Vale of York Neolithic Landscape Project

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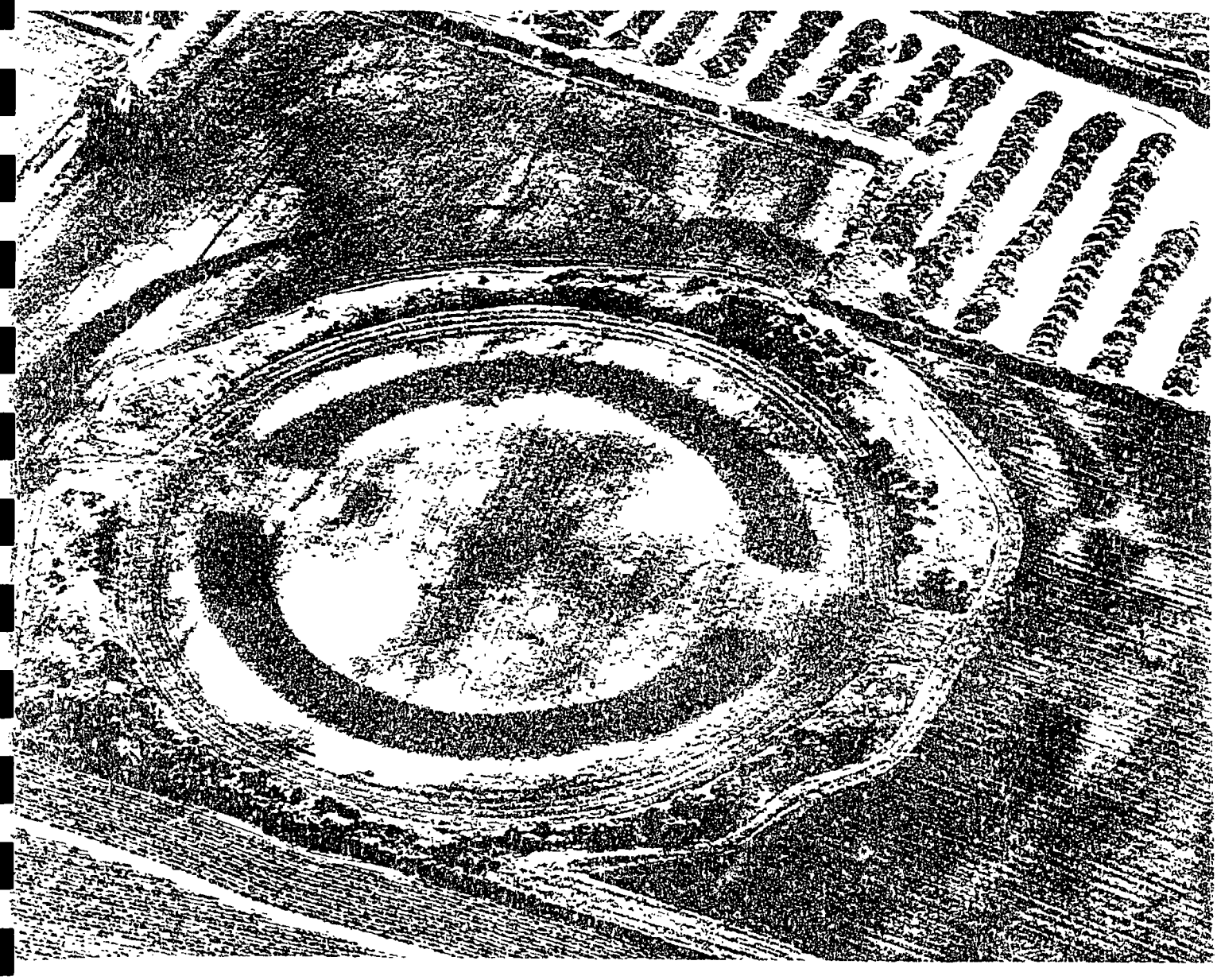
Interim Report 1998: Central Thornborough Henge



Dr. Jan Harding
Department of Archaeology, University of Newcastle

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1. BACKGROUND: THE THORNBOROUGH MONUMENT COMPLEX

At the western edge of the low-lying vale which lies between the Penmnes and the Hambleton Hills is the remarkable Neolithic monument complex of Thornborough (**Figure 1 & 2**) Sited on a gravel plateau which flanks the River Ure are three equally spaced henge monuments which all share a north-west/south-east orientation (Thomas 1955, Harding 1998a) Such a concentration is clearly unusual and their massive size and complex layout also sets them apart from most later Neolithic henge monuments Each site has a diameter of about 240m and is defined by a double entrance through a pair of ditches and a massive intervemng bank They are the largest such sites outside the Wessex chalkland and the complexity of their layout is matched only by three almost identical henge monuments a few kilometres downstream (Harding 1997. fig 4)

There are two fundamental problems with the interpretation of the Thomborough complex. and in 1994 a research project was established to address these concems The first problem is the chronology of the three henges and other nearby monuments There is no artefactual evidence or radiocarbon dates for these sites. and a targeted programme of excavation was therefore initiated to establish a sequence for the complex It was seen as particularly important to explore any monuments which may have existed prior to the constmction of the henges. and address whether the latter were the product of a single phase of building or of intermittent development Accordingly. there has been excavation at a small ovate enclosure. a double pit alignment and the southem henge monument The second major limitation concems the contemporary settlement in and around the complex Research undertaken in southern England. and m particular across the Wessex chalkland. suggests that Neolitluc settlement was often highly stmctured in the vicimty of monument concentrations (Barrett et al 1991. Richards 1990) As a consequence. a programme of intensive surface collection was began across the Thomborough landscape About 170ha has presently been fieldwalked across a 4km by 3km study area

2. THE CENTRAL THORNBOROUGH HENGE: SURVEY AND EXCAVATION

2.1 AIMS AND OBJECTIVES

The regularity in the layout of the three henge monuments (**Figure 2**) suggest that they were the product of one major phase of building However. a more detailed examination may indicate a sequence of constmction which was both gradual and elaborate The outer ditch of each monument is clearly segmentary and intermpted in appearance. and as such. differs markedly to the regular and more physically impressive inner ditch and bank (Harding 1997, fig 4) The former appear to have

