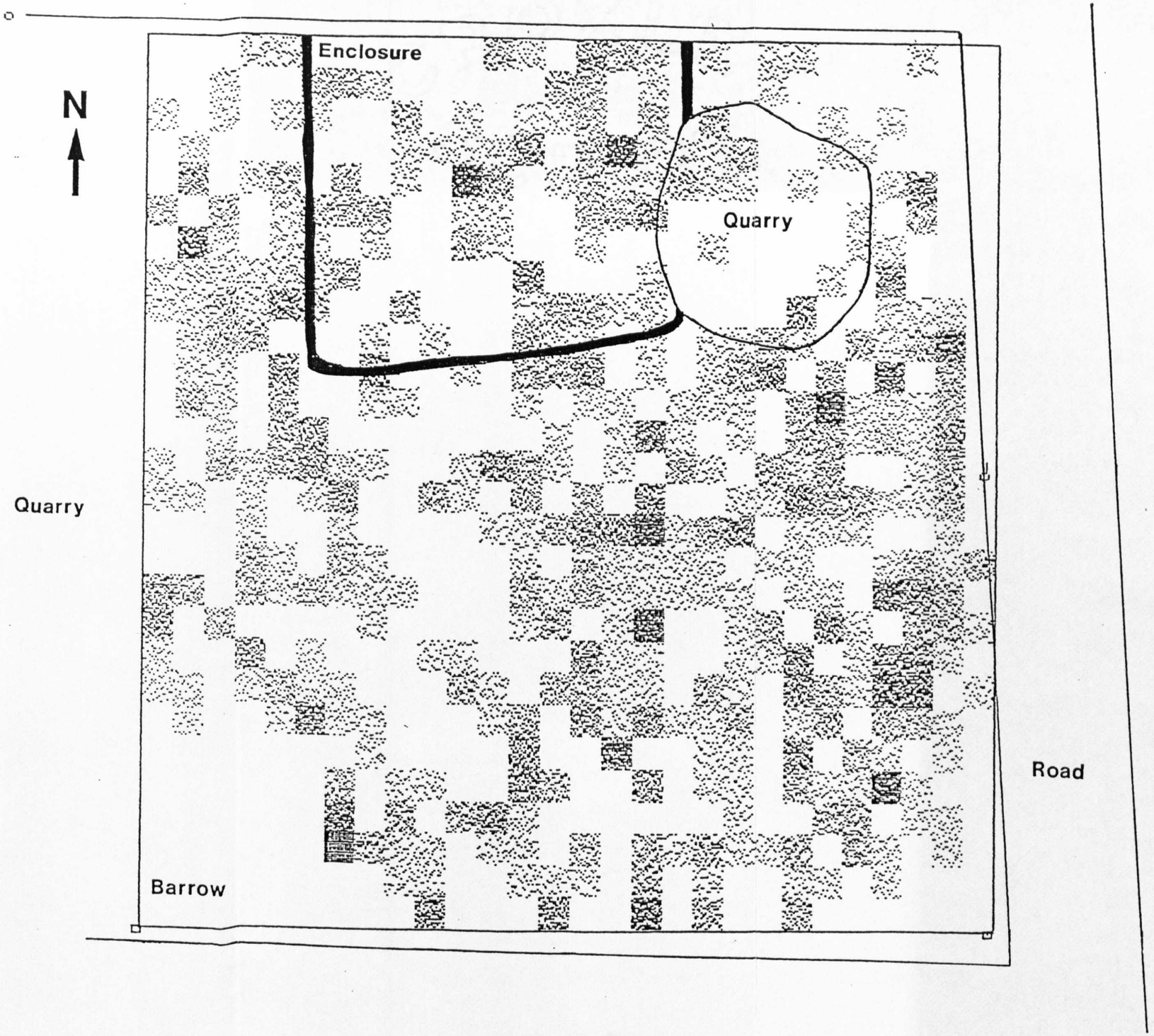


Figure 77. West Ashby density plot of surface flints and relationship to features.

Scale 1 : 787.402 X values plotted from 540 to 804 Y values plotted from 60 to 270
Horizontal resolution = 33.4992 cm per dot
Vertical resolution = 27.9134 cm per dot

remains of possible Early Bronze Age date recorded during quarrying. As so many round barrows appear to be associated with flint scatters it is tempting to suggest that they are contemporary with the monuments and relate to their construction and use or that they are debris from an adjacent settlement site. This latter suggestion could be supported by the presence of an enclosure adjacent to the West Ashby barrow. If this was so then the distribution of flint on the field surface should relate to specific areas of activity such as the barrow, enclosure or an unidentified settlement area. To test this a detailed survey of the field was carried out.

The field was divided into five metre squares using a theodolite. Each square was defined by garden canes and numbered. A numbered plastic bag was then pinned to the relevant square to avoid mixing up bags or finds. Each square was then thoroughly inspected and all finds collected. After washing, the flints were separated from other finds and natural breakages discarded. The quantities were then recorded on computer and a density diagram produced (Fig. 77).

The results so obtained are rather interesting. In the area of the barrow and post-Medieval quarry very few flints were found. It is reasonable to suggest that these were removed during earthmoving operations. The greatest density of flint was found in the south-east corner of the field implying that the enclosure was not in use at the same time as the flints and that an activity area existed either in the south-east part of the field or under the modern road. It was possible to take the investigation a stage further by excavating part of the enclosure ditch (Pl. 19). Very little dating evidence was recovered. A few flints, abraded sherds of Late Neolithic/Early Bronze Age and Iron Age pottery

PLATE 18. Low Toynton, Early Neolithic hearth

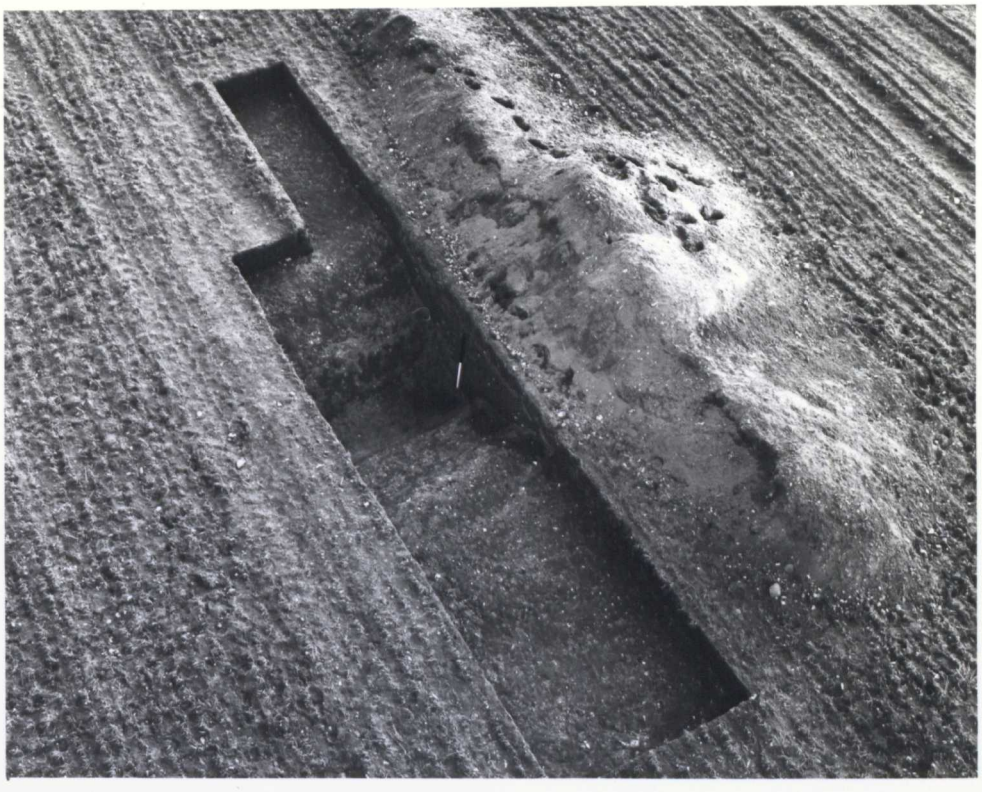


PLATE 19. West Ashby, enclosure ditch

suggesting that the enclosure post-dates the period when the flint industry was in use.

At Low Toynton the writer located a flint scatter in a field due to be quarried. The farmer has recovered flints from this field and his collection includes diagnostic types such as leaf-shaped arrowheads and discoidal knives. Geologically the field is rather unusual. The subsoil is glaciofluvial gravel over chalk. To the north-west of the site lies the River Waring a tributary of the Bain. As with the West Ashby site the land is of extremely poor quality for arable farming, the soil consisting of windblown sand kept fertile by generous quantities of chemical fertilisers. When the topsoil was stripped off by bulldozer an area of burning was exposed. Upon cleaning this was found to be a hearth pit filled with fire cracked river pebbles of dolerite and quartzite (Fig. 78). Amongst the pebbles were animal bones, mainly sheep, charcoal, burnt flints and sherds of Early Neolithic bowl pottery (Fig. 79). No other features were found. The only reason this hearth survived centuries of arable cultivation was because of the thick layer of windblown sand sealing it. Without this protection the bone and pottery would have been incorporated into the acidic sand plough soil to be dissolved within a few years. All that remained of this site would be a few burnt pebbles and a flint scatter, precisely the type of surface material found throughout the study area.

The results of the survey and excavations described above suggests that following sporadic Mesolithic activity the Bain Valley area was favoured for Early Neolithic settlement and funerary activity. Long barrows are confined to the chalk and the settlements are primarily on the the terrace gravels of the river valleys which also became the focus for Early Bronze Age funerary and

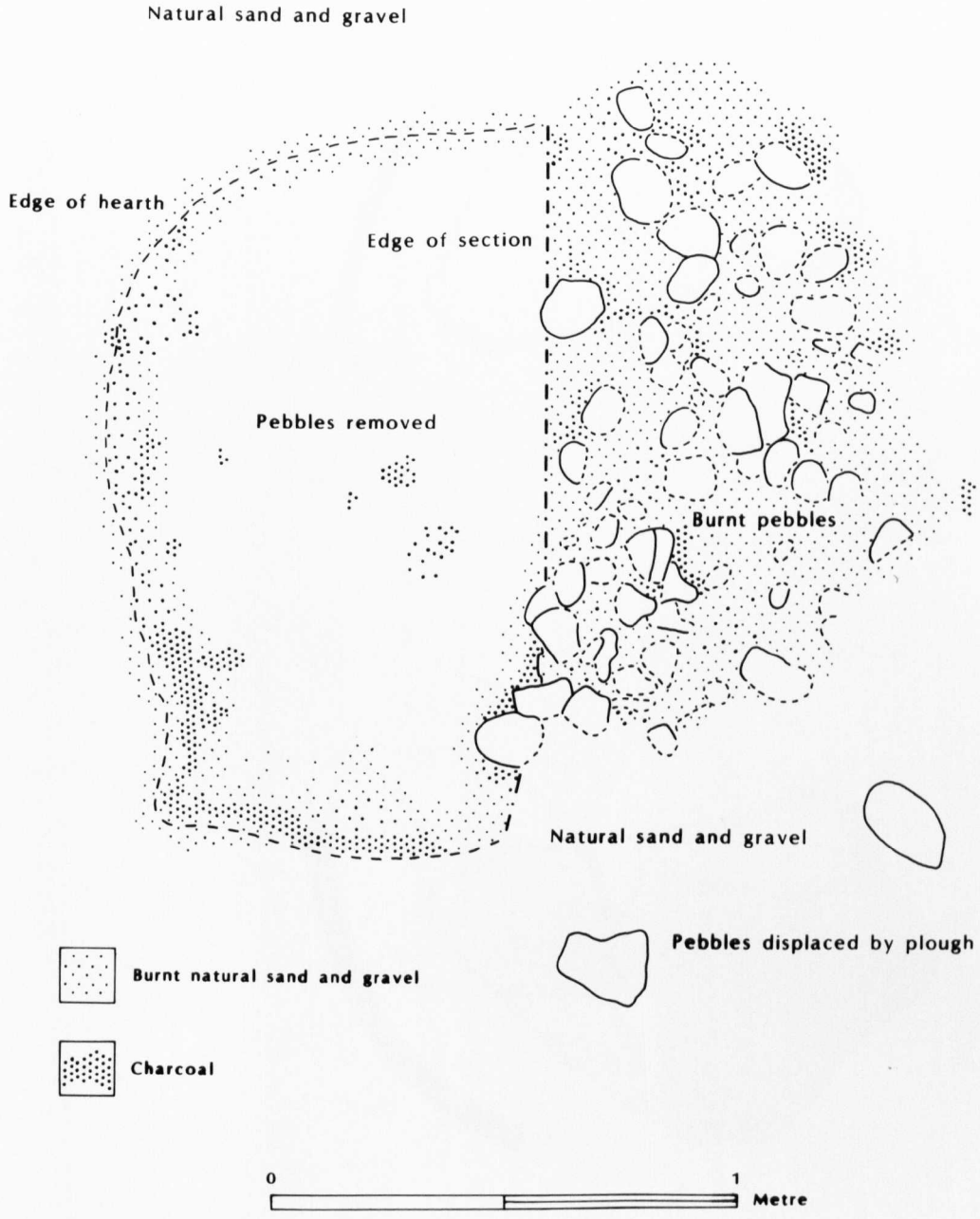


Figure 78. Low Toynton, plan of Early Neolithic hearth.

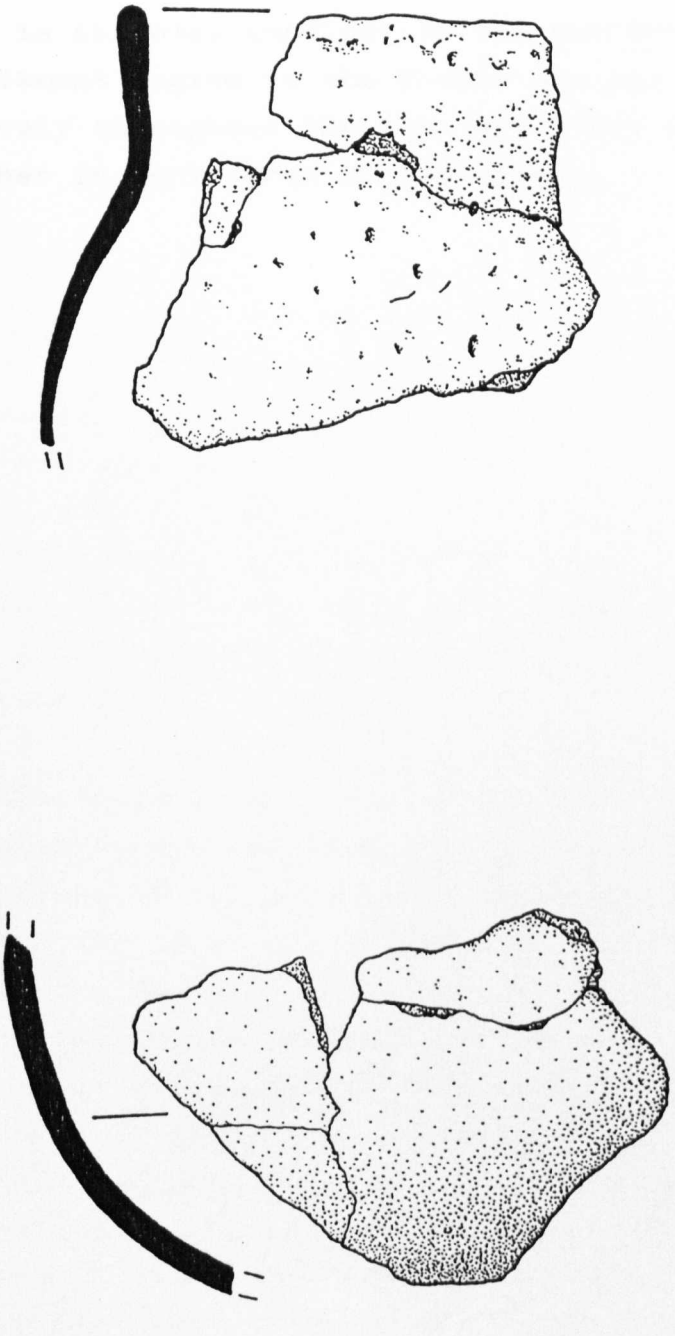


Figure 79. Low Toynton, Early Neolithic bowl pottery from the excavated hearth (scale 1:1).

ritual sites. Of the later Bronze Age and Iron Age little can be said. This is in total contrast to the western fen margin where settlement begins in the Bronze Age and continues intensively throughout the Iron Age. This will be discussed further in Part Three of the thesis.

CHAPTER SIX

Excavations at Tattershall Thorpe 1

6.1. Introduction

During the survey an extensive flint scatter was located adjacent to the River Bain in Tattershall Thorpe just south of the boundary with Kirkby on Bain. As this field was due to be quarried an excavation was mounted in the spring of 1981. A second excavation took place in the winter of the same year. In 1984 a pit was excavated during quarrying and several evaluation trenches dug in a field the other side of the river (Fig. 80). Finds and features from the first excavation are coded TT81 and those from the second TT81B.

In the first excavation an area of 400 m^2 was stripped by hand and all features excavated. This was very much a trial excavation to see if any structures could be located and test the degree of preservation of Neolithic features prior to their destruction. Pits and postholes were found and this led to the stripping of an area extending to 4725 m^2 of which 1800 m^2 were fully excavated. Severe weather conditions prevented the full investigation of the remaining area but, with hindsight, it can be seen that the nature of the Neolithic features was such that they would have been apparent immediately after machining and that many of what were originally interpreted as pits were in fact periglacial features. Whilst the main excavation was frozen a series of trenches were cut adjacent to the river with the objective of extracting material suitable for environmental analysis (Fig. 81).

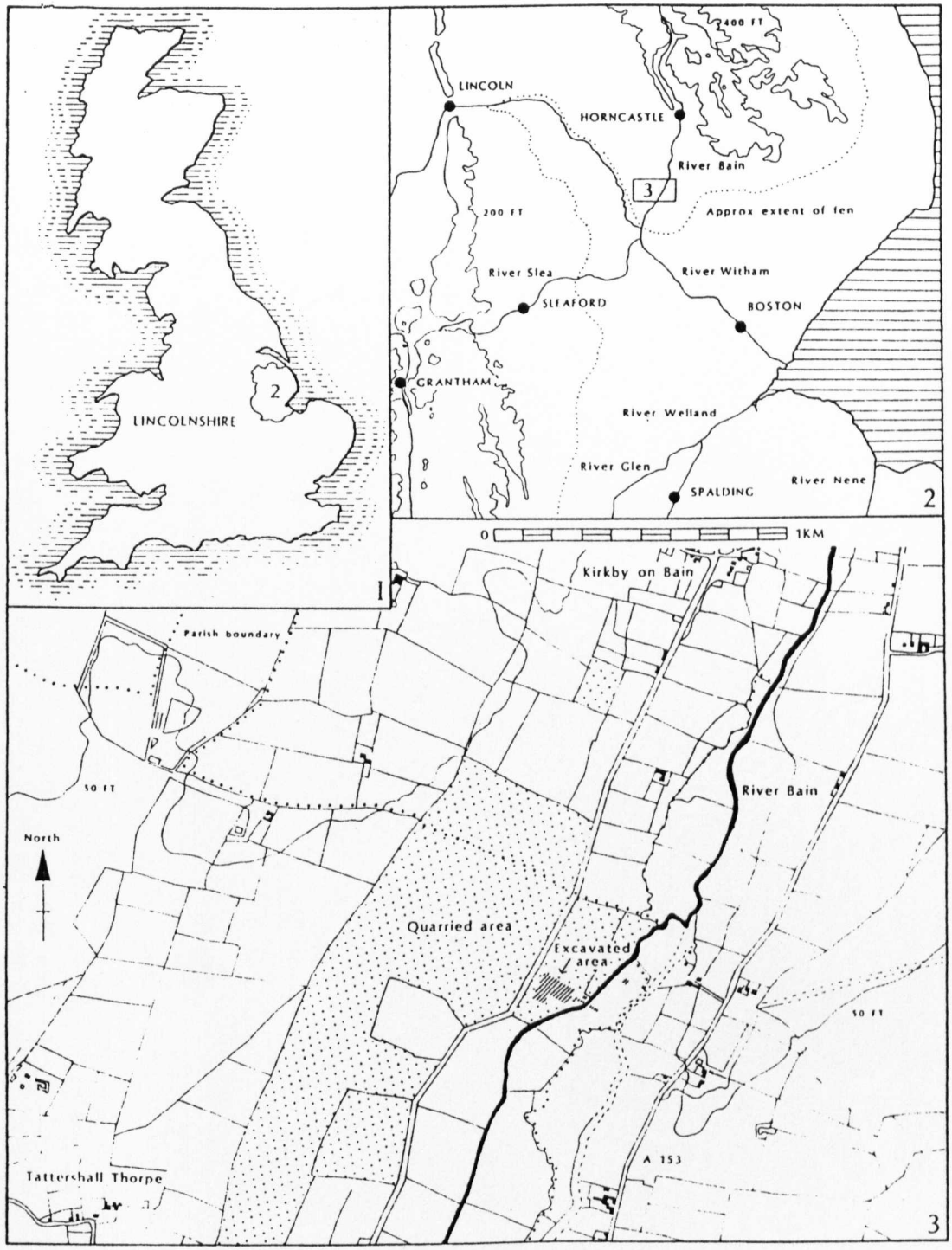


Figure 80. Tattershall Thorpe Neolithic site location map.

