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Trent & Peak
Archaeological
Trust

ARCHAEOLOGY OF THE FOSSE WAY

IMPLICATIONS OF THE PROPOSED DUALLING OF THE A46 BETWEEN NEWARK AND LINCOLN

A report to English Heritage

Trent & Peak Archaeological Trust
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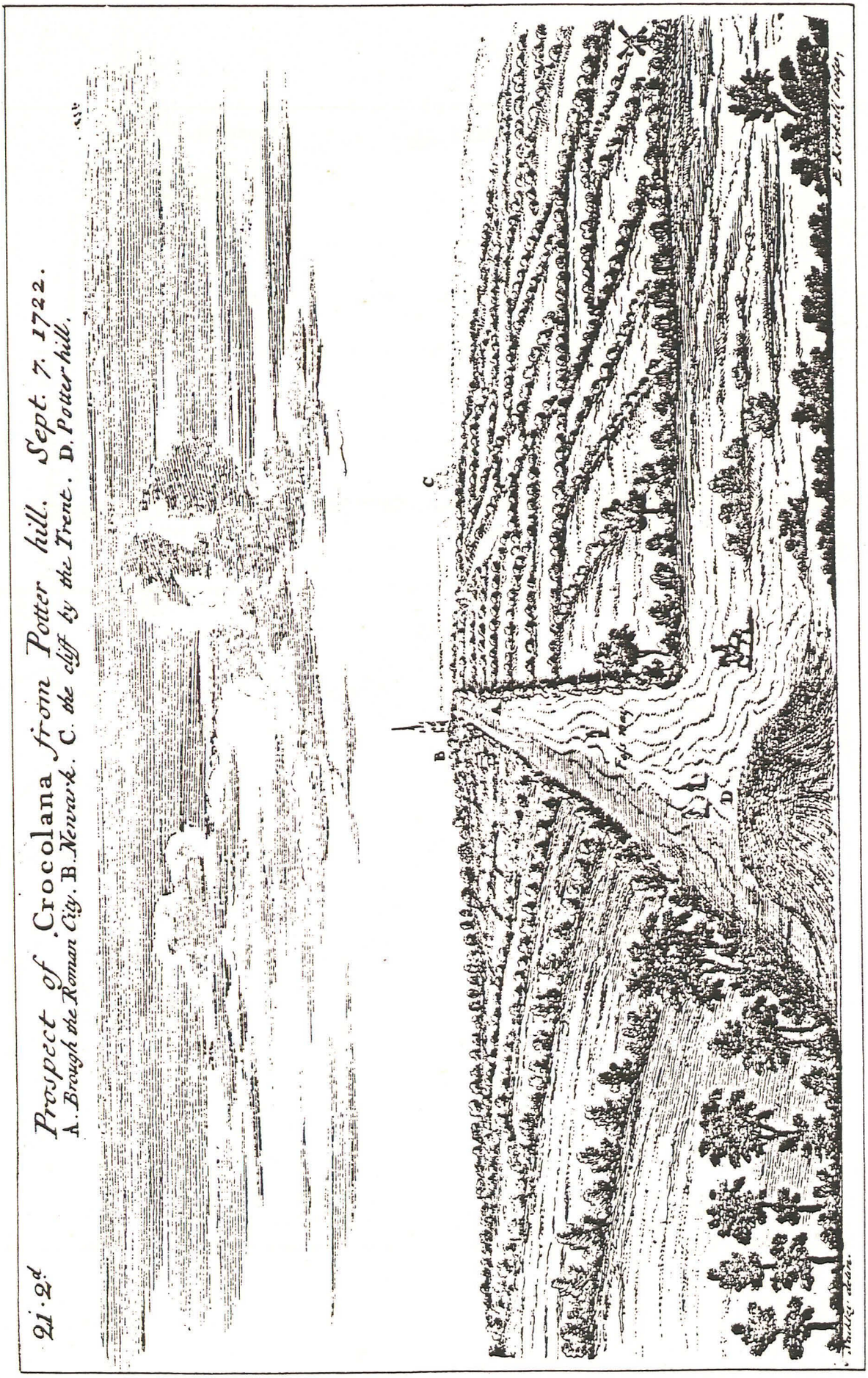

Frontispiece: Prospect of Crococalana, from Potter Hill
(William Stukeley Sept. 1722)

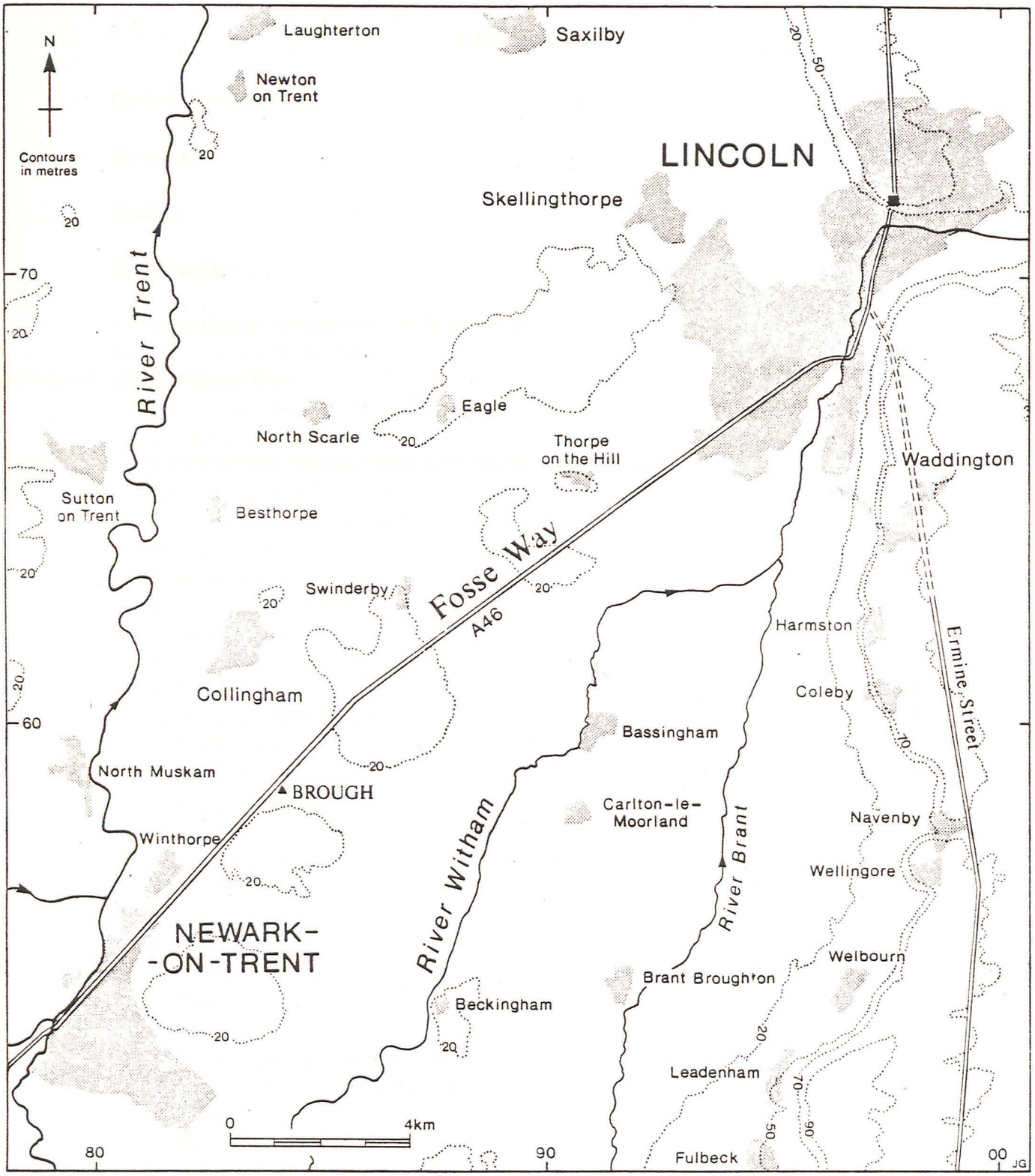

Fig. 1 Location map

ARCHAEOLOGY OF THE FOSSE WAY : IMPLICATIONS OF THE PROPOSED DUALLING OF THE A46 BETWEEN NEWARK AND LINCOLN

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Gratitude is also expressed to Mr. A. Brown, Dr. C. Malone and Dr. A. Stretton, English Heritage, and to Mr. S. Catney, Lincolnshire County Council, for their advice and support.

PREFACE

This document has been prepared for English Heritage by the Trent & Peak Archaeological Trust. We were commissioned by English Heritage, in fulfillment of the provisions of the DoE document *Planning Policy Guidance* 16 (hereafter *PPG* 16), to draw together and to assess all available information on archaeological remains within a 1km corridor either side of the proposed dual carriageway along the A46 between Newark and Lincoln. We were further instructed to conduct appropriate fieldwork around the site of Brough, and within 100m either side of the proposed route, to assess what other archaeological remains might exist. The results of this work are presented in this volume to the standard specified in *PPG* 16 (paragraphs 1922).

Detailed assessments are also included of the 'importance' of the remains, in terms of the criteria laid down in Annex 4 of *PPG* 16, in order to aid English Heritage in their duty of providing advice to the Secretary of State under the provisions of the Ancient Monuments and Archaeological Areas Act (1979) and National Heritage Act (1983). Such statements on the relative merits of any remains arise from the exercise of professional judgement, and should be seen as comments to English Heritage designed to aid them in formulating their advice, and not necessarily as the only viable judgements that could be made.

The information in this volume, and the interpretation thereof, are presented with the proviso that further data or alternative interpretations may yet emerge. The Trust, its members and its employees cannot, therefore, be held liable for any loss, delay or damage, material or otherwise, arising out of this publication, which it is the duty of the Trust to produce under the terms of its Articles of Association, the Code of Conduct of the Institute of Field Archaeologists and *The Management of Archaeology Projects* (English Heritage, 1989).

J. Walker
Managing Director
Nottingham, June 1991.

INTRODUCTION

This document is a response to proposals by the Department of Transport to upgrade the present A46 between Newark and Lincoln to dual carriageway status. It provides a synthesis of current archaeological knowledge of the area threatened by development, and proposes a strategy for preservation of the major archaeological remains.

The report is divided into three main sections. The first summarises the present state of knowledge of Brough and its immediate environs, and of the remainder of the road corridor. The second describes the criteria which have been employed by the Trust in the assessment of sites threatened by the proposed road development, and the options which have been considered. Detailed evaluations of the main archaeological sites which are threatened by the proposed road development are presented in Section 3, along with recommendations for further action. The results of fieldwalking are presented separately in an appendix.

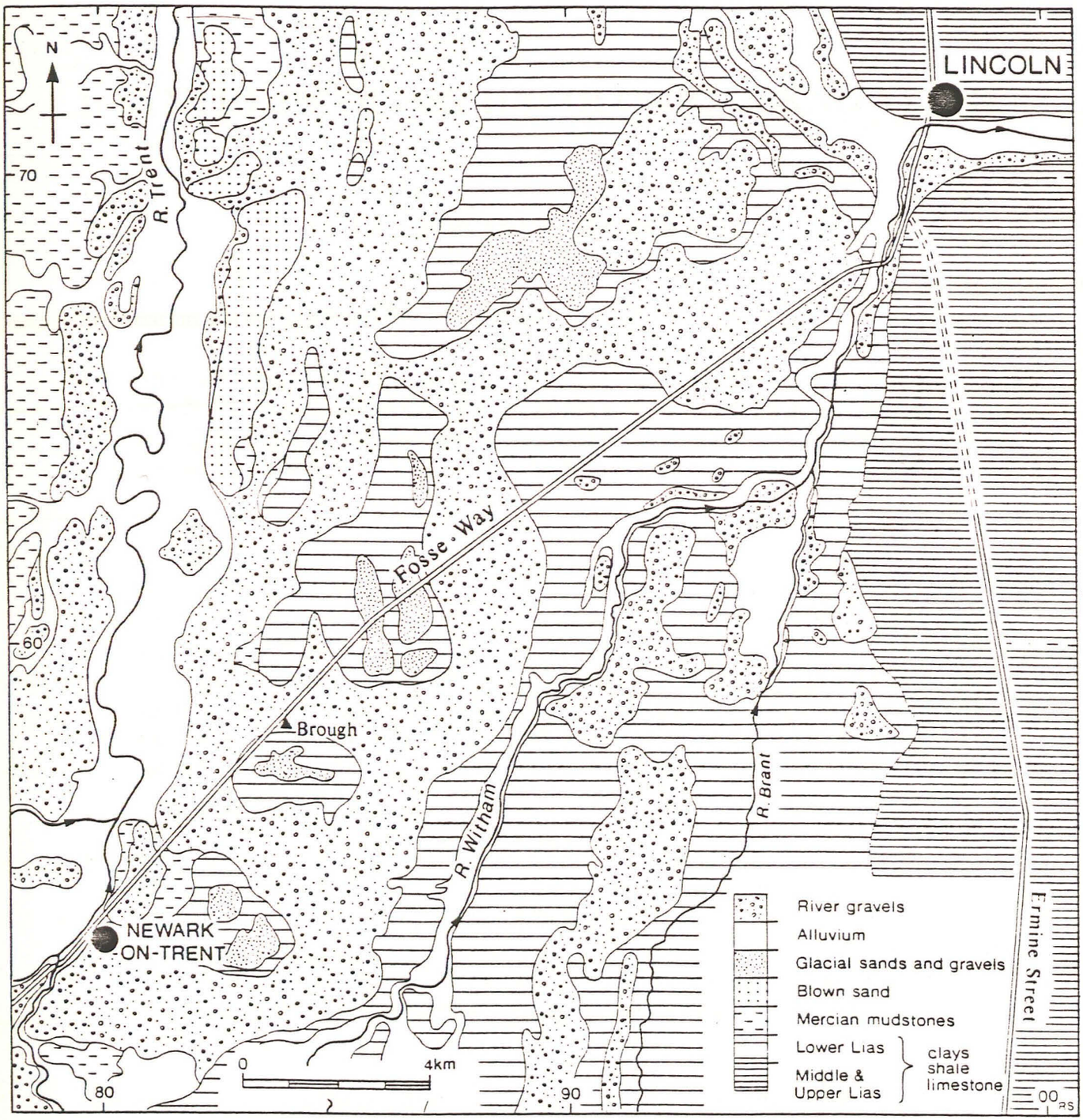

Fig. 2 Geology map

1 SYNTHESIS OF ARCHAEOLOGICAL KNOWEDGE

1.1 SOURCES OF INFORMATION

Information has been collated from the following main sources:

1. Sites and Monuments Records (SMRs)
   The Nottinghamshire and Lincolnshire SMRs were searched for all archaeological sites and finds within a 2km corridor centred upon the existing A46. A gazetteer of SMR entries is available in archive, and includes full details of published and other sources of information.

2. Air Photographs
   All available air photographs were examined, and were plotted wherever possible. The air photograph collections held by the Trent & Peak Archaeological Trust and by Cambridge University (CUCAP), the Royal Commission on Historic Monuments for England (RCHME) and Heritage Lincolnshire (formerly the Trust for Lincolnshire Archaeology) were examined, along with the collection held by Dr. D. Riley (Sheffield University). Prints were obtained where possible, and are retained in an archive maintained by the Trust. A complete list of air photographs is available in archive, and photographs or plots of cropmark sites within the survey corridor are included in Section3.

3. Early Maps
   A thorough search was made of the map collections in the Lincolnshire and Nottinghamshire County Archives Offices, the East Midlands Collection of the Nottingham University Library, and the Nottingham University Geography Department Map Library. Copies of relevant maps are held in archive, together with a detailed list of tithe, enclosure and other maps which predate the first edition of the Ordnance Survey.

New data on sites within the proposed road corridor have been acquired as a result of fieldwalking (Appendix 1), surveys of linear earthworks flanking the road, and survey and excavation work at and around the Roman town at Brough (Section 1.3).

1.2 THE FOSSE WAY

The proposed new carriageway follows broadly the line of the Fosse Way, a major road constructed in the second half of the first century AD by the Roman army, and connecting the legionary fortresses of Exeter (*Isca*) and Lincoln (*Lindum*) (Fig.3). The threat thus corresponds closely with a linear archaeological resource of national significance, and construction work may be expected to have serious archaeological implications.

The evidence which is currently available for the original course of the Roman road, and for the methods which were employed in its construction, is discussed in the first two parts of this section. Its development during the medieval and post-medieval periods is then considered, as this has a major bearing upon interpretations of the archaeological evidence.

1.2.1 ORIGINAL COURSE OF FOSSE WAY

The A46 appears to follow broadly the line of the Roman road, but it may be shown to deviate significantly from the original route in possibly four places, as follows.

Brough

Air photographs of fields bordering the A46 to the north and south of the Roman town at Brough show a linear cropmark to the west of the modern road which seems likely to represent the original line of the Fosse Way (Fig.21). This divergence is shown on the first edition Ordnance Survey map of 1887, but earlier maps, for example by Ogilby in 1698 (Nottingham University Library, East Midlands Collection: Not 1. B7 NOT) and Chapman in 1792 (Nottingham University Library, East Midlands Collection: Not 1 B8 D92), are insufficiently detailed for this to be traced any further back in time. The date of this divergence, in the absence of other documentary or archaeological evidence, must for the present, therefore, remain unclear.

Langford

Excavations near Langford Hall by the Newark Archaeological Committee in 1948, to the immediate east of the A46, uncovered traces of the original Roman road surface, which it was argued may have diverged here from the course of the modern road for a distance of approximately mile (SK827572; Barley, 1950, 64; Fig.19: site 3). The road survived in part as a wide earth bank, up to *c.* 1m high (*ibid.*, fig.1), but no earthwork traces may be discerned today.

Gallows Nooking Common

Approximately 3km to the north-east of Brough, at SK855604, boundary evidence and the configuration of the modern road suggest that a stretch of the Roman road up to 700m long may be preserved immediately to the south-east of the modern road. This site is discussed in greater detail below (Section 3: site 10).

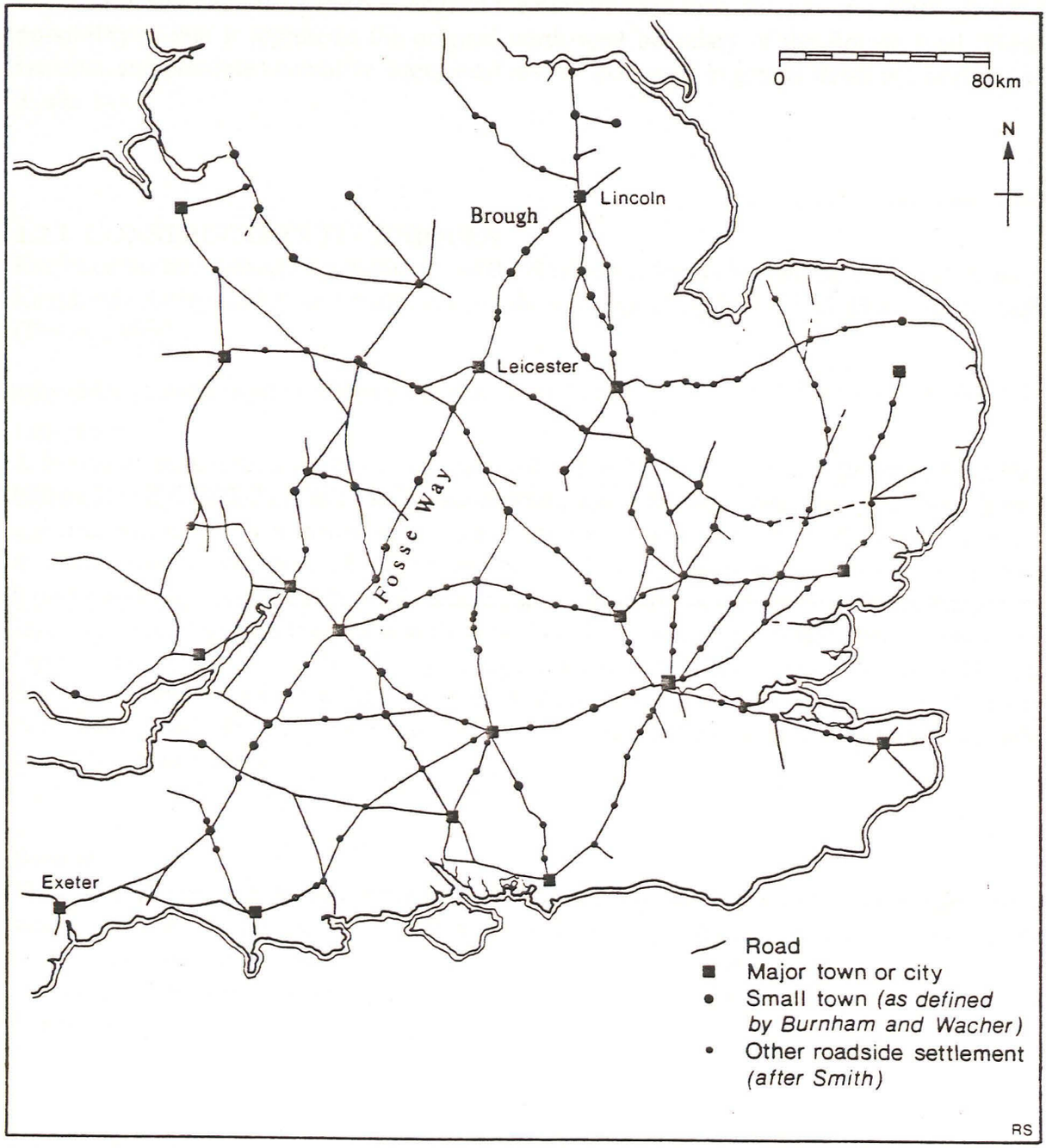

Fig.3 Roadside settlements in the south-eastern part of Roman Britain

Sheep Walk Lodge

One other location where the modern and Roman roads might possibly have diverged is within a narrow belt of woodland to the NE of Swinderby Airfield (SK896635; Fig.28). A discontinuous linear bank and ditch flank the NW edge of the modern road for a distance of ~~c.~~ 400m, and one possibility is that it represents the original north-west boundary of the Roman road. These remains, and possible alternative interpretations, are discussed in greater detail below (Section 3: site 14).