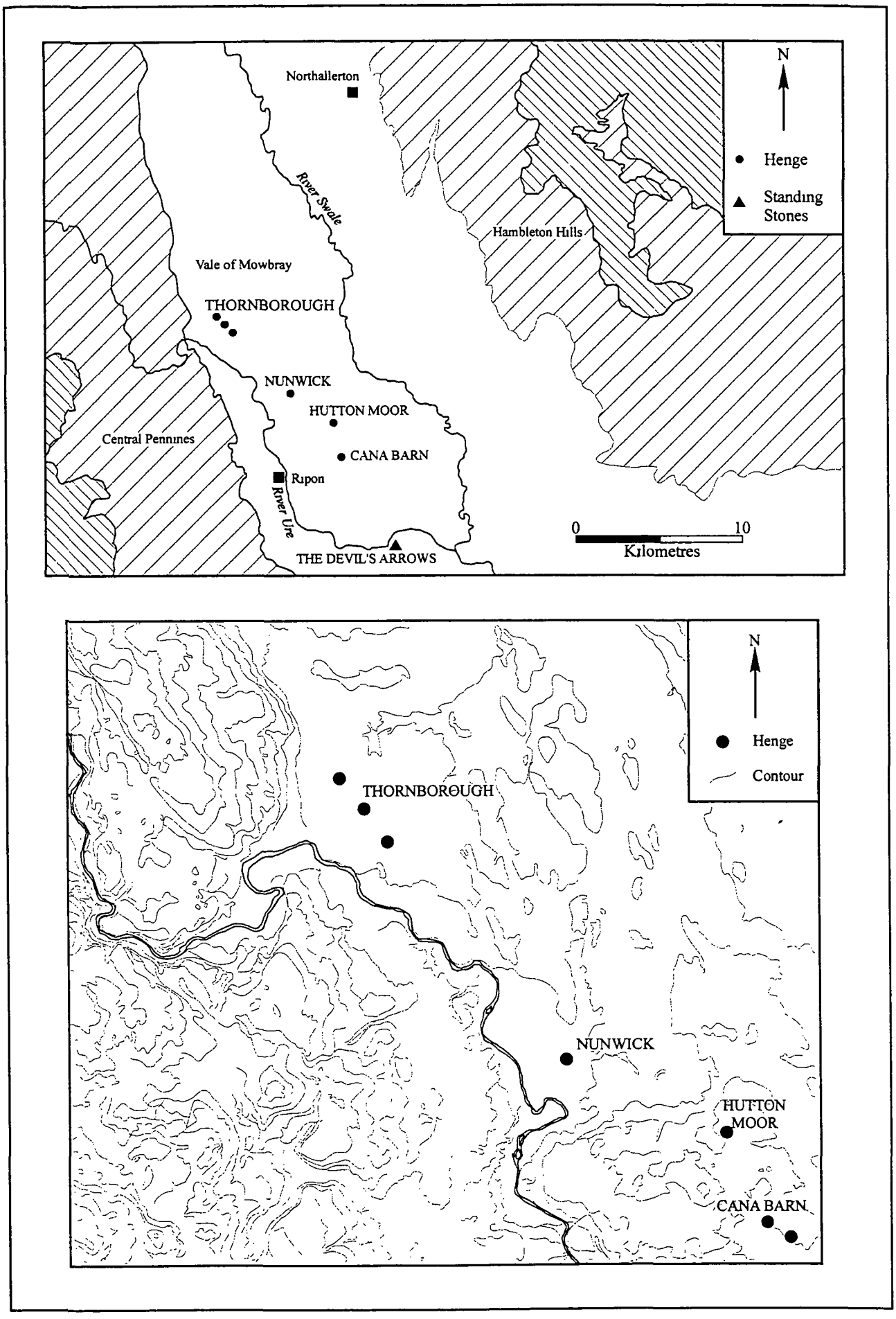

Figure 1
The location of the Thornborough monument complex

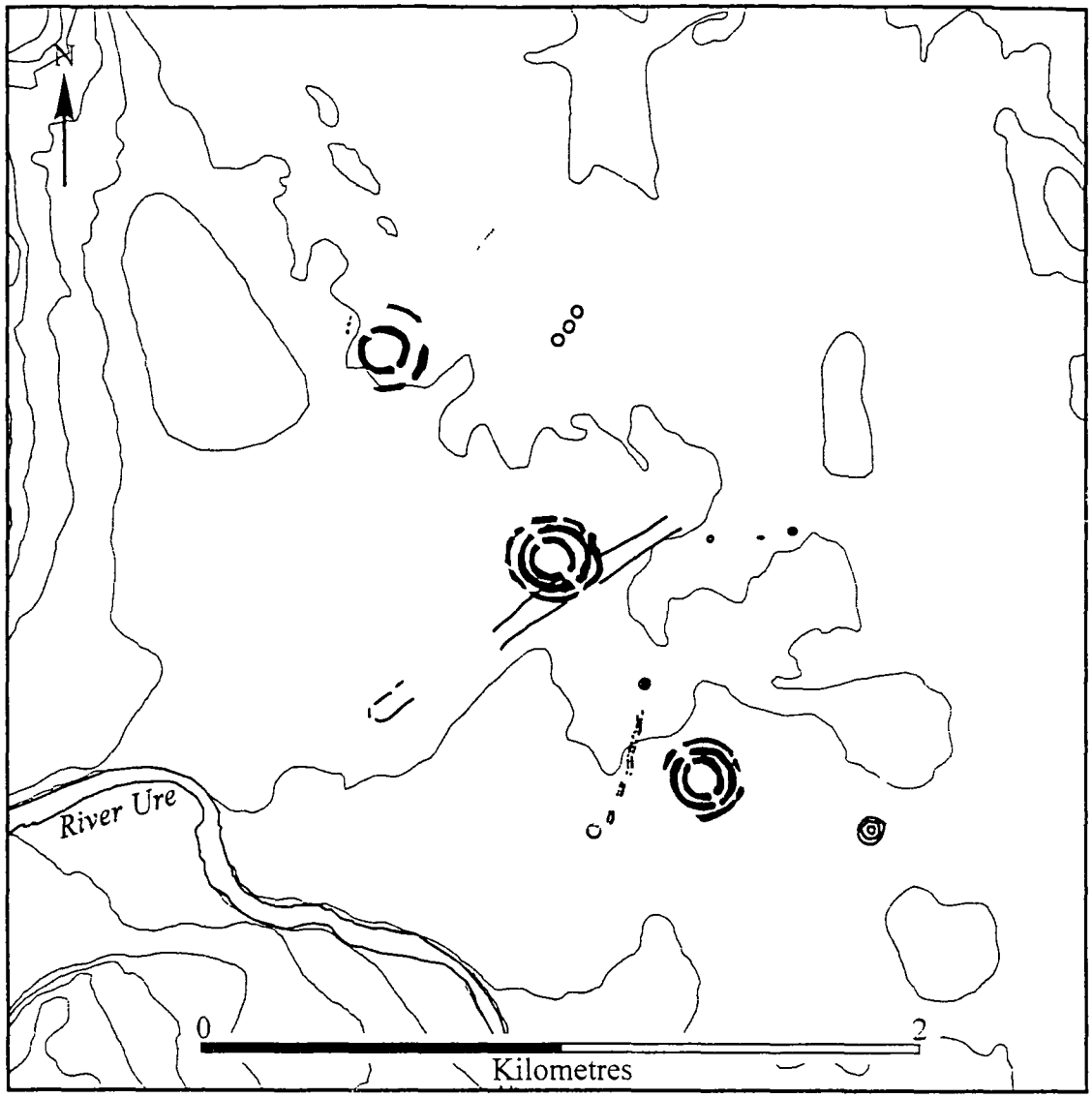

Figure 2
The Thornborough monument complex

been built as a series of discontinuous sections which greatly varied in size But how do we account for the differences between the outer and inner perimeters? It certainly seems puzzling that the builders went to such great efforts to construct the massive inner ditch and bank while also creating a smaller and more regularly interrupted external feature It is therefore of significance to note the similarities between the latter and the perimeters of enclosures known to have either been constructed or remodelled at the end of the fourth millennium BC (Avery 1982, 15, Bradley 1986, Cleal *et al* 1995, ch 5, Sharples 1991, 253) There may accordingly be two architectural traditions embedded in the design of the Thornborough henges The irregular outer ditches, which are akin to a tradition of segmented construction, and the more regular and continuous inner ditches which reflect an architecture which is characteristic of many later Neolithic henge monuments (cf Harding 1998b, 225)