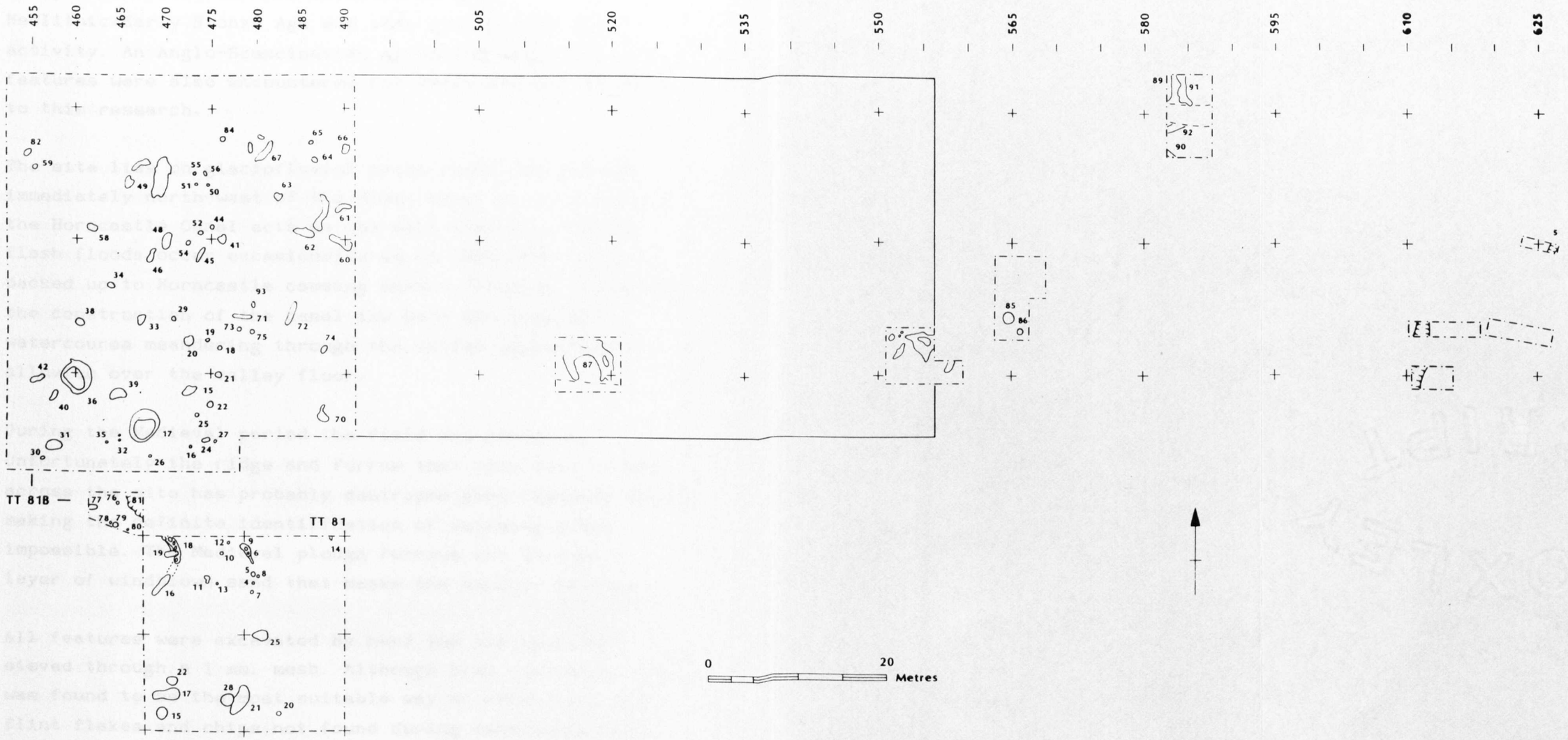


Figure 81. Tattershall Thorpe Neolithic site overall plan.

Several episodes of human activity were recognised during the excavations. The primary occupation dates to the Early Neolithic. This was followed by Late Neolithic/Early Bronze Age and then Late Bronze Age activity. An Anglo-Scandinavian grave and Medieval features were also encountered but these are not relevant to this research.

The site lies on glaciofluvial drift sands and gravels immediately north-west of the River Bain. At this point the Horncastle Canal acts as the main channel although flash floods occur occasionally as in 1953 when water backed up to Horncastle causing severe flooding. Prior to the construction of the canal the Bain was a major watercourse meandering through the valley depositing alluvium over the valley floor.

During the Medieval period the field was ploughed. Unfortunately the ridge and furrow that runs east - west across the site has probably destroyed some features thus making the definite identification of building plans impossible. The Medieval plough furrows cut through a layer of windblown sand that masks the earlier features.

All features were excavated by hand and the spoil wet sieved through a 1 mm. mesh. Although time consuming this was found to be the most suitable way of recovering small flint flakes and chips not found during excavation. All flints from features were packed unwashed in individual polythene bags so as to preserve any microwear traces that might be present.

All excavated features, natural and man made are shown on Fig. 81. TT81 is presented as Fig. 82. As the area of TT81B was so large features are shown individually in

Figs. 83 and 84; these should be used in conjunction with Fig. 81.

6.2. Neolithic and Bronze Age Activity

The Tattershall Thorpe site suffered from a considerable amount of subsoil disturbance in addition to the post-Prehistoric activity described above. Periglacial features were widespread and rabbits seemed to favour the sandy parts of the site for their burrows. As it was so difficult to identify Neolithic features a guide to the reliability of recognition is presented in Appendix VI. Despite these problems three classes of Neolithic feature were identified; pits, postholes and hearths.

Pits

These were cylindrical in form approximately 40 cm in diameter and up to 60 cm. deep. Generally they were isolated although one group (4, 5, 7 and 8) was found in TT81 (Fig. 82; Pl. 20). Early Neolithic pottery from a minimum of seven vessels and over 100 flints were found in pit (5) together with charcoal and carbonised hazel nut shells (Fig. 87; P4 - P13). A radiocarbon date of 3150 ± 100bc (HAR-4639) was obtained from this burnt material. One of these pits contained a partially completed leaf-shaped arrowhead and minute squills from secondary retouching. A core and flakes from different pits were found to conjoin suggesting that all four features were open at the same time. One isolated pit in TT81B (84) contained sherds of Grooved Ware pottery (Fig. 87; P20, P21).

Postholes

Postholes appeared to be randomly scattered over the excavated area possibly a result of post-Neolithic

PLATE 20. Tattershall Thorpe, Early Neolithic pits (4, 5, 7, 8), Medieval plough furrow in foreground

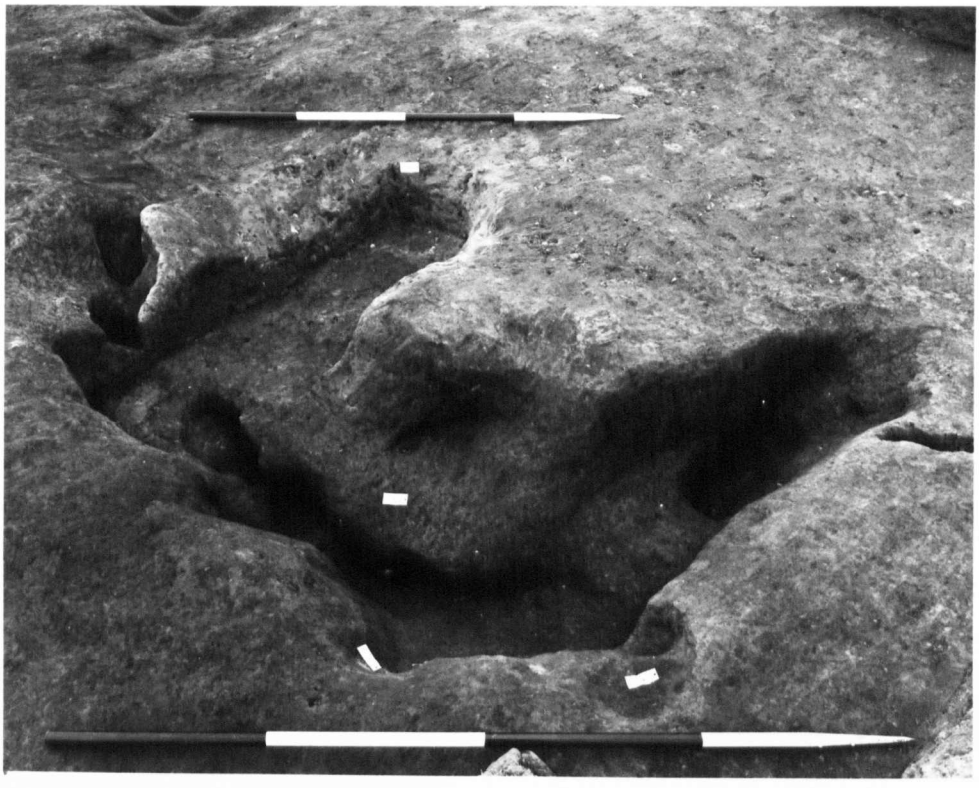


PLATE 21. Tattershall Thorpe, possible Early Neolithic structure (18) cut by later grave (19)

PLATE 22. Tattershall Thorpe, continuation (16) of possible structure (18)

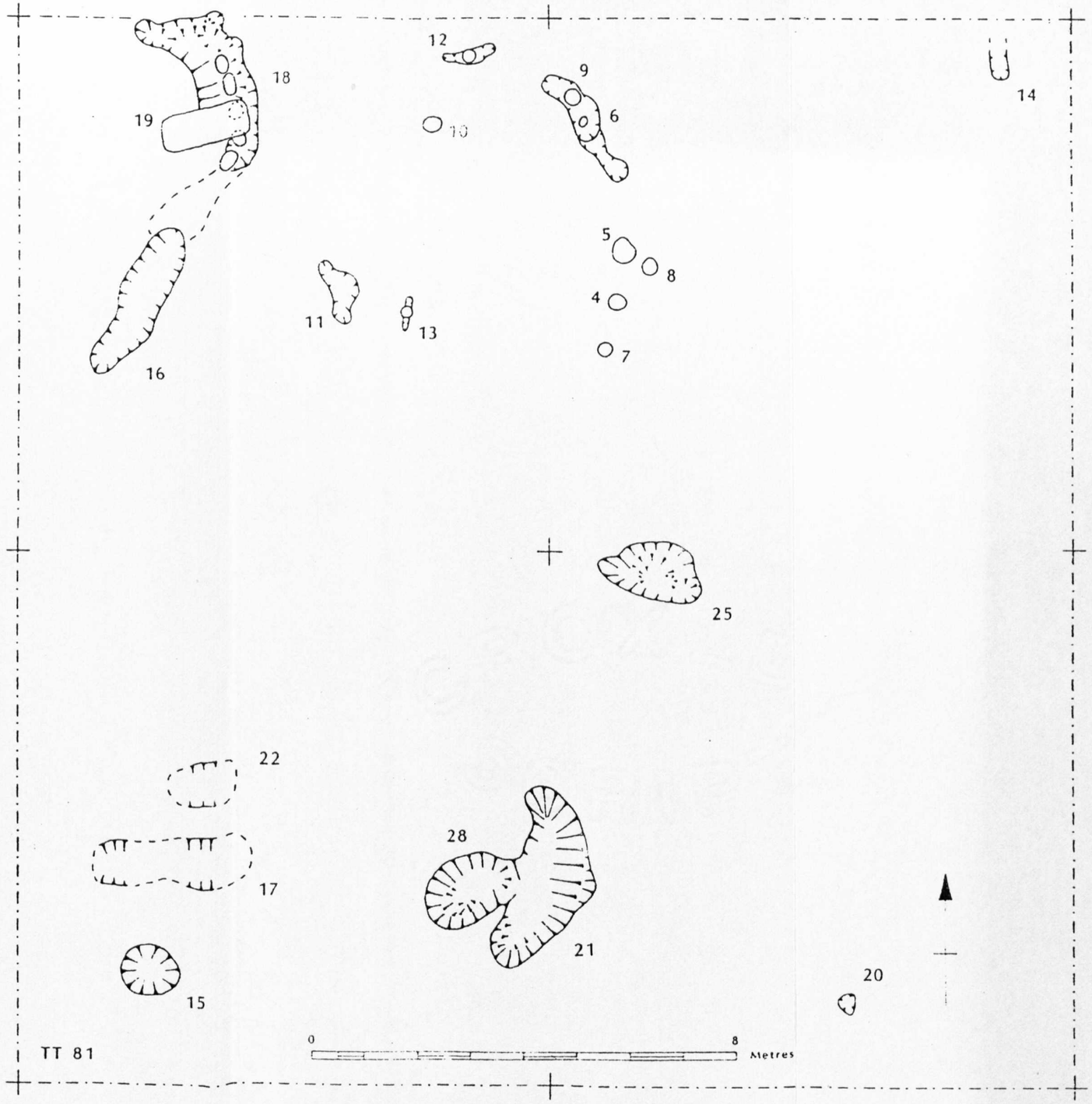


Figure 82. Tattershall Thorpe Neolithic site plan of TT81.

destruction through wind erosion and ploughing. However, one alignment of postholes was located in the north-west corner of TT81 (Fig. 82). Here a series of at least five posts were found set into a foundation trench (18) (Pl. 21). The trench continued as a soilmark and then as a shallow depression (16) (Pl. 22). The feature was cut by an Anglo-Scandinavian grave (19). One post in (18) had been burnt *in situ* and provided a radiocarbon date of 3870 ± 60bc (HAR-4639). This foundation trench may represent the corner of an Early Neolithic structure. Unfortunately a Medieval plough furrow passed through the site immediately south of (16) effectively removing any Neolithic features that may have existed. To the north-west some postholes were found in TT81B (76, 78 and 79) these may be part of the same structure although there was no stratigraphical link between them.

Hearths

Two types of hearth were identified, two clay built structures (85B, 86B) and a circular depression packed with fire-cracked flint and river pebbles of dolerite and quartzite as at Low Toynton (41B) (Fig. 81). The clay hearths are undated but were certainly pre-Medieval. Archaeomagnetic dating was attempted but it was not possible to obtain a result. Hearth (41B) was structurally similar to the Low Toynton example described above and is undoubtedly Neolithic in date.

Bronze Age Features

Evidence for Bronze Age activity was confined to two pits and a general scatter of abraded pottery. Pit (59) in TT81B contained the base of a flat-bottomed jar (Fig. 87; P36 which probably dates to the Later Bronze Age and is contemporary with pottery found in a pit at the northern end of the field during quarrying P39 - P45. P46 is a residual Early Neolithic bowl sherd. Also in this pit was

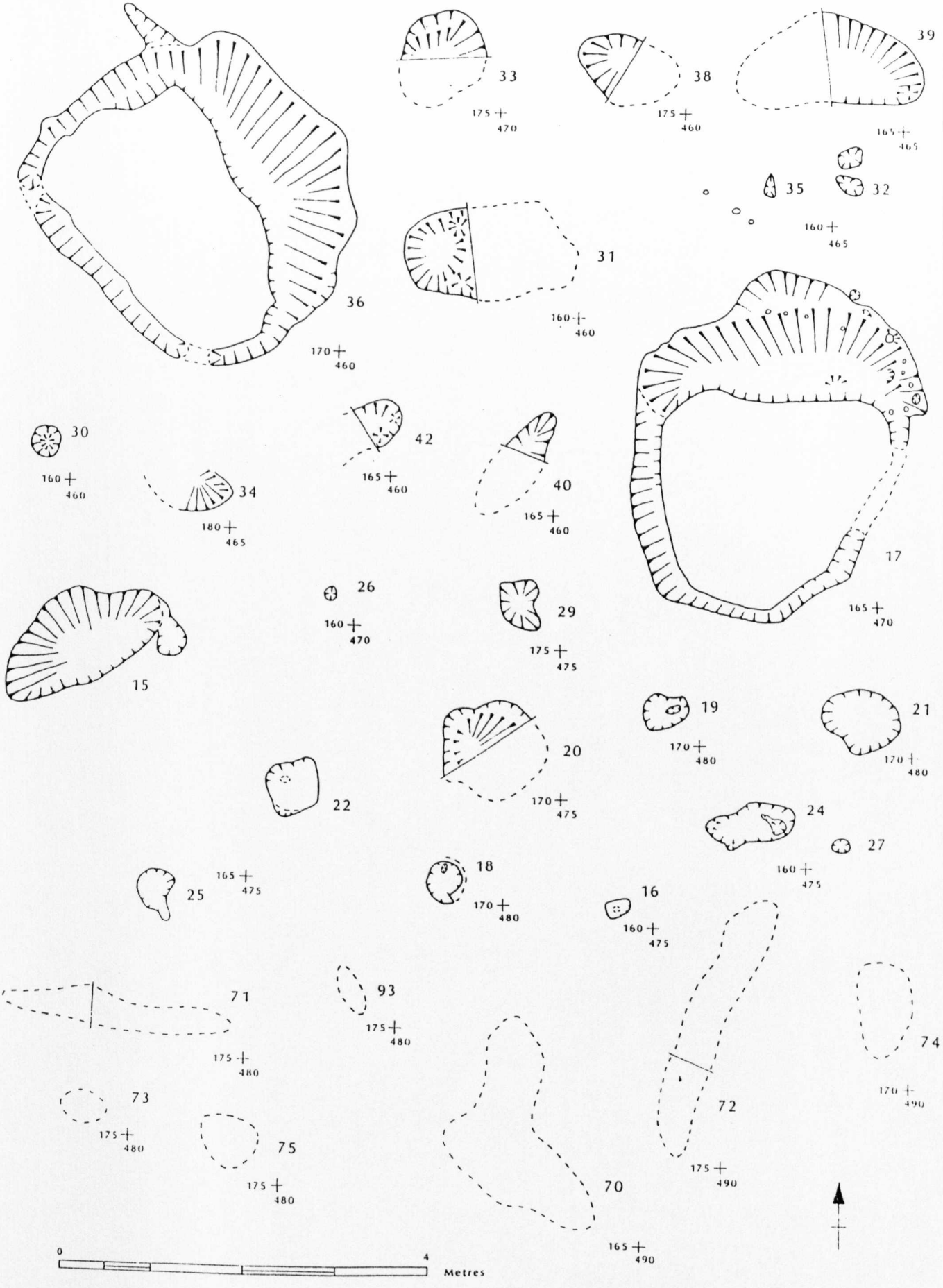
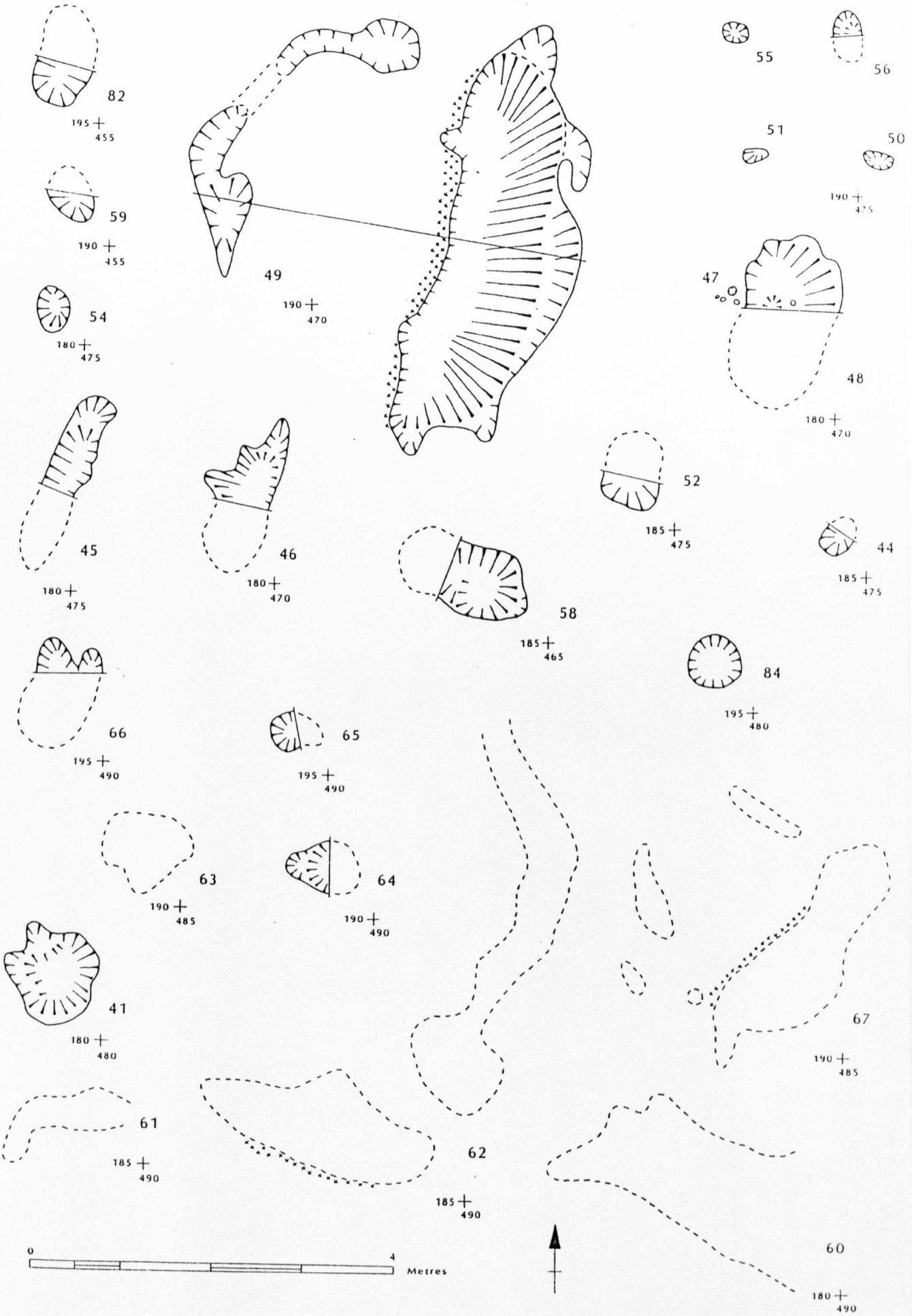


Figure 83. Tattershall Thorpe Neolithic site plan of features TT81B.