1.2.2 CONSTRUCTION TECHNIQUES

Evidence for the method of construction of the Roman road was obtained during excavations at Langford (Barley, 1950), and more recently during a watching brief by M. Bishop at Brough (Bishop, 1980).

Langford

A trench of unspecified width was dug through a low linear bank, much disturbed by rabbit burrows, and revealed *c.* 1m of stratified deposits above natural sand. The excavators distinguished two phases of construction, but examination of the somewhat schematic section suggests a minimum of three phases. The first is represented by a thin layer of gravel, which appears to have been cut by a pair of shallow side ditches, set *c.* 6m apart and filled with dark silt. The gravel layer was sealed by a layer of 'sand with stones', which in turn seems to have been capped by a layer of hard gravel metalling. The upper layers appear not to have been associated with side ditches, and extended for a width of *c.* 10m. Amphora fragments 'from the filling between the two roads' (*ibid.*, 65) are compatible with a Roman date for the road, but no closely datable material was recovered.

Brough

The upper part of the road was exposed in 1979 during the construction of a lay-by on the west side of the A46, and appears to have been composed of rammed gravel with at least two layers of lias limestone slabs (see Section 1.3.4 for details). This contrasts with the road surface observed at Langford, and may provide evidence of a more elaborate construction within the Roman town.

1.2.3 INTERSECTION OF FOSSE WAY WITH NORTH SCAFFOLD LANE

A minor trackway, known as North Scaffold Lane, is recorded as a Roman road by the Ordnance Survey. It joins the Fosse Way obliquely from the west, and forms a T-junction with it at SK85456035. A map of 1790, however, which shows the proposed layout of fields following Parliamentary enclosure, demonstrates conclusively that this road was laid out after 1790 over medieval open fields.

1.3 THE ARCHAEOLOGY OF BROUGH (*CROCOCALANA*)

1.3.1 INTRODUCTION

Brough has been identified as the Roman site of *Crococalana* by Rivet and Smith (1979, 327).*Crococalana* is mentioned twice in the Antonine Itinerary (*Iter* VI & VIII) as lying between 12 and 14 Roman miles from Lincoln on the road to London. The source records 225 road routes, locations and distances throughout the Empire. The date of its compilation is unclear, but the main body of the text was compiled around AD 214-15. The meaning of the name is uncertain. The first element, 'croco', derives from a British term meaning hill, mound or tumulus. The second element, 'calana', is of uncertain derivation, and may arise from two alternative British roots meaning either noisy/calling or settlement.

The name *Crococalana* faded from use in the Anglo-Saxon period in favour of Brough. This implies the survival of earthwork defences into the post-Roman period (Gover, Mawer and Stenton, 1979, 204), although the loss of Crococalana may imply that the site had not continued as a focus for significant occupation.

1.3.2 ANTIQUARIAN OBSERVATIONS

The first reference to Roman archaeological remains at Brough was by William Stukeley (1724, 98), who recorded 'great foundations....on either side of the road for half a mile'. He observed that local people had used these as a source of building stone, and noted that

> 'out of one hole they showed me (had) been dug ten or fifteen load of stone; so that it should seem to have been a gate: the stones at the foundation are observed to have been placed edgewise and very large ones but not of a good sort.'

He also recorded (*op.cit.*) that at Brough the Fosse Way had been ploughed over, and it seems probable, therefore, that stretches of the Roman road may survive either side of the existing carriageway.

1.3.3 CHANCE FINDS

A wide range of archaeological material has been uncovered as a result of casual discovery, and is summarised here by period.

Romano-British

Rubble, possibly deriving from wall foundations, Roman pottery and in excess of 137 coins (locally known as 'Brough Pennies') have been revealed as a result of ploughing. The pottery includes Samian, Grey Wares, Dales Ware, Castor Ware, mortaria and amphorae. The numerous coins from the site range in date from Domitian (AD 81-96) to Gratian (AD 375-383).

1.2.4 MEDIEVAL DEVELOPMENTS

Rackham (1987, 263-70) provides a comprehensive review of the development of medieval roads, and draws attention to medieval statutes requiring linear clearings demarcated by 'trenches' along main roads through woodland. It is possible that the linear bank and ditch at Sheep Walk Lodge (SK896635) and the vestiges of linear earthworks which are preserved in woodland flanking the A46 at Gallows Nooking Common (SK855604) are relics of such features, although this is doubtful. Further evidence for these may be provided by Stukeley's (1724; 1776) views of the Fosse Way near *Margidunum* and Brough. These show a central highway with wide verges, demarcated by hedges and banks (see frontispiece).

We ought to note finally the absence of the Fosse Way from Gough's map of 1336. This may reflect the greater importance for north-south traffic in this period of the Great North Road, following the construction of a bridge at Newark in the early twelfth century by Bishop Alexander of Lincoln.

1.2.5 EIGHTEENTH AND NINETEENTH CENTURY DEVELOPMENTS

The Fosse Way was turnpiked from the county boundary at Potter Hill to Lincoln, following an enabling act of 1765-90 (*cf.* Cossons, 1934, 4), but the status of the Nottinghamshire section of the road is unclear. From 1755 onwards the Fosse Way is shown as a "principal cross road" (Bowen; Nottingham University Library, East Midlands Collection: Not 1 B7 D55), but from Newark to Potter Hill there is no documentary evidence for a Turnpike Trust. This conflicts with the cartographic evidence, for in a map of 1808 by Jones and Smith the road is shown as a turnpike Nottingham University Library, East Midlands Collection: F130/ A). It is also included on Cole's map of 1810 as one of a series of "Turnpike and principal roads with turnpike gates", but as these are shown by a single convention, the map does little to resolve the ambiguity (Nottingham University Library, East Midlands Collection: F130/ A). From then on, nearly all nineteenth century county maps, up to Collins' Railway and Road map of 1870, show the Fosse Way as a turnpike road. Doubts remain, however, over the status of the road, and there is every possibility that this conflict between the available documentary and cartographic sources might have arisen solely from the map makers' habit of copying each others' work, and hence possibly perpetuating errors.

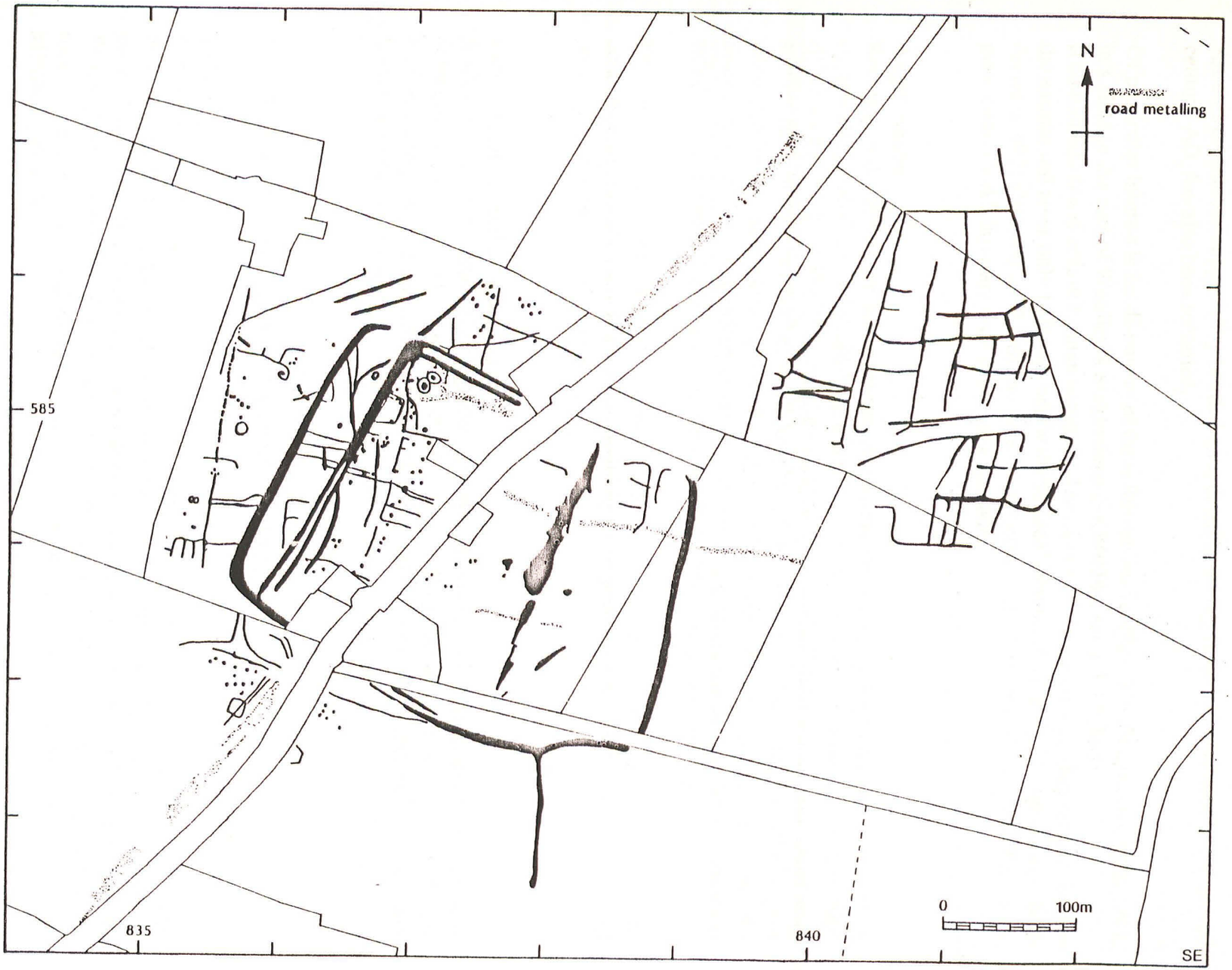

Fig. 4 Cropmarks at Brough

An unprovenanced copper alloy beaded torc, dated by Alvey (1981, 111) to the first or second century AD, has also been recorded.

Of particular interest is the discovery of three Roman lead coffins. The first was found in 1941, in a field to the east of Woolley's excavations (SK840584; see 1.3.4 below).
It contained a few sherds of Roman pottery and an adult male inhumation, and apparently lay 'on the natural soil level, only 16 inches below the surface' (Smith, 1941, 106). The others were both found in 1971 (Wilson, 1972, 10), and one contained an adult female skeleton (H.V. Radcliffe, pers. comm.). All three are now in Newark Museum.

Anglo-Saxon
Remains of this period are limited at present to stray finds of early Anglo-Saxon metalwork. A copper alloy trefoil-headed small-long brooch was found by Woolley some time before 1906 (illustrated in Smith, 1906, 203), but the exact provenance of this find is uncertain. Other stray surface finds include two further small-long brooches and one cruciform brooch, all of copper alloy and illustrated by Alvey (1980, 84, fig.1, 34-6). Alvey (*ibid.*, 85, note 3) also notes the discovery of at least four other brooches, but these are unillustrated and their typological affinities are unclear. The precise provenance of all of these objects is unknown.

The nature of the activity which is represented is unclear, but as such finds are most commonly obtained from burials, there is a strong possibility of an associated Anglo-Saxon cemetery and possibly also settlement of this period.

Later medieval and post-medieval
A sixteenth-century copper alloy signet ring (SMR 3626a) was found just outside the northern defences of the Roman town, to the east of the Fosse Way, but artefactual evidence of later medieval and post-medieval activity is otherwise limited to scatters of pottery, possibly deriving from manuring activities.

1.3.4 EXCAVATIONS AND WATCHING BRIEFS

1906
The first recorded excavations were carried out in the north-east of the town by T.C.S. Woolley in 1906 (Fig.5). He uncovered the stone foundations of a building with painted plaster on its internal walls, but full details of his work are unavailable in either published or archive form. Traded provincial pottery, glass and objects of iron and bronze were also recovered, along with roof tiles and the bronze cheek-piece from an Auxiliary parade helmet (Woolley, 1910, 63; McWhirr, 1969, 8).