Excavations undertaken as part of the project have provided an indication for the more gradual development of the complex A small trench located across a terminal of the outer ditch at the southern henge produced evidence for three distinct phases of construction which were soon followed by a deliberate attempt to level the outer earthwork (Harding 1998a) The outer ditch of the southern henge may have indeed been the product of periodic construction. and as such, can certainly be contrasted with the single phase construction of the more imposing inner ditch at this monument It was therefore considered essential to more fully consider the possibility of such a sequence and a principal objective of the season of fieldwork in 1998 was the excavation of a lengthy section of the outer henge ditch and part of the associated cursus monument The results would be compared with previous excavations in an attempt to evaluate the chronological and structural development of henge construction The excavation of a section of the cursus would also enable an investigation of the relationship between this monument and the henge

The cursus and outer ditch no longer survive as earthworks but the available aerial photographs indicate their continuing survival on the SW side of the central henge An intensive geophysical survey was undertaken across the area in advance of excavation It was believed that the survey would exactly locate where the cursus was cut by the outer henge ditch and ascertain the likelihood of other surviving features It was complemented by a contour survey of the entire central henge in order to locate the monument in relation to modern topographical features and an arbitrary co-ordinate system. while producing a detailed record of the site from which it is possible to ascertain differential levels of earthwork preservation These surveys were followed by the excavation of a 20m by 20m trench

2.2 THE CONTOUR SURVEY

2.21 Introduction

The contour survey was conducted by Mr Benjamin Jolmson and Mr Kris Strutt of the Department of Archaeology. University of Newcastle A Geotronic Geodolite Total Station and Geodimeter were employed The data was processed using LSS software (versions 4 0/6 0) Readings were taken at 'intelligent' points selected according to factors such as breaks in the slope of features or depressions and rises in the topography The area surrounding the henge earthwork was recorded according to an approximate grid of points

2.22 Results

The topographical survey at the central henge has highlighted the substantial and widespread nature of the extant archaeological remains These consist of an inner ditch. bank and traces of an outer ditch (Figure 3) The high levels of preservation is best illustrated by the bank of the monument although