Figure 84. Tattershall Thorpe Neolithic site plan of features TT81B.



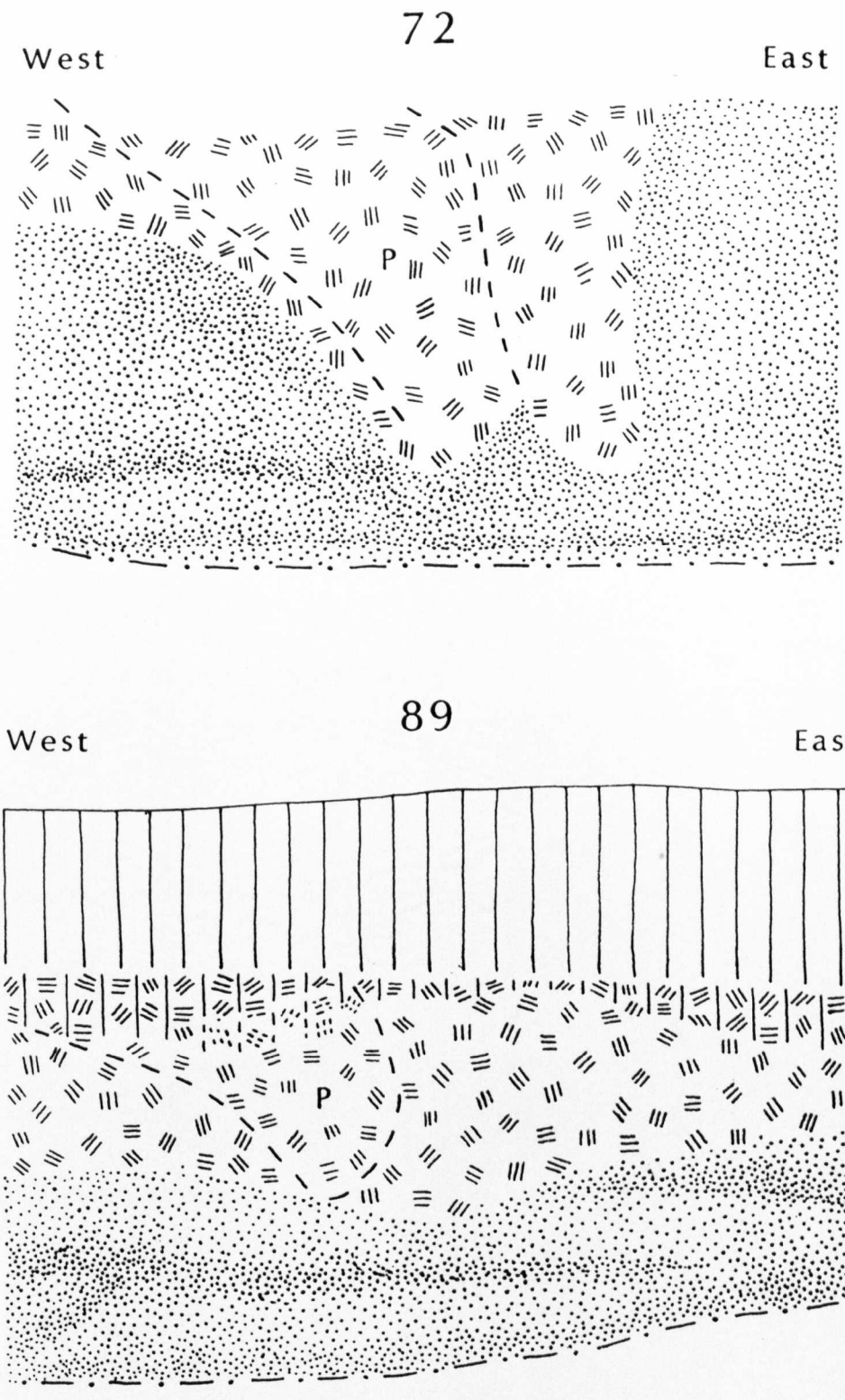


Figure 85. Tattershall Thorpe Neolithic site sections through periglacial features 72B and 89B.

a complete, though very friable, pyramidal loomweight typical of the Later Bronze Age (Elsdon, 1979).

Periglacial Features

The extent of periglacial activity on gravel sites in England has not been fully appreciated by archaeologists with some exceptions. Smith (1975) reported on ice-wedge casts at Fisherwick, Staffordshire. Evans (1972) noted similar features at Broome Heath, Ditchingham, Norfolk. The majority of features discovered at Tattershall Thorpe were periglacial in origin (pers. comm. T. Wilkinson) *e.g.* (15B, 17B, 36B, 49B, Fig. 83 - 84 and 72B and 89B, Fig. 85; Pl. 23). These would fall into the categories of borrow trenches, arc-shaped drainage gullies and banana-shaped pits as described by Green and Sofranoff (1985) from excavations at Stacey Bushes, Milton Keynes.

Environmental Trenches

Whilst the main excavation area was frozen a number trenches were cut adjacent to the river to obtain samples for environmental analysis (Fig. 86; Pl. 24, 25). It was hoped that waterlogged deposits would be found and that faunal material would be preserved in the less acid alluviated layers. Unfortunately the layers were oxidised and only the layer below the current water table contained waterlogged wood. A sample of elm from this deposit yielded a radiocarbon date of 2500 ± 80bc (HAR-5220). Sherds of Neolithic and Bronze Age pottery (P31 - P34) were found in a buried soil above this layer. Across the river another trench was cut and the buried soil, containing charcoal and a fragment of animal bone, was again encountered (Pl. 26, 27). Although undated the soil formed in a dry period when drainage in the valley was not inhibited by fen deposits which may have caused the river to 'back up'. From the research described in Chapter 1 it is suggested that this was during the second

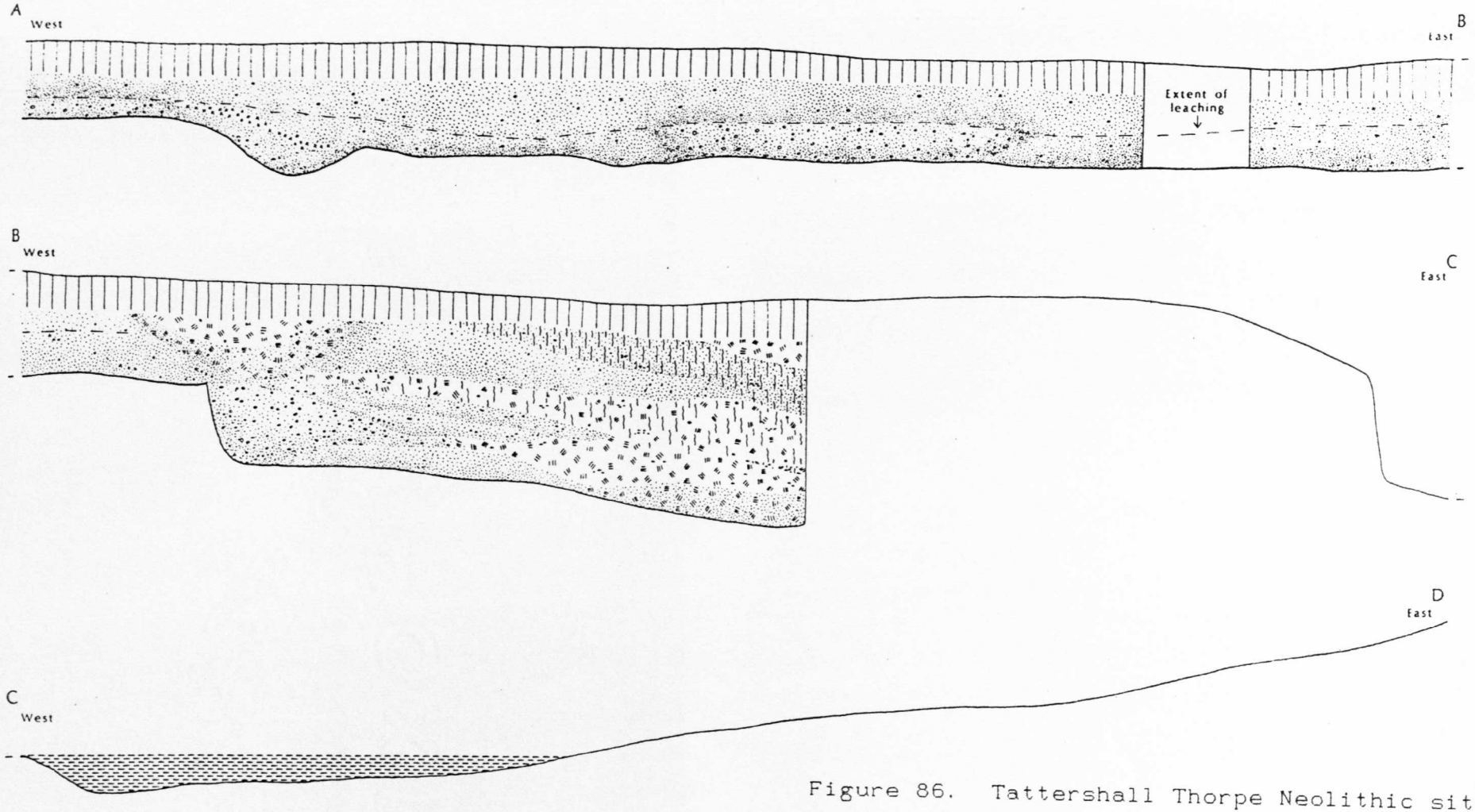


Figure 86. Tattershall Thorpe Neolithic site environmental trench section.

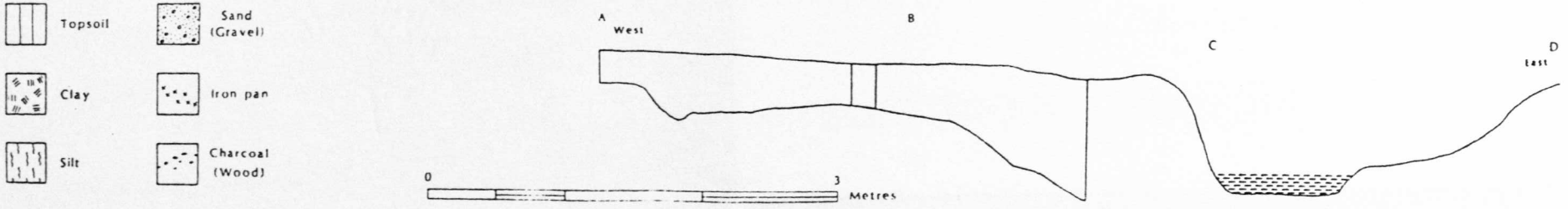


PLATE 23. Tattershall Thorpe, periglacial feature (17B), note the damage to the site from modern and Medieval ploughing

PLATE 24. Tattershall Thorpe, environmental trench, western section (Fig. 86, A - B)

PLATE 25. Tattershall Thorpe, environmental trench, centre section (Fig. 86, B - C)

PLATE 26. Tattershall Thorpe, environmental trench, eastern section, 1984, note that the site had been completely quarried away

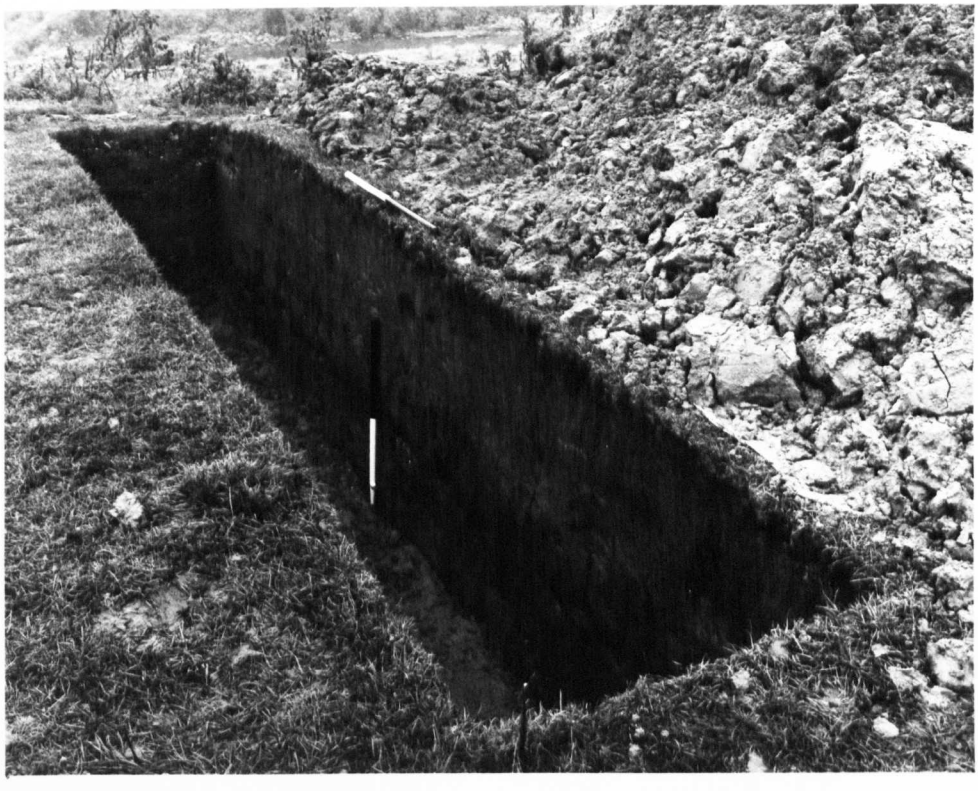


PLATE 27. Tattershall Thorpe, environmental trench, eastern section, 1984, the buried soil can be seen at the division on the scale

millennium B.C. It was probably at this time that the layer of windblown sand was deposited over the site but this remains a matter for speculation.

6.3. The Pottery from Tattershall Thorpe

Neolithic Bowl

At least 19 pots are represented in the Tattershall Thorpe collection (P1 - P17). The majority of the bowls are tempered with angular flint fragments and a small amount of sand. Texture of the fabrics is variable ranging from hard to very soft and crumbly. The necks of four pots (P3, P5, P12, P17) are thickened below the rims. Profiles are curved without carinations. Two shouldered bowls (P16, P17) have rounded profiles. Only two pots (P3, P5) are of open form. The sherds are generally undecorated except for a single incised line on a body sherd (P13). The abraded rim of P16, from pit 22B, is decorated with incised oblique lines. At least three bowls have a slight external burnish (P4, P10, P17).

Neolithic bowl pottery from Skendleby (Phillips, 1936, 78-79, Figs. 20, 21), Dragonby (May, 1976, 43), Walesby (Wilson, 1971, 6); Great Ponton (Phillips, 1935; May, 1976, Fig. 23) and Risby Warren (Riley, 1978, 9, Fig. 3:2) is in the Grimston Ware tradition of northern Britain. The Tattershall Thorpe pottery, however, is in the Mildenhall style of East Anglia as defined by Smith (1954, 224-226) and Longworth (1960, 238-239). The closest parallels are at the causewayed enclosures of Briar Hill, Northampton (Bamford, 1985, 101-2) and Orsett, Essex (Kinnes, 1978, 263). There are also some similarities with the Grimston style plain pottery from Broome Heath, Ditchingham, Norfolk (Wainwright, 1972) and

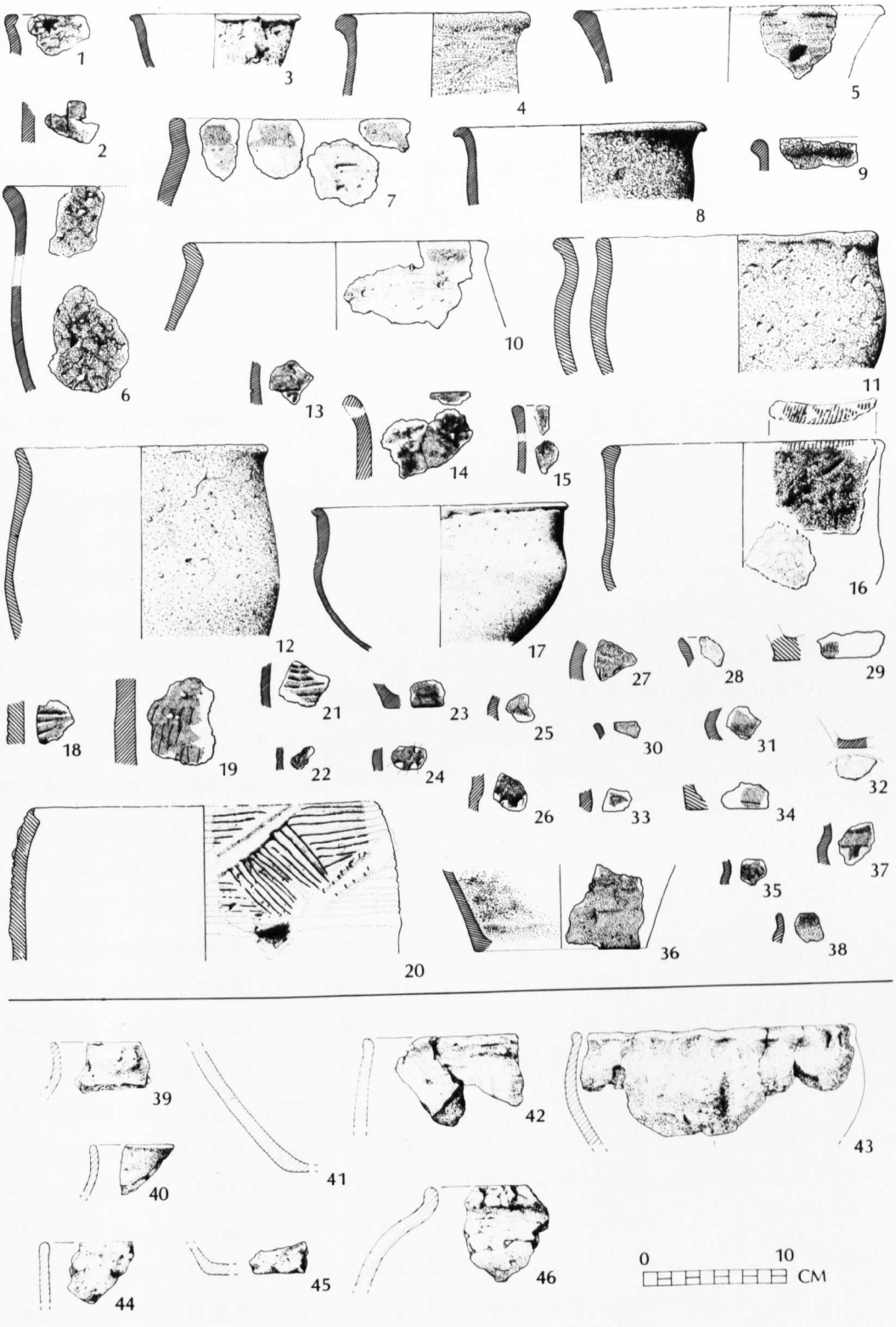


Figure 87. Tattershall Thorpe Neolithic site pottery drawings.

Bain (Clarke, 1970, corpus no. 453.1, Fig. 291), was in fact found in gravel quarrying 120 m. west of the excavated area at Tattershall Thorpe.

Late Bronze Age Pottery

Late Bronze Age pottery was recovered from TT81B and from the pit discovered during quarrying in 1984. The first group includes sherds of at least 16 vessels, of which 14 (P25 - P38) are illustrated. Most are from alluvial deposit 7B, and the small size of the sherds reflects their derived state. The much larger second group consists of more substantial, better-preserved fragments, representing at least seven pots (including P39 - P45). P46 is more abraded than the rest, coarsely flint-and-grog tempered, and of similar profile to P12. It is regarded as a residual Neolithic bowl sherd, although it may be contemporary with the rest of the contents of the pit. Most of the vessels are tempered with sand and angular flint particles. Flint is normally the main temper, but tends to be smaller and to be accompanied by a higher proportion of sand than among the Neolithic Bowl pottery, resulting in a generally harder and finer texture. P42 - P44 are tempered with large fragments of angular flint. Finger-tip decoration is present on three shoulder fragments (P26, P27, P37). There is impressed decoration on the necks of P33 and P35, and an incised line just above the base of P34. P39 and P41 are burnished, slip or burnish is visible on P40, and light fingering on P43.