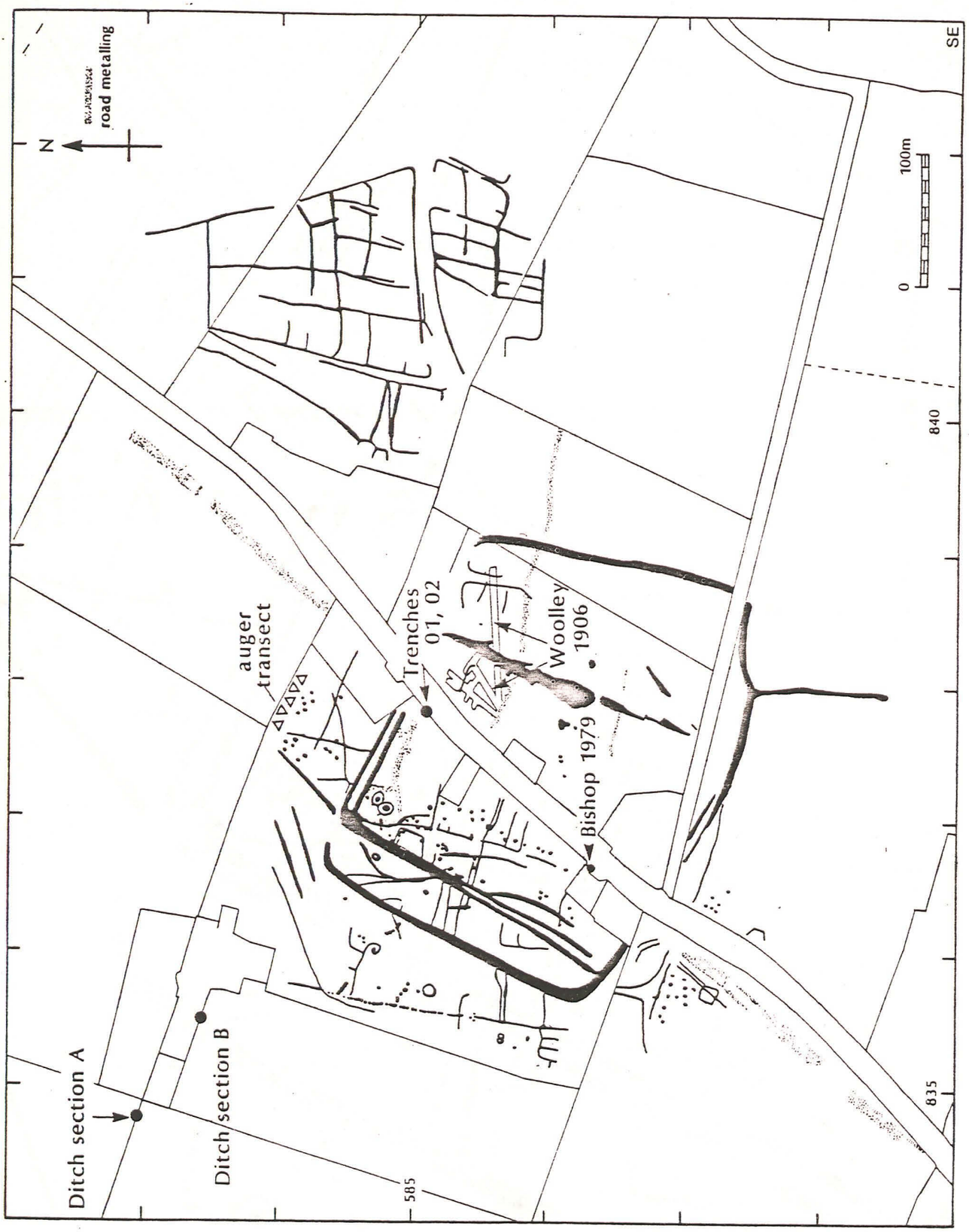

Fig. 5 Brough: location of excavation trenches and auger transect

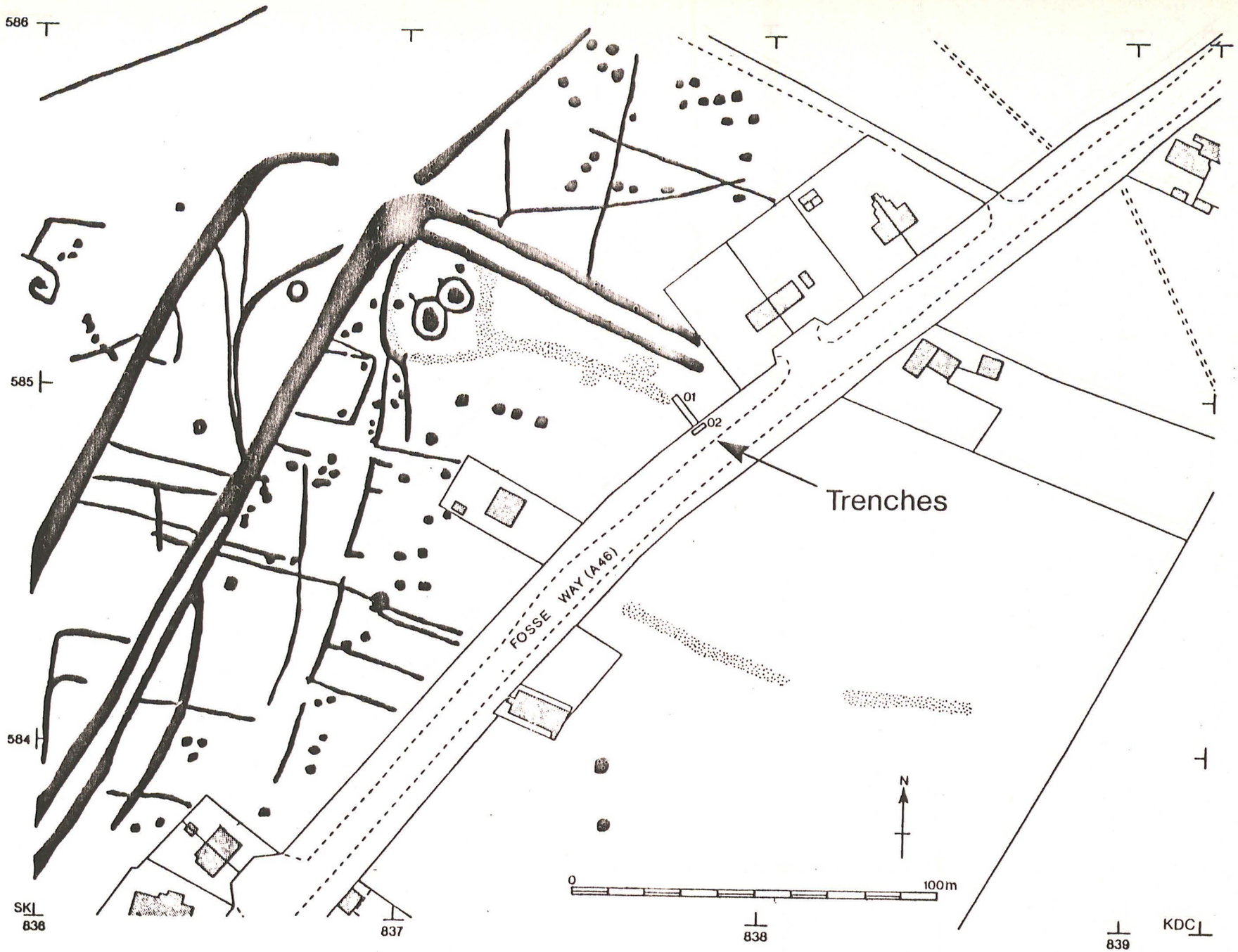

Fig. 6 Brough: location of trenches 01 and 02

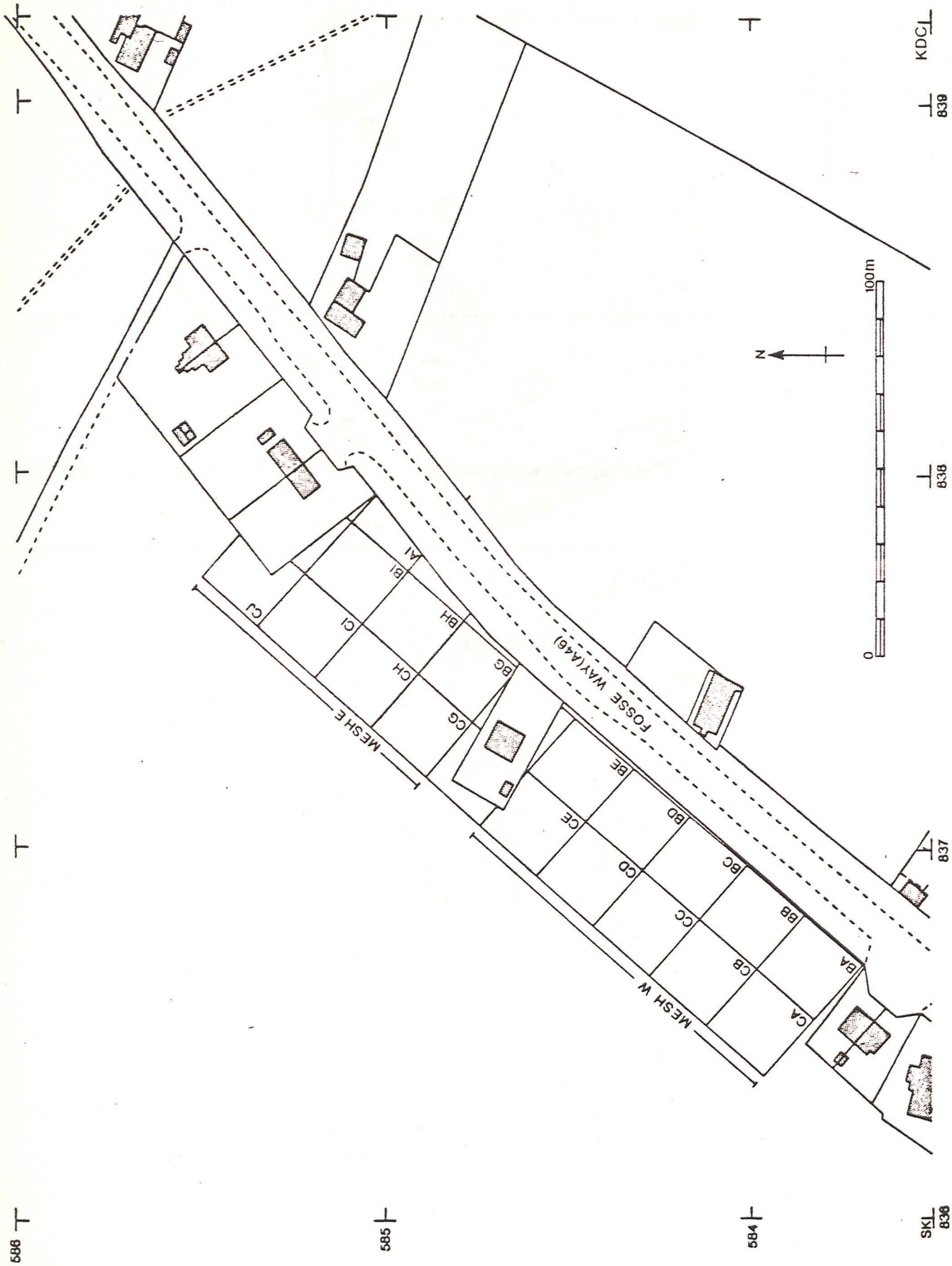

Fig. 7 Brough resistivity survey: location of meshes W and E (west and east)

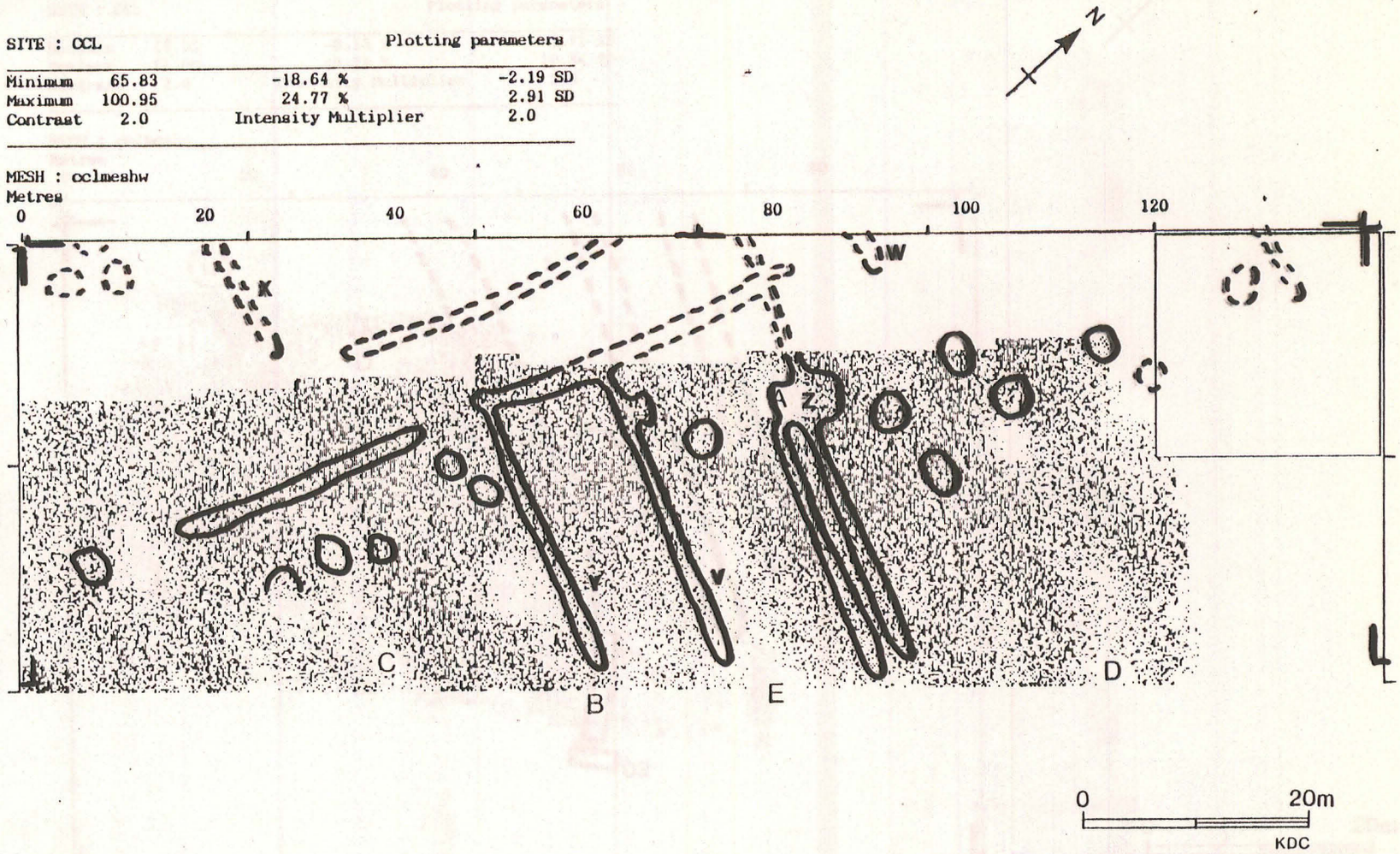

Fig. 8 Brough: resistivity survey mesh W, with overlay showing cropmark features

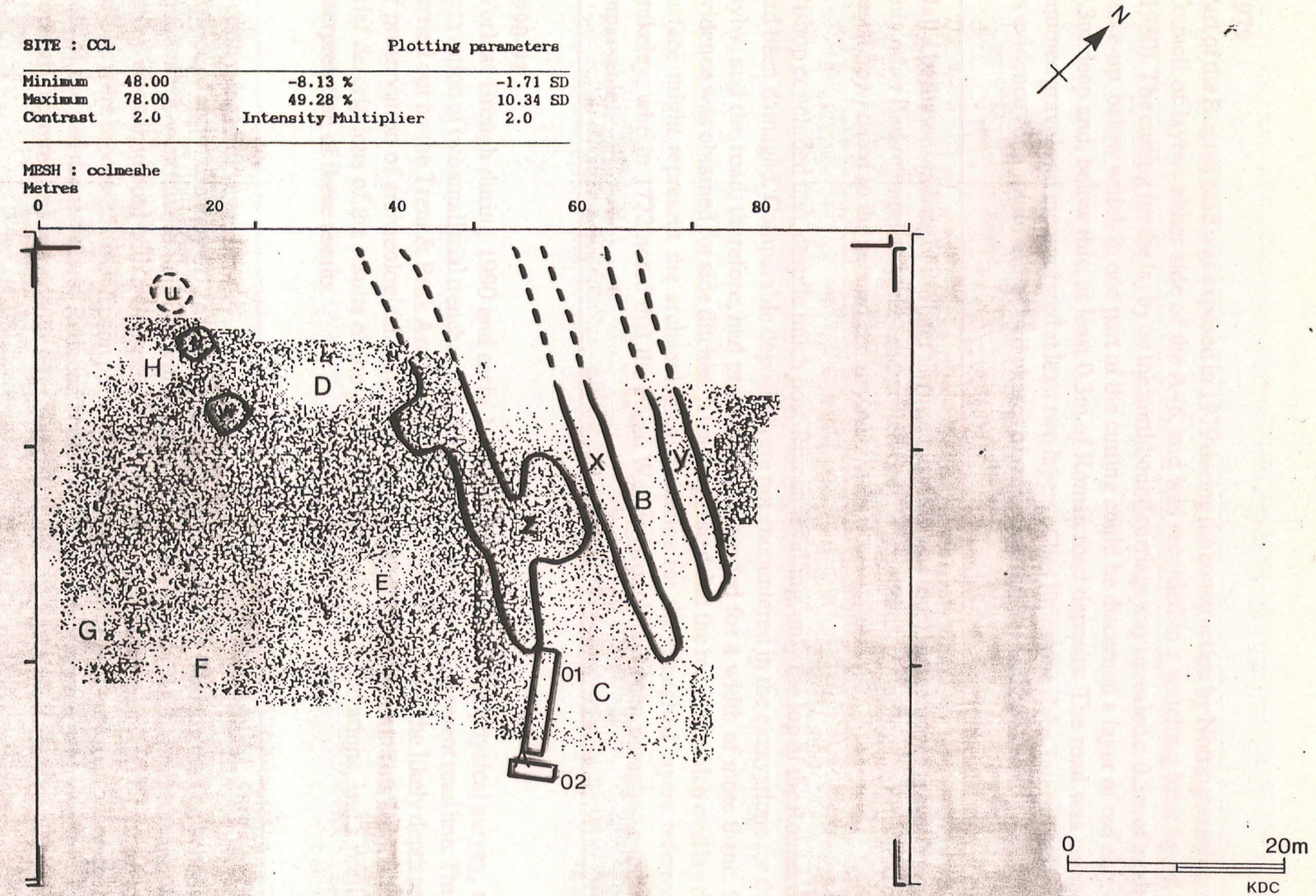

Fig. 9 Brough: resistivity survey mesh E, with overlay showing cropmark features

1979

Part of the Roman road was exposed in 1979 during the construction by Nottinghamshire County Council of laybys either side of the A46, and was recorded in a watching brief by M. Bishop (1980). The cutting for the layby on the northbound carriageway revealed *c.* 0.3m of modern road make-up, below which in one part of the cutting could be discerned a layer of red clay *c.* 0.25-0.3m deep and, below this, at least 0.3m of Roman road deposits. The road was composed of rammed gravel and incorporated at least two layers of lias limestone slabs, interpreted by Bishop as evidence for a minimum of two phases of surfacing (*cf.* Trench 2 below).

Half a barbarous radiate of the later third century AD was found in the upper gravel layer, but the only other finds comprised three unstratified Grey Ware sherds, including the rim sherd of a flat-based bowl dated to the second century AD.

Bishop concluded that, despite much post-Roman levelling, only the top of the Roman deposits had been damaged. Comparable deposits were not encountered in the excavations for the other layby, and the road, therefore, had probably not extended for a width of more than*c.* 9m. No evidence was obtained for side ditches. It was suggested that the red clay which overlay the road surface might represent the archaeological evidence for the ploughed layers referred to by Stukeley, who in 1722 noted that the Fosse Way at Brough had been ploughed over and was impassable.

1990-91

Work at Brough during 1990 and early 1991 comprised limited geophysical survey, and the excavation of two small trial trenches immediately to the north of the present road line. This work, carried out by the Trent & Peak Archaeological Trust, aimed to assess the likely depth and state of preservation of archaeological remains within the Roman settlement. This section includes brief descriptions of the results of the geophysical survey and excavations, and a preliminary interpretation of these results.

Geophysical Survey

An area of approximately 0.72 ha, comprising a pair of paddocks flanking the Old School House on the north-west side of the A46 within Brough, was surveyed (Fig.7, meshes E and W). The survey was carried out with a Geoscan RM4 resistivity meter equipped with DL10 data logger. Results were processed on an Epson portable PC, using Geoplot software to produce dot density plots of the resistance values. Reduced copies of these plots, together with overlays showing cropmark features, are provided in Figs.8 and 9.

Mesh E

The dot density plot from Mesh E (Fig.9) shows two large linear east-west anomalies (A and B) and several smaller roughly circular anomalies (D-H). A dark linear band, indicative of high resistance material (A), corresponds well with a linear parchmark which has been observed from

the air (Z on overlay). This feature is undoubtedly the metalled surface which was excavated in areas 01 and 02, and described in the following section. It appears to form a roughly east-west line, diverging from the projected course of the Roman Fosse Way, and may be connected to a sub-rectangular enclosure in the north-west corner of the Roman defences (Fig.6). B, a pale band of low resistance material, corresponds exactly with the cropmark marking the Roman town ditches (X and Y on overlay), while C, an area of low resistance between A and B, may be a continuation of the clay surface excavated in area 01. In addition, a series of small roughly circular low resistance anomalies (D-H), not seen as cropmarks, is visible on the resistivity plot. These may be of similar nature to the several ring ditches which show as cropmarks at Brough (Fig.6), and are of unknown origin and date.

Mesh W

The dot density plot from Mesh W (Fig.8) shows a series of faint parallel east-west linear low resistance anomalies and a number other smaller roughly circular low resistance anomalies.

Of the linear anomalies, B and E may be seen more clearly as cropmark features (appearing as V and Y on the overlay). C and D appear only on the resistivity plot, but may possibly represent a continuation of features seen to the west as cropmarks (W and X on overlay). With the exception of A (which appears to be the same as cropmark feature Z), the circular anomalies do not correspond to those seen as cropmarks, and may represent similar features to those seen in mesh E.

The resistivity survey appears to have confirmed the presence of the most emphatic cropmark features, while several features which are visible as cropmarks may be shown to continue beyond their previously known extent. Low resistance anomalies are generally indicative of buried cut features such as ditches or pits, and anomaly B in mesh E may indicate the presence of a substantial defensive ditch. The low resistance area (C) to the south of this may conceivably be related to it, and could possibly represent the remains of a clay rampart. The linear anomalies in Mesh W could also represent ditches. These may form part of an extensive pattern of rectilinear enclosures within and beyond the Roman defensive works, and hence may predate the defences (Fig.6). These enclosures are undated, but they invite comparison with known Iron Age sites elsewhere in the region (*cf.* Whimster, 1989, 84-6).

Excavation

Trench 01

Trench 01 was sited in the paddock immediately to the north-west of the present line of the Fosse Way, at approximately SK87375849 (Figs.6, 10). The trench was positioned to complement the section exposed in Trench 02 (see below), and to allow further assessment of the character, extent and likely degree of plough damage to the deposits revealed in that trench.

Trench 01 was excavated by K. Challis, I. Howell and W. Livesey, between 11th and 15th March 1991. A narrow trench, 10m by 2m, and aligned at right-angles to the field boundary, was deturfed, and the topsoil excavated in 0.10m spits. The surface of the trench was planned after

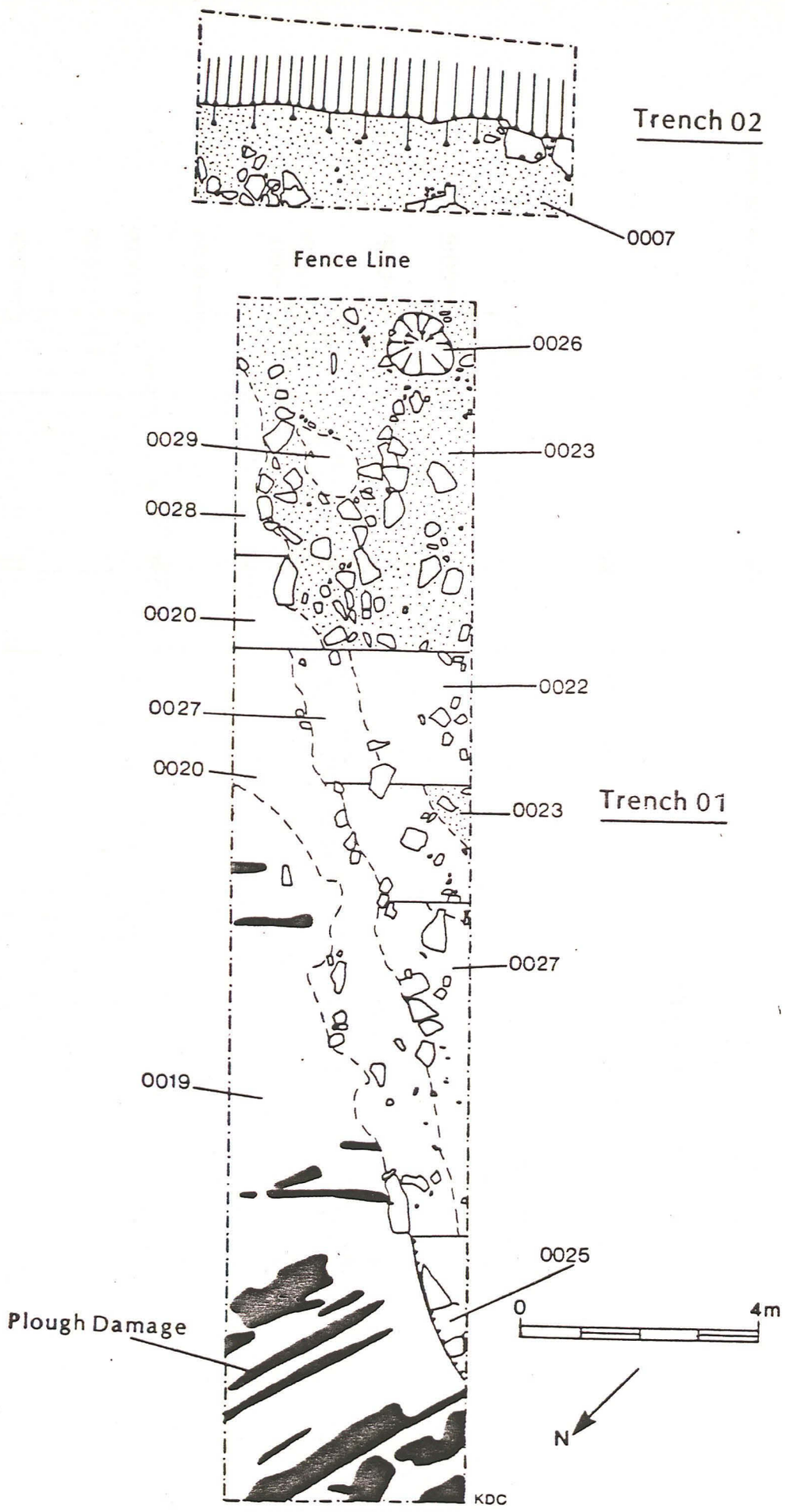

Fig. 10 Brough: plan of trenches 01 and 02

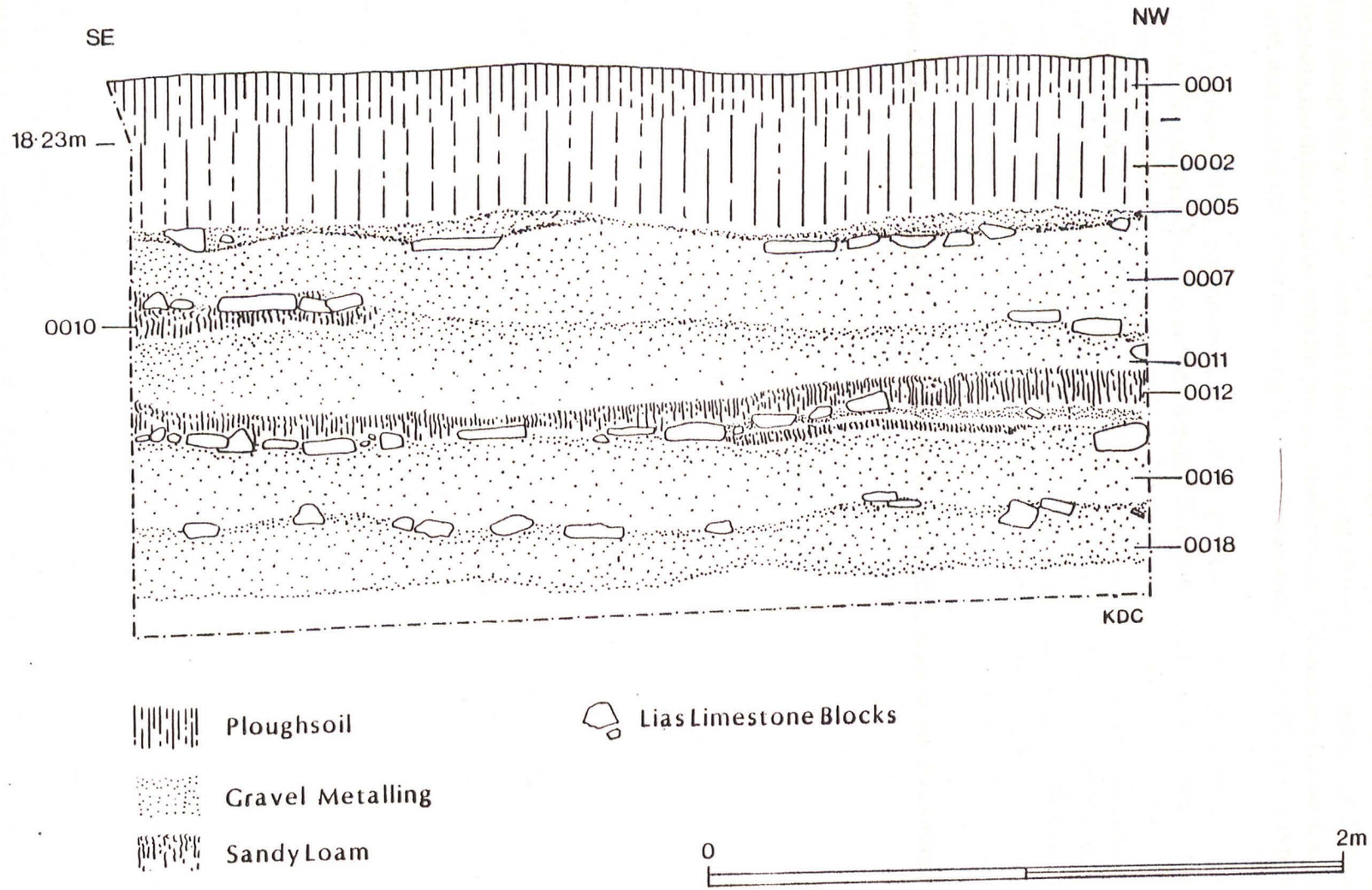

Fig. 11 Brough: section through metalled surfaces in trench 02

each spit had been removed. The exposed archaeological deposits were cleaned, and the filling of modern plough furrows was removed. Limited excavation was carried out to clarify the nature of the deposits, but in accordance with the terms of the Scheduled Monument Consent, no further excavation was carried out. After recording, the trench was backfilled and the turf was replaced.