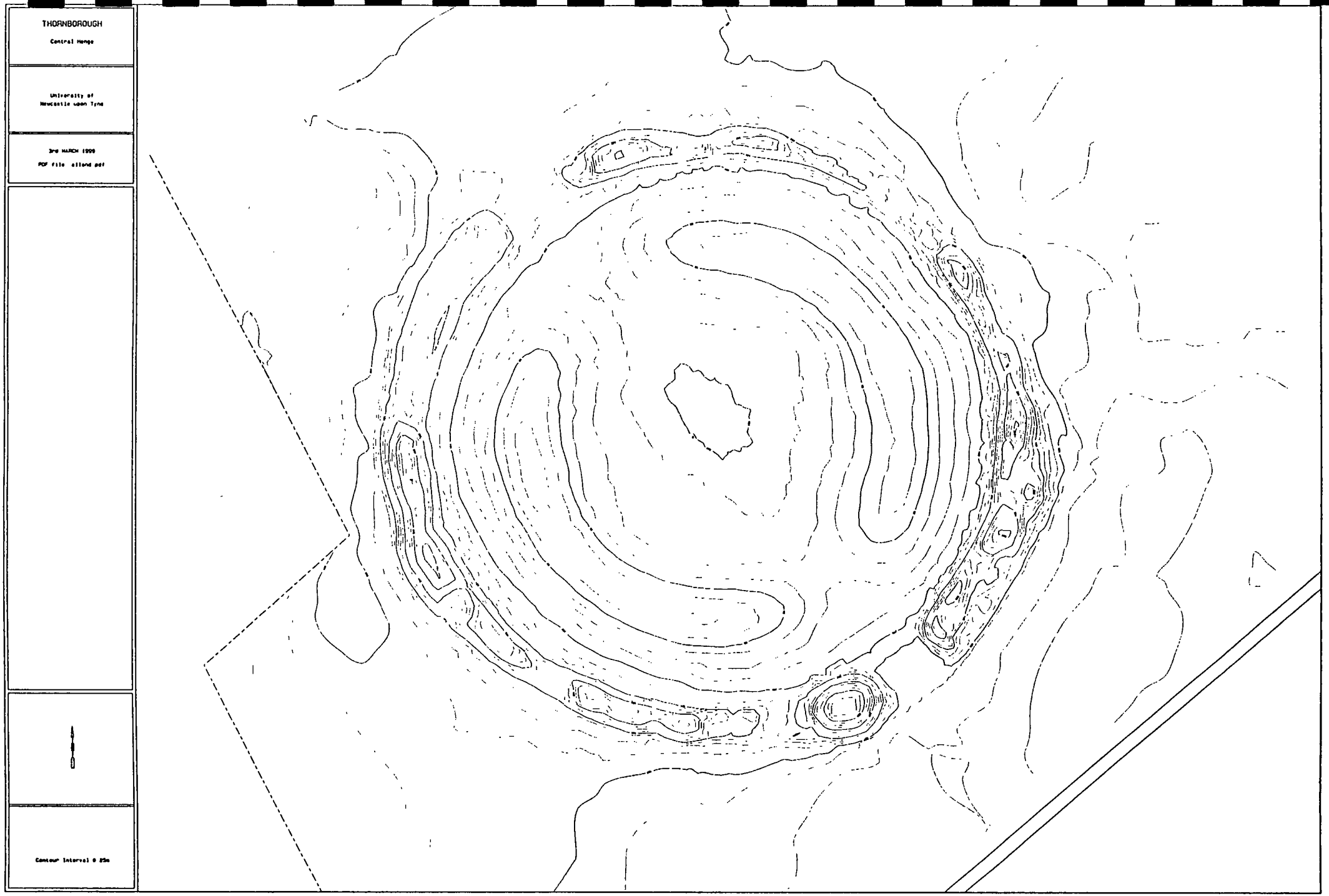

Figure 3
The results of the contour survey

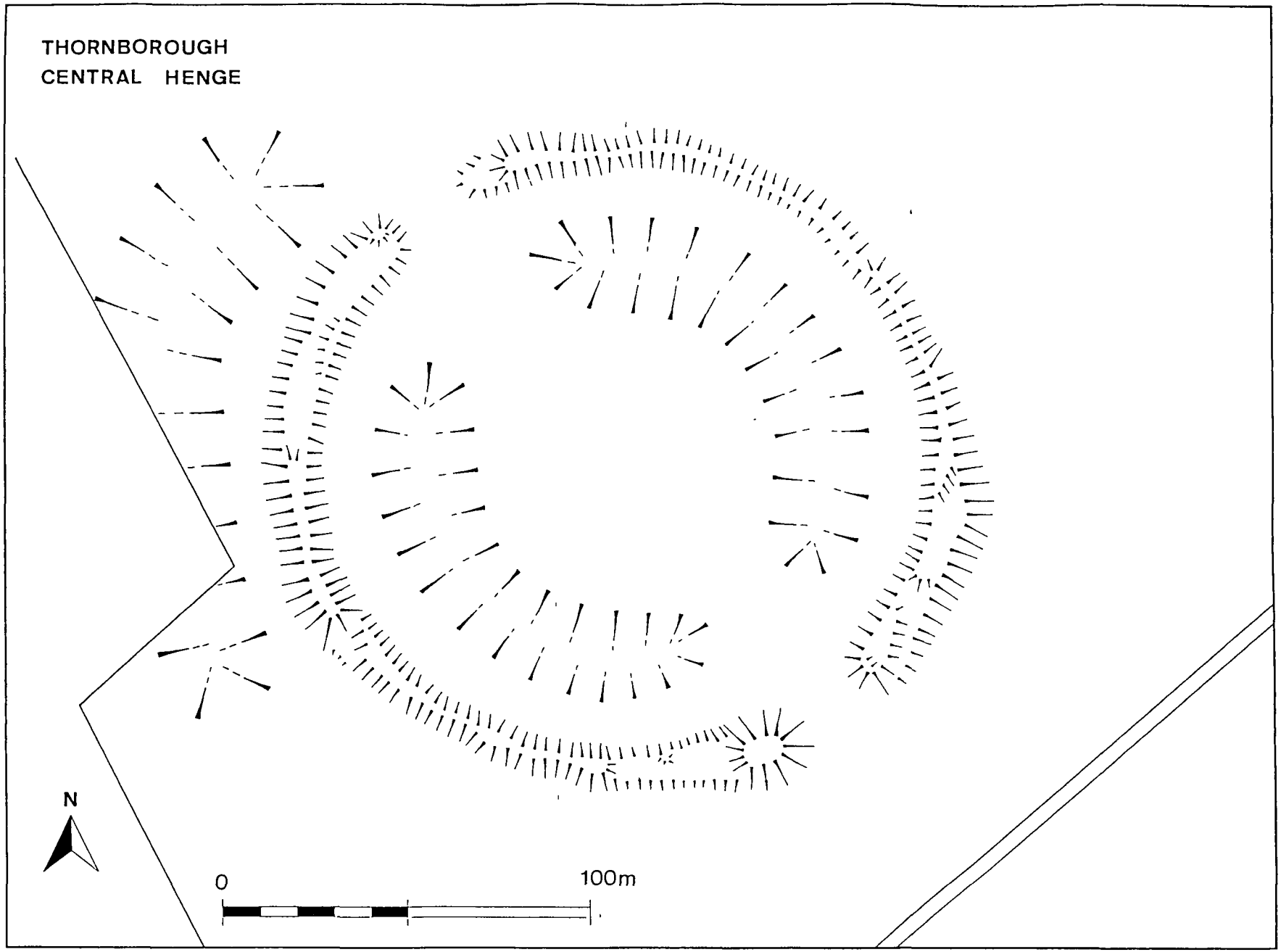

Figure 4
An interpretive plan of the contour survey at the central henge

the associated ditch also survives as an earthwork It is evident that the two entrances remain clearly defined

A description of the results is represented in an interpretive plan (**Figure 4**) The central henge is sited on level ground which is bordered to the W by a fence boundary (a), which separates the monument from a disused quarry (c), and to the S by a road (b) The henge bank is well preserved (f), especially on the W side (g), where it possesses a height and width of 3m and 17m respectively, and at the W terminal of the S entrance where the bank stands to a height of 4 5m and is as much as 20m wide (h) The NE and E side of the monument demonstrates high levels of disturbance (i), probably as a result of ploughing, while signs of quarrying are noticeable along the S and SE section of this feature (j & k) The inner ditch of the monument (d), by contrast, has been greatly levelled by ploughing although its overall shape is still evident It possesses an average width of approximately 16m The best preserved part of this feature survives to a depth of 1 05m (c) The original berm between the inner ditch and bank is now practically non-existent but the two entrances across the bank and ditch are clearly evident (p & q) The best preserved entrance, to the S of the monument, is 17m wide The henge interior is practically level and around 90m in diameter (m) The outer concentric ditch is badly preserved and is not evident as an earthwork for most of its circumference A wide depression to the NW of the surviving earthwork may mark traces of this feature, but it seems more likely that this is a product of plough disturbance and quarrying

2.3 GEOPHYSICAL RESULTS

2.31 Introduction

The magnetometry survey was conducted by Mr Alan Biggins of Timescape Archaeological Surveys The survey area itself measured 60m (E-W) and 30m (N-S) It was sited on the SW side of the central henge in the vicinity of where the southern side of the cursus was cut by the outer henge ditch (**Figure 5**) A FM36 Fluxgate Gradiometer was employed using a 0 5m reading interval and 0 5m parallel E-W traverse intervals Geoscan 2 processing software transformed the data Minimal rectification was required The site has been under arable cultivation for some time and the crop had been harvested immediately prior to the survey The direction of ploughing and harvesting was east-west, parallel to the direction of survey

The drift geology overlying the solid geology within the survey area is a Quaternary glacial gravel soil with good drainage The response expected from magnetometry with such soils could be variable, depending as it does upon the magnetic mineralogy of the parent solid geology, and previous geophysical surveys at the Thornborough monument complex have tended to produce better results with resistivity However, it was decided in this instance that high-density magnetometry survey

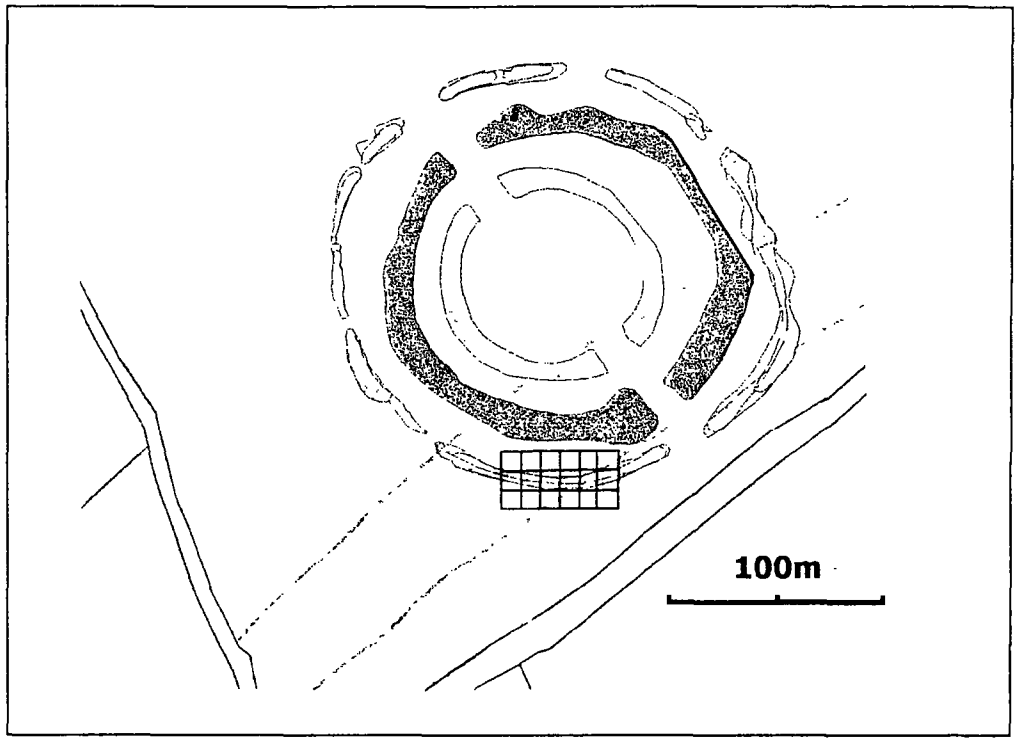

Figure 5
The location of the magnetometry survey area at the central henge and cursus

would be the method of choice to determine smaller features such as post-holes and pit alignments The response should be good on materials derived from Jurassic limestone