The Late Bronze Age pottery from Tattershall Thorpe belongs to Barrett's post Deverel-Rimbury tradition (1980, 302-6) and is similar to the material from Orsett, Essex (Barrett, 1978, Figs. 39-42), Fengate, Cambridgeshire (Hawkes and Fell, 1943, Figs. 5-9; Pryor, 1980 Fig. 61) and West Harling, Norfolk (Apling, 1932,

Figs. 1-51; Clark and Fell, 1953, Figs. 10-17), particularly the shouldered jars. The 1984 pit material is best paralleled at Aldermaston Wharf and Knight's Farm, Berkshire (Bradley *et al*, 1980, Figs. 11-18, 31-36) a site that also featured pyramidal loomweights similar to the example from Tattershall Thorpe.

6.4. The Tattershall Thorpe Flint Industry

Provisional reports have been published on the Tattershall Thorpe lithic material and reference should be made to Healy (1984). However, a brief description of the flint industry is presented here.

The flint from Tattershall Thorpe comes from four main contexts:

i. A group of pits (4, 5, 7, 8) (Fig. 82). Lithic material from these pits is characterised by a high frequency of blades and a limited range of retouched forms. It compares closely with other earlier Neolithic assemblages, like that from area XIII. Padholme Road, Cambridgeshire (Pryor, 1974, 10-13).

ii. Context 2, wind-blown sand, lying between the base of the ploughsoil and the top of the natural subsoil in both main excavated areas. Excavated over approximately 2400 m^2.

iii. Context 1, the topsoil and surface of the area stripped for excavation. Approximately 6000 m^2.

iv. Context 0, the surface collection originally made over the whole area to be quarried during the survey. Approximately 7.5 ha.

The source of the flint was probably the gravels of the River Bain on which the site stands. The gravels are made up of pebbles of many colours which are generally small, rolled and battered. Weathered, thermally fractured surfaces are frequent. Flint excavated from the Earlier Neolithic pits is fresh and matt, and that from the alluvial deposits 11B, 9B, 7B and 6B is only slightly less so. Most material from superficial deposits, however, is abraded and shiny. Edge-damage, presumably the result of ploughing, is common among flint from superficial contexts. The good condition of the flint from the alluvial deposits has enabled Rosemary Bradley to identify use/wear traces on some of the tools and waste. She was able to distinguish traces from meat-cutting, hideworking and woodworking on the material from one pit (22B), together with the possible practice of heat pre-treatment in flintworking. The same activities are represented among material from other contexts, with the addition of bone or antler working and the cutting of both cereals and wet vegetable matter. The only hint of any particular activity focus is the presence of woodworking polishes on nine of the ten pieces from the alluvial deposits on which microwear was identified.

The riverside alluvial layers containing struck flint all post-dated a peat layer dated to 2500 ± 80bc (HAR-5220) and must equally post-date the earlier Neolithic pits. Correspondingly, the struck flint from the alluvial deposits is marked by a predominance of the broad, squat flakes usual in later Neolithic and subsequent industries and by the presence of retouched forms, including a denticulate, not found in the pits.

More surprisingly, lithic material from superficial deposits in the main excavated area shows the same characteristics. It is necessarily a mixed collection,

including a microlith and material comparable with that from the pits. Its overall composition, however, is like that of the material from the alluvial deposits, with predominantly broad flakes and with a range of retouched forms absent from the pits but known from later Neolithic and Bronze Age sites, including Storey's Bar Road and Newark Road sub-sites at Fengate, Cambridgeshire (Pryor, 1978, 104-50; 1980, 106-25). In other words the bulk of the substantial collection from superficial contexts consists of later Neolithic and Bronze Age material, while the bulk of the material sealed in pits dates from the earlier Neolithic (Chowne and Healy, 1985).

In conclusion the main point to emerge from F. Healy's examination of the struck flint is that the large collection from the field surface, plough zone and windblown sand differ substantially from the material excavated from underlying Earlier Neolithic pits, which between them account for 98% of the stratified worked flint, and that the bulk of the material in the superficial groups is of Later Neolithic and Bronze Age date, although subsoil features of these periods are few and contain small amounts of flint.

It has already been argued by Healy (1984) that this is a recurring situation, attributable to changes in mode of settlement in lowland England, which resulted in the less regular cutting of subsoil features on Later Neolithic and Bronze Age occupation sites than on Earlier Neolithic ones. As a result, many contemporary settlements will have survived as rubbish deposits when protected, for example by superimposed earthworks or by deposition in pre-existing hollows, or as flint scatters when unprotected. Material from such settlements, most of it never incorporated into the fills of subsoil features, is more likely to become incorporated into ploughsoil and

other superficial deposits than is material protected by burial in pits and ditches. In such circumstances, evidence for Later Neolithic and Bronze Age settlement may lie almost entirely in superficial deposits and may mask the presence of Earlier Neolithic material in subsoil features, as it did at Tattershall Thorpe.

CHAPTER SEVEN

Excavations at Tattershall Thorpe 2

7.1. Introduction

Two excavations have been carried out by the author at an Iron Age defended enclosure at Tattershall Thorpe. The results of the first excavation, which took place in 1979, have been fully published (Chowne, Greig and Girling, 1986, hereafter Chowne *et al*, 1986). A copy of the report is presented with this thesis (see wallet at rear of volume). The second excavation took place in 1986 and therefore falls outside of the research period. Some reference will be made to this excavation as the results are of considerable archaeological importance and influence the discussion in Part Three.

The site is located 1 km. south-west of the Neolithic site on glaciofluvial drift sands and gravels overlooking the Bain Valley (Fig. 88). An oval area is enclosed by a pair of substantial ditches with a north facing entrance visible on aerial photographs (Fig. 89). A second entrance, facing south, was discovered in the second excavation. Approximately one third of the enclosure has been destroyed by gravel extraction (Chowne *et al*, 1986, Pl. 17). In the first excavation an area of 1600 m^2 was mechanically stripped and a number of sections cut across the ditches. Unfortunately it was not possible to investigate the interior of the enclosure. The ditch fillings were found to be of considerable importance in that the basal layers consisted of a peat-like organic filling rich in plant macrofossils, pollen and insect remains. Study of these deposits by Maureen Girling and James Greig has enabled a reconstruction of the local

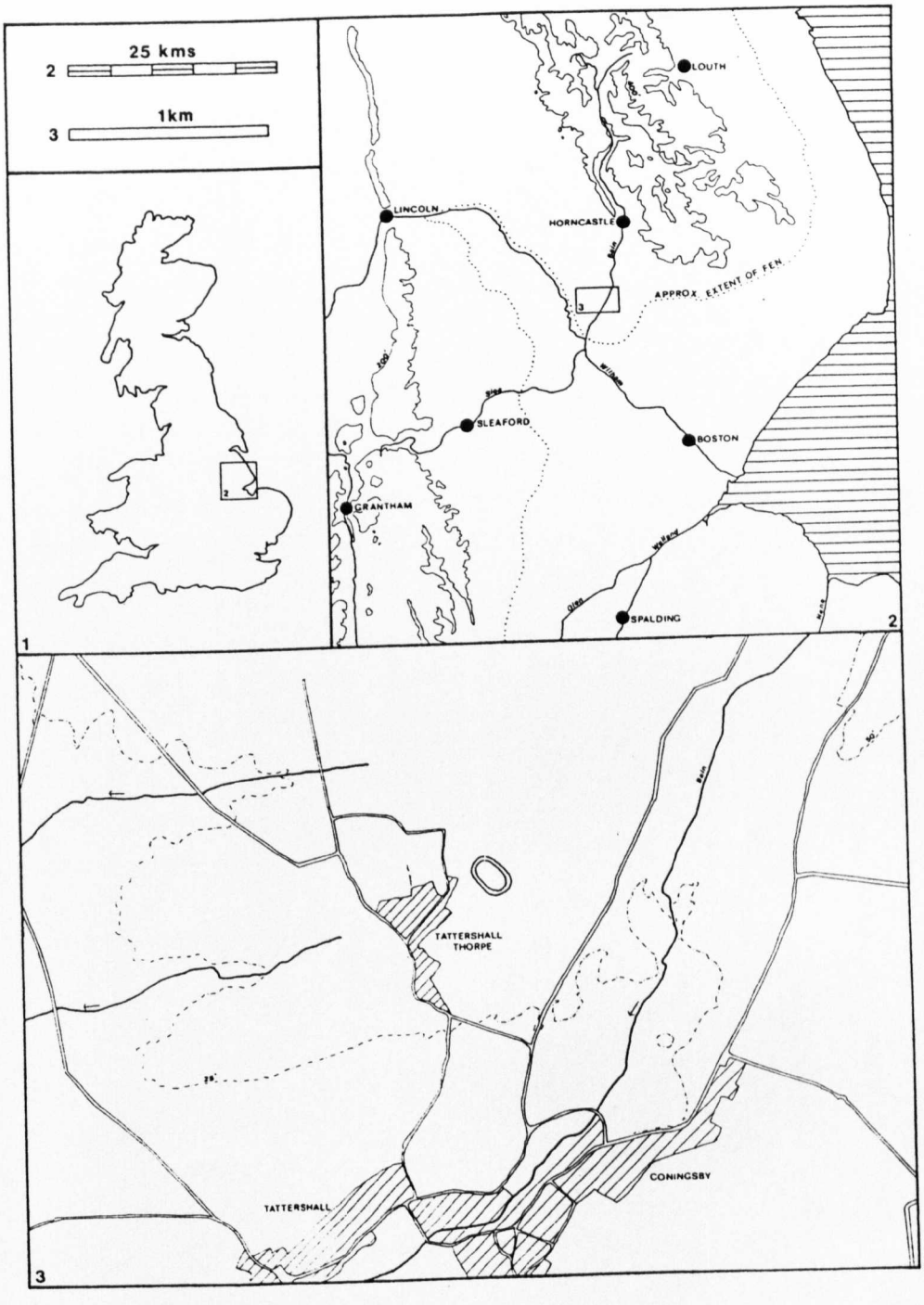


Figure 88. Tattershall Thorpe Iron Age site location map.

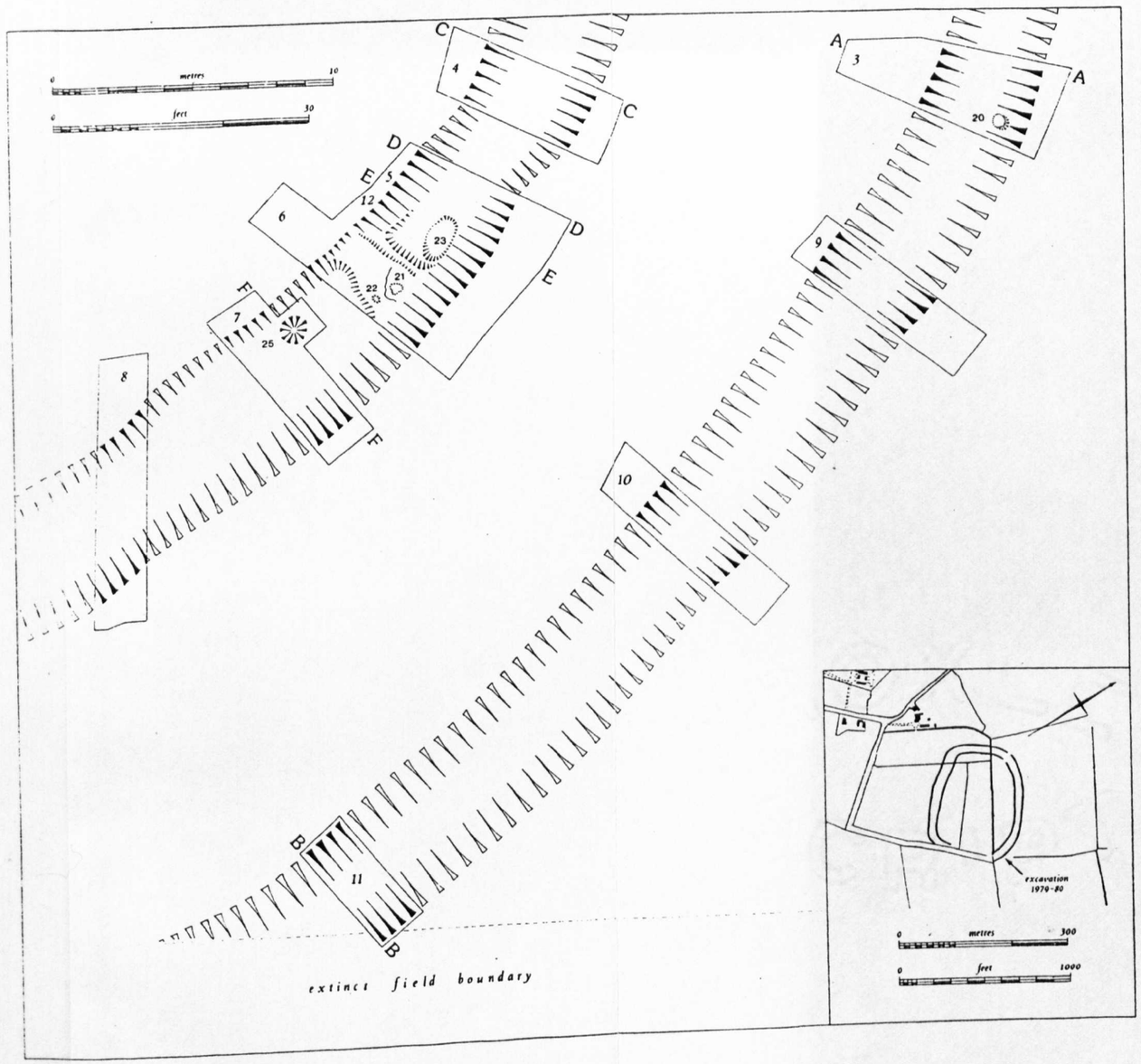


Figure 89. Tattershall Thorpe Iron Age site excavation plan.

environmental conditions to be made. This work was summarised in Chapter Four.

7.2. The Excavation

Outer Ditch

Four sections were cut through the outer ditch, A - A, B - B, and 10. Little variation in the ditch fillings was apparent between sections (Fig. 90). The average surviving depth of the ditch was 1.45 m. with the ploughsoil removed; ancient and modern ploughing have truncated the ditches by an unknown amount. The average width was 5 m. and the ditch bottom was rounded. It should be borne in mind that the ditch as excavated was in its final form as abandoned and may have been cleaned out on numerous occasions during its period of use. No physical evidence for a bank adjacent to either ditch was discovered although they probably existed. However, considerable environmental evidence for the presence of hedges was found within the organic ditch layers.

One feature was discovered within the filling of the ditch (20). This was a circular patch of charcoal flecks and stained sand 50 cm. in diameter and 3 cm. thick (Chowne *et al*, 1986, Pl. 19a). Interpreting this feature is difficult; it could perhaps be seen as the base of a post-hole cut into the ditch filling, or rubbish thrown into the ditch after it was abandoned.

Two objects were recovered from the outer ditch, a sherd of pottery and a piece of carbonized wood which showed no signs of having been worked (Chowne *et al*, 1986, Pl. 19b). A radiocarbon date of 400 ± 90bc (HAR-4315) 410 B.C. when calibrated has been obtained from the wood. Both of these objects were found on top of organic lower

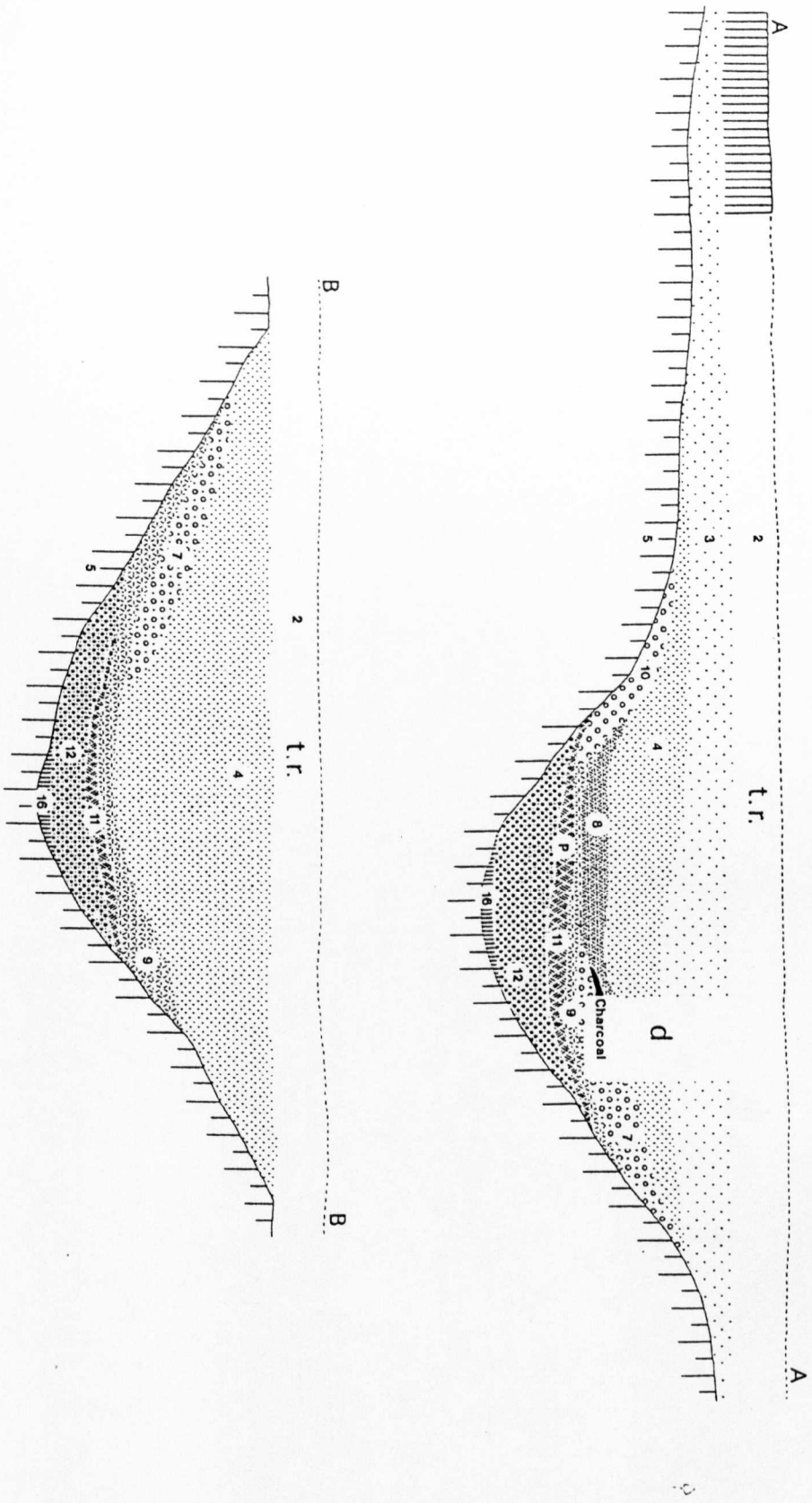


Figure 90. Tattershall Thorpe Iron Age site outer ditch sections (Scale 1:50).

ditch filling, from a time when the enclosure was going out of use or its role had changed and the ditches were not being maintained.

Inner ditch

Six sections were cut through the inner ditch C - C, D - D, E - E and F - F (Figs. 91, 92). The average depth of the inner ditch was 90 cm. with the plough soil removed and the average width was 5.75 m. Unlike the outer ditch which was U-shaped, the inner ditch was flat-bottomed. The sequence of deposits varied little from those of the outer ditch except in section 8 which had been recut (Chowne *et al*, 1986, Pl. 20b).

Uniformity of the ditch bottom was interrupted in the area of sections 5, 6 and 12. The ditch at this point had never been dug to the depth encountered in the other sections, thus leaving a slight causeway. North of the causeway an oval pit (23) 170 x 90 cm. and 25 cm. deep had been cut into the ditch bottom. Set into the causeway were two posts (21 and 22); the outline of 21 was visible and averaged 50 cm. in diameter. The second post was in an oval hole 30 x 22 cm. and 30 cm. deep (22) (Chowne *et al*, 1986, Pl. 21, 22). Farther south, in section 7, another post-hole (25) 100 cm. in diameter and 35 cm. deep was located.