A metalled surface (0023), comprising hard packed gravel and common large lias limestone pieces, formed the stratigraphically earliest deposit. This metalling is almost certainly the same as 0007, seen in Trench 02, and appears to have formed a north-west continuation of it. Traces of looser gravel at the surface of 0023 may indicate plough damage or may be equivalent to 0005: a layer of heavily plough-damaged metalling, seen in Trench 02. The edge of the metalled surface dipped slightly to the north, where it was overlain by a series of mixed layers. 0028, a reddish-brown sandy loam, formed the first of these, and was itself overlain by a greyish-brown silty clay with common large limestone pieces (0020). 0020 either overlaid or filled a feature cutting a spread of homogeneous sticky buff clay (0019). The precise nature of the relationship between 0019 and 0020 could not be determined because of the limited scale of the excavation. These seem, however to have formed part of the same extensive clay deposit which overlaid 0023, and which formed an east-west edge to the metalled area.

0020 was cut by a shallow east-west feature (0030) with a fil[1] (0027) of very mixed greyish-brown silty clay and large limestone pieces, which may also have cut 0023. A single 0.10m spit was excavated from a small box section across 0027. This revealed its southern edge against 0023, but produced no clear signs of a cut. At the eastern end of the trench, 0027 appeared to overlay or abut the sloping edge of 0023. No evidence for a cut into the metalled surface was obtained.

0023 is cut by two small circular features, *c.* 0.30m in diameter, which are interpreted as post-holes (0026 and 0029). 0026 was completely excavated, and proved to be *c.* 0.25m deep. These features, and most of the eastern half of the trench, were sealed beneath a thin patchy layer of reddish brown sandy loam (0022) which was in turn overlain by ploughsoil (0002).

The archaeological layers were sealed by between 0.30 and 0.15m of ploughsoil. At the western end, there was extensive plough damage to the top surfaces of 0019 and 0020, both of which were cut by linear plough scores up to 0.05m deep. Plough scoring is visible, but less extensive, at the eastern end of the trench. A single small sub-rectangular feature (0025) was cut from the ploughsoil level near the western end of the trench. This feature may be associated with a shallow north-east/south-west linear gully which could be observed in the field surface before excavation.

Trench 02

For part of its course through Brough, the modern A46 is flanked by a moderately deep roadside ditch. This excavation aimed to excavate a 3m length of the east-facing side of the ditch, thus revealing a section through the stratified deposits within Brough. The section was located adjacent to the modern road line at approximately SK83785848 (Figs.6, 10). The ditch, at this

point approximately 1.5m deep and up to 5.0m wide, runs parallel to the modern road, and occupies a narrow strip of unenclosed land between a paddock to the north-west and the road itself. The ditch is partially infilled, and is much choked with undergrowth.

Trench 02 was excavated by K. Challis and S. Ensor, between the 20th and 23rd of November, 1990. Undergrowth was cleared from an area approximately 3.10m by 1.60m, and the topsoil and ditch fill were excavated by hand. The east-facing section of the ditch was cleaned and then recorded (Fig.11).

The natural sand appeared to have been cleaned off at the base of the section to a sharp artificial edge. Above this was a layer of compacted greyish-brown gravel (0018) approximately 0.20m thick. This gravel layer was overlain by a thin and irregular band of lias limestone blocks (0017) varying in size from 60mm square to 200mm by 40mm. The blocks were overlain in turn by a further layer of very firmly compacted reddish brown gravel (0016) approximately 0.25m thick.

Context 0016 was overlain at the north-western end of the section by a lens of reddish-grey sandy loam (0015) itself sealed by a thin lens of orange gravel (0014). Context 0014 and the south-eastern part of 0016 were overlain by a further layer of lias limestone slabs (0013). These slabs varied in length from 50mm to 170mm, with an average thickness of 50mm. Most were laid with their long axes parallel to the top of 0016, and they appeared to form a more consistent and regular surface than those comprising 0017. Context 0013 was sealed by a layer of mid-greyish brown sandy loam, faintly mottled with orange sand (0012), and approximately 0.12m thick. Context 0012 produced the only stratified find from the excavation: an incomplete femoral head of unidentified species. Context 0012 was sealed by a substantial layer of very firmly compacted orange sand and gravel (0011) up to a maximum of 0.32m thick at its centre.
Context 0011 dipped slightly to the north-west, and was overlain at either end of the section by a further layer of lias limestone slabs (0009). At the south-east corner of the section, these rested on the top of a slight hollow filled with dark brown sandy loam (0010) but in the north-west they lay directly on 0011. The slabs comprising 0009 varied in size from 250mm by 300mm to 60mm by 50mm, and averaged 40mm thick. No slabs were present in the central area of the section, and it appears that 0009 formed a more intermittent layer than those previously recorded. Context 0009 was overlain by a layer of compacted orange sand and gravel (0007) 0.25m thick.

Context 0007 was overlain in the east by another series of lias limestone slabs (0006). The slabs varied in size from 100mm by 120mm to 250mm by 300mm, and averaged 70mm thick. They were very loose and crumbly, and were partially shattered in places. Context 0006 was sealed by a thin spread of loose orange gravel (0005) which was itself sealed by a reddish-brown sandy silt loam (0002), interpreted as plough soil. Contexts 0007 and 0006 formed the top of the section and were partially exposed in plan (Fig.10).

Discussion

The accumulation of material in Trenches 01 and 02 appears to represent four distinct phases of metalled surface, overlain by later Roman material and post-Roman deposits.

Phase 1. Foundation deposit of gravel (0018) laid on an artificially levelled surface. Above this were a layer of deliberately laid limestone blocks (0017), an upper layer of gravel (0016) and a loamy lens (0015), sealed by further gravel (0014). Context 0016 appears to represent the original road surface, and may indicate the approximate level of contemporary structures within the town.

Phase 2. Layer of limestone blocks (0013) and two layers of upper gravel metalling (0012 and 0011), forming a second metalled surface.

Phase 3. Layer of limestone blocks (0009) and upper gravel metalling (0007) forming a third metalled surface. Context 0023 in Trench 01 may correspond with 0007 (but see also Phase 4 below).

Phase 4. Layer of limestone blocks (0006) and vestiges of upper gravel metalling (0005), forming a fourth surface. The metalled surface (0023) in Trench 01 is better preserved than 0005, and may represent either a continuation of that deposit or exposed metalling equivalent to 0007. The limited depth of 0005 suggests that it has been severely truncated by ploughing.

Phase 5. Material overlying the latest metalled surface (seen in area 01 only). This comprises clay deposit 0019/0020 and associated layers.

Phase 6. Later (medieval and post-medieval) activity, comprising a ditch (0003/0004) and ploughsoil (0002 and 0001). The ditch appears to cut the latest metalled surface (0005).

No datable material was recovered from the metalling in Trenches 01 or 02, but the contexts overlying the metalling in Trench 01 (0020, 0022 and 0027) produced 12 sherds of unabraded Romano-British pottery. This was mainly Grey Ware, predominantly of late third to fourth century AD date. No post-Roman pottery was recovered from these layers, but the ploughsoil (0002) produced a collection of abraded Romano-British sherds and post-medieval and modern pottery and glass. The evidence at present, therefore, might imply a Romano-British origin for the contexts overlying the metalling, and hence possibly for the stratigraphically earlier metalled surfaces.

It seems likely that the metalled surface which was excavated in Trenches 01 and 02 corresponds with the linear parchmark visible in air photographs of Brough (Fig.6), and with the equivalent feature detected by the resistivity survey. It may be of Roman date, and was substantially built, with at least four phases of metalling. The clay surface formed by 0019 and 0020 may be the interior floor of a building, while 0027 could perhaps be interpreted as a beam-slot for a wall associated with such a structure. However, as 0027 appears to cut 0020, the latter seems very doubtful. It is also possible that 0019 and 0020 form the tail of a clay rampart, flanking the Roman

Ditch section A (South facing):

Ditch section B (south facing):

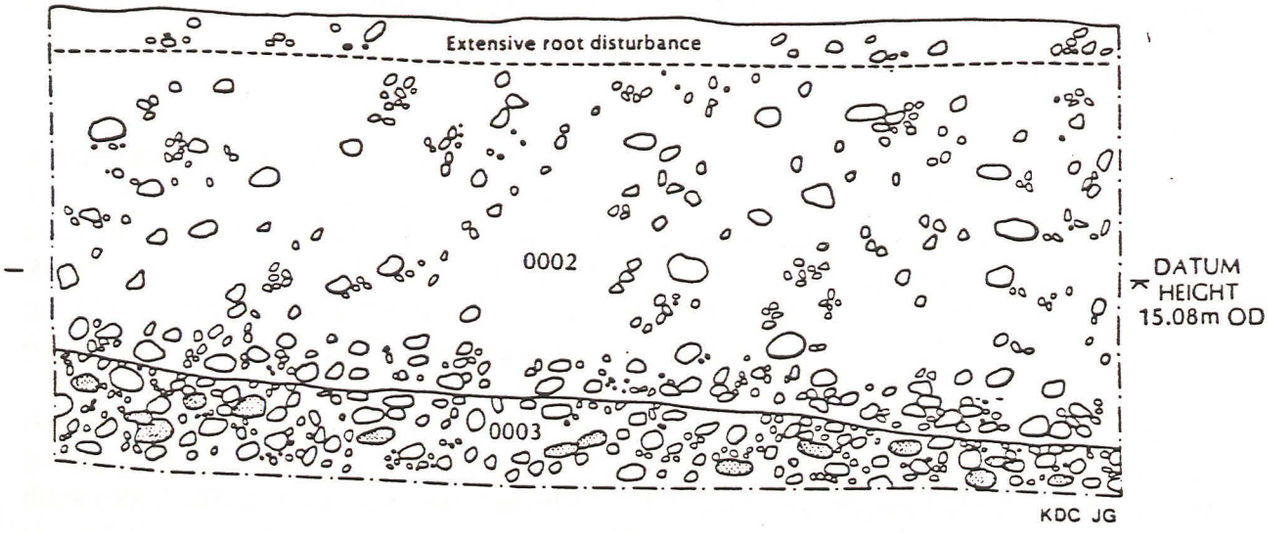

Fig. 12 Brough: ditch sections A and B

town ditch observed on air photographs and in the resistivity plot. If so, 0027 could belong to a later building at the tail of the rampart.

Resistivity survey has demonstrated that features seen as cropmarks extend beyond their known limits, and that previously unknown features may be detected. The excavation of an area containing anomalies in Trench 01 has confirmed that at least some anomalies correspond with archaeological features.

Most significantly, these excavations demonstrate the survival of *c.* 1.2m of stratigraphy within Brough, in an area close to the centre of the Roman site. The upper levels of this stratigraphical sequence have suffered some plough damage, but a significant depth of deposits appears to survive virtually intact.

1.3.5 AUGERING

This was carried out in O.S. Field No. 6550, in order to establish whether a similar depth of deposits might survive outside the defences. Six points were sampled (Fig.5), with the following results:

Test hole: 1: terminated at a depth of 0.35m, due to the presence of a large stone.
2: depth to natural = 0.62m.
3: " = 0.64m.
4: " = 0.64m.
5: " = 0.60m.
6: " = 0.62m.

In view of the uniformity of the results, which indicate a depth of deposit of only *c.* 0.6m above the sand and gravel subsoil, it was decided not to expend further effort on this aspect of the project.

1.3.6 DRAINAGE DITCH SECTIONS

The faces of two field drainage ditches to the north and north-west of the town were straightened and cleaned in order to provide further data on the possible depth of the deposits away from the Roman town, and hence the maximum depth of deposit which might need to be removed by machine prior to excavation in these areas (Figs.5, 12: Sections A and B). This work was carried out by the City of Lincoln Archaeological Unit.

A shallow layer of topsoil (0001), averaging 0.15m thick, sealed each section. Below this, and immediately overlying the sand and gravel subsoil (0003), was a layer varying from 0.6-0.8m thick (0002). This was a stony grey-brown (10YR 5.2) mottled silt, with a higher stone content towards the base, which in neither section could be shown to incorporate artefactual or structural remains. Section A was cut on the eastern side by a modern field drain (contexts 0004 & 0005).

1.3.7 CONTOUR SURVEY

A detailed contour survey of the segment of the Roman town which lies within the threatened area (OS Field No. 6550) was carried out on behalf of the Trent & Peak Archaeological Trust by the City of Lincoln Archaeological Unit in September and October 1990 (Figs.13-14). The purpose of this survey was to establish whether earthwork traces which might correlate with the known crop-marks could be discerned, and to establish a base map and a series of bench marks which could facilitate future site management.

The ground surface was extremely uneven, but, apart from faint ridge and furrow over parts of the field, few obviously man-made features could be discerned. The most interesting feature is a fairly pronounced scarp, flanked on its eastern side by a wide and very denuded south-south-west/north-north-east linear bank, which it is suggested probably correlates with the outer line of the town defences. The interior of the town is distinctly hummocky, but as similar terrain extends north-west of the site the archaeological significance of this is at present uncertain.

1.3.8 FIELDWALKING

The present extent of fieldwalking at Brough is shown in Fig.30. This revealed a low density of Roman material (mainly pottery) over the whole area, and, most interestingly, a major concentration of mainly second to fourth century AD Roman pottery and other material immediately south-west of the town and either side of the modern road (centred SK835582; Fig.15). This may plausibly be interpreted as occupation debris, and hence provides reasonable evidence of extra-mural settlement to the southwest of Brough. The details of the fieldwalking, and its implications for our understanding of Brough, are discussed in greater detail in the accompanying fieldwalking report (Appendix 1).

1.3.9 AIR PHOTOGRAPHY

Extensive air photographic data are available for the town of Brough and its immediate environs, and a plan based upon these data has recently been published by Whimster (1989, 76). More recent photographs have produced further cropmark evidence from within and outside the town, and as shown in Fig.16 a remarkably detailed plot of the area, suggesting at least three main phases of development, is now available.

Level of preservation

Crop-marks are easily discerned in the well-drained sandy soils which lie to the north-west of the Fosse Way, although interpretation is complicated by the presence of extensive geological patterning and by recent quarrying activity. Only the more substantial features, however, may be traced in the less responsive stagnogley soils to the south-east of the road. In this area, the course

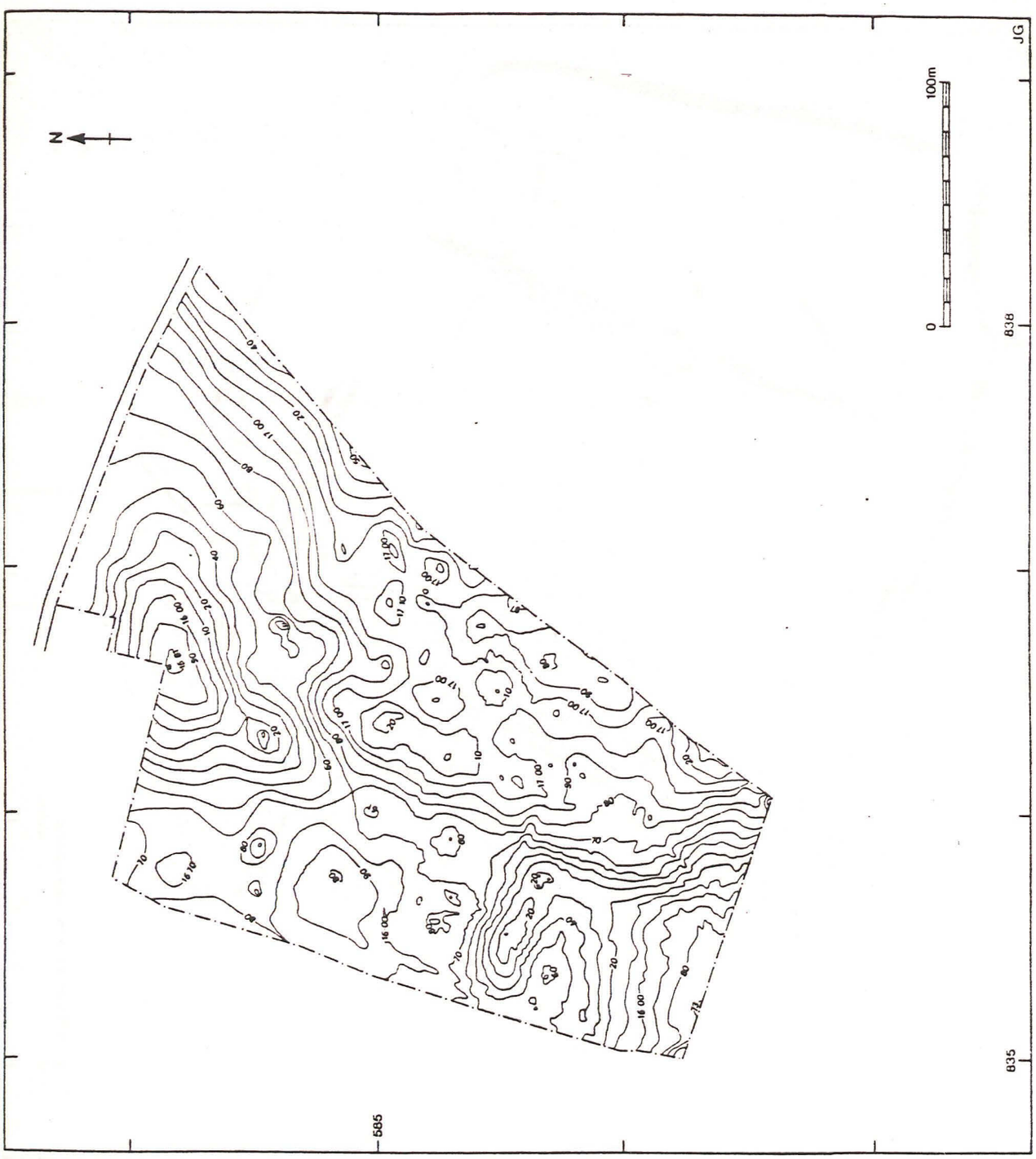

Fig. 13 Brough: contour survey of field 6550 (OS)