2.32 Results

The magnetometry survey successfully located the outer henge ditch, which was clearly visible on aerial photographs, and a large number of other anomalies of possible archaeological significance (Figure 6) The latter highlights the potential importance of the area between the bank and outer ditch Less apparent was the southern ditch of the cursus monument

These results can be represented in an interpretive plan (Figure 7) The major feature was an irregular ditch running approximately E-W across the survey area (1) This feature is presumably the surrounding outer henge ditch Towards its eastern end the structural nature of the ditch appears to change, perhaps indicating an entrance, although such a feature does not appear on the available aerial photographs There is also evidence from this vicinity for pits or postholes in a palisade trench ditch The only possible evidence for the cursus was provided by a ditch (2), which approaches at an angle of c 45° but does not appear to cross the major ditch alignment However, the evidence from aerial photography indicates that its location is completely inappropriate for such an interpretation

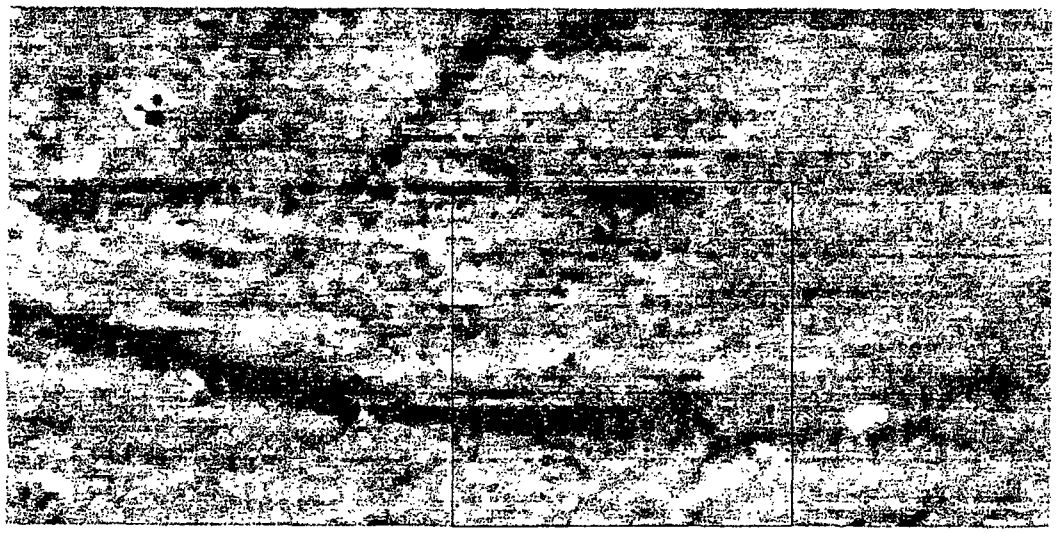

Figure 6
The magnetometry grey scale shade plot The data has been subjected to minimal digital enhancement The insert refers to the location of the subsequent 20m by 20m excavation trench Scale 1 400

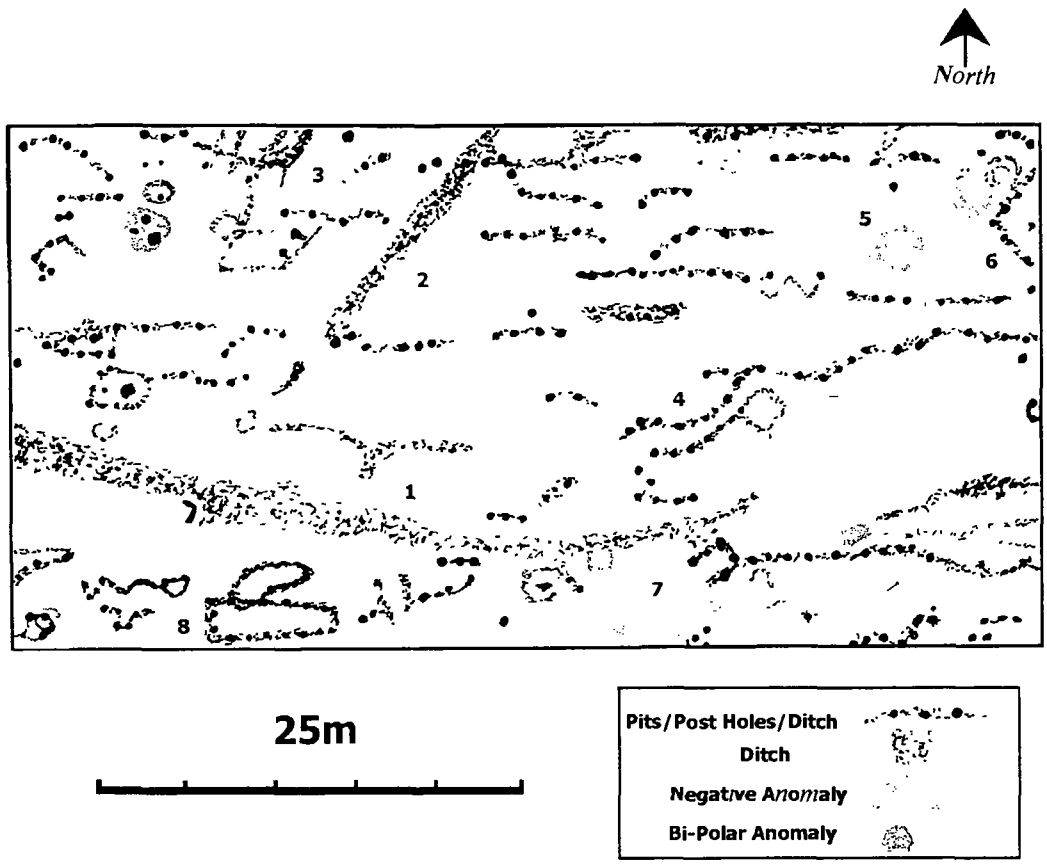

Figure 7
Interpretative plan illustrating the major anomalies A number of features have heen omitted either for the sake of clarity or because their archaeological significance was ambiguous Suspected stone features (negative anomalies) have been depicted with grey outlines Ditches are shown as stippled features, although suspected pits within are shown as solid circular or ovoid objects The bi-polar anomalies, probably representing iron objects (or more rarely burnt stone) are outlined