A small amount of pottery was found lying on top of the organic ditch layer but the majority of artefacts were recovered from the recut in section 8. These include pottery, fired clay, animal bone and charcoal. A radiocarbon date of 3250 ± 110bc (HAR-4313) has been obtained from the charcoal. This date is at variance with that of the pottery which belongs to the early part of the first century A.D. The most likely explanation for this apparent anomaly is that charcoal from an early

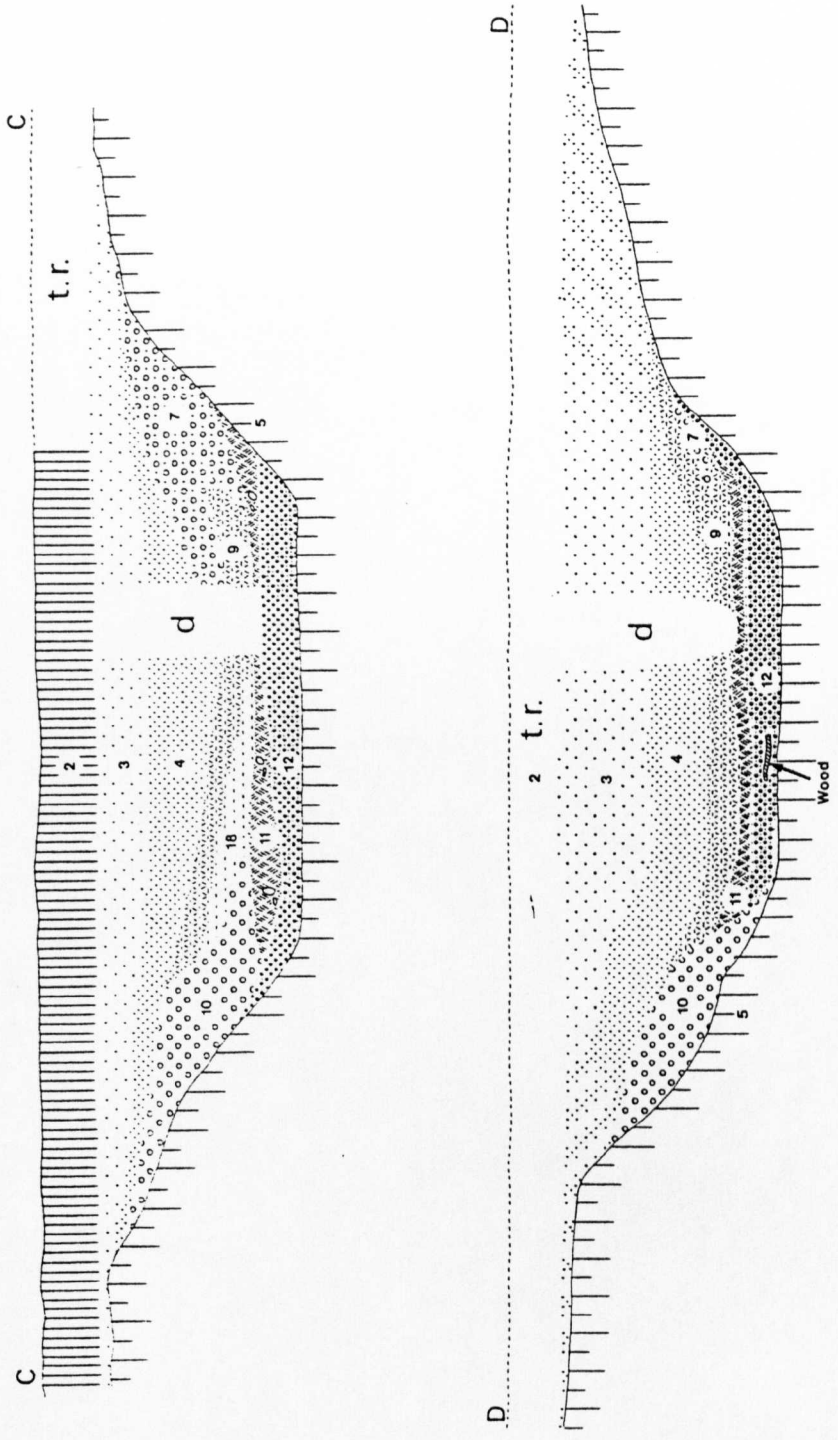


Figure 91. Tattershall Thorpe Iron Age site inner ditch sections (Scale 1:50).

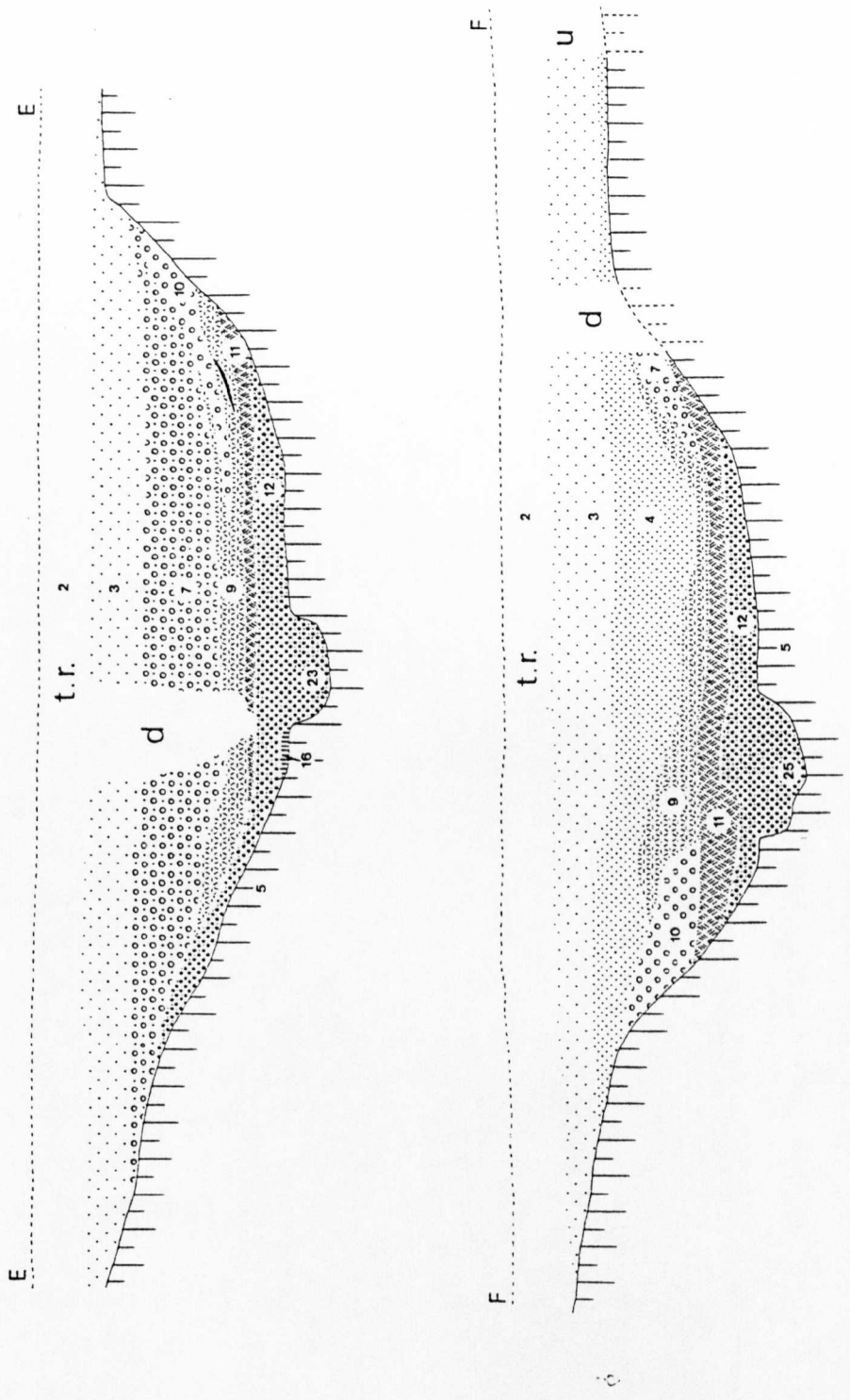


Figure 92. Tattershall Thorpe Iron Age site inner ditch sections (Scale 1:50).

clearance phase was incorporated in the ditch filling during re-cutting.

7.3. The Pottery

The pottery collection from Tattershall Thorpe consists of 129 sherds, 50 of which can be considered as diagnostic. These are described individually in the catalogue (Appendix VII) and 49 are illustrated below (Figs. 93, 94).

All of the pottery was found at a high level in the ditches, either on top of the organic lower infill or in the inner ditch recut (19).

Only one sherd (P26) can be considered as being contemporary with the construction and early use of the enclosure. It is the greater part of the base from a hand-made pedestal jar with a cordon at the junction between base and wall. The fabric is coarse and has a high grog content. Hand-made pedestal jars of this type were in use from the fifth to third centuries B.C. as at Swallowcliffe Down, Wiltshire (Clay, 1925; Harding, 1974, Pl. 21). A date in this range is compatible with the radiocarbon date of 400 ± 90bc (HAR-4315) 410 B.C. when calibrated, from wood found in the same context.

Pottery from the ditch recut (19) can be seen as a homogeneous group of contemporary wares deposited over a very short space of time. Coarse storage jars, cooking jars, finer jars and bowls are represented. Jars such as P11 and P50 are very common on late La Tène sites such as Dragonby (May, 1970, Fig. 9, No. 33). P17, P18 and P35 may have derived from imitations of butt beakers. As a group, the range of vessels represented at Tattershall

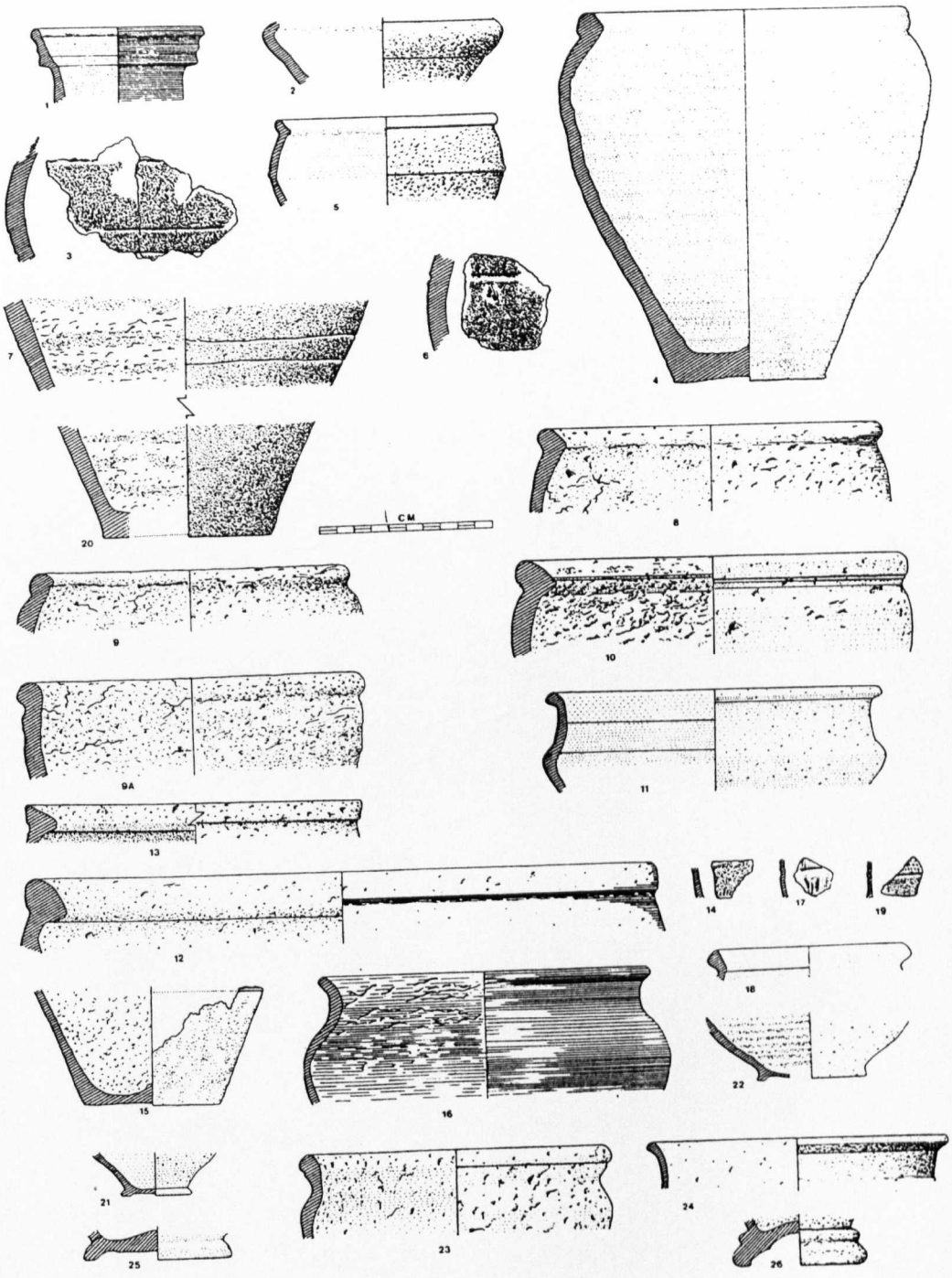


Figure 93. Tattershall Thorpe Iron Age site pottery.

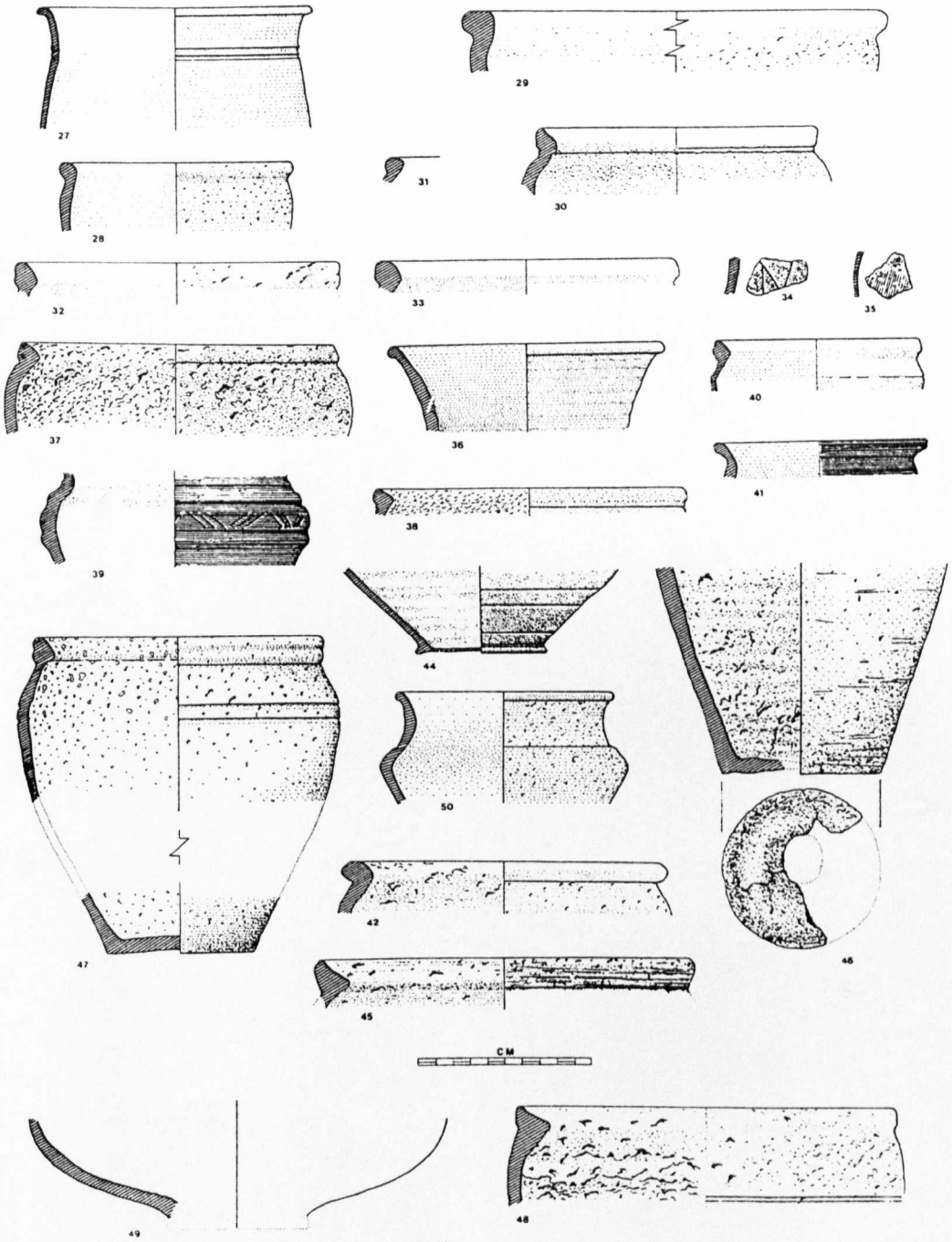


Figure 94. Tattershall Thorpe Iron Age site pottery.

Thorpe compares closely with Phase III at Dragonby, the native wares at Camulodunum (Hawkes and Hull, 1947) and the unpublished collections from Old Sleaford. On the basis of these comparisons it is suggested that the pottery from Tattershall Thorpe probably dates to the first half of the first century A.D. The absence of *terra sigillata*, gallo-belgic imports and amphorae and the presence of sherds with rouletted decoration, P14 and P19, suggest a date nearer the beginning of the century than one close to the Roman Conquest. However, the restricted size of the sample, from one relatively small feature, may account for the absence of certain pottery types rather than date.

One fragment of fired clay was recovered, possibly part of a triangular loom weight, from the ditch recut (19).

7.4. Discussion

Discussion of the enclosure at Tattershall Thorpe is restricted by the limited extent of the excavations and a lack of comparative sites in the area. The outstanding preservation of faunal and floral remains and their contribution to the study of local and regional environment have been summarised in Chapter 4 and are fully discussed in Chowne *et al* (1986).

There can be little doubt that the size of the ditches at Tattershall Thorpe indicates that their primary role was defence. Although there was no structural evidence for the presence of ramparts, the distance between the ditches provided ample room for substantial banks. The presence of hedges has been suggested above and it is possible that they formed part of the defensive system or were used as a means of stock control to prevent erosion

of the ditch sides by grazing beasts. It is also conceivable that post-holes (21, 25) and pit (23) held wooden uprights which formed part of the defences. Equally they may have been part of a structure associated with a crossing of the ditch. The existence of a slight causeway at this point may be further evidence for a crossing point. A third, and less convincing, interpretation might be that these features simply held markers for construction teams who met at this point.

Although four other substantial ditched enclosures have been discovered in Lincolnshire, none of them has been excavated nor have surface finds been recorded which might indicate their date (Fig. 95). With the exception of Tattershall Thorpe these sites are situated on the Jurassic Limestone ridge which forms the western uplands of Lincolnshire. As yet, there is no evidence for similar enclosures on the Wolds or fen margins. An Iron Age date for Honington Camp, near Ancaster, has been tentatively suggested by May (1976), although morphologically this multivallate site has little in common with Tattershall Thorpe. The enclosure known as Round Hills, at Ingoldsby, consists of a single bank and ditch and remains undated despite repeated inspection of its ploughed interior. Careby Camp, near Stamford, now in dense woodland, was estimated by Phillips (1934) to be 850 ft. X 705 ft. with 130 ft. between its two banks. The Tattershall Thorpe example measures approximately 700 ft. X 550 ft. with 50 ft. separating the ditches. A recently discovered site at Old Somerby, near Grantham, known locally as Burgh or Borough Banks, is again undated but in plan is similar to Tattershall Thorpe. Parts of this site are preserved as earthworks in pasture (Fig. 96).

The siting of defended Iron Age enclosures in low-lying wet situations can be seen in other parts of the country.

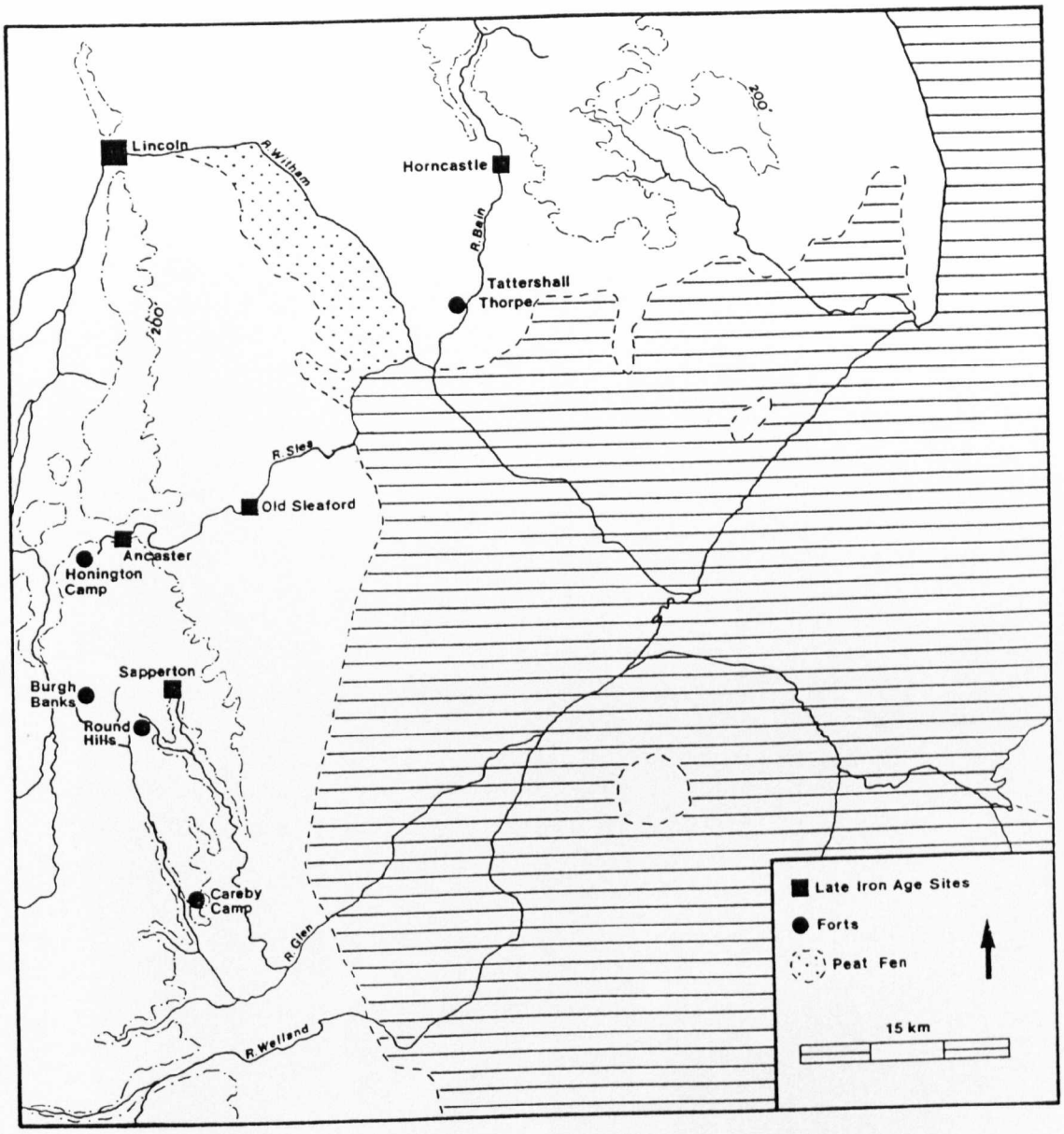


Figure 95. Map of Iron Age forts and major Iron Age centres in Lincolnshire.