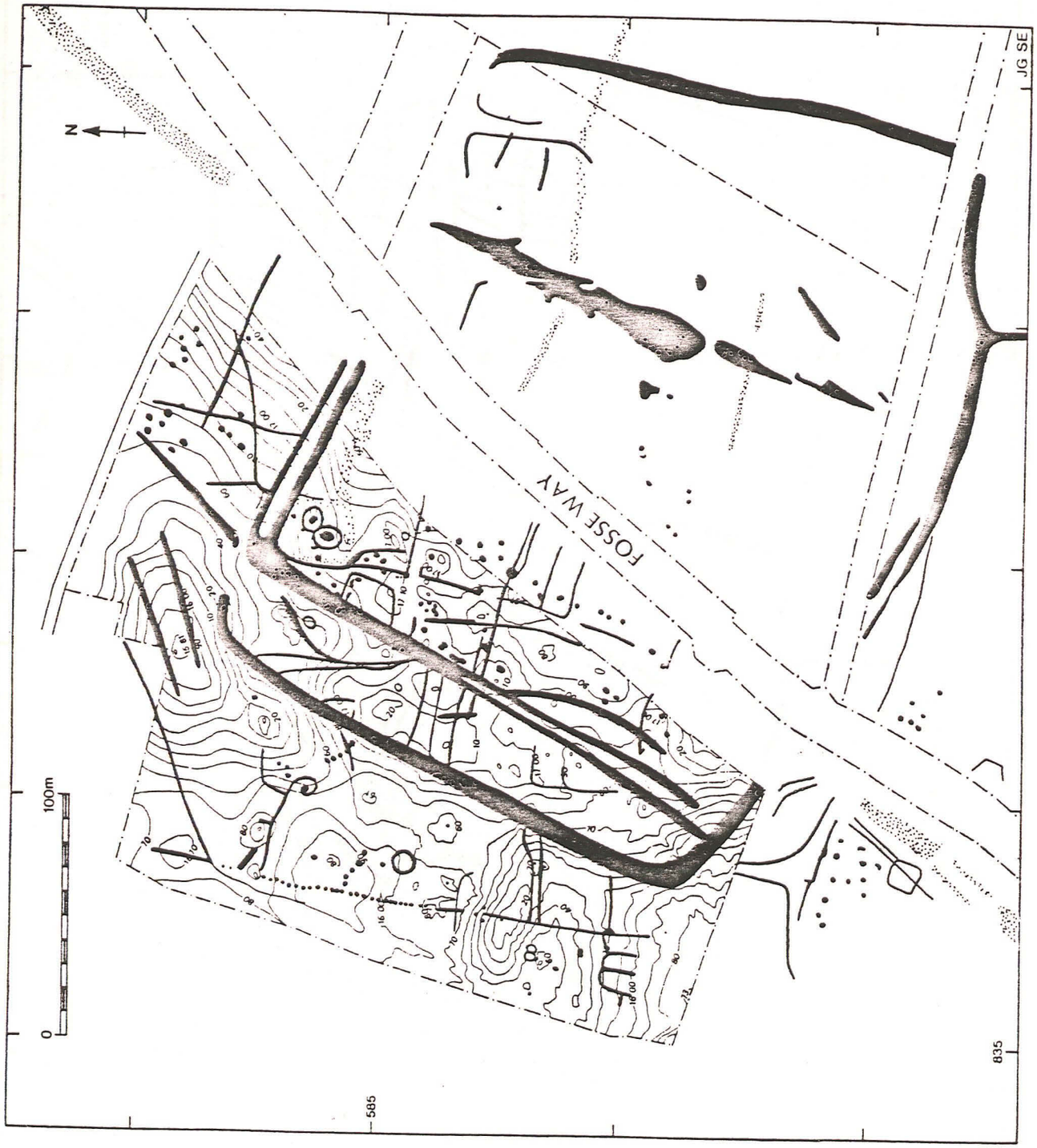

Fig. 14 Brough: contour survey in relation to cropmarks

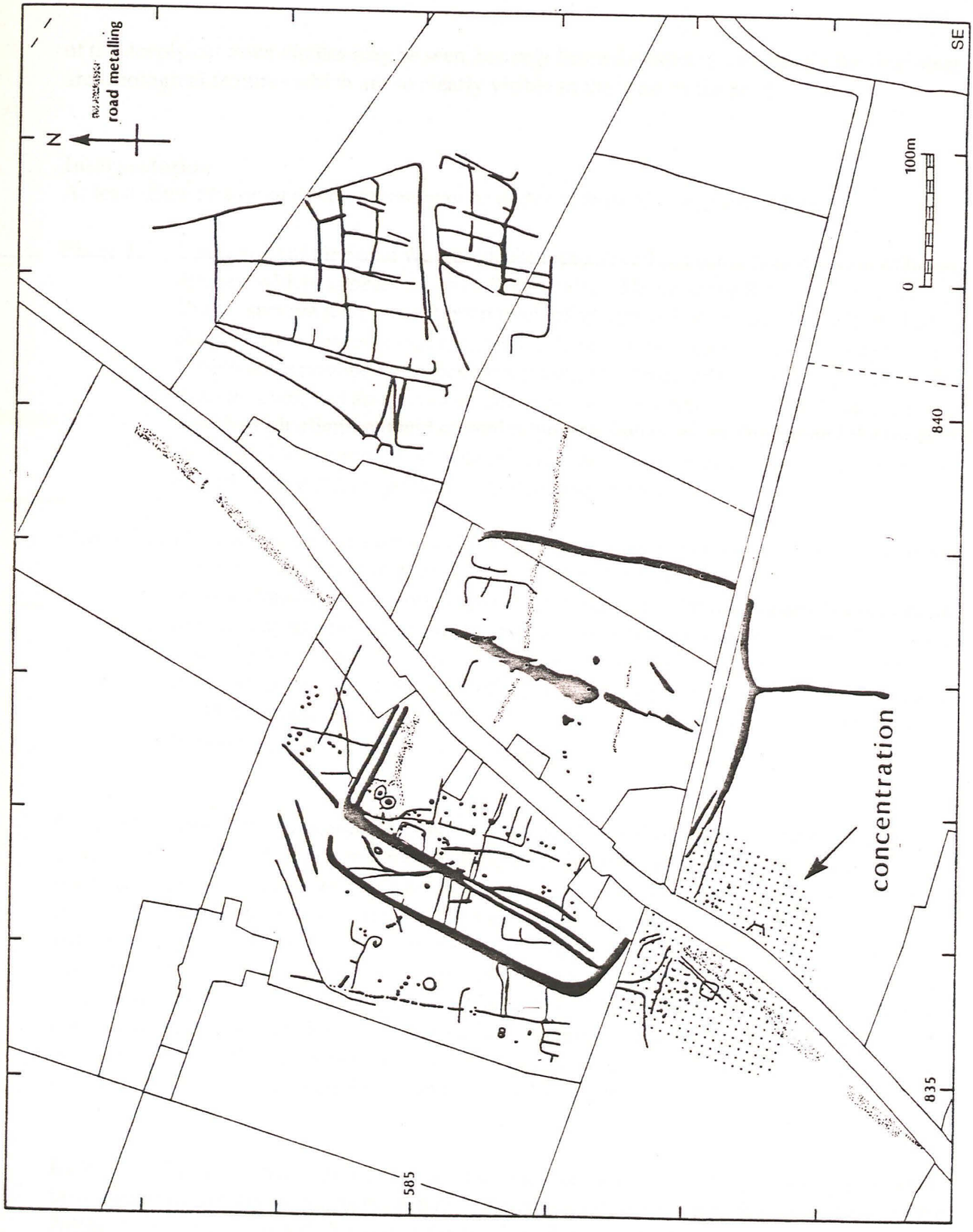

Fig. 15 Brough: Romano-British pottery concentration located during fieldwalking

of the deeply cut town ditches may be seen, but only limited evidence survives for the shallower archaeological features which are so clearly visible to the west of the road.

Interpretation

At least three phases of development may be deduced from the crop-mark data.

Phase 1. To the west of the Fosse Way, evidence is preserved of a complicated system of linear ditches which appears to extend beneath and beyond the Roman town defences. Traces survive within the Roman town of an approximately north-south trackway, flanked by a series of subrectangular land parcels. This has been interpreted by Whimster as possibly evidence for an unenclosed roadside settlement preceding the Roman town, and appears to be integrated with a series of possible field ditches, a length of pit alignment and several minor trackways extending beyond the town to the west. The date of this system of land allotment is unclear, but the incorporation of a pit alignment might imply a prehistoric origin.

Phases 2 and 3. A minimum of two phases of construction is suggested by the layout of the broad defensive ditches which enclose the Roman town on its western and eastern sides. Their chronological relationships can obviously only be established by excavation, but we may imagine either an enlargement or a reduction of the enclosed area over time. Within the town, we may discern traces of two metalled roads, one of which is known to display four phases of repair capped by other activity (Fig.11). Each is set at right angles to the present line of the Fosse Way, and presumably reflect the internal layout of the site.

Many other linear features and pits, and several small circular or rectilinear enclosures and possible hut circles, are indicated on the photographs, but their relationship to the above phases is unclear. Particularly noteworthy, however, is a rectilinear arrangement of ditches to the north-east of the site. This has been interpreted as a group of fields or stock paddocks, possibly contemporary with the Roman occupation of Brough (*op.cit.*), and may provide a valuable insight into the integration of Crococalana with the wider landscape. Several trackways may be discerned, together with a large trapezoidal enclosure which appears to have been systematically divided along both the vertical and horizontal axes. One of the trackways is aligned on the north-east corner of the Roman town, and we might speculate on these grounds whether the town defences in fact post-date certain elements of this field system.

Reference should be made finally to the discovery on several recent air photographs of an intermittent linear cropmark, visible in part as a parch mark, which flanks the western edge of the A46 to the north and south of the town defences. This shows only where the modern road deviates from a straight course, and may represent the original line of the Fosse Way. This alignment

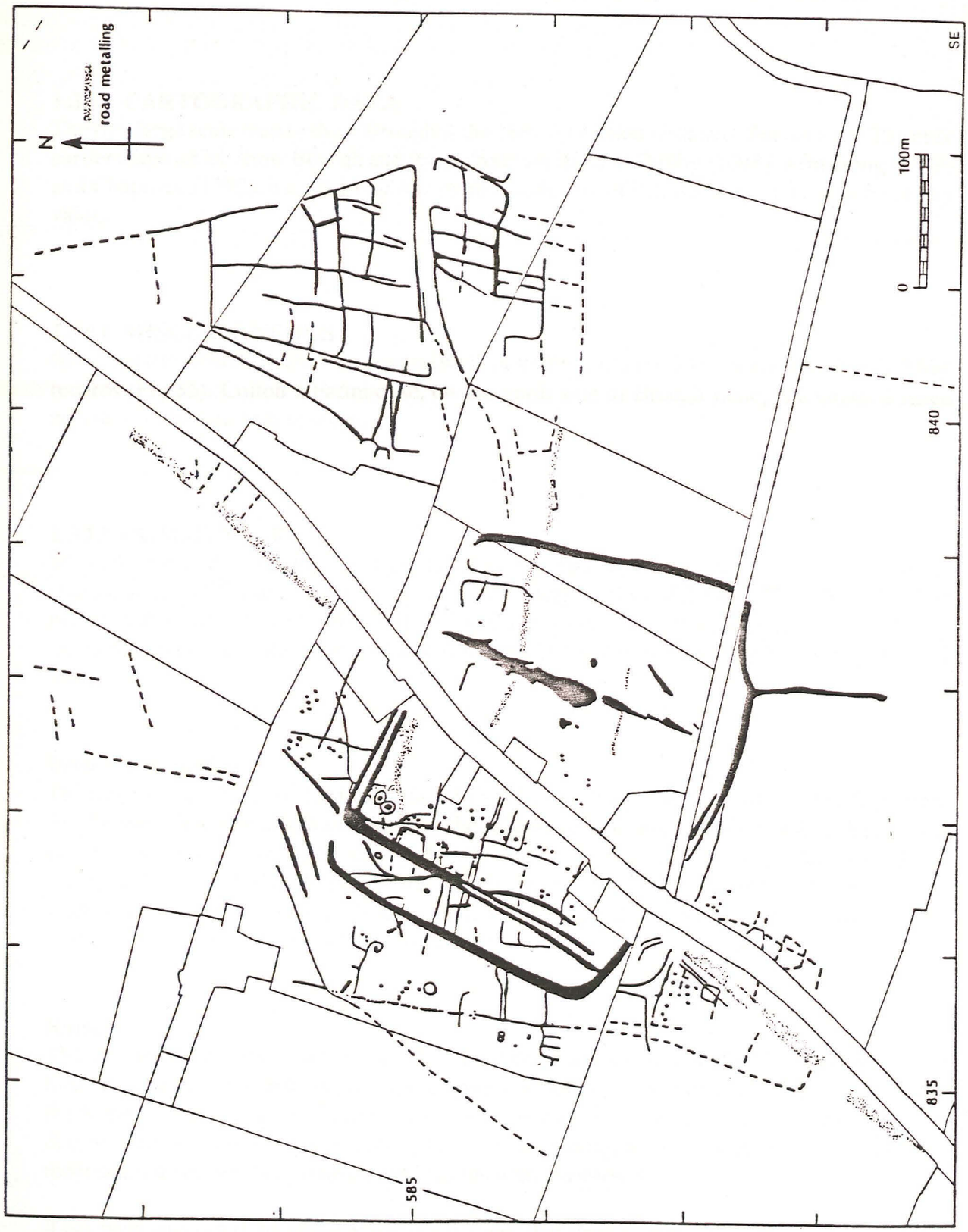

Fig. 16 Brough: all cropmarks, including those which cannot be located securely (dashed)

stretch of the Roman Fosse Way might survive in fields adjacent to the modern road.

1.3.10 CARTOGRAPHIC DATA

The first large scale map to show Brough is the 1889 1st edition Ordnance Survey map. The only earlier maps which show Brough and its environs are those of Ogilby (1698), Armstrong (1779) and Chapman (1792), but all are of too small a scale and of insufficient accuracy to be of any value.

1.3.11 MISCELLANEOUS

Numerous post-medieval pumps, several wells, a smithy and a brick kiln are recorded in the SMR records (Fig.35). Colton's Farmhouse, on the north side of Brough Lane, is a Grade 2 listed building of the late 18th century.

1.3.12 COMMENTARY

We consider in this section the significance of the data which are currently available for an understanding of Brough, and provide an initial interpretation of the site. This higher level of interpretation can only be the result of an exercise in professional judgement, and is based upon an assessment of the balance of probabilities in the light of current knowledge of Roman small towns.

Prehistoric origins

The cropmark evidence which is described in Section 1.3.9 could indicate a Late Iron Age origin for the site. This may also be implied by the discovery of a small number of Iron Age sherds beyond the southern defences, and by the discovery of a coin of Cunobelin. The place name, incidentally, may also imply prehistoric, but not necessarily Iron Age, activity. Late Iron Age settlement would not be unique; Smith (1987, 3-5), for example, records seven cases of roadside settlements in Britain with positive excavated evidence of Iron Age antecedents.

Roman

The mention of the site in two of the Antonine Itineraries may indicate that it contained, or was formed around, an imperial *mansio* (post-house) or *mutatio* (horse-changing station). Whether the Antonine Itinerary provides a record of the Imperial post system has been the subject of much debate, and no consensus has yet emerged. It is worth noting, however, that Smith (1987, 11-16) records evidence for nine roadside settlements with *mansiones*.

It has been suggested, by analogy with other sites, that Brough may originally have functioned

as a fort. No clear evidence, however, has been obtained in support of this argument, partly perhaps because so little of the site has been explored. Woolley, it should be recalled, did recover the cheek piece from a bronze helmet, but the significance of this discovery is very debatable.

Whether we interpret the site as a town depends upon our definition of the term. From what is known of Imperial administration, the site is unlikely to fall within the category of major town, and is far more likely to have been classed as a *vicus*: a term which appears to have been applied to wards of cities, small towns and occasionally areas of countryside. Burnham and Wacher (1990) have pointed out the difficulty of finding an adequate, and usable, definition of 'settlement' and 'small town'. There is still no definition that attracts a consensus of opinion, but in Burnham and Wacher's recent synthesis of the subject Brough is classified as a small town.

Key factors which would support Burnham and Wacher's argument include the following:

a. Long term occupation.
This is demonstrated by the cropmark evidence for multi-phase activity, incorporating at least two phases of defence, and is further suggested by the date range of the recorded finds.

b. Presence of defences.
Brough clearly had defences similar to those found in 38 other sites which are classified by Burnham and Wacher (1990, 30) as small towns.

c. Size of the occupied area.
The area of occupation is apparently much larger than typical roadside settlements or agricultural sites (*cf.* Smith, 1987, 96-115). It must have included, at the very least, the area enclosed by the defences and the extramural zone which has been identified to the south of the defences.

d. Internal layout.
The evidence for the internal spatial organisation of the site is difficult to interpret because of the lack of excavation and the limitations of the aerial photographic evidence. A series of cropmark enclosures fronting a road or trackway may, however, be observed to the west of the Fosse Way. These may be fields, or possibly building plots of the type recorded by Smith (1987, 22-48) in eleven roadside settlements, and termed 'family compounds' by Hingley (1989, 71-4). The excavations revealed features that could be interpreted as the remains of building lines, and may indicate that some at least of the plots were intensively occupied. Internal roads such as those shown on the cropmark plots are usually only found in towns and military sites.

A particularly informative parallel may be drawn with the recently excavated Late Iron Age and Roman site at Baldock, Herts.(Stead and Rigby, 1986). The site lacks defensive works, but air photographs have revealed a system of enclosures, fronted by tracks and roads, which is strikingly similar to the observed pattern at Brough. Both sites, moreover, had a direct relationship with a Roman road. In the case of Baldock, the road from Verulamium was aligned

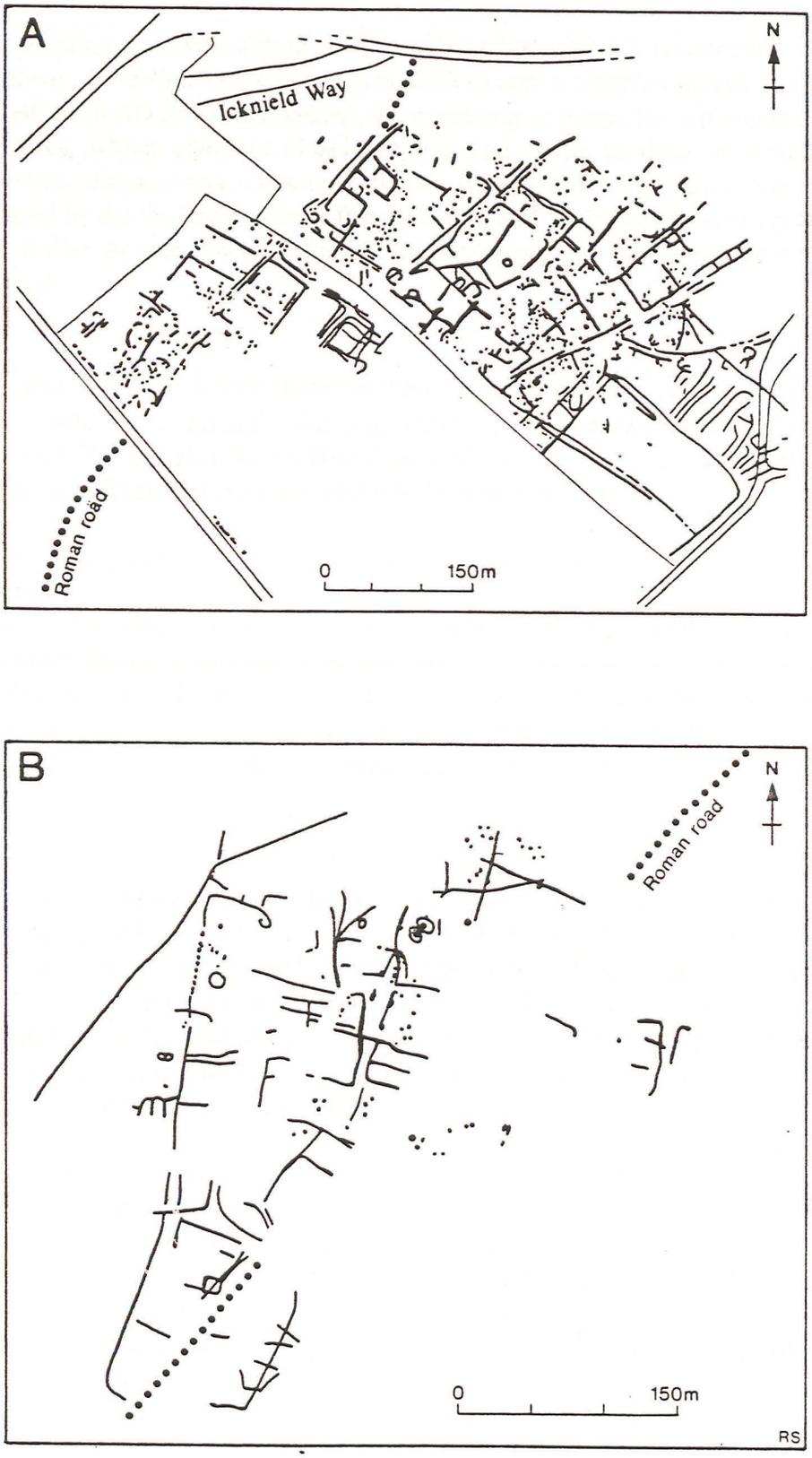

Fig. 17 Comparison of the cropmark complex at Baldock, Herts. (A) with the earliest phase of settlement at Brough (B)

along a pre-existing trackway, although at Brough the Fosse Way is positioned at an angle to an earlier trackway. Over 4ha. were excavated at Baldock, and a complex sequence of development from *c.* 50 BC until AD 350 was revealed, incorporating an extensive settlement and cemetery. The enclosures, which compare closely in size and shape to those observed at Brough, incorporated buildings, ovens, wells and pits. The material culture of the site was at least as rich as is suggested by the limited evidence from Brough, and the range of everyday activities may have been similar. In common with Brough, the site appears to have declined during the post-Roman period.