An additional feature (3) gives the impression of a second ditch but in reality is probably a series of interconnected postholes

The survey results seemingly indicate a complex of pits and postholes, many of which may be in some form of palisade trench Their general pattern is not apparent although there is a sinuous series of possible pestholes near to the outer henge ditch (4) and a distinctive rhomboidal posthole construction which appear to have been overbuilt by a kidney shaped structure (8) There are also a number of negative anomalies To the NE of the survey area is a 4m square feature (5) and a semi-circular negative feature (6) Towards the E of these anomalies at the edge of the survey area, is what would appear to be part of a rectilinear structure of apparent posthole construction (6) Another distinctive negative anomaly appears at the S edge of the survey area (7) This may be of rectilinear construction with perhaps a continuation extending to the NE A number of bi-polar anomalies were observed It is likely, but by no means certain, that modern ferrous material is responsible for these abnormalities

2.4 EXCAVATION RESULTS

2.41 Introduction

While the geophysical survey clearly identified the outer henge ditch there was less success in locating the southern perimeter of the cursus monument However, the visibility of this feature, including the widening in the henge ditch which is so evident on the aerial photographs, was a distinct advantage in deciding upon the position of the 20m by 20m excavation trench (**Figure 6**) It also enabled an informed comparison to be made with the aerial photography evidence as to the siting of the cursus ditch Furthermore, as a result of the discovery of anomalies within the outer henge enclosure it was considered important that as much of this area as possible was included within the excavation The trench was accordingly positioned so as to include an apparently changing section of the outer henge ditch, in what was considered to be the general vicinity of the cursus ditch, and evaluate a series of positive anomalies interpreted as possible pits or postholes The results of the excavation demonstrate that its location successfully met these objectives

The removal of the topsoil and subsoil immediately revealed the plough-disturbed upper levels of four possible features the top of a distinctive linear band of silty-loam approximately Im wide in the SE corner of the excavation trench, an extensive and diffuse band of silty-loam between 4 75m (at the W) and 8 25m (at the E) in width running across the entire length of the excavation trench, a badly disturbed spread of silty-sand which extended across the SW quadrant of the excavation trench, and an area of compacted silty-sand which covered much of the N half of the excavation trench Each were separately excavated to reveal their substantial nature (**Figure 8**) These features have been

interpreted as the cursus ditch (**A**), the outer henge ditch (**B**), a previously undiscovered outer henge bank (**C**), and an inner platform structure which is likely to have been associated with the henge monument (**D**)

2.42 The cursus ditch

The irregular feature identified as the cursus ditch possessed an NE-SW alignment and extended for 6m before terminating just short of the outer henge ditch (**Figure 8A & 9**) It was approximately 0 5m wide and can be separated into three distinctive parts between which there were slight but recognisable differences in their orientation The western section consisted of a V-shaped dug feature which contained a steep-sided and flat-bottomed cut some 0 3m wide The ditch survived to a depth of 0 95m from the top of the cut The bottom of the feature then rose steeply to form a V-shape cut with a depth of between 0 7-0 8m There are two extremely shallow post sockets cut into its base The eastern length of the ditch is the shallowest part of the feature This again consists of a V-shaped cut but its bottom rose gradually to form a rounded terminal

The entire length of the ditch contained a homogeneous sandy-silt fill (*708*) which suggests that the feature was backfilled immediately after its construction Both this and its overall appearance- particularly the existence of what can be best described as a bedding trench cut into the bottom of its western section- indicates that the feature may have contained a palisade or fence Such an interpretation is certainly supported by the N facing section across this feature This indicates an asymmetrical concentration of stone associated with the less steeply cut N side to this part of the ditch while the presumed bedding trench contained few stones

2.43 The outer henge ditch and bank

The outer henge ditch was a substantial feature aligned approximately E-W across the entire length of the excavation trench (**Figure 8B & 10**) The E facing section through the excavated ditch revealed a flattened V-shaped cut with a width at its top of 4 7m It survived to a maximum depth of I 0m from the top of the ditch cut The sides of the feature tapered inwards to form a flat but irregular bottom some 0 5m wide Towards the E end of the excavation trench the ditch curves slightly inwards while it widens to approximately 6 9m across its top and 1 4m across the bottom Its increased size, which presumably reflects the realignment of its circumference, was also reflected by the deepening of the feature at the W facing section it survived to a maximum depth of 1 3m There were also some noticeable variations in the plan of the ditch The top of the cut on the S side had an irregular and wavy outline which contrasts with its more flattened N edge The former is also more steeply-sloping What this appears to suggest is that the digging of the feature was undertaken by small construction 'gangs' who began at the southern side and moved inwards Its regularity was clearly of importance to the excavators

Figure 8

Plan of the excavation trench at the central henge the cursus ditch (A), the outer henge ditch (B), the outer henge bank (C), the inner structure (D)