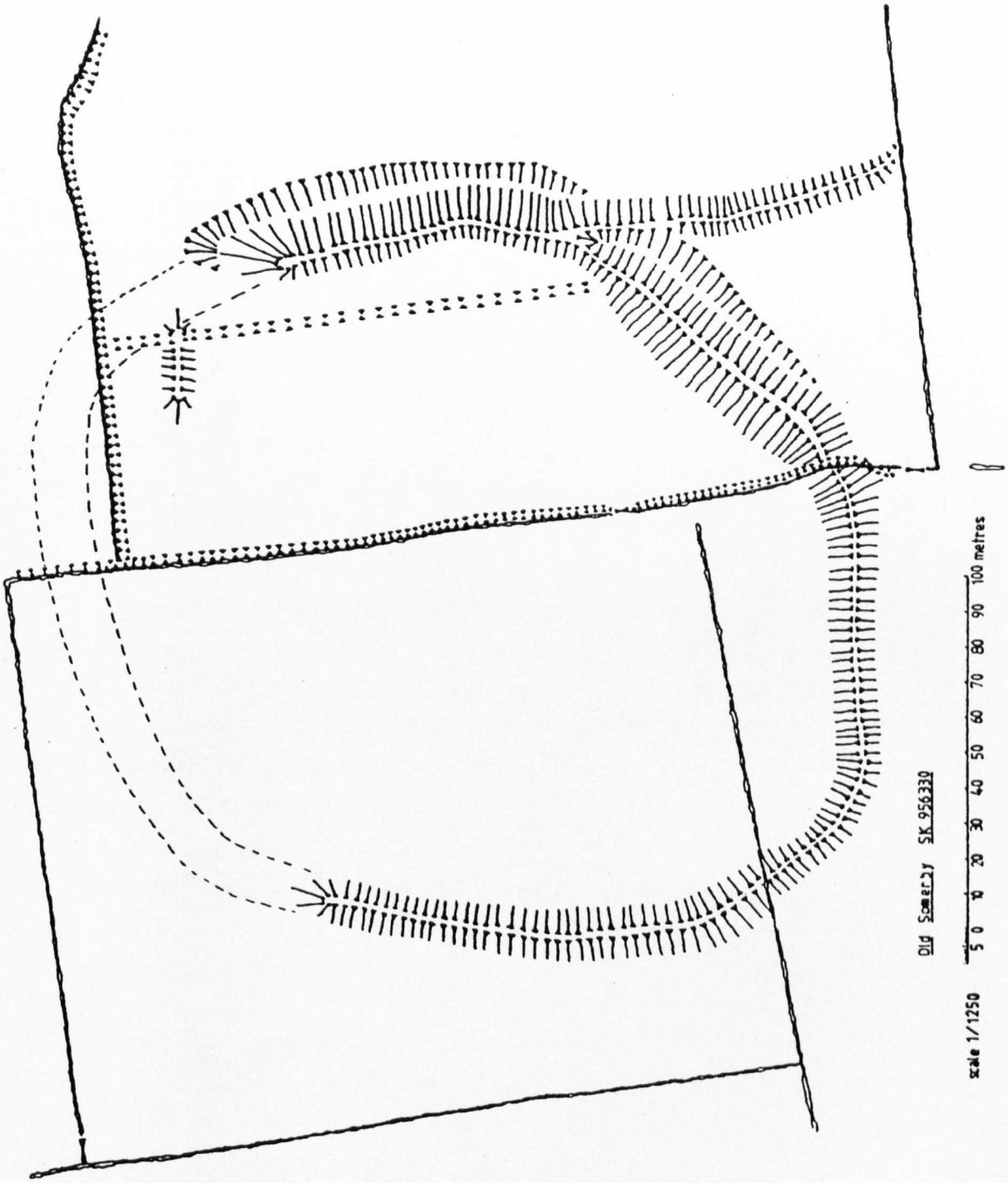


Figure 96. Plan of Burgh Banks, Old Somerby.

Holkham Fort, Norfolk, is situated on a low promontory extending into salt-marsh (Clarke, 1940). Although the site has not been securely dated, possible Iron Age sherds have been found there. Tattershall Thorpe was never directly affected by the action of saltwater although the Iron Age coastline probably extended to within a few kilometres of the enclosure (Simmons, 1980). Farther south in the Upper Thames Valley at Cherbury a defended enclosure was excavated by Bradford (1940) and, although this work was never completed, sufficient pottery was found to establish an Iron Age date for the use of the site. Cherbury Camp was surrounded by marshy terrain and the ditches were prone to flooding (Arkell, 1939), a situation comparable to Tattershall Thorpe. A similar situation also existed at Cassington Mill although this site was slightly later in date (Harding, 1972).

Throughout this report the site has been referred to as an Iron Age defended enclosure on the basis of its substantial ditches. However, it is by no means certain that the enclosure even had a military role and served as a fort. Whilst this function cannot be dismissed it must remain no more than a possibility until more evidence becomes available.

The extensive evidence for stock grazing described above suggests an alternative use for the site. To the east, south and west of the enclosure are large tracts of fen and marsh. During the summer months these wetland areas probably provided excellent summer grazing but in the winter stock would have been rounded up and taken to a centre where animals were reclaimed by their owners, some possibly being slaughtered for hides and meat, some being exchanged, others perhaps taken up the Bain Valley to graze on the riverside meadows and even to the Wolds.

During the spring a similar event may have taken place when stock was branded before being run freely on the summer pastures. Given the value of stock to many societies, there may have been a need for defensive ditches at Tattershall Thorpe to deter rustlers and predatory animals. The absence of animal bones within the enclosure ditches, a result of acid soil conditions, is unfortunate in that the type of stock grazing at Tattershall Thorpe cannot be established. Although cattle or sheep seem the most likely, horses cannot be ruled out, given their importance to Iron Age society.

Whilst there is an apparent lack of settlement sites in Lincolnshire during the early part of the Iron Age the reverse is true for the middle and later phases. An open settlement was occupied at Ancaster Quarry during the third century B.C. (May, 1976) and small enclosed farmsteads were being established at Billingborough at about this time, following a phase of salt-making (see Chapter 3). Recent aerial photography of the fen margin suggests that Iron Age settlement exists in this part of Lincolnshire on a scale comparable to that in the Thames Valley (see Chapter Two and Benson and Miles, 1974; Hampton, 1983).

During the latter part of the first century B.C. the system of small enclosures at Billingborough was replaced by an extensive field system. This period also saw the establishment of major settlement concentrations at Ancaster, Old Sleaford and possibly Horncastle. Much of the pottery from recent excavations at Old Sleaford is of the same type as found at Tattershall Thorpe. However, it is not certain if the recutting of the inner ditch (19) represents re-occupation of the enclosure or merely the disposal of rubbish.

7.5. Excavation at Tattershall Thorpe, 1986

In 1986 an opportunity arose to investigate approximately 100 m. of the outer ditch at the southern end of the enclosure. The excavation had limited resources and specific objectives, these were to:

i. record the horizontal and vertical distribution of artefacts and organic material in the lower ditch filling and if possible identify specific activity or rubbish disposal areas;

ii. recover artefacts to aid in the identification of economic activities and assist in the interpretation of the site in a local and regional context;

iii. assess the rate of organic decay since 1979 and, if possible, make suggestions as to future management strategy for the site.

After removal of the upper ditch filling by machine the organic layer was exposed and recorded by vertical photography, the survey points being plotted with the aid of a microcomputer. All artefacts were recorded in three dimensions the data then being transferred to a computerized context record and catalogue system.

An unexpected discovery was a second entrance to the enclosure. At the ditch terminals quantities of animal bones were found, mainly cattle, horse and sheep/goat. Coarse and fine early Le Tène pottery was present in the lower ditch levels (Figs. 97 - 98) with late La Tène and Romano-British sherds in the upper layers. Wood was distributed throughout the lower ditch level including many worked pieces (Fig. 99). Several scraps of leather were found within and below the peat. Lying just on top

PLATE 28. Tattershall Thorpe, outer ditch terminal, note organic basal fill in particular non-structural wood

of the peat were two iron objects, a chisel (Fig. 100) and a possible wedge although the latter is in very poor condition.

Situated above the peat were several small areas of burning, comparable to the example found in the 1979 excavation, which have been provisionaly interpreted as hearths. These are as yet undated but on stratigraphic grounds it can be assumed that they are pre-Roman.

The results obtained in the 1986 excavation are still being analysed but it is clear from the work carried out so far that the information recovered supports the view put forward above that the Tattershall Thorpe enclosure was a high status settlement functioning within a predominantly pastoral economy.

PLATE 29. Tattershall Thorpe, general view of 1986 excavation of outer ditch, facing east

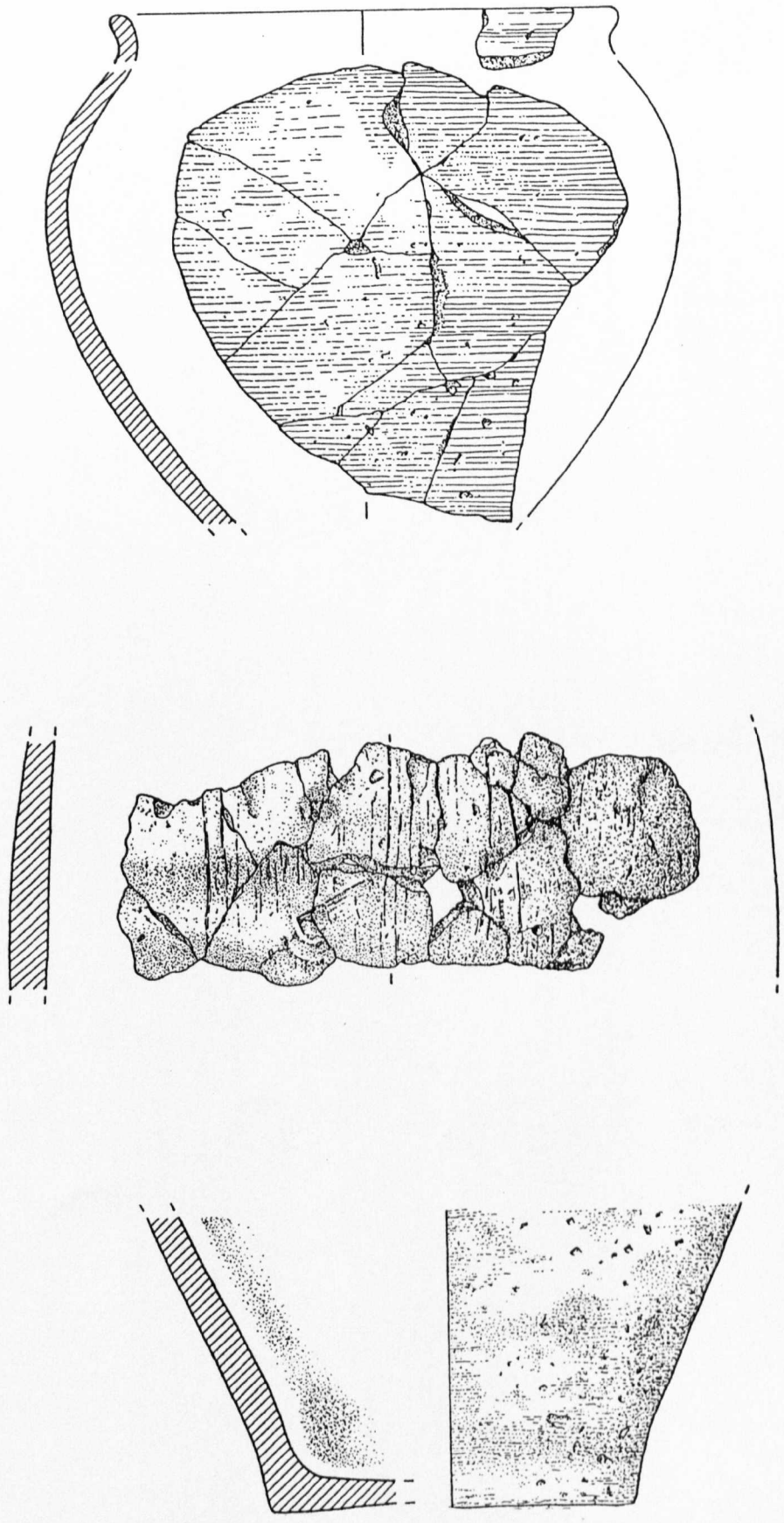


Figure 97. Tattershall Thorpe Iron Age site, 1986, pottery (scale 1:2).

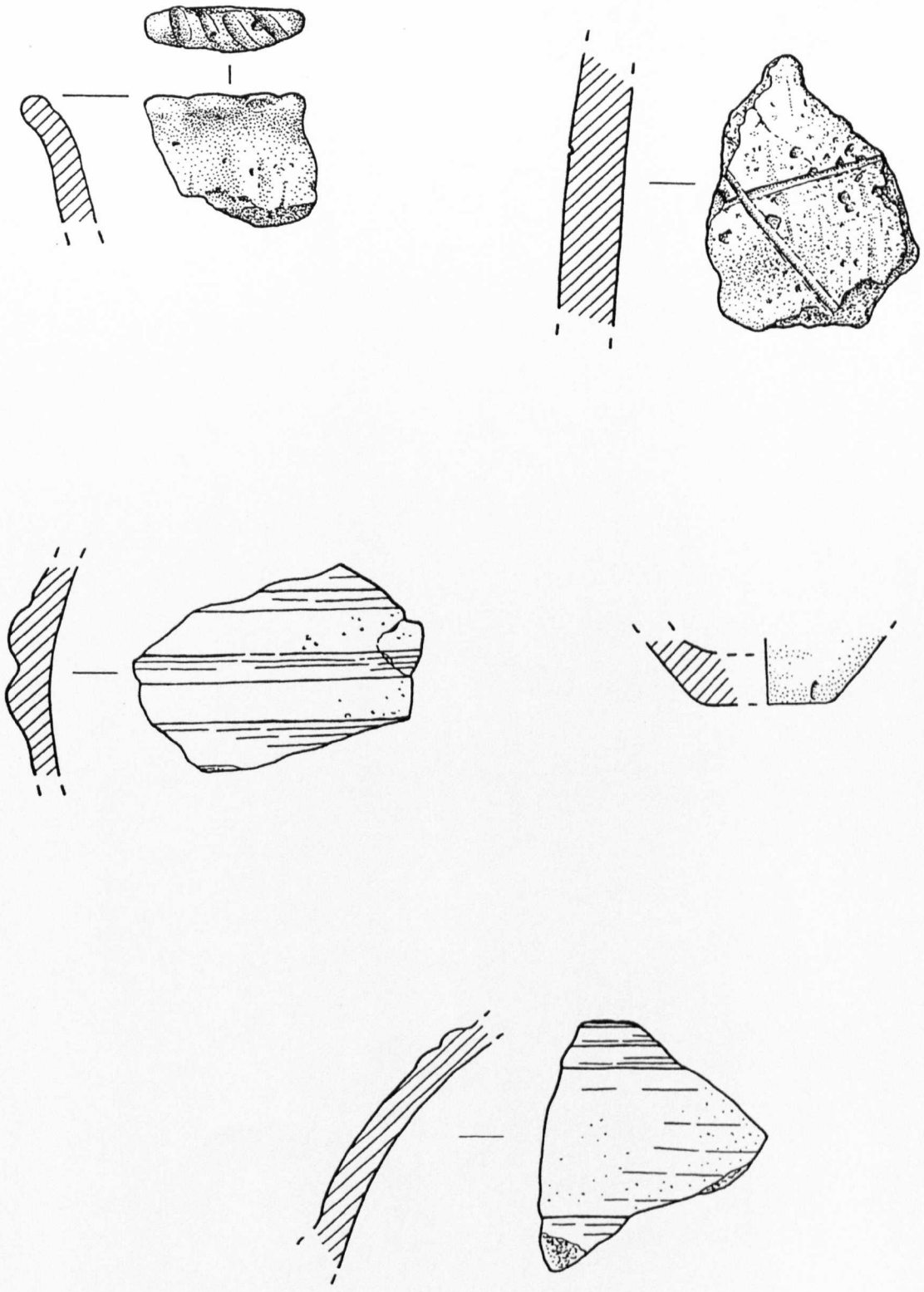


Figure 98. Tattershall Thorpe Iron Age site, 1986, pottery (scale 1:1).

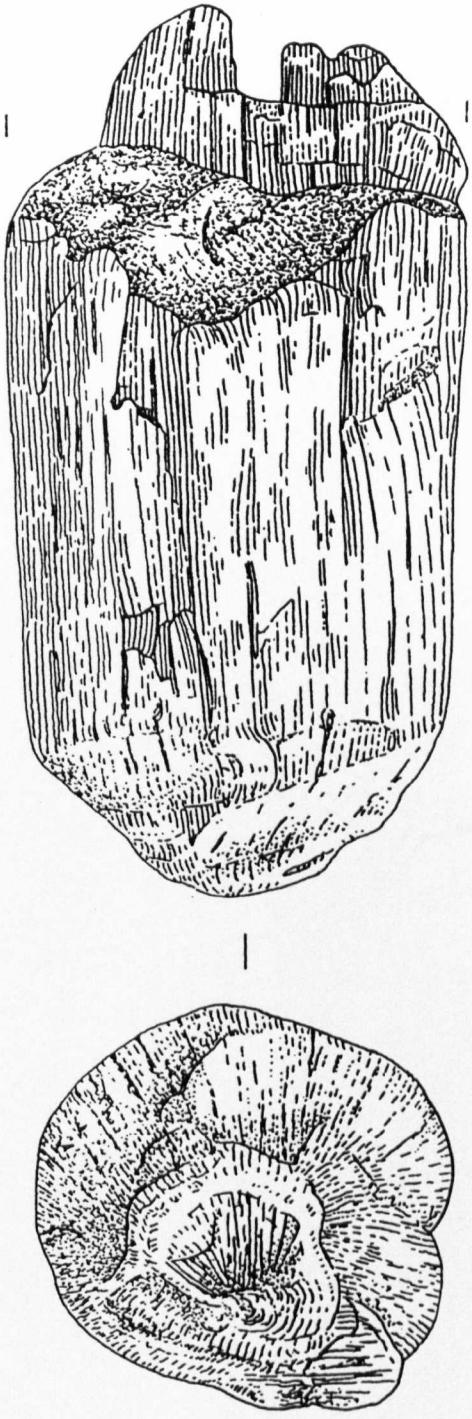


Figure 99. Tattershall Thorpe Iron Age site, 1986, worked wood (scale 1:2).

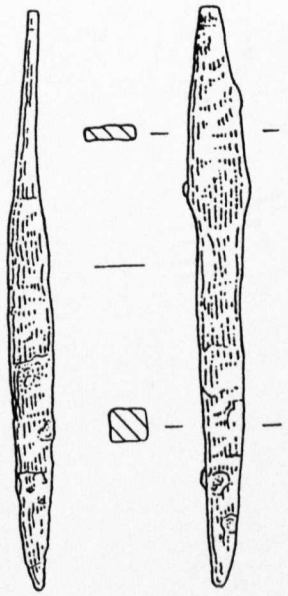


Figure 100. Tattershall Thorpe Iron Age site, 1986, iron tool (scale 1:1).

PART THREE

DISCUSSION

INTRODUCTION

Since 1978 when my research began interest in wetland archaeology has expanded throughout Europe as is demonstrated by the plethora of recent general publications on the subject (Coles, 1984; Coles and Lawson, 1987; Schlichtherle, 1986). Archaeologists have been further stimulated by the production of several definitive excavation reports (Arnold, 1986; Pétrequin, 1986; Pryor, 1984; Pryor and French, 1986; Twann 1977-81) and regional surveys (Brandt *et al*, 1986; Coles, 1986; Hall, 1987). Particularly relevant to the area of my research is the work of the Fenland Project and the Fenland Archaeological Trust.