Perhaps the major point of contrast between these two sites is the level of preservation. Burnham and Wacher (1990, 281-8) ranked Baldock as one of the better known small town sites of Britain, but compared with Brough it had suffered seriously as a result of extensive plough damage. Consequently buildings and other structures were poorly preserved.

Urban Status

The absence, so far as we may determine, of any traces of a forum, macellum, theatre, amphitheatre or aqueduct, and the small size of the site, suggest that Brough never achieved the status of the larger Roman towns. There is, however, strong evidence for a degree of wealth, in the form of samian ware, traded provincial pottery, glass, amphorae, bronzework, painted wall plaster, roof tiles, a full and extensive range of coinage, and lead coffins.

Activities

There is very little evidence at present for industrial or commercial activities. Woolley recovered a writing stylus and a helmet cheek-piece, both of which are relatively rare finds on such sites. Agricultural activities are suggested by casual finds made by Woolley and, most importantly , by the extensive field system which survives to the north of the town. Smith (1987, 22-30) has pointed out that examples of roadside settlements with known field systems, such as Brough, are rare. It may be assumed, however, that this is a result of poor survival combined with sparse fieldwork, rather than a reflection of Roman activity.

Defensive Functions

The provision of defences can be taken as proof of the status of small towns. The date of these defences at Brough is not known, but it has been suggested by Burnham and Wacher (1990, 35-6) that Brough was a *burgus* or late Roman defended enclosure. The precise definition of this term, and its relevance to the Roman period, remain, however, matters for debate.

Decline

It is clear that Brough failed to survive as a settlement. The date of this decline remains unclear, but as noted above late Roman and early Saxon finds are present.

Summary
Brough appears to have been a Roman small town of some wealth, engaged in a range of activities. Its origins may lie in the late Iron Age period, or even earlier, and it may not have declined until the Anglo-Saxon period. It survives in part as an earthwork, and preserves deep stratigraphy. It is one of 148 known roadside settlements (Smith, 1987), one of 38 defended small towns, and one of only five defended small towns associated with the Fosse Way. The date and the significance of the defences remain unclear.

1.4. THE REMAINDER OF THE ROAD CORRIDOR

1.4.1 PREHISTORIC

Artefactual evidence for prehistoric activity within the survey corridor was limited prior to recent fieldwalking to a socketed copper alloy axe of Late Bronze Age type recovered in uncertain circumstances from near Villa Farm, Norton Disney (SK855602; Lincs. SMR: Site 8560H), and a scatter of lithic surface finds. Polished stone objects include a pebble 'macehead' from Potter Hill (SK851606; Notts. SMR 4330; Wymer, 1977, 222: incorrect grid ref.) , possibly of Mesolithic date (*op.cit.*), two Neolithic stone axes from Thorpe on the Hill at SK908655 and SK909653, the former of Great Langdale (Group VI) volcanic tuff (Lincs. SMR: Sites 9065C & J), and a Neolithic stone axe from Potter Hill (SK858608; Notts. SMR 4331a). Flintwork includes a late Neolithic/Early Bronze Age barbed and tanged arrowhead from Morton (SK885639; Lincs. SMR), a waste flake from just south of Brough (SK833580; Notts. SMR: Site 3709; Trent Valley Archaeological Research Committee Gazetteer, 1980, 39: unpublished), an 'awl' from Potter Hill (SK851608; Notts SMR: Site 4307) and a scraper and 'hammer-head' found during excavations of the Roman villa at Norton Disney (Lincs SMR: Site 8560E; Oswald, 1937).

This distribution (Fig.33) has not been substantially enhanced as a result of recent fieldwalking (Appendix 1), for only a handful of waste flakes of possibly Neolithic or Bronze Age date and a few probably Iron Age sherds from Brough were recovered (Section 1.3.8)

It seems unlikely that this paucity of data genuinely reflects the density of prehistoric activity, especially in view of the persuasive evidence for the pre-Roman origins of Brough, discussed above, and the discovery along the road corridor of a number of cropmark enclosures, trackways and probable field systems that on typological grounds compare closely with known prehistoric or Romano-British sites from the region (*cf.*, for example, Whimster, 1989). The distribution of cropmarks is shown in Fig.19, and plots of each site are included in Section 3.

1.4.2 ROMANO-BRITISH

Apart from the Fosse Way itself (Section 1.2), evidence for Romano-British activity to the north and south of Brough is remarkably elusive (*cf.* Fig.34) although as noted above several cropmark sites probably date from this period.

The most significant site is the villa at Norton Disney, Lincs., a Scheduled Ancient Monument excavated in the 1930's (Oswald, 1937). This, however, is located just to the east of the area threatened by road development (SK859602), and hence does not merit detailed discussion here.

Of greater significance in the present context is a reference in the Notts. SMR to the discovery at Potter Hill, immediately to the west of the A46 at SK858608, of 60 to 70 burials, apparently associated with Roman pottery (Notts SMR: Site 4331). This site, if accurately located, lies within the proposed road corridor, and construction work might be expected to reveal further burials. Unfortunately, the date and circumstances of discovery of the remains are unknown, and there is a strong possibility of confusion with the discovery of a Roman and Saxon inhumation cemetery at Collingham to the west (Notts. SMR: Site 4320; SK846613; Meaney, 1964, 200; *VCH* Notts II, 1910, 25). A 'large number' of skeletons was apparently found in the early nineteenth century between Collingham Station and Potter Hill, along with Roman coins, an Anglo-Saxon (or possibly Viking) iron spearhead, and an Anglo-Saxon necklace of amber, paste and glass beads. Attempts are currently being made to unravel the conflicting documentary evidence for the Potter Hill and Norton Disney areas (M.W. Bishop: pers. comm.), and there is a need for close monitoring of this area during road construction. It is worth noting also the presence of an extensive system of cropmarks to the immediate west of the supposed site of the Potter Hill burials (Fig.26). This includes several small subrectangular enclosures and trackways, and, to the north-east, a series of linear boundaries which might represent a field system. The complex is undated, but an association with the putative Romano-British cemetery is possible.

Another site which merits mention is a concentration of third to fourth century AD pottery at SK854604, which if accurately located would be on the site of the putative Roman road at North Scaffold Lane (Lincs SMR: Site 8560F). A minor concentration of mainly second to fourth century AD pottery was recorded during recent fieldwalking by Trent & Peak Archaeological Trust to the east of Thorpe on the Hill, Lincs. (SK918652; Fig.31), while a thin scatter of Romano-British pottery was recorded elsewhere along the Fosse Way during recent fieldwalking by the Trust (Appendix 1; Fig.31). The latter is perhaps most plausibly explained as evidence of manuring, and may provide indirect evidence, therefore, for agricultural activity beyond the known occupation foci.

Further evidence for Romano-British activity is provided by the discovery of occasional Roman coins (Fig.34) and, more arguably, by a roughly worked pillar of oolitic limestone, *c.* 90cm high, which was found in Romanstone Plantation, Swinderby (SK86656138: Lincs. SMR: Site 8661A). This was set vertically in the ground and is listed as a possibly Roman boundary- or milestone. There is, however, no convincing evidence in support of this claim (as noted, in fact, by O.G.S. Crawford in the original O.S. record of this find).

1.4.3 MEDIEVAL AND POST-MEDIEVAL

There are no medieval sites of note within the survey corridor, with the exception of Brough (*cf.* Fig.35), although it is possible that the Anglo-Saxon cemetery at Collingham, referred to in the preceding section, had extended towards the A46. Also worthy of mention is the Deserted Medieval Village at Danethorpe (SK841573; Notts. SMR: Site 3636). This is situated to the south-east of the proposed road corridor, just to the south of Brough, but would be damaged were it decided to bypass Brough to the south-east. Little is known about the site, but significant damage to the surviving archaeological remains could seriously detract from its archaeological value.

No post-medieval sites of significance are known. Scatters of pottery and other material, possibly indicative of manuring, have been recorded along the Fosse Way, particularly in the neighbourhood of Brough during recent fieldwalking (Fig.32). Otherwise, with the exception of several buildings of interest at Brough and Thorpe-on-the-Hill (none of which is affected by the proposed road development), the period is represented by a scatter of pumps and wells, none of which is of great archaeological or historic significance (Fig.35).

2 THE STRATEGY FOR PRESERVATION

2.1 CRITERIA FOR THE ASSESSMENT OF SITES

2.1.1 SCHEDULING CRITERIA

Particular emphasis is placed in this evaluation upon the scheduling criteria laid down in Annex 4 of *PPG* 16. These criteria may be summarised as follows:

1. Period. All types of monument that characterise a category or period should be considered for preservation, in order that a representative sample be preserved for posterity.

2. Rarity. There are some monument categories which in certain periods are so scarce that all surviving examples which still retain some archaeological potential should be preserved. In general, however, a selection must be made which portrays the typical and commonplace as well as the rare. This process should take account of all aspects of the distribution of a particular class of monument, both in a national and a regional context.

3. Documentation. The significance of a monument may be enhanced by the existence of records of previous in vestigations or, in the case of more recent monuments, by the supporting evidence of contemporary written records.

4. Group Value. The value of a single monument (such as a field system) may be greatly enhanced by its association with related contemporary monuments (such as a settlement and cemetery) or with monuments of different periods. In some cases, it is preferable to protect the complete group of monuments, including associated and adjacent land, rather than to protect isolated monuments within the group.

5. Survival/Condition. The survival of a monument's archaeological potential both above and below ground is a particularly important consideration, and should be assessed in relation to its present condition and surviving features.

6. Fragility/Vulnerability. Highly important archaeological evidence from some field monuments can be destroyed by a single ploughing or by other unsympathetic treatment, and such monuments would particularly benefit from the protection which scheduling confers. There exist also standing structures of particular form or complexity whose value can again be severely reduced by neglect or careless treatment, and which are similarly well suited for scheduled monument protection (even if these structures are already listed historic buildings).

7. Diversity. Some monuments may be selected for scheduling because they possess a combination of high quality features, rather than a single important attribute: for example, a Roman town with associated field systems.

8. Potential. The nature of the evidence cannot always be specified precisely, but it may be possible to demonstrate the potential value of a monument as a result of evaluation work.

2.1.2 PERIOD SURVEYS

The significance of the Fosse Way for the study of the themes explored in the previous section is best demonstrated by a more detailed consideration of the three periods to which work along this historically important route would have most to contribute, namely the Iron Age, Romano-British and medieval periods.

a) Iron Age

The proposed dual carriageway between Widmerpool and Lincoln crosses an area which is poorly studied by comparison with many other regions of southern and midland England. Recent syntheses of the evidence however,, notably by Haselgrove (1984, 14-16), May (1984), O'Brien (1978; 1979), Smith (1978) and Whimster (1989), emphasise the potential of the area for an examination of the following key issues:

Environment

The limited environmental evidence which is currently available from Iron Age sites within the region suggests that possibly quite extensive parts of this as of other areas of the Midlands (*e.g.* Robinson and Wilson, 1987) may have been cleared for agricultural purposes by the later Iron Age. There is a pressing need for more extensive sampling to test this hypothesis, and to establish whether the level of clearance (and presumably settlement) might have varied within the region (with more extensive activity, for example, on the gravel terraces of the Trent). The Fosse Way traverses a variety of environmental zones, and sampling of suitable waterlogged deposits (*e.g.* possible peaty deposits near *Margidunum*, Notts.) or of buried soils (such as might occur beneath the surviving town defences at *Crococalana* or *Margidunum*), could provide valuable evidence of land use changes in the Iron Age, and possibly even of intraregional variations in land use.

Iron Age Settlement Density and Population

Recent work in the Trent Valley (e.g. Knight, 1991) suggests that some parts of the region might have been as densely settled in the Iron Age as appears to have been the case, for example, on the Upper Thames gravels (*cf.* Hingley, 1984). Fieldwalking along the road corridor, followed by selective excavation and, where necessary, watching briefs, should provide sufficient evidence

to test this hypothesis, and to establish the likelihood of intraregional variations in settlement density.

Spatial Organisation of Later Iron Age Settlement

Much debate has centred recently upon the development of later Iron Age settlement in the East Midlands, and in particular upon the social and economic roles of the 'nucleated' settlements which may have developed during the later Iron Age at Leicester and Lincoln, and to the east of the Trent Valley at sites such as Old Sleaford and Ancaster (*e.g.* May, 1984; Millett, 1990). Key questions remain regarding the origin and development of these sites, which we may reasonably consider alongside the so-called 'enclosed' and 'territorial' *oppida* of other areas of southern Britain (*op.cit.*), and it is suggested that the remains along the Fosse Way could preserve evidence which might elucidate the following issues:

a. What was the social and economic status of later Iron Age settlements along the line of the Fosse Way (such as may have preceded the Roman small towns of *Crococalana*, *Margidunum* and *Ad Pontem*)?

b. What relationship (as may be implied, for example, by ceramic or other evidence for exchange linkages) may these sites have had to one another and to i) later Iron Age 'nucleated' settlements, ii) hillforts, and iii) other Iron Age settlements?

Relationship between Late Iron Age and Romano-British Settlement Patterns

One of the key questions which we might hope to address is the extent to which the Roman small towns of *Crococalana*, *Margidunum* and *Ad Pontem* developed from pre-Roman roots, and hence whether the major axis of movement might have shifted westwards in the Roman period from the Lincs. and Leics. Wolds (as argued, for, example, in May, 1984). Two phases of pre-Roman occupation, including circular and rectangular buildings, have been claimed at *Ad Pontem* (Burnham and Wacher, 1990, 272), while recent examination of the pottery from *Margidunum* by D. Knight has produced hitherto unexpected evidence for Late Iron Age pottery (early first century AD wheelmade cordoned pottery, previously classified as 'Trent Valley' ware). In addition, examination of the cropmarks at Brough suggests a phase of possibly late Iron Age activity before the construction of the town defences. Few pre-Roman artefacts are known from the site, but earlier activity may be implied by the find of an Iron Age bronze coin (attributed by J. May to one of the southern Iron Age tribes), and a small quantity of probably Iron Age handmade pottery which was recovered immediately to the south of the town during recent fieldwalking by Trent & Peak Archaeological Trust.

The archaeological remains which are preserved along the Fosse Way might provide evidence also of the distribution of other Romano-British and Iron Age settlements in this area, and hence the extent to which the siting of the road might have been guided by pre-Roman patterns of land organisation.

Landscape Organisation

Extensive field systems with possibly late Iron Age origins have been recorded on the Sherwood Sandstones to the north of the Trent (*e.g.* Riley, 1980), and smaller scale systems may have existed in parts of the Trent Valley to the north of Newark (*cf.* Whimster, 1989) and in the vicinity of Nottingham (Knight, 1991). There is, however, no convincing evidence for the continuation of these systems, which may be parallelled extensively elsewhere in southern England (*e.g.* Williamson, 1987), to the south of the Trent, and it is to be hoped that further air photographic research, combined with excavations and watching briefs along the line of the proposed road, will enable us to test this hypothesis.

The possibility of the survival along the road corridor of pre-Roman territorial or field boundaries is strengthened by the recognition of an earthwork boundary at Sheep Walk Lodge, which is apparently cut by the Fosse Way (Fig.19). The earthwork coincides with the junction of two parish boundaries, and if genuinely of pre-Roman date has major implications also for the origin of parish boundaries within the region.

b) Romano-British

This section summarises current knowledge of the Roman archaeology of the Fosse Way and its immediate environs, and considers the potential of the threatened sites for current academic studies of this period.

In the case of Brough, the issue of potential is unequivocal. It is a well preserved multi-phase Roman urban site with associated field systems, as described in Section 1. On a wider scale, within an area defined approximately by Leicester, Derby and Lincoln, the nature of the Roman economy, its environment, and the development of its society, is poorly understood - although it is known that this zone contains a wealth of sites that include towns, villas, farms and military establishments (*e.g.* O'Brien, 1978; Todd, 1973; Whimster, 1989).

Role of the Fosse Way

The material which has been recovered from *Ad Pontem, Crococalana, Vernemetum* and *Margidunum*, and their location along the Fosse Way, has led many to assume a military origin for these sites. However, the interpretation of the road as a frontier work, with accompanying forts, would necessitate redating of such monuments to an earlier period than the present archaeological and documentary evidence allows. Salway (1984, 95-7) has discussed the arguments against this general hypothesis, and has noted too the evidence for several phases of construction of the road, following the establishment of roads running from east to west across the country. Jones and Mattingly (1990, 93-5) also cast doubts on the frontier role of the road, and have suggested that it formed an important rearward communication route to legions placed to the west, and possibly also a territorial boundary following a land division running from Lincoln to Ham Hill, Dorset. The historical reasons for the foundation of the road thus remain unclear. The need for such a route, however, would have arisen betweenAD 47 and AD 57 under the

governorships of either Scapula or Gallus. During the reign of Nero (AD 54-68) there was a shift in military effort further to the north and west, which would have meant that the road's major military significance was seriously reduced. Its appearance in the Antonine Itinerary, however, which was compiled mainly between AD 214 and AD 215, suggests that it remained an important route until late in the Roman period.

Rural Settlement and Economy

O'Brien's overview of Romano-British settlement within the region, published in 1978, is still of general validity. It was thought then that Roman sites within the valley were predominantly either multiple rectangular enclosures or villas, but the precise economic functions of these settlements was, and still is, unclear. Recent work by Whimster (1989) and the up-grading of the Nottinghamshire Sites and Monuments Record have revealed a possibly very dense pattern of Roman settlement along the Trent Valley, with a full range of agricultural sites. Whimster's survey of the aerial photographic evidence from the Trent Valley identified three main types of complex settlement: those focussed on a major rectilinear ditched enclosure, those in which possible round houses were scattered within irregular fields and paddocks, and those comprising numerous small sub-rectangular enclosures alongside linear ditches and trackways. He emphasised that the chronology of these sites was uncertain, but argued that a significant proportion probably belongs to the later Iron Age or Roman periods. Partial confirmation of this assumption has come from recent work by the Trent & Peak Archaeological Trust at Rampton, Notts., where several small rectangular enclosures of Romano-British date have been identified. In addition to the classes of site that have been identified by Whimster, a number of large villas may be identified, notably at Collingham and Car Colston, Notts., and Norton Disney, Lincs. These demonstrate the existence of a full range of rural settlement types. Within the broad confines of the valley bottom, excavations at Willington revealed two Romano-British farmsteads, within a landscape of developed field systems (Wheeler, 1979). At Holme Pierrepont, Notts., a pattern of small ditched enclosures and field systems with later Iron Age origins was revealed (O'Brien, 1979). This pattern showed signs of continual enlargement and alteration until the abandonment of the site in the late fourth century AD.

Along the fringes of the area, work in the Vale of Belvoir and further south into Leicestershire (*e.g.* Liddle, 1982) has also revealed a greater density of settlement than was previously imagined. Within the Vale, which lies between the Fosse Way and the Jurassic Ridge, the site of Staunton, dating from *c.* AD 250 to AD 400, was found to consist of circular huts, enclosures, ditches and pits (Todd, 1975). In addition, recent work by the Trent & Peak Archaeological Trust at Car Colston, Notts., have provided evidence of substantial and extensive villa settlement. To the west of the valley, studies on the Sherwood Sandstones have revealed a late Iron Age and early Roman landscape different from that in the valley, and indicative perhaps of a significant expansion in agriculture. Garton's (1987) report on her work at Dunston's Clump, Notts., reviewed the evidence for the extent, date and use of the so-called 'brickwork plan' field systems. The fields were in use in the Roman and possibly Late Iron Age periods, and at Dunston's Clump were associated with settlement enclosures.

Urbanisation

Major excavations have so far been confined to the larger Roman settlements at Lincoln, Leicester and Derby, and little systematic large scale investigation has taken place on the smaller urban sites along the Fosse Way to the north of Leicester. The recent work at Brough has revealed a fully articulated multi-phase site, probably with associated field systems, which may have originated in the later Iron Age and continued in use into the Anglo-Saxon period. There are fifteen other known urban or roadside settlements along the line of the Fosse Way from Lincoln to Ilchester. Eleven of these sites are comparable in form or size to Brough, and five are known to have had defensive circuits. The existence of these defences has led Burnham and Wacher (1990, 35) to suggest that certain of these sites could have become late Roman burgi (defended sites). As a group, the five small sites with defences (Brough, Thorpe, *Margidunum*, Chesterton and Dorn) have revealed a range of urban activities which, judging by the evidence of the artefactual and structural remains, was of some quality.