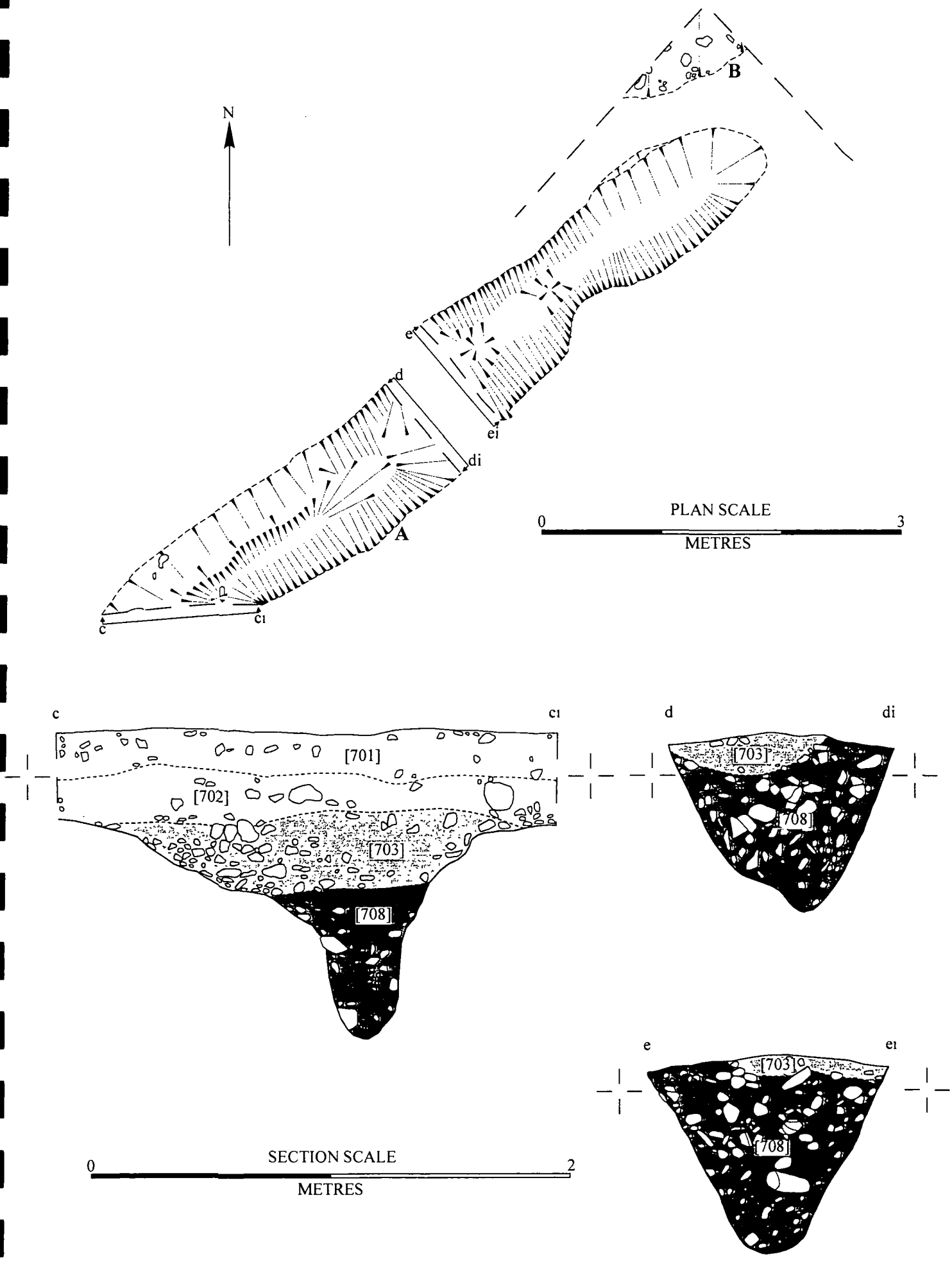

Figure 9

The plan and sections of the cursus ditch (A) The edge of the outer henge ditch is also illustrated (B)

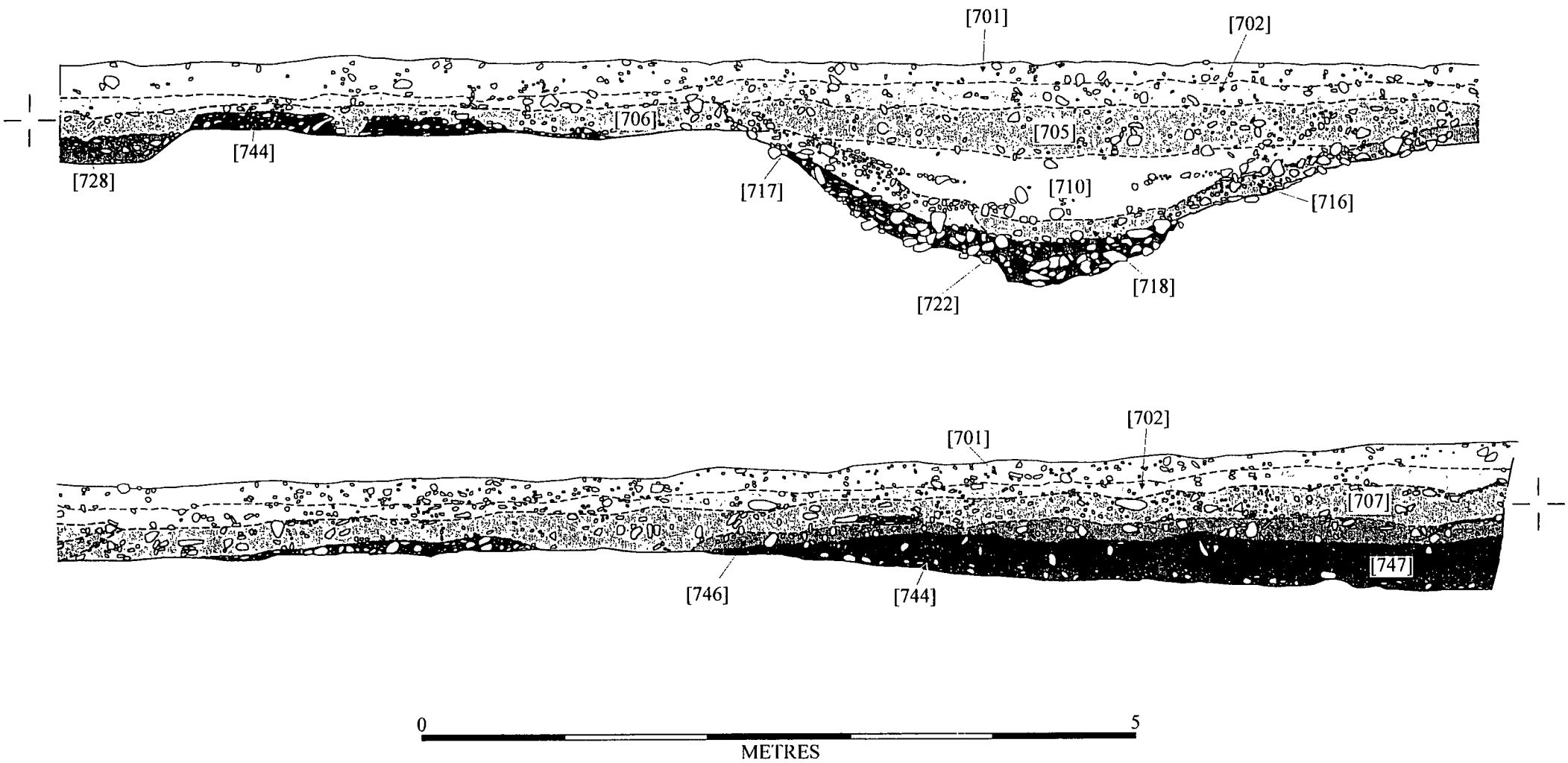

Figure 10
The east facing section

It is likely that at least some of the spoil from the ditch was employed to construct an outer bank (**Figure 8C**) Its presence was indicated by a badly disturbed deposit of stony silty-sand which only survived to a depth of between 0 1-0 25m (**Figure 10**. *706 & 744*) It extended from the S edge of the ditch- with no evidence for the existence of a berm between these two features- and beyond the extent of the excavation trench This illustrates that it possessed a width of over 5m The most substantial remains of this bank were located across the SW quadrant of the excavation trench for a distance of approximately 8m A shallower lens of this deposit then continued for a further 3 5m to terminate near the N edge of the cursus ditch A total of 13 small oval postholes were located underneath the bank remnant The majority of these formed 2 irregular rows which were seemingly aligned upon a larger feature These possessed diameters and depths of between 0 12-0 44m and 0 13-0 27m respectively The larger feature: which survives to a depth of 0 46m. extended beyond the excavated area It seems likely, however. that it also contained a timber upright since an oval and flat-bottomed depression was cut into the base of this feature, and its fill included large quantities of stone around the edge of this feature Associated with the E edge of the bank's possible apex were 3 widely-spaced postholes with diameters and depths of 0 18-0 36m and 0 18-0 27m respectively