The aims of the Fenland Project are to carry out a systematic large scale fieldwalking survey of the fens around the Wash. This is supplemented by environmental analysis of sediments from bore-holes and exposed ditch sections and surface mapping of soils. Excavation has been carried out by the Fenland Archaeological Trust. The work of both these bodies is summarized annually in *Fenland Research.*

As many of the research themes described in this thesis have been taken up on a wider scale by recent workers in the fens, it is tempting to attempt a broad discussion of the later prehistory of Lincolnshire on the basis of my research supplemented by the interim reports of the Fenland Project. However, this task will fall to future writers when the results of recent work have been fully published. It is hoped that the research described in this thesis will form a sound data base which can be built on and developed by others.

It is necessary though to return to the original aims of the research which were 'to describe the results obtained from Billingborough in a local and regional context' and 'to obtain more primary data, of a non-funerary nature'. The fenland was the principle area of interest although a study was made of the Bain Valley for comparative purposes. These objectives have been achieved and the results presented in Parts One and Two.

There are, however, a number of issues that arise from the data that need to be discussed in a much wider context. Part Three of the thesis is devoted to this discussion.

CHAPTER EIGHT

Settlement in Lincolnshire during the third and second millennia B.C.

Although the Bronze Age and Iron Age settlement at Billingborough lies within an area often considered to be fen it cannot be regarded as a true wetland site, at least in phase 1 (see p. 46 for an explanation of phasing). Pryor (1980) has made a similar observation regarding the Newark Road sub-site at Fengate. However, both of these sites were located on light, well-drained, fertile soils over gravels in a position ideally suited for exploiting the fens to the east and the higher land in the west. The Billingborough site at 4.6 m. OD was slightly higher than the Newark Road sub-site which was 3.8 m. above present day sea level. From the available radiocarbon dates both sites would seem to have been in use at the same time and to have had their major ditch systems abandoned early in the first millennium B.C. to be replaced by an industrial phase. There the similarities end for the sites were of a completely different character.

The Newark Road sub-site at Fengate consisted of a series of rectangular ditched fields separated by east/west tracks also defined by ditches. There was some evidence to suggest that hedges were also used as boundaries. Phosphate analysis showed that the trackways were used for the passage of stock. Despite the investigation of an extensive area including several complete fields only two structures were located. Structure 1 was a round house consisting of a ring of postholes within a circular eaves-drip gully 9.25 m. in diameter. The gully led into

one of the field system ditches. Structure 2 also featured a circle of postholes although these were less regular in plan. No evidence for an eaves-drip gully was found. The field boundary ditch adjacent to the structure contained a high level of phosphates suggesting that this particular structure may have been used to house animals. These droveways and field systems have been interpreted as a device for livestock management (Pryor, 1980). Querns, rubbing stones, post-built granaries or drying racks, storage vessels and grain impressions on pottery were all absent indicating that cereals may have played a minor role in the economy. The small quantity of animal bone found demonstrated that cattle, pigs and sheep were important but that the cattle were generally too old at death for meat production; their main function seems to have been to supply milk for dairy products. The evidence from Fengate suggests a local economy based on pastoralism functioning in a similar way to that of the Medieval period when fen-edge communities used the undrained land for summer grazing returning their stock to the higher ground as the water table rose during the autumn and winter months (Darby, 1940).

Nearby at Storey's Bar Road, Pryor (1978) excavated a circular ditched enclosure containing a house. Associated with the enclosure was a field system possibly a forerunner of the Newark Road system and a large quantity of Grooved Ware pottery. The enclosure was re-used as a round barrow in the second millennium B.C.

The site at Billingborough consisted of an enclosure defined by a ditch on three sides with a bank or hedge for the fourth side (see Chapter 3.2. for a full description and plans). Within the enclosure were a number of four-post structures which were probably granaries, and at least two round houses. Large

quantities of occupation debris in the form of animal bone and pottery were found. This is in complete contrast to Fengate where a small amount of bone and very little pottery was recovered. The small quantity of pottery from Fengate is not surprising as field systems rarely generate large collections of finds. This does however, emphasis the different nature of the two sites. Billingborough clearly was a habitation site where mixed agriculture was practised. Evidence for cereal production comprised four-post granaries and storage jars; unfortunately seed remains did not survive in any quantity. The animal bone collection consisted of cattle, deer, dog, horse, pig and sheep/goat. Provisional analysis of the bones suggests that cattle were being used for traction and sheep/goat for meat (see p. 91).

Although contemporary and apparently in similar locations the Bronze Age sites at Billingborough and Newark Road, Fengate had completely different economies. Before considering the reasons for this a closer examination must be made of both sites' location.

The average height above present day sea level at Billingborough is 4.6 m. Fengate is approximately 0.8 m. lower at 3.8 m. OD. Whilst this might appear to be a very small difference in elevation, as little as 0.1 m. is critical in the fens or on the margin. This area was prone to waterlogging and flash floods before the advent of formal land drainage and reclamation. To the east of Billingborough the land descends gently to a similar height as Fengate. This unfortunately cannot be seen in the Horbling section levels (Appendix 1) which do not drop below 4.64 m. even at the most easterly point (topsoil removed). The reason for this is that the fenland basin dips from north to south as well as west to east as has recently been confirmed by Hayes (1985).

However, height above modern sea-level does not necessarily relate to water table height in the second millennium B.C. To the east of Fengate lies an extensive tract of peat that was certainly present during the Bronze Age (Willis, 1961). This peat deposit extends northward to Dyke and has been recorded as far north as Horbling (Skertchly, 1877). Both the Hacconby and Horbling sections revealed that the landscape contemporary with the Bronze Age enclosure at Billingborough lies buried below deposits of marine clays and silts (see Chapter 1.2. and 1.3.). A radiocarbon date from charcoal beneath a thin peat layer at Horbling yielded a date of 1800 ± 70bc (HAR-1750) suggesting that at the close of the third millennium B.C. dry land extended well beyond the present fen margin. Support for this suggestion can be found in the Witham Valley where the peat fen has been eroded away to such an extent that the Bronze Age land surface is beginning to appear. Naturally it is the upstanding monuments, usually round barrows, that become visible first as the plough digs into the lighter coloured mound material. These sites are visible on aerial photographs and at ground level at Stainfield, Heighington, Washingborough and Walcott (Chowne, 1980). One site, in Anwick Fen, has been surveyed by the author (Chowne and Healy, 1983). Here, on the banks of an extinct channel of the River Slea at least six barrows were located. An extensive lithic scatter dating to the Late Neolithic/Early Bronze Age was found around the barrows. The flint collection included a substantial Mesolithic element indicating that this particular spot had been the focus of human attention for some considerable time.

The Billingborough Bronze Age enclosure should therefore be regarded as a dryland site and parallels should be sought not amongst the marginal sites of the fenland but

farther west on the higher ground. Indeed the site has more in common with the Deverel-Rimbury enclosures of southern England than Fengate (Piggott, 1942; Stone, 1936; 1941).

Although no other settlement sites of this period have been excavated on the fen margin or on the limestone uplands to the west, there is considerable evidence to suggest that the area was extensively occupied during the second millennium B.C. This evidence is in the form of surface scatters of Billingborough phase 1 type pottery (see p. 66 for description) and flints and loomweight fragments located by fieldwalking (Chowne, 1977; 1980). Of particular importance is the parish survey of Ropsley and Humby carried out by Tom Lane (Lane, 1980). Lane surveyed virtually the whole of the parish which is situated some 5 km. west of Grantham. The parish straddles two distinct geological zones: limestone heath in the west and boulder clay in the east. Whilst scatters of Bronze Age pottery were found in all parts by far the greatest concentration was on the thin limestone heath soils. Two pottery scatters, one just over the parish boundary in Old Somerby, have been excavated (Lane and Chowne, 1987). These were found to be the ploughed out remains of small cremation cemeteries.

At Old Somerby excavation uncovered an area of 36 m^2 centred on the surface finds. The positions of these finds were recorded and related to excavated material. Topsoil was shallow (28 cm.) and removed by hand revealing the incomplete remains of a minimum of six vessels. Of these, two had been placed upright in shallow pits and contained substantial quantities of cremated bone. These vessels survived intact to a height of *c.* 8 cm. The remaining pots had also been positioned upright on the surface of the subsoil and subsequently had

suffered almost total destruction by ploughing. All three vessels lay between furrows created when the field underwent medieval ploughing. Any vessels in the line of the furrows would not have survived this event. No grave goods were contained in the vessel remains though a bronze bangle was found during topsoil removal. No evidence of burning or of other features was found in the excavated area. A trench, 1 m. wide, was excavated for a distance of 16 m. leading away from the main site area in order to locate any ditched feature which may have delimited the cremations. No such features or further burials were encountered.

Although the depth of topsoil was marginally greater at Ropsley and Humby the site was more extensively damaged than at Old Somerby. The area selected for excavation measured 100 m^2. The upper 20 cm. of topsoil was removed by machine with the remaining overburden being excavated by hand. Finds were concentrated in the north-west corner of the excavated area and took the form of fragmentary remains of Bronze Age vessels and cremations. A minimum of 10 vessels was represented. Damage by the plough was excessive and its course marked by lines gouged into the subsoil. The material tended to lay in groups with little *in situ*. A complete base appeared to be in an original context. One feature not encountered at Old Somerby was a cremation situated in a small pit without associated pottery. Originally this may have been deposited in an organic container, now decomposed. A collection of bone without pottery lay on the periphery some 2 m. from the main group of finds, which was limited to an area no more than 4 m. by 2 m. No evidence was found to suggest that the bodies underwent cremation on the site. Both excavations revealed sites of similar character - small (possibly family) cremation plots. Apart from the cremation placed in the pit at Ropsley the methods of

deposition seem to be uniform - *i.e.* upright in pottery vessels.

The fragmentary bronze bangle discovered during the removal of topsoil at Old Somerby provides valuable dating evidence for the cemetery and associated pottery. Although unstratified there can be little doubt that this object was deposited during the use of the cemetery. The bangle exhibits no trace of burning and it seems unlikely to have been incorporated in a funeral fire. It was, however, broken by twisting in the central section opposite the terminals: such a breakage is unlikely to occur accidentally and it is suggested that this was a deliberate act prior to deposition. Plain bangles with flattened terminals are not particularly common individual finds and are more usually present in 'Ornament Horizon' hoards of the Middle Bronze Age, *eg.* Ebbsbourne Wake, Wiltshire (Smith, 1959). The Ornament Horizon is now considered to be part of the Taunton industrial phase which took place in the 14th - 13th centuries B.C. (Burgess, 1979, 270). This date range is supported by the 14th century B.C. calibrated radiocarbon date for the lower level of the Billingborough enclosure (see p. 49).

Although in a fragmentary state, the pottery from Old Somerby and Ropsley and Humby has clear affinities with vessels from the phase one settlement at Billingborough and sherds found during field survey on the fen margin. In form they are simple bucket-shaped urns with no evidence for decoration. The fabric, in common with the Billingborough examples, is hard and it is almost impossible to distinguish between sherds from these two sites with the naked eye. However, the vessels from the cemetery sites are not as well finished as those from Billingborough. Whether they were rejects from domestic

sites or manufactured specifically for burial purposes remains a matter for speculation.

Apart from the pottery located during recent survey and excavation there is a considerable collection of well-preserved jars and urns housed in Grantham Museum (Phillips, 1933). These were collected earlier mainly by the antiquarian Henry Preston who reputedly paid sums of money to workers in the gravel and limestone quarries of the Grantham area in exchange for information leading to the acquisition of complete pots. For this reason their provenances must be treated with caution. However, the collection was examined by the writer who has no doubts that the majority, if not all, of the urns are local. In style and fabric they are near identical to excavated examples from Billingborough and Ropsley and Humby. If it can be accepted that the vessels in Grantham Museum actually came from the parishes indicated in the records it can be suggested that the density of pottery finds in the Ropsley area and on the fen margin can be extended to include the area between Ancaster and Grantham.

Eighteen kilometres north-west of Ropsley and Humby at Long Bennington another cremation cemetery has been excavated (Allen *et al*, forthcoming). Unfortunately, like the sites described above, the cemetery had been subjected to intensive ploughing. As a result of this no trace of a ditch or mound associated with the cluster of burials was found. The remains of at least thirty pottery urns were recovered. These were stylistically similar to the Billingborough phase 1 and Ropsley and Humby vessels though in a much softer fabric. It has been suggested by May (1976) that these vessels were comparable in form to the Deverel-Rimbury pottery of southern England. This is supported by the dating evidence from Billingborough and the Old Somerby cemetery. As May observed, certain forms

of Deverel-Rimbury pottery do not appear to extend into Lincolnshire particularly globular urns. It is possible however, that P1241 and P1242 from Billingborough may be sherds from this form of vessel (Fig. 45).

The similarities between other types of material from Billingborough, in particular the bone and flint industry and the cylindrical axially perforated loomweights (see Chapter 3), together with the enclosure form, leaves little doubt that culturally this part of Lincolnshire (the area bounded by the River Witham, the fenland and the River Welland - the administrative area of Kesteven) was very closely related to southern England during the second millennium B.C.

North-east of the Witham Valley the situation was completely different. There is no evidence for Billingborough type enclosures or any of the associated material culture. This is not the result of a lack of fieldwork. In addition to the extensive survey carried out as part of this research (see Chapter 5), amateur archaeologists, in particular G. V. Taylor, have been active in East Lindsey. Taylor's work in particular has demonstrated that in the third and early second millennia the area around Salmonby and Stainsby was relatively densely occupied. This occupation was in the form of ploughed out round barrows and surface scatters of flints and pottery. Although very little of this material has been published some is described in May (1976) and the writer has inspected all the pottery available in the City and County Museum, Lincoln. The bulk of the pottery is Beaker-related with some Peterborough Ware, Food Vessel and Collared Urn sherds. Closest to the Billingborough type pottery are the urns from the small ditched cremation cemetery at Stainsby (May, 1976). These were associated with a fragmentary bronze razor and two

faience beads suggestive of a date around the 15th century B.C. However, the ditch is comparable in form to the possible henge excavated at West Ashby and need not be contemporary with the cremations. It is this writers' opinion that the Stainsby site is transitional lying between the round barrows with associated collared urns such as West Ashby (Field, 1985); the round barrow at Butterbump (May, 1976) and the urnfields at Long Bennington, Old Somerby and Ropsley and Humby. It should be noted that the radiocarbon dates from West Ashby and Butterbump cluster around 1780 B.C. when calibrated.

Radiocarbon dates from charcoal found in pits associated with Neolithic bowl pottery at Tattershall Thorpe indicate that this site was first occupied at the end of the fourth millennium B.C. (see Chapter 6). It is impossible to ascertain whether occupation was spasmodic or continuous but the site was certainly in use during the third millennium when Grooved Ware pottery was deposited in pits. Abraded Grooved Ware and Beaker pottery sherds were also recovered from a section excavated adjacent to the River Bain. Waterlogged wood from a layer beneath this pottery yielded a radiocarbon date of 2500 ± 80bc (HAR-5220). A few scraps of Later Bronze Age pottery were also found at Tattershall but no features that could be assigned to this period.

Recent radiocarbon dates from Giants' Hills 2 show that the façade and mortuary area were contemporary with the early pits at Tattershall Thorpe (Evans and Simpson, 1986). The mound and burials at Skendleby appear to have been in use at the same time as the Grooved Ware pits at Tattershall Thorpe. The environmental sequence from Giants' Hills 2 suggests that the site was built at a time when the surrounding area was predominantly grassland. By the time the mound was constructed the

ground was disturbed, probably by arable farming. In the closing centuries of the third millennium the environment reverted to woodland to be cleared again around 1800 bc. possibly by users of Beaker pottery.

It was around this time that the first phase of the funerary site at West Ashby was in use. Field (1985) has suggested that the early structure may have been a small Class 1 henge monument. Beaker and Grooved Ware pottery was associated with this phase. Certainly there is a henge monument just over 1 km. to the south that appears as a cropmark so this interpretation cannot be dismissed (Field, 1982).

From the middle of the second millennium onwards there is no evidence for extensive human activity in the Bain Valley or on the Wolds. This is in total contrast to the fen margin and limestone uplands which were relatively densely settled by farmers with a mixed agricultural economy. Yet although round barrows are found on the fen margin and limestone uplands of Kesteven there is virtually no evidence for Beaker or Grooved Ware activity from either chance finds, excavation or survey.

A possible explanation for this is that in the area under consideration two different economic systems had evolved by the end of the second millennium B.C. One was based primarily on pastoralism associated with a long tradition of monument construction and certain pottery types *i.e.* Peterborough Ware, Grooved Ware and Beaker pottery. The other based on mixed agriculture culminating in Deverel-Rimbury type enclosures and urnfield cemeteries. The reasons for this are not clear but it is suggested that geology and soil type were major inluencing factors. In general terms it seems that pastoral groups were taking advantage of wetland areas; peat fen in the Witham Valley

and northern fen edge and associated river systems like the Bain Valley. This type of landscape would be particularly attractive if areas such as parts of the Wolds were covered with secondary woodland until early in the second millennium as is suggested by the evidence from Giants' Hills 2 (Evans and Simpson, 1986). In some locations primary woodland may even have been still in existence at this time as is suggested by Greig (1982) for Butterbump on the edge of the coastal marsh. Could the regeneration of woodland on the Wolds result from over-exploitation of the fragile yet fertile brown earth soils in the early Neolithic? Faced with soil exhaustion the marginal land of the fen edge and Bain Valley would look very attractive to the Neolithic/Early Bronze Age farmer who would be forced to increase stock levels at the expense of arable.

The pastoral system at Fengate appears to have developed in response to a similar environment and possibly from a comparable Beaker/Grooved Ware user background. Indeed the surface artefact collections from Salmonby/Stainsby and the Hockwold areas have many similarities even back in the early third millennium (Bamford, 1982; Healy, 1984b). Perhaps soil exhaustion in the Breckland contributed to the expansion of settlement on the Cambridgeshire and Norfolk fen margin.

Between these two areas was the extensively occupied western silt fen edge with its mixed agricultural communities who would have had easy access via the Jurassic Limestone ridge to southern England. There is little evidence for conflict between these groups. Both had adapted to their environments and appear to thrive in the last half of the second millennium B.C.

Table 4. SUMMARY OF DATING EVIDENCE FOR THE THIRD - FIRST MILLENNIUM B.C.

SITE	CONTEXT/MATERIAL	C14 DATE bc	CALENDAR DATE	ARCHAEOLOGICAL ASSOCIATIONS
Tattershall Thorpe	Pit/charcoal	3150±100 HAR4639	3740	Plain bowl pottery, lithics
Tattershall Thorpe	Layer/wood	2500±80 HAR5220	3010-3110	Grooved Ware/Beaker/LBA pottery, lithics
Horbling	Palaeosol/charcoal	1800±70 HAR1750	2145-2195	
Hacconby	Palaeosol/charcoal	1560±70 HAR5657	1830-1880	
Billingborough	Ditch layer/charcoal	1198±57 BM1410	1435	Phase 1 pottery, loomweights, bronze awl, animal bone
		Flooding and widespread peat formation		
Horbling	Layer/peat	1060±80 HAR1749	1280	
Walcott	Layer over barrow	590±100 HAR3362	790	
Brigg	Timber trackway	Pollen VIIa-VIII	800-500	Metalwork, pottery: Mucking South Rings *c*.920 B.C.
Washingborough	Artefact bearing flood layers/timber	303±70 Q1163	380 *c*.7th century	Pottery: Runnymede Bridge type, decorated antler cheekpiece
		Marine transgression		
Billingborough	Pit/charcoal	540±100 HAR3101	590-630	Maxey type pottery, briquetage
Fiskerton	Timber causeway/wood	Dendrochronology 510±70 HAR4472 330±70 HAR4471	339-505 540 390	Pottery, La Tène I sword, wood rasp with decorated antler handle in 4th century B.C. style
Hogsthorpe	Layer under hearth/ charcoal	460±80 HAR3092	450	Briquetage
Billingborough	Ditch layer/charcoal	460±80 HAR2523	450	Pottery: angular shouldered, cauldrons, fingertip on rims
Billingborough	Posthole/charcoal	440±70 HAR2483	430	Possibly part of 4-post structure
Tattershall Thorpe Enc.	Layer/burnt wood over peat	400±90 HAR4315	410	Pottery: hand-made pedestal jar
Helpringham	Layer under hearth/ charcoal	380±90 HAR3102	400	Briquetage
Ancaster Quarry	Settlement, houses, pits, postholes		*c*.3rd century	Scored Ware pottery, metalwork
Helpringham	Hearth/charcoal	230±80 HAR2280	250-200	Scored Ware pottery, briquetage

CHAPTER NINE

Settlement in Lincolnshire during the first millennium B.C.

Late in the second or early in the first millennium B.C. a dramatic change took place on the fen margin. Both the Billingborough enclosure and the Fengate field system were abandoned probably as a result of rising groundwater and flooding (Chapter 3.6 above and French, 1980). The evidence for this could also be seen in the Hacconby and Horbling sections (Chapter 1.4 above). If as postulated above dry land extended well beyond the present fen margin in the third and second millennia B.C. such a flooding episode represents a substantial loss of arable and grazing land. This must have had a considerable effect on the farming communities in the area who may have felt the need to either intensify production and trade or extend the area of land under their control. Whilst this may not have created difficulties if confined to a small area around the fenland there is evidence to suggest that the problem was widespread.