There is enough evidence to call for a thorough review of the assumption that these smaller towns owe their origins to military endeavour, and their continuation to some sort of unspecified market or civilian development (*cf.* Hingley, 1989). The nature, form and development of Roman urbanism has emerged as a crucial issue for students of this period, not only in its own right but as an indicator of the nature and development of the Roman economy. Sites such as Brough, with its well preserved stratified deposits, and neighbouring rural sites, are crucial to the long-term investigation of this subject.

The National Setting

In considering the importance of the sites threatened by the proposed development, it is essential that we establish also their potential value for an understanding of the archaeology of the Roman province as a whole. Of particular interest are the clear disparities between the settlement patterns in the river valley and in neighbouring areas. Such clear disconformities in settlement density can be observed in a number of other areas, notably along the Nene Valley or at the interface between the Hampshire Basin and chalk downs. A chain of reasonably well preserved roadside urban settlements may also be identified along the Fosse Way to the south of Leicester, notably in the vicinity of Cirencester (Smith, 1987, 291-300). There is, however, some strength to the argument that the northern area around Brough represents the furthest extent of the developed settlement hierarchy which is argued to have been typical of lowland Roman Britain (cf. Hingley, 1989, 138-9), and hence the area should be a sensitive indicator of fluctuations in the fortunes of that zone.

The true merits of the area, in terms of its importance to the archaeology of the province as a whole, lie not only in the relatively well preserved nature of the sites and the comparative ease with which we may examine their articulation, but also in its significance for the study of urbanism and the relationship between the highland and lowland zone economies (*cf.* Hingley, 1989). Brough, in particular, may be expected to preserve evidence of relevance to the following issues, as identified in English Heritage's recent draft document, *Developing Frameworks.*

Processes of change:
1. Pre-conquest origins of Roman settlement patterns.
2. The nature of the Roman decline.
3. The re-organisation of the cultivated landscape.

Landscapes:
1. Roman towns and their hinterland.
2. Relict field systems.
3. Estate boundaries.

Towns:
Romano-British nuclei (failed).

The fact that so many of these issues can be addressed by examination of the sites concerned indicates their general merit. Such issues could be tackled in isolation elsewhere, but the fact that in this area they could all be meaningfully attacked accords to them a Group Value sufficient to ensure the need for careful action to avoid their further destruction or disturbance. This point echoes the view of Whimster (1989), who concluded not only that extensive clusters of sites existed in the Trent Valley but also that attention should be paid to their preservation, especially where evidence of continuity from the Iron Age to Roman periods or from Roman to Saxon times could be demonstrated. Brough, like the other five small defended towns along the Fosse Way, forms part of such a cluster, and preserves evidence of continuity. Whimster also noted that the area contained many land boundaries and linear features which provide crucial evidence for the development of the landscape. Some of these boundaries might be of Roman or even later Iron Age origin, and it is suggested that the articulation of these with the Fosse Way should be preserved wherever possible.

c) Medieval

The Fosse Way

The Fosse Way appears to have declined in importance as a long distance route in the early post-Roman period. To the south of the survey area, at *Vernemetum*, early Anglo-Saxon burials are known to have encroached upon the road surface (G. Kinsley, forthcoming), while to the north of Brough, at Gallows Nooking Common, a probable early Anglo-Saxon tumulus appears to have been erected in the roadway (Section 3: Site 10; frontispiece). It is difficult to imagine these encroachments taking place while the road was still in heavy use.

Use of the road seems to have increased in the later Saxon period. In the mid-tenth century, the Fosse Way was sufficiently important to attract a *burh* at Newark, strategically situated for domination of both the road and the Trent. Further evidence for renewed late Saxon use of the Fosse Way is provided by the laws of Edward the Confessor (1043-1066), which indicate that by at least the eleventh century, along with the other major Roman roads of Ermine Street, Watling street and the Icknield Way, it enjoyed the protection of the King's Peace. The river was bridged at Newark in the early twelfth century - considerably later than at Nottingham, where the

strategically more important Norman royal castle had access to a bridge dating from AD 924 - but thereafter use of the Fosse Way appears gradually to have declined. It was not used by the English kings in thousands of recorded journeys after 1066, and it is not shown on either the Paris (*c.* 1250) or Gough (*c.* 1340) maps (Steane 1984, 105-6; fig.4.1). The possibility of late Anglo-Saxon or medieval construction phases, maintenance or robbing on exposed sections of the Fosse Way must be considered. It must be borne in mind, however, that the Roman road line is preserved in the modern road for its entire length, and that the former, therefore, must have survived as a visible feature throughout the post-Roman period.

Settlements

The modern settlement pattern shows that the Fosse Way did not form a significant focus for settlement (Fig.18), but there is little direct evidence for the antiquity of the pattern. Although most of the villages are represented by Domesday communities bearing the same names, there is every possibility of settlement locations drifting over the centuries. The extensive fieldwalking which was carried out within the survey corridor produced only one concentration of pottery, at Brough (Fig.32), while only two medieval village sites are known within the 2km corridor, at Danethorpe and at Thorpe (Fig.35).

Brough is the only site on the road with archaeological evidence of post-Roman activity, and hence is of major significance for our understanding of the Roman/Saxon transition in the region. The place name implies the survival of earthwork defences into the post-Roman period (Gover, Mawer and Stenton 1979, 204), although the loss of *Crococalana* may indicate that the site did not continue as a focus for significant occupation. There is persuasive evidence, mainly from metal detector finds, for an early Anglo-Saxon cemetery, and possibly, therefore, for settlement of some kind. These finds are not precisely located, but include at least eight brooches, probably from inhumations. A minor concentration of post-Conquest pottery raises the possibility of continued small-scale occupation into this period, but the nature and the extent of this activity are unclear.

Boundaries

The modern parish boundaries form a model for Medieval estate boundaries in the vicinity of the Fosse Way (Fig.18). The Roman road must have survived as a visible feature for much of its length throughout the post-Roman period, given that it is closely followed by the modern road, and the lack of correspondence between this route and the pattern of parish boundaries is thus quite remarkable. The possibility that at least some boundaries are of great antiquity must be considered, and every opportunity should be taken to establish their date. The coincidences between linear earthworks and parish boundaries within the road corridor are considered individually in Section 3 (Sites 10, 13 and 14), where it is suggested that some linear earthworks may follow pre-Roman territorial boundaries (e.g. Sheep Walk Lodge: Fig.28). The likelihood that the others were created simply to demarcate parish boundaries is small. If they do not predate the formation of the parish, it is perhaps more likely that they represent features aligned on existing parish boundaries: for example, plough headlands or features of managed woodland or parkland.

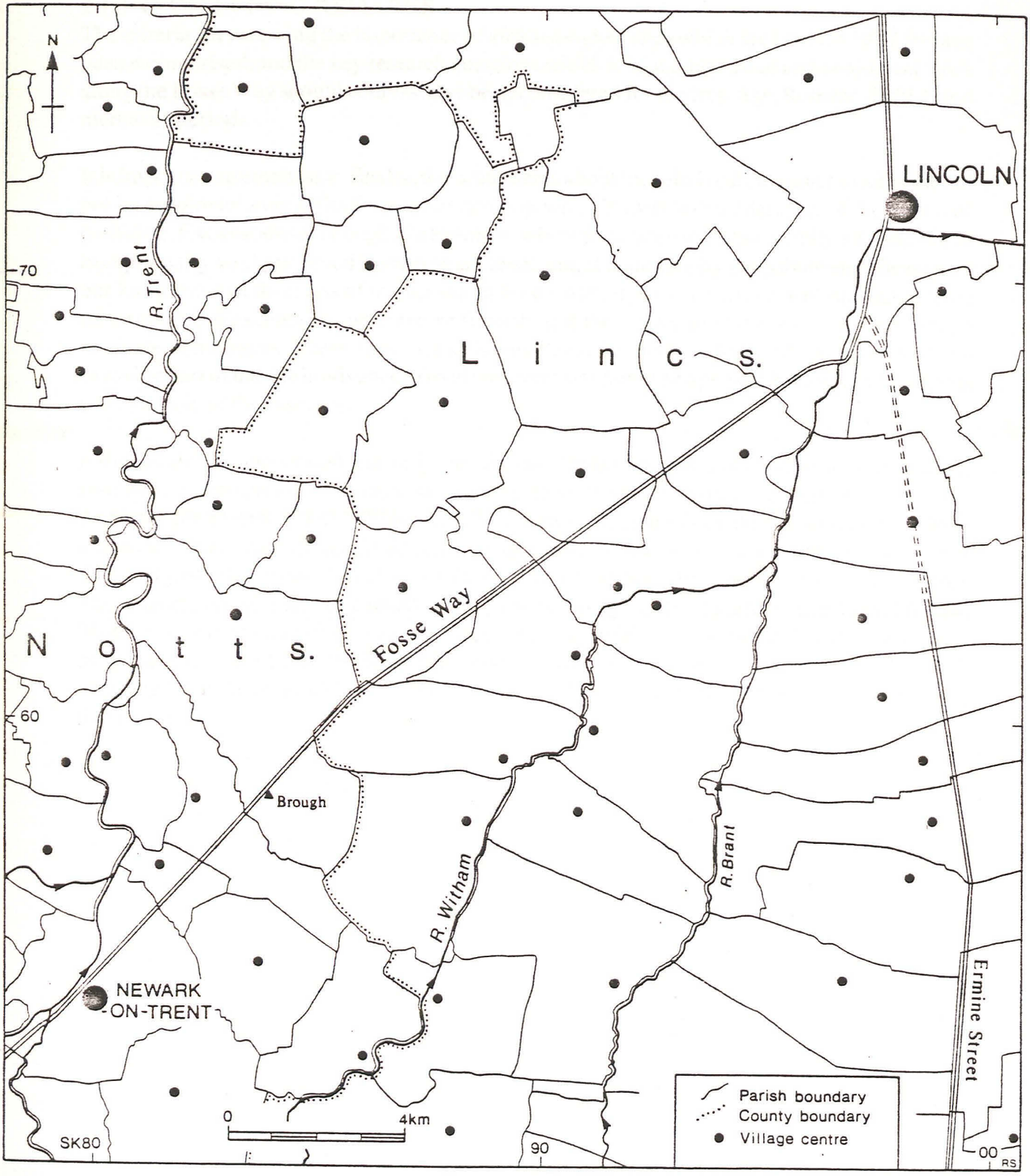

Fig. 18 Map of parish and county boundaries

2.1.3 CONCLUDING REMARKS

The criteria for assessing the importance of archaeological sites which are listed in *PPG* 16 have been summarised, and the key research questions which it is suggested that archaeological work along the Fosse Way should address have been considered for the Iron Age, Romano-British and medieval periods.

It is important to emphasise, finally, that statements about the relative importance of sites should not be employed as justifications for excavation without careful consideration of the merits of each case. Excavations at Brough, for example, where there appears to exist a fully integrated and exceptionally well preserved Roman small town, could undoubtedly contribute significantly to our knowledge of this class of monument. It is considered, however, in view of the high degree of survival and exceptional potential of Brough, and the existence of other less well preserved roadside settlements where these same issues could be better addressed, that proposals to excavate part of the site in advance of road construction should be opposed in favour of long-term preservation of the resource.

It should also be understood that only the 'absolute' importance of a site, as a long-term cultural resource, is recognised in Ancient Monuments legislation. All protective legislation since the Ancient Monuments Act of 1881 has been based upon the assumption that historic remains have a cultural value, and that academic research should be seen as an adjunct to preservation rather than as a justification for disturbance (National Heritage Act, 1983, section 33, subsection 2c). The importance of a site to current research issues is by contrast scarcely mentioned in law. Moreover, such research issues are liable to change according to developments in our conception of the past (e.g. Bintliffe, 1988): as recognised, in fact, in *Developing Frameworks*, where it is suggested that the research issues which have been identified are likely to be of concern for only the next decade.

2.2 THE OPTIONS FOR PRESERVATION

Attention is focussed below upon the range of options which is available for the preservation of the known archaeological remains. These options may be considered for convenience under the following four heads:

1. Enhancement
2. Maintenance
3. Encapsulation
4. Preservation by record

2.2.1 ENHANCEMENT

The principle of enhancing cultural remains by granting them a particular legal status was established in the Ancient Monument Act of 1881, and the principle of imposing limitations upon changes in the land use on or around monuments has been progressively strengthened by subsequent Acts.

The Field Monument Act of 1972 introduced the principle of acknowledgement payments to encourage the adoption of modes of land use which are not detrimental to archaeological sites, and hence gave a legal basis to a more active approach to the preservation of remains. This concept was strengthened by the National Heritage Act of 1983 (section 33). Some kinds of land use are clearly more favourable than others for the preservation of archaeological remains, and the choice of preservation strategy for sites along the Fosse Way takes account of the relative merits of the following land use categories (*cf.* Darvill, 1987).

Permanent Grassland

Land of this kind, such as exists around RAF Swinderby, is acknowledged to represent the most favourable form of land use, as it will cause less damage to fragile archaeological deposits and may facilitate site management.

Woodland

Some stretches of woodland along the Fosse Way preserve earthworks that have elsewhere been destroyed by ploughing (Fig.19), but for the effective preservation of the remains it is essential that the woodland is properly managed. Modern tree-clearing and planting techniques can cause significant surface and sub-surface damage, while the impact of root systems and of burrowing animals is also a cause for concern.

Arable

Ploughing and associated activities may cause significant damage to archaeological sites, depending on the nature of the activity and its frequency. This is the case with many of the

crop- and soil-mark sites which are known along the Fosse Way, many of which indicate sites whose upper layers have been seriously denuded by ploughing and by other agricultural processes. It is possible, however, to preserve archaeological remains within arable land more effectively by modifying cultivation practices, and this is an option which might usefully be explored in the case of many known cropmark sites.

2.2.2 MAINTENANCE

Where non-archaeological factors preclude the enhancement of the surviving cultural remains, current legislation (as defined in the National Heritage Act of 1983) and Government guidance is based upon the maintenance of existing land use patterns. The proposed road development and its ancillary works will have a drastic impact upon some important archaeological sites - notably Brough - and the initial objective in such cases must be to maintain current land use patterns by ensuring that the road avoids the remains. There will be cases where other factors may preclude this option. It is the aim of this document, however, to identify those remains which are of sufficient importance in terms of the criteria for preservation laid down in *PPG* 16 to warrant positive management.

2.2.3 ENCAPSULATION

One method of preserving the archaeological remains along some parts of the route could be to encapsulate them, below an embankment, in a suitable quantity of inert material. This could possibly improve the long term prospects of preservation, subject to a suitable engineering design, but the proposal needs to be treated with caution for two main reasons:

1. The Inspector at a recently completed Public Inquiry into the extension of the M3 across Twyford Down, Hants., drew attention to the implication in Ancient Monuments legislation that archaeological remains should be accessible to the public. The consequent loss of access arising from encapsulation is thus contrary to public policy, as generally understood, and perhaps most clearly implied in the National Heritage Act of 1983 (Schedule 4, Section 45).

2. The physical effects of encapsulation are not easily determined, and it is essential that its possible impact upon archaeological deposits is assessed thoroughly on a site by site basis. The physical properties of the soils within the proposed road corridor varygreatly, and it is essential that detailed engineering tests be conducted to establish the following:
   a) Compression of the deposits
   b) Horizontal and vertical distortion of the deposits
   c) Horizontal and vertical displacement of artefacts
   d) Crushing, fracturing or breakage of artefacts.

Even with such work, it is doubtful whether the long-term effects of the loading which would be exerted upon fragile archaeological deposits could be accurately predicted, and this is not, therefore, a solution which we could endorse.

2.2.4 PRESERVATION BY RECORD

Where the destruction of significant remains is unavoidable, the remains would need to be recorded to an appropriate level by excavation under the terms of *PPG* 16 and the National Heritage Act of 1983. The costs of such a programme cannot at this stage be estimated, but it is worth noting that in Nottinghamshire, at 1990/91 prices, the cost to the Trent & Peak Archaeological Trust of removing, recording, processing and reporting upon one cubic metre of stratified archaeological deposits to an appropriate archaeological standard lies between £160 and £190 (excluding start-up and administrative costs). In addition to provision for funding, it is essential that sufficient time be allocated for the satisfactory completion of this work.

3 SITE EVALUATIONS

This section lists all archaeological sites along the Fosse Way within 100m of the proposed new road corridor, but at Brough the survey area has been widened to take account of the possibility of a bypass to the NW or SE of the Scheduled Ancient Monument. With the exception of two linear boundaries, which are considered at the end of this section under the heading of miscellaneous linear earthworks (sites 15a and 15b), the sites are numbered from south to north for ease of reference. Information is provided on site location, type and form, and the site is assessed by reference to the criteria recommended in *PPG* 16, namely period, rarity, documentation, group value, condition, fragility/vulnerability, diversity and potential. The recommendations for preservation of the remains are then summarised.

Most of the sites which are described below have produced crop- or soil-marks, and in many cases this is the sole source of evidence for their existence. For the sake of consistency, these are described according to the classificatory scheme proposed by Whimster in his recent survey of the Trent Valley to the north of Newark (Whimster, 1989, 26-34). This volume provides a useful overview of the archaeological potential of the Trent Valley to the north of Newark, and the recommendations which are made below should be seen against the background of this work (summarised in Whimster, 1989, 84-7).

Plans are included of all plottable cropmarks. Copies of the original air photographs are enclosed in the two cases where there are insufficient station points for accurate plotting (sites 1 and 4).

It is possible, in view of the limitations of air photography, fieldwalking and other survey methods as techniques for the location of archaeological sites, that additional sites of major archaeological importance lie within the proposed road corridor. For this reason, and in view of the historic importance of the Fosse Way, we would recommend that all large scale ground works along and in the vicinity of the road be monitored by a competent archaeological body.

SITE 1: CROPMARK AT SK824571 (Plate 1)

Description. The cropmarks are unplottable, and the picture is confused by extensive geological patterning in the gravel terrace deposits on which the site is situated. Several linear ditches, incorporating a probable ditched trackway to the east, may be clearly distinguished. These apparently form part of a fragmentary field system. There are suggestions of a complex pattern of rectilinear enclosures in the centre foreground, the components of which underlie or are cut by several of the main linear boundaries; the cropmarks, however, are too poorly defined for the pattern to be clearly distinguished. The complex is of uncertain spatial extent, but it may extend up to the Fosse Way.

a) **Period.** The complex is undated, but a Romano-British or earlier date would seem the most likely by comparison with other cropmark complexes in the region (Whimster, 1989, 66-7).

b) **Rarity.** Elaborate systems of this kind are common in the Trent Valley (*ibid.*, 86), but comparable patterns of land allotment are rare within the survey corridor.

c) **Documentation.** NMR AP 8257/6.

d) **Group value.** The key interest of the site lies in its relationship with the Fosse Way. In addition, there are hints not only of field boundaries and trackways but also of associated rectilinear enclosures; as noted above, these appear partially to underlie or cut the major linear boundaries, and may imply some depth of chronology.

e) **Survival/Condition.** The site is visible as a cropmark, and may survive only as features cut into the subsoil. The upper parts of these may have been damaged by ploughing and other cultivation practices, but the extent of destruction is impossible to establish without excavation.

f) **Fragility/Vulnerability.** Continued ploughing may cause further erosion of the upper portions of features. This could have only adverse effects on the archaeological interest of this cropmark complex, although clearly the basal layers of the more substantial features are unlikely to be vulnerable.

g) **Diversity.** Only a range of probable field boundaries and a ditched trackway are certainly represented, but as noted above there is a suggestion of other rectilinear enclosures within this area.

h) **Potential.** Evidence may be expected to survive of the form and possible functions of any subsoil features which survive, and perhaps also of their stratigraphical relationships. Artefactual remains may shed light upon the date of the site and its possible functions, but extensive environmental remains would not be anticipated. The possibility, however, of occasional survivals of charred plant remains or other material of environmental interest should not be discounted.

i) Recommendations. It is unclear on present evidence whether the cropmarks continue into the area threatened by development, but one of the main linear boundaries continues beyond the southern edge of the photograph and might show a relationship with the Fosse Way. Comparison with other linear boundaries in the region shows that these often extend over long distances (*ibid.*, 81), and we might speculate whether here too the major linear boundaries could have extended over a considerable distance. The faint pattern of rectilinear enclosures in the centre foreground appears also to impinge into the proposed road corridor. We would recommend a geophysical survey to establish whether any of the linear boundaries or other cropmark features continue into the road corridor, once this is established, and if this is the case, selective excavations of any threatened features to establish the form, functions and date of the remains.