The fill of the ditch illustrated a distinctive pattern of deposition (**Figure 10**) It is noticeable that immediately after its construction there had been the deliberate dumping of material which included substantial quantities of large stone. along the entire width of the bottom and S side of the ditch (*722*) This depostt was found to extend from E to W for some 14m It had clearly been dumped from outside the S side of the ditch and the fact that its location closely corresponds with the extent of the bank remnant suggests that the material may have originally derived from tlus earthwork feature In contrast. the primary fill of the remaining part of the ditch consisted of an in-wash deposit These iiutial episodes were followed by a period durmg which material. which had apparently eroded from the associated bank and inner structure. slowly accumulated on the sides and bottom of the cut (*716-718*) This process of deposition was clearly more sustained along the S side of the ditch, presumably reflecting the lack of a berm between the latter and the outer henge bank The secondary ditch fill of a substantial quantity of wind-blown silt (*710*) clearly accumulated over a prolonged period Its upper levels were associated with a small assemblage of Medieval pottery sherds

2.44 The inner structure

The inner structure extended across much of the area enclosed by the outer henge ditch (**Figure 8D**) It was clearly complex and may have been constructed over an extended period A possible cut located in the NW corner of the excavation trench appears to have been the earliest feature Most of this shallow and flat-bottomed depression. which survives to a depth of 0 35m from the top of the cut. lies beyond the extent of the excavation It is accordingly difficult to interpret the feature's original appearance, although it is clearly of a substantial size and was deliberately filled and then covered over by deposits of sandy-silt (**Figure 10**, *746 & 747*) This material clearly extended beyond the edge of the cut and suggests the existence of a low mound or raised platform across part of the enclosed

area Four substantial poslholes were located along the bottom edge of the cut These were between 0 28-0 66m in plan and 0 23-0 62m in depth The tallest of the posts inserted into these vertically-sided features could have stood at least 3 2m above the ground surface

This inner slmcture was greatly extended by the deliberate deposition of a large amount of sandy-silt across much of the enclosed area The exception to this was the NW comer of the excavation trench where a laid deposit of pure sand would have abutted the existing mound This material effectively established a large and level platform which was found to survive to a depth of between 0 2-0 5m (Figure 10. *707*) Its complexity is illustrated by the wedge-shaped arrangement of 59 postholes which were clearly integral to this stmcture These varied greatly in their size with the largest examples defining the straight W side of the concentration They were between 0 26-0 78m in plan and 0 31-0 58m in depth The S edge of the concentration consisted of a row of closely-set and vertically-sided postholes while those on the E side were more irregularly spaced These were generally smaller with diameters and depths of between 0 14-0 35m and 0 13-0 32m respectively The central postholes were all stcep-sided but varied greatly in their size Some of these were over 0 4m in depth

This irregular arrangement of limber uprights were also associated with the badly disturbed remnants of what appeared lo be circles of small angular stones placed across the top of the platform Many of these had seemingly been inserted into the deposit on-end The most distinctive of these circles possessed a diameter of some 1 25ni and was set within the deposit of pure sand across the NW comer of the excavation trench It extended beyond the limits of the excavation There were also two larger settings of concentric circles approximately 2 5m and 1 5m in diameter The first of these was located immediately to the N of the postholes. while the other was cut by the row of closely-set postholes which defined the S side of these features

2.45 **Discussion**

The available evidence does indeed suggest that the outer henge enclosures could have been constmcted prior to the inner perimeters Their possibly earlier date is illustrated by the relationship between the central henge and the cursus monument The results of earlier excavations in the 1950s indicate that the massive inner henge bank was erected some considerable time after the cursus ditch had fully silted (Comwall 1953. 145. Thomas 1955. 432) while the aerial photographs show. as mentioned. the outer enclosure cutting across this linear feature These recent excavations have demonstrated. however that the southern cursus ditch actually terminates just short of the central henge This could obviously be coincidental but a more deliberate relationship between these sites is suggested by the appearance of the cursus ditch itself The recently excavated section of this monument which appears to have contained a palisade or fence. clearly contrasts with the results of earlier excavations which revealed a more characteristic cursus ditch between about 2-3m wide and 0 6-0 9m deep (Thomas 1955. Vatcher 1960) It therefore appears likely that these two monuments

spatially reference each other and this may indicate their general contemporaneity This would certainly explain why the outer henge bank does not extend across the cursus ditch The cursus is undated but these sites are generally known to have been built from the late fourth to early third millennium BC (Barclay & Bayliss in press) This would imply that both this section of the monument and the outer perimeter of the central hengc were constmcted during what can perhaps be best described as the middle Neolithic

The suggested relationship between the cursus and outer henge ditch is further illustrated by the unique inner stmcture It is noticeable that the cut in the NE corner of the excavation trench the E edge of the platform, and the large postholes that defined the W side of the timber settings, all have a similar NE-SW alignment to that of the cursus ditch It is certainly possible that these features could have been associated with the inner area of an earlier cursus monument, and moreover, the E facing section suggests that it is possible that the platform was actually cut by the outer ditch (**Figure** 10) However, the pattem of ditch fill appears to demonstrate that the platform was a relatively unstable earthwork when the latter was constmcted, again indicating the general contemporaneity of the cursus and the outer perimeter of the hengc monument The similarities in the orientation of these features may therefore result from an attempt to employ a range of monumental architecture- including two types of site which are usually considered as unrelated- to stmcture movement and experience

ACKNOWLEDGEMENTS

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REFERENCES

Avery, M (1982) The Neolithic Causewayed Enclosure, Abingdon In Case, H J & Whittle, A W R (eds) *Settlement Patterns in the Oxford Region excavations at the Abingdon causewayed enclosure and other sites* London Council for British Archaeology Research Report No 44, 10-50

Barclay, A & Bayliss, A (in press) Cursus monuments and the radiocarbon problem the chronological development of cursus and related monuments In Barclay, A & Harding, J (eds) *Pathways and Ceremonies the cursus monuments of Britain and Ireland* Oxford Oxbow

Barnett, J C , Bradley, R J & Green, M (1991) *Landscape, Monuments and Society The Prehistory of Cranborne Chase* Cambridge University Press

Bradley, R J (1986) A reinterpretation of the Abingdon causewayed enclosure *Oxomensia* 51, 183-7

Cleal, R , Walker, K & Montague, R (1995) *Stonehenge in its Landscape twentieth century excavations* London English Heritage

Cornwall, I W (1953) Thornborough (middle) rings *Proceedings of the Prehistoric Society* XIX(2),

144-7

Harding, J (1997) Interpreting the Neolithic the monuments of North Yorkshire *Oxford Journal of Archaeology* 16(3), 279-95

Harding, J (1998a) Recent fieldwork at the Neolithic monument complex of Thornborough, North Yorkshire *Northern Archaeology* 15/16, 27-38

Harding, J (1998b) An architecture of meaning the causewayed enclosures and henges of lowland England In Edmonds, M & Richards, C (eds) *Understanding the Neolithic of North West Europe* Glasgow Cruithne Press, 204-30

Richards, J (1990) *The Stonehenge Environs Project* London English Heritage Archaeological Report No 16

Sharples, N M (1991) *Maiden Castle excavations and field survey 1985-6* London English Heritage Archaeological Report No 19 (Historic Buildings and Monuments Commission for England)

Thomas, N (1955) The Thornborough Circles, near Ripon, North Riding *Yorkshire Archaeological Journal* 38 425-45

Vatcher, F (1960) Thornborough cursus, Yorks *Yorkshire Archaeological Journal* 40(158) 169-82