S. Piggott (1972) and A. F. Harding (1982) have drawn attention to the problem of climatic deterioration in Britain and Europe during the second millennium B.C. The possible results of this were discussed by Burgess (1973) who speculated that the decline of Wessex and intensification of settlement in low-lying areas, represented by the deposition of metalwork, was one possible result of the worsening climate. Whilst there can be little doubt that loss of land did occur as a result of climatic change this only happened in marginal areas such as the fen margin, in river valleys and in the

upland zone. A number of major changes did take place in British prehistory at this time such as the abandoning of 'Celtic fields' in favour of linear earthworks or 'ranch boundaries' (Bowen, 1978) and the construction of early hillforts (Coombs and Thompson, 1979). It is tempting to suggest that they all are connected in some way or other with climatic deterioration and in low lying areas sea-level change but this is speculation beyond the scope of this thesis. However, we must consider the results of these factors on local communities who, as suggested in the previous chapter, were managing the landscape in a most efficient manner.

Settlement at Billingborough after the enclosure had been abandoned was confined to the digging of a small number of pits that contained 'post Deverel-Rimbury' pottery. Whether this was a separate event or the final stages of use of the site in the Bronze Age is unclear. There was possibly a period of time, perhaps as long as four centuries, when the site was completely deserted.

Despite extensive survey and some excavation there is still little evidence for settlement in the early part of the first millennium in Lincolnshire. Two sites have produced material that probably dates to this period. At Washingborough a series of clays and peats were excavated adjacent to the River Witham (Coles *et al*, 1979). Although the area excavated was very small sufficient strata were exposed to establish that the site consisted of a pool which was disturbed by a freshwater incursion that carried settlement debris on to the site. This debris consisted of wood, pottery and bone. The pottery is of considerable interest in that it bears a close resemblance in fabric to sherds from Brigg which were dated to pollen zone VIIb - VIII (May, 1976) and in form to a collection recovered from a pit at Maxey,

Cambridgeshire (May, 1981). Associated with the pottery from Washingborough was a decorated antler cheekpiece similar to examples from Runnymede Bridge, Egham, Surrey (Longley, 1980; Britnell, 1976). There is also a similarity between the pottery from these two sites. The Runnymede Bridge site appears to have been a waterside settlement with a timber frontage dating to the 8th century B.C. Metalworking was one of the activities carried out at the site and it is possible that the occupants were engaged in trading metal products along the Thames Valley and even farther afield. Whilst there is not sufficient evidence to suggest that the Washingborough site was engaged in the same type of activities there is an interesting similarity between the two sites in that both are adjacent to a major river valley in which there is a dense concentration of Later Bronze Age metalwork including manufacturing debris (Davey, 1971; 1973; Gardiner, 1980; Rowlands, 1976).

There is very little evidence for settlement in Lincolnshire during the first part of the first millennium B.C. even after the extensive research carried out by the writer and the Fenland Project. We must therefore look beyond the study area to see what happened in other parts of England at this time. In common with Billingborough the field system at Fengate was abandoned *c.* 1000 B.C. Recent excavations at Flag Fen to the east of Fengate have brought to light a substantial timber platform upon which several rectangular houses had been constructed (Pryor *et al*, 1986). The site was built in open water between the fen margin and Whittlesey Island and resembles a large crannog. Pottery from this site and a radiocarbon determination suggests that it was in use around 800 B.C. The placing of this site in such a position reflects a trend that can be seen outside of the

fenland in the construction of hill forts and defended enclosures.

At Springfield Lyons, Essex a substantial circular ditch and rampart with six entrances enclosed several round houses. A radiocarbon date from a primary context associated with clay bronze-mould fragments indicates that the site was in use at about 925 B.C. (Buckley, 1985) Also in Essex, at Mucking, a double ditched circular enclosure known as South Rings has recently been excavated and interpreted as a defended enclosure (Jones and Bond, 1980). Radiocarbon dates suggest that the site was probably contemporary with Springfield Lyons. Farther north at Thwing, Yorkshire, Manby (1980) has excavated a similar enclosure. This site consisted of an outer ditch and box type rampart broken by two opposed entrances. The inner ditch probably had an earth rampart. Amongst the settlement material found within the enclosure were traces of metalworking debris and numerous small bronze objects. The outer rampart post-dates a patch of charcoal dated by radiocarbon to 1090 B.C.

The evidence from eastern England would seem to suggest that during the early part of the first millennium B.C. there was a need to fortify settlement sites either by constructing ditches and ramparts or by siting them in areas not easily accessible. This is part of a general trend throughout Europe and may result from a combination of factors such as climatic deterioration and population movement. New types of metal object also appear at this time possibly helped by the addition of lead during smelting, a process that improved the flow of bronze allowing the casting of more elaborate forms. The production of shields, swords, musical instruments, cauldrons and flesh hooks implies certain activities that do not appear to have been widespread in the second

millennium B.C. Shields and swords are indicative of hand to hand combat, musical instruments display and cauldrons communal feasting. Objects of this type are rarely found on settlement sites but are most commonly recovered from wetland locations such as river valleys and peat bogs. It has been demonstrated above that the peat fen margins and river valleys were favoured areas for pastoral groups. In these locations they would have been ideally placed for access to riverine trade, particularly in metals perhaps through sites of the Runnymede Bridge type. Whilst an exact parallel for this site has yet to be discovered in Lincolnshire attention is again drawn to the dense concentration of metalwork from the Witham Valley.

The mixed farming groups as typified by the Billingborough settlement appear to have withdrawn from the western fen margin with the advance of the peat fen. Although no Later Bronze Age settlements have been identified on the Jurassic Limestone it is possible that the hillforts of Honington Camp, Ingoldsby Round Hills, Careby Camp and Burgh Banks, Old Somerby were established at this time. The distribution of these sites is of considerable interest in that it corresponds almost exactly with the distribution of Billingborough phase 1 pottery (Fig. 95). Later Bronze Age pottery of the Washingborough/Brigg type has not been found in this area despite extensive survey and some excavation but this is not seen as a major problem if such ceramics were exclusive to the specialized riverside sites. It must also be pointed out that it is not known when the Billingborough phase 1 pottery style went out of use. Some Deverel-Rimbury type ceramics appear to have continued in use well into the first millennium B.C. (Cunliffe, 1974).

It is possible that as in the second millennium two distinct groups had developed in Lincolnshire in the early part of the first millennium B.C. The mixed agricultural group of the western fen margin still functioning as before but with a loss of land on the fen margin due to the rising water table. There may have been something of a withdrawal to the higher land of the Jurassic Limestone. The construction of hillforts may perhaps partially be a result of pressure on resources brought about by the reduction in land available for farming and a need for groups or individuals to control surpluses.

Mobile pastoralists would have not have suffered the effects of the rising water table in the northern fen margin or in the river valleys to the extent of arable farmers. More likely to have influenced this group would be exposure to metalworkers or their products. When looking at the distribution of Later Bronze Age metalwork in Lincolnshire it is tempting to suggest that the densest concentrations represent zones of contact between traders and the local communities, the Witham Valley in particular (Gardiner, 1980). If this was the case then we should expect to find Runnymede Bridge type sites in the area. The evidence from Washingborough Fen and it will be argued below, Fiskerton, indicate that such sites exist and await discovery. Many of the fine Late Bronze Age metal objects like shields and swords must have been prestigious items only available to persons with power and wealth perhaps local chiefs or leaders. Such wealth probably derived from stock raising, including horses, or trading in another valuable commodity perhaps leather or even slaves.

To conclude this part of the discussion it can be suggested that the two economic groups functioning in the

second millennium still retained their individual identities even though external factors such as loss of land through waterlogging and exposure to an increased metal supply undoubtedly had an effect upon them.

Conditions on the western fen margin deteriorated further when the peat fen was inundated by salt water (see Chapter 1). This event probably took place in the 8th or 7th century B.C. and can be equated with the Wash VI transgression phase defined by Shennan (1986). Once salt marsh conditions had become established it was not long before the Billingborough site came back into use. The evidence for this consists of briquetage, hearths and pits. Charcoal from one pit provided a radiocarbon date of 540 ± 100bc (HAR-3101) (see Chapter 3.3 for a full description of this phase). It was probably the presence of the salt marsh that attracted farming groups back on to the fen margin. Salt was a valuable commodity that could be traded, used as a meat and fish preservative, or in the tanning process. The salt marshes could also be utilized as grazing particularly for sheep.

As the salt marsh gradually retreated to the east so the Billingborough site again became the focus of settlement. Several enclosures were constructed and an elaborate series of paddocks laid out along a west/east ditch over 1 km. in length. This is but one of several such sites to have been identified from aerial photographs (see Chapter 2.3). The function of the west/east ditch systems was to channel freshwater from the spring line down on to land that was not completely desalinated. It is probable that the small paddocks attached to the main ditch were a device for stock control. The animal bone evidence from the excavated site at Billingborough suggests that sheep farming was being carried out on a large scale. However,

this farming group should not be considered as part of the pastoral group functioning north of the River Witham.

Support for this view comes from the ceramic evidence. The predominant pottery style from the fen margin settlements and salterns is allied to the Ancaster-Breedon scored ware group. As the name implies this type of pottery extends from Leicestershire into Nottinghamshire and just into Cambridgeshire. Scored ware has not been found north of the Witham Valley. In fact its distribution closely matches that of the Deverel-Rimbury type pottery described in Chapter Eight.

The cropmark, excavation and survey evidence suggests that settlement on the western fen margin thrived throughout the latter part of the first millennium B.C. Sites are numerous and the occupants showed considerable skill in adapting their farming systems to take full advantage of their location on the boundaries of several environmental zones. With salt marsh to the east, gravels to the north and south and the limestone uplands to the west it is not surprising that these farmers were so successful.

During the first century B.C. a change took place. The settlements on the western fen margin seem to have been abandoned. This does not appear to result from a rising water table or marine inundation. Only at Billingborough do we have evidence for activity. This was in the form of an extensive field system that may have continued in use up to the construction of the Car Dyke early in the second century A.D. (Simmons, 1979). After the Roman fen drainage works the area again appears to be extensively populated (Hallam, 1970). Settlement in the first century B.C. moved away from the small rural sites to proto-urban

centres but before discussing these it is necessary to consider developments in the Bain Valley area.

As with the Later Bronze Age most of the evidence for earlier Iron Age activity is concentrated in river valleys or on the coast. At Fiskerton, just down stream from Lincoln, Field has excavated part of a wooden structure that crosses marshy land adjacent to the River Witham (Field, n/d; 1986). The river has been canalised from Lincoln to Boston and it is clear from aerial photographs that it once followed a meandering course through the valley (Robson *et al*, 1974). About 1 km. to the south-west lies the Washingborough Fen Later Bronze Age site described above. The radiocarbon date of 303±70 (Q-1163) from this site suggests the possibility that the flooding episode that deposited the 7th century artefacts may have taken place early in the 4th century B.C. Dendrochronology dates from wood at Fiskerton demonstrate the structure was built from timbers felled between 505 and 339 B.C. Support for this date range also comes from radiocarbon dates of 510±70bc (HAR-4472) and 330±70bc (HAR-4471) which calibrate to 540 B.C. and 390 B.C. The earliest datable artefacts from this site also belong to La Tène I. These include a sword and a wood rasp with a decorated handle. Metalworkers tools and pottery were also found. The pottery is of particular interest in that it is of a type previously unrecorded but the fabric is not dissimilar to some of the sherds from Tattershall Thorpe (Fig. 93, No. 26). Although the Fiskerton structure was rebuilt on many occasions and probably continued in use throughout the later part of the first millennium B.C. this writer has little doubt that it was constructed in the 5th or 4th century B.C. Field's interpretation of the structure as a causeway leading to a jetty is the most likely explanation of its function. I would go further and suggest that there are other similar

and perhaps earlier structures present in this part of the Witham Valley.

May (1976) has already drawn attention to the considerable quantity of fine La Tène metalwork from the Witham and Fitzpatrick (1984) has discussed the possible motives for depositing such material in wet places. There is insufficient evidence to be certain how these objects found their way into the River Witham. However, clearly they were owned or were being manufactured for persons of wealth and status. The only people likely to have attained access to this type of metalwork, shields, swords and musical instruments are likely to have been chiefs or leaders, the same class of people who were utilising such fine objects during the Late Bronze Age. It is difficult to escape the conclusion that during the first millennium in Lincolnshire a stratified society had emerged represented in the south-west of the county by hillforts and in the north-east by fine metalwork the two zones separated by wetlands in which a separate group of metalworkers or traders may have flourished.

The discovery of a defended enclosure or fort in the Valley of the River Bain close to its confluence with the Witham provides some evidence as to the nature of the economic system that gave rise to the emergence of an élite in this area (see Chapter 7, Pls. 28 - 29 and Chowne *et al*, 1986). Although only the waterlogged defensive ditches were investigated sufficient environmental evidence was found to establish that the fort was constructed in heavily grazed pasture and that parts of the site at least were used for corralling stock. Unfortunately a third of the site has been destroyed by mineral extraction and no opportunity has arisen to investigate the interior of the fort. However, artefacts from the peat-filled outer ditch do indicate

that this site may have been used by persons of sufficient status to have access to fine metalwork. Apart from animal bone, leather and worked wood a small amount of pottery was found in and below the peat basal ditch layer (Figs. 97 - 100). Some of these pottery sherds are from fine, burnished vessels which are probably contemporary with the hand made pedestal jar sherd (Fig. 93 No. 26). This sherd dates to the 5th - 3rd century B.C. A radiocarbon date of 400±90bc (HAR-4315) 410 B.C. when calibrated, for carbonized wood lying on top of the peat supports the view that this site dates to La Tène I and is contemporary with the Fiskerton causeway and much of the fine metalwork from the River Witham.

Unlike on the western fen margin there is little evidence for the agricultural activity in the 3rd and 2nd centuries B.C. in this area. There are no vast cropmark complexes or linear ditch systems that can be dated to this time. In fact not a single sherd of Iron Age pottery was found during the writers survey of the Bain Valley although friable pieces of earlier pottery were suggesting that this is not the result of poor preservation. The cropmark complexes that do exist seem from the pottery found during fieldwalking to belong to the Romano-British period. Nor, as stated above, does the ubiquitous scored ware pottery extend into the Bain Valley or onto the Wolds. There are however, a considerable number of isolated enclosures that appear on aerial photographs. When fieldwalked they rarely produce any finds unlike their Romano-British counterparts. One such enclosure was investigated by the author at West Ashby (Fig. 77, Pl. 19). The excavation was not extensive and the results inconclusive the only artefacts recovered were flints and scraps of Late Neolithic or Early Bronze Age pottery. It is possible that these isolated enclosures were used primarily in the Iron Age as stock

compounds. Such a view has been put forward for similar sites on the South Downs, an area in many ways comparable to the Wolds (Bradley, 1971).

Although the evidence is far from conclusive it seems that two types of site existed in the Bain Valley and on the Wolds, both connected with stock raising but of contrasting status, the Tattershall Thorpe fort at one extreme and the West Ashby enclosure at the other. Could we be looking at the different types of settlement occupied by chiefs and peasants?

By the end of the 2nd century B.C. widespread change was underway in Lincolnshire. New features appear in the landscape and new types of artefact in the archaeological record. This was a time of increased contact with the continent and the supposed period of immigration by the Belgae (Hawkes and Dunning, 1930; Hawkes, 1968; Hachmann, 1976). The most striking change in the landscape was on the western fen margin. At Billingborough the two enclosures in use during the 3rd century B.C. were abandoned to be replaced by an extensive field system (see Chapter 3.5). It is not possible to ascertain exactly when this event took place and it may be that occupation continued away from the excavated area. A La Tène III brooch (Fig. 46, No. 6) was found lying directly below the ploughsoil on top of the enclosure ditch (78135) although none of the artefacts from the ditch filling could be regarded as later than the end of the 2nd century B.C. The field system ditches were recut on several occasions and one of these recuts contained within its basal fill a Hod Hill type brooch (Fig. 46, No. 8) which was probably in use in the latter part of the 1st century AD.

Salt production on the western fen margin also appears to go into decline at the end of the 2nd century B.C. At Helpringham charcoal from the final firing of a complex of saltern mounds yielded a radiocarbon date of 230 ± 80bc (HAR-2280) 250 - 200 B.C. when calibrated. Scored ware was the main pottery type found on this site although at Helpringham we see the earliest appearance in this area of stamped and rouletted vessels (Elsdon, 1975).

A considerable number of salt producing sites have now been recorded during field survey (Simmons, 1977). The writer has examined the pottery from these sites and those discovered by the Fenland Project. The dominant pottery type is scored ware, not one sherd that could be assigned to the 1st century B.C has been identified. Numerous Romano-British salterns and settlement sites have been located on the western fen margin and in the fen proper. The earliest pottery on these sites tends to be *terra sigillata* of the 2nd century AD. Presumably these sites were not established until after the extensive land reclamation works of the early 2nd century AD were completed (Simmons, 1979). In this writers opinion the western fen margin was depopulated in the 1st century B.C. though farming activities no doubt continued as suggested by the Billingborough field system.

Although Helpringham is the only site to have produced stamped and rouletted pottery on the fen margin it has been found in considerable quantities at a site in the Ancaster Gap and during excavations at Old Sleaford and Sapperton (May, 1976). The author was involved in the recent excavations at Old Sleaford and developed the site matrix and phasing, a task that necessitated inspecting all of the excavated pottery. Two distinct phases of pre-Roman activity were identified. The earliest was in the

form of pits and gullies containing stamped and rouletted pottery and plain wares. Scored wares were absent from the extensive pottery collections. In the second phase Gallo-Belgic pottery was found in pits and within ditches that defined rectangular plots separated by a track that led down to the River Slea. Associated with this phase were fragments of clay moulds possibly associated with coin production. May (1976) has discussed the implications of the *c.* 5000 mould fragments from an earlier excavation at this site and the possibility exists that a mint was located in the vicinity. If so this was clearly a site of some importance perhaps a major centre of the Corieltauvi. The density of occupation at Old Sleaford suggests the presence of a large community although modern buildings restrict the area that can be examined archaeologically. The organisation of the plots within the excavated areas of this site suggests a degree of planning normally found within an urban context. Could the establishment of a proto-urban centre at Old Sleaford account for the demise of the communities on the western fen margin? Although there is insufficient evidence to prove this the explanation cannot be discounted.

The rise of sites like Old Sleaford was not confined to south-west Lincolnshire. Similar centres have been located at Kirmington, Ludford and Owmby. One site at Dragonby has been excavated (May, 1970). The layout of Dragonby was similar to that of Old Sleaford, rectangular or square plots separated by ditches. Pottery from this site also included stamped and rouletted ware and Gallo Belgic types in a slightly later phase. Both Dragonby and Old Sleaford developed into major Roman settlements. May has drawn attention to these proto-urban centres and their Roman successors in a recent paper (1983) in which he suggests that the regularity of spacing of these sites

may reflect the division of Corieltauvian lands into subordinate chiefdoms or *pagi*.

Support for this view comes from the recent discovery of extensive linear ditch systems in the East Midlands mainly by the aerial reconnaissance of Jim Pickering (1978) and Paul Everson (1978). These ditches, often triple or in pairs, extend across the landscape from the limestone to the fen margin with apparent disregard for many natural features. One short length of triple ditch at Nettleham has been excavated and found to be associated with a small post-built structure (Field, 1980). Unfortunately no dating evidence was found. At Pointon on the western fen margin a Romano-British cropmark site was superimposed on a length of triple ditch (Fig. 15). The limited dating evidence available so far suggests that these ditches are pre-Roman in date. The extant length of bank and ditch at King Lud's Entrenchments on the limestone in south-west Lincolnshire may be part of this system. Until more evidence is available we can only speculate as to the date and function of these ditches (and presumably banks) but the possibility that the boundaries of the *pagi*, suggested by May, are still visible in the archaeological record cannot be discounted. The research described in this thesis would suggest that the only period in the prehistory of Lincolnshire in which the economic and political climate would be suitable for the construction of the triple ditch systems was at the end of the first millennium B.C. when the proto-urban centres were established. Such ditch systems often appear to be associated with oppida in southern England (Bradley, 1971b) and it is possible that sites like Dragonby and Old Sleaford had similar systems.

Finally we must consider what might have brought about these dramatic changes at the end of the first millennium B.C. The formation of oppida has recently been investigated in detail and it is not necessary to recount the arguments here (Collis, 1984). However, the Lincolnshire evidence must be considered.

All of the evidence gleaned during my research suggests that a stable mixed agricultural economy had evolved in the Kesteven area. In Lindsey pastoralism was the mainstay of the economy but there is some evidence to suggest that chiefs or leaders in this area were patronising metalworkers or traders who had bases in or used the Witham Valley for access to local markets. Whilst it is possible that this group were able to exert influence over the farmers in western Lincolnshire it seems unlikely that they were sufficiently powerful to have been responsible for the formation of proto-urban centres and triple ditch systems which would have brought them into conflict with the occupants of substantial hillforts in Leicestershire. It is difficult to escape the conclusion that external pressure was brought to bear on the population of Lincolnshire that encouraged the various groups to come together and form major population centres. Whether this was in response to invasion, immigration or the opening up of new markets (Haselgrove, 1976) brought about by increased contact with the Roman Empire remains a matter for speculation.

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