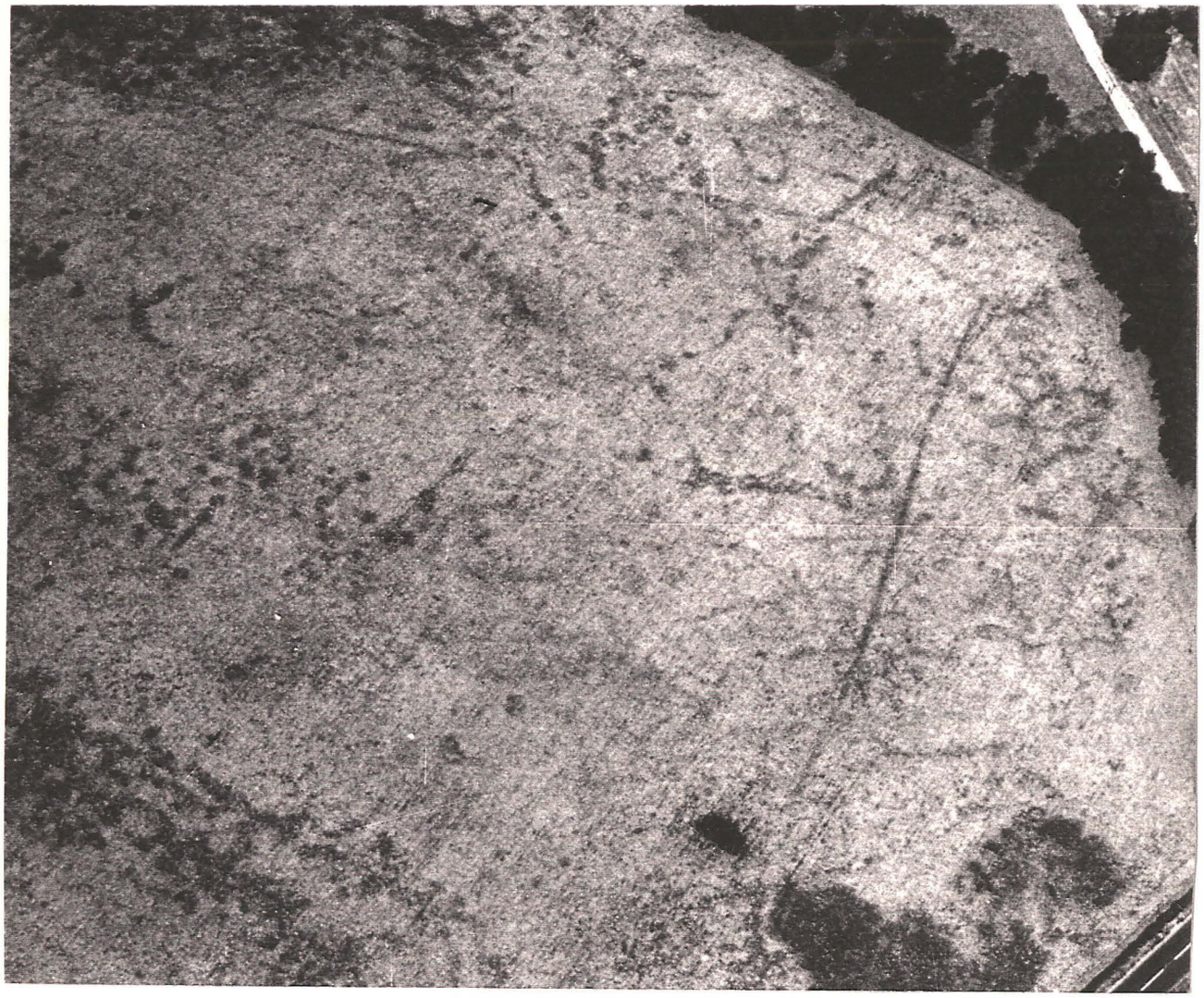

Plate 1 Cropmarks at SK 824571 (site 1)

SITE 2: CROPMARK AT SK825575 (Fig.20)

Description. A single ring ditch and several linear boundaries, including a ditched trackway, were plotted by the RCHM, but the air photographs indicate a rather more complex and ambiguous pattern, much complicated by geological patterning in the gravel, than appears from this plot. The supposed ring ditch is extremely poorly defined, and has been omitted from the enclosed plot. Clear traces do survive, however, of an approximately north-west/south-east ditched trackway and a number of other ditched boundaries, possibly forming part of a field system. Traces survive of a possibly subsquare single-ditched enclosure in the angle between the west-east trackway and a north-east/south-west linear ditch, and we might postulate a possible focus of occupation.

a) Period. Possibly Iron Age or Romano-British, by comparison with other cropmark sites within the region (*ibid.*, 84-6; esp. fig.60).

b) Rarity. Such systems are common within the Trent Valley (*e.g. ibid.*, figs.60-61), but such systems of land allotment are not widely known along the Fosse Way between Newark and Lincoln.

c) Documentation. CUCAP: ABO 100.

d) Group value. Traces survive of a ditched trackway, a possible subsquare enclosure and other linear boundaries. The pattern is complex, and cannot be unravelled effectively without more air photographs for comparison, but the configuration of the boundaries suggests several phases of development. Elements of this complex may abut the Fosse Way, which could have been incorporated as a boundary within this system.

e) Survival/Condition. The cropmarks have been ploughed successively, and as a result the upper parts of features have possibly been severely truncated. As far as can be established, the site survives, therefore, only as features cut into subsoil.

f) Fragility/Vulnerability. Further ploughing may be expected to damage further the upper parts of the features. The focus of the crop-mark complex will not be affected by road development, but some components of it are liable to be damaged.

g) Diversity. There is a varied range of cropmark elements, probably of several phases, including a ditched trackway, rectilinear field boundaries, and perhaps also a subsquare enclosure. The latter could represent a focus for occupation, but convincing evidence of this is at present lacking.

h) Potential. The general rarity of such complexes away from the Trent Valley makes this a site of considerable interest, with potential for elucidating the later Iron Age and Romano-British rural landscape of the area and the relationship of the Fosse Way to its contemporary landscape. As with most other cropmark sites within the survey corridor, the range of archaeological

evidence which might be envisaged is limited due to the fact that features may be expected to survive only if dug into subsoil. Evidence could be expected to survive of their form and possibly also their functions, while stratigraphical evidence for their chronological relationships might also be preserved. Artefactual remains may also be anticipated, but there are no grounds to suppose extensive environmental evidence.

i) Recommendations. We would not recommend preservation, except by record. We would envisage a geophysical survey to establish the extent of features within the road corridor, followed by excavation of selected features to establish their form, functions and date range.

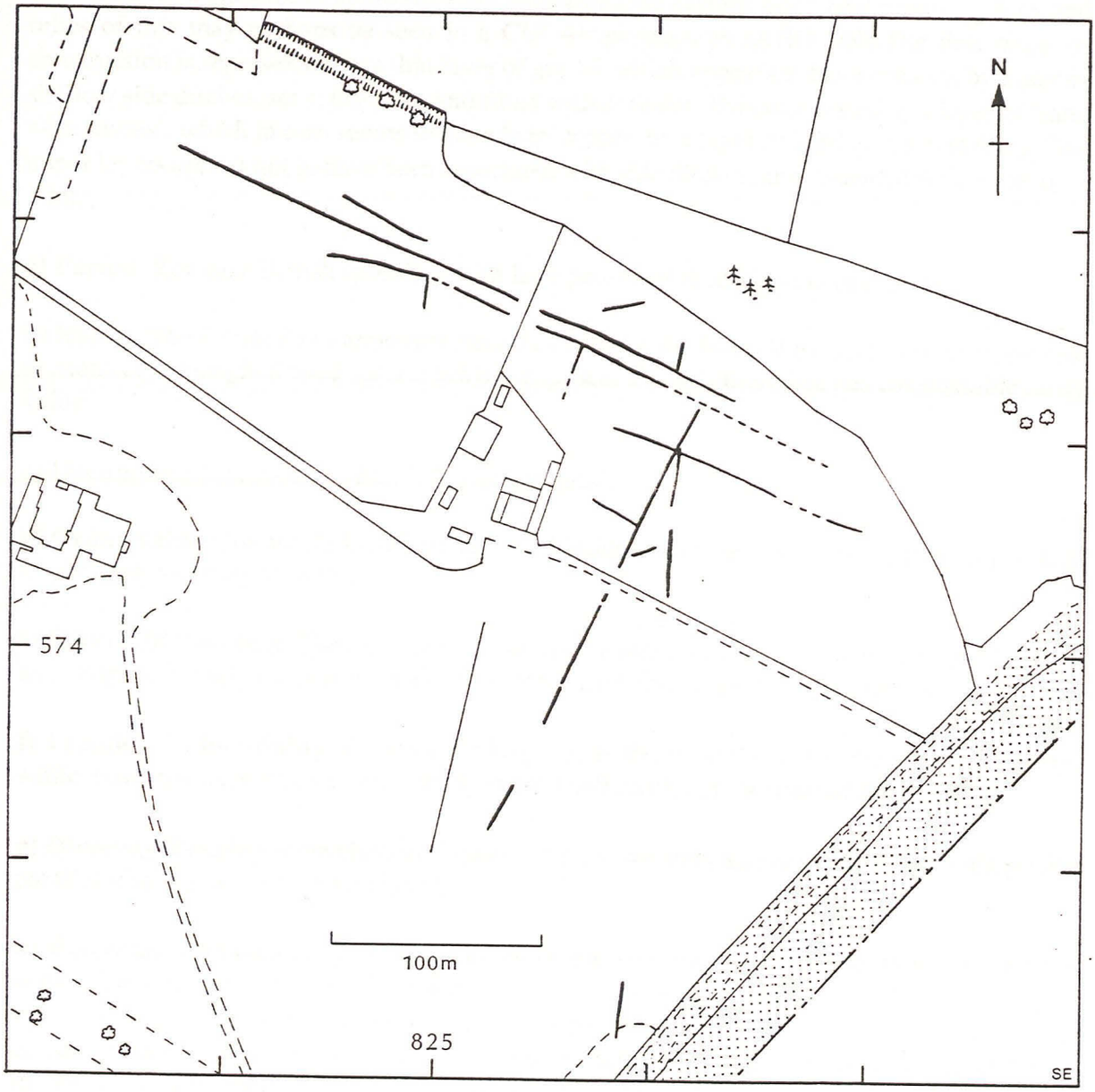

Fig.20 Cropmarks at SK825575

SITE 3: ORIGINAL LENGTH OF FOSSE WAY AT LANGFORD; SK827572

Description. Excavations by Barley in 1948 uncovered a minimum of three phases of Roman road (described in Section 1.2.2). This was apparently visible as a wide earth bank, *c.* 1m high, extending for a distance of approximately mile along the eastern edge of the existing A46, and relics of this may perhaps be seen in a CUCAP photograph (ABO 100).The first phase of construction is represented by a thin layer of gravel, which appears to have been cut by a pair of shallow side ditches, set *c.* 6m apart and filled with dark silt. This was sealed by a layer of 'sand with stones', which in turn seems to have been capped by a layer of hard gravel metalling. The upper layers appear not to have been associated with side ditches, and extended for a width of *c.* 10m.

a) Period. Romano-British (possibly with later phases of modification or repair).

b) Rarity. The A46 follows approximately the course of the Fosse Way, and comparatively few sections of the original road surface remain exposed. The site therefore has considerable rarity value.

c) Documentation. Notts SMR 3737; Barley, 1950.

d) Group value. Cropmarks have been recorded to the west of the road (Site 2), and may possibly imply contemporary activity.

e) Survival/Condition. The road survived as a low earthwork in 1948, but is visible today only as a cropmark. Only the lower levels of the road, therefore, may be expected to survive.

f) Fragility/Vulnerability. Continued ploughing is likely to denude further the monument, while road development will effectively erase a substantial proportion of the remains.

g) Diversity. Possibly three phases of road surface, apparently associated at an early stage with parallel side ditches, may be deduced.

h) Potential. Comparatively little is known of the structure of the Fosse Way, and further excavations along the preserved section of the road would apear to have considerable potential as a source of evidence for the manner of road construction: for example, variations in construction methods between urban sites (*e.g.* Brough) and rural stretches of the road.Traces might also survive of the pre-Roman ground level, and possibly of features attributable to pre-Roman activity.

i) Recommendations. We would recommend preservation of part of the surviving section of the Fosse Way, but would be satisfied if the majority was preserved by record. We propose excavation of the road to confirm its course and to establish the manner of its construction. It would be hoped also that a stratigraphical relationship with boundary or other features flanking the Fosse Way could be demonstrated.

SITE 4: CROPMARKS AT SK828578 (Plate 2)

Description. Extensive geological patterning is visible over much of the gravel terrace deposits on which the site is situated, but in the centre of the photograph clear traces are preserved of part of a large single-ditched subrectangular enclosure. No evidence is preserved of an entrance or of internal features. Several other possible linear features may be observed in the vicinity of the enclosure, but their relationship with this feature and their character is uncertain.

a) Period. The closest affinities of this enclosure are with Iron Age or Romano-British sites, such as occur widely in the Trent Valley (*e.g.* Gamston, Notts.: Phase 2 Enclosure; Knight, 1991; *cf.* Whimster, 1989, 667).

b) Rarity. Enclosures of comparable form are known widely throughout the Trent Valley (*op.cit.*), but these mostly occur as components of extensive crop-mark complexes (*ibid.*, figs.60-61). Discrete enclosures, such as could conceivably be implied by the evidence here, are thus fairly rare, although we may question whether they should be treated as genuine phenemona or merely as relics of more extensive complexes.

c) Documentation. CUCAP: ABC 65.

d) Group value. This is very limited, but the possibility of contemporaneity with the Fosse Way accords it some group value.

e) Survival/Condition. The site appears to be represented only by features cut into subsoil. The upper parts of the features may be eroded by ploughing, but clearly only excavation could establish the extent of erosion.

f) Fragility/Vulnerability. Continued ploughing may further denude the upper parts of features. The present road construction programme will not affect the enclosure, but if, as is possible, the enclosure is part of a more extensive complex, road development would clearly be detrimental to the archaeological resource.

g) Diversity. The site has a very low diversity, consisting possibly of only a single enclosure.

h) Potential. The site includes one of the best examples of a subrectangular ditched enclosure along the Fosse Way, and hence both the site and its environs are of considerable archaeological significance. Evidence may be expected to survive of the form and possibly functions of any surviving subsoil features, and perhaps also their stratigraphical relationships. Artefactual remains may shed light upon the chronology and functions of the site, but extensive environmental remains seem unlikely to survive.

i) Recommendations. The site is not threatened by the proposed route, and unless this is shifted further to the west no archaeological action would at this stage seem necessary.

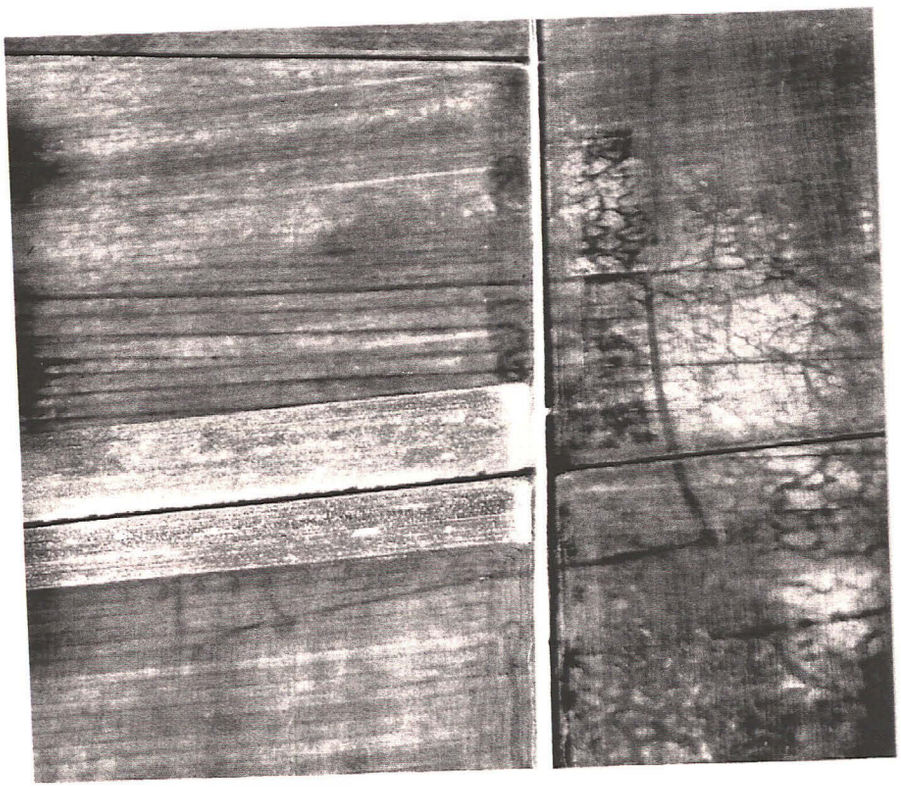

Plate 2 Cropmarks at SK 828578 (site 4)

SITE 5: BROUGH (*CROCOCALANA*): SCHEDULED ANCIENT MONUMENT 96; SK837584 (Fig.21)

Description. This is a multi-phase Romano-British small town with extra-mural occupation and associated field systems. It is located on a major Roman road, and may incorporate evidence of late Iron Age settlement and Saxon activity, including a probable cemetery.

a) Period. Iron Age, Romano-British and Saxon activity may be represented.

b) Rarity. The site is one of 148 known roadside settlements (Smith, 1987), one of 38 defended small towns (Burnham and Wacher, 1990, fig.8), and one of only five defended small towns associated with the Fosse Way (*op.cit.*).

c) Documentation.

Alvey, R.C. (1981) 'Two Beaded Torcs from Nottinghamshire.' *Transactions of the Thoroton Society*, 85, 111-12.

Bishop, M.W. (1980) 'The Roman Fosse Way at Brough, Nottinghamshire.' *Transactions of the Thoroton Society* 84, 81.

Burnham, B. and Wacher, J. (1990) The '*Small Towns' of Roman Britain*, 4, 12, 25, 30-1, 35, 315.

McWhirr, A. (1969) 'The Early Military History of the Roman East Midlands.' *Transactions of the Leicester Archaeology Society* 45, 8.

Rivet,A.L.F. and Smith,C (1979) *The Place Names of Roman Britain*, 165, 167, 327.

Smith,A. (1941) 'Lead Coffin found at Crocolana.' *Transactions of the Thoroton Society* 45, 106-109.

Smith, R.A. (1906) 'Anglo-Saxon Remains.' *Victoria County History of Nottingham, Vol. 1*, 203.

Smith, R.F. (1987) *Roadside Settlements in Lowland Roman Britain.* BAR 157, esp. p.283.

Stukeley, W. (1724) *Itinerarium Curiosum*, 104.

Whimster, R. (1989) *The Emerging Past.* RCHME.

Wilson, C.M. (1972) *Lincolnshire History and Archaeology* 7, 10.

Woolley,T.C.S. (1910) 'Crocolana, The Nottinghamshire Brough.' *Transactions of the Thoroton Society* 10, 63-72.

d) Group value. The value of the town is significantly enhanced by its relationship to adjacent field systems and trackways, areas of extra-mural settlement and burial and the Roman Fosse Way. It may, equally importantly, also preserve evidence of its relationship to earlier (late Iron Age) settlement and to Saxon activity.

e) Survival/Condition. The town defences survive partially as earthworks. Over 1m of stratified deposit is preserved adjacent to the road, and substantial depths of deposit may be anticipated elsewhere within the town. The state of preservation is exceptional for a Roman small town in this region, and archaeological evidence of an unusually high quality may be expected to survive.

f) Fragility/Vulnerability. The site, although well preserved, is vulnerable to further destruction by ploughing or other development work. Any ploughing of the preserved earthworks is likely to cause serious deterioration of the archaeological resource. The proposed bypass would clearly cause serious damage which would drastically reduce the archaeological importance of the monument.

g) Diversity. The small town preserves a minimum of two phases of defence and incorporates internal stone buildings and internal metalled streets, at right angles to the main axial road. Evidence has also been obtained for extra-mural settlement and cemetery areas, and a rectilinear field system. The pre-town settlement is represented by a rectilinear field system so-called 'family compounds' flanking a trackway. Traces also survive of a pit alignment, continuing the line of a ditched 'field' boundary and of single ring ditches (possibly marking timber buildings of this phase).

h) Potential. The depth of stratigraphy, combined with the cropmark evidence for the superimposition of features of at least three main phases, accord this site a very high potential. The site may preserve detailed evidence of the structural development of the town and of its relationship to pre-Roman and Saxon occupation, and there seems every likelihood that extensive building and other constructional evidence will survive within the interior. Finds, particularly of the Roman period, are likely to be prolific, and may be expected to shed valuable light upon the economic and social structure of the town; for example, exchange links between sites within the regional settlement hierarchy as may be demonstrated by pottery analysis.

i) Recommendations. The high level of preservation, the diversity of the remains and its high group value combine to make this a site of exceptional archaeological potential for this region.

We recommend, in view of the national importance of this site, relocation of the route to the north-west of the scheduled area. For optimum preservation of the site, it would be preferable if the

whole area, including zones of extra-mural occupation and associated field systems, were identified as of national importance.

The proposed development will cause serious and irreparable damage to the archaeological remains, and we would recommend that the route be shifted either to the north-west or south-east of the scheduled area. The north-west route, beyond Glebe Farm, is to be preferred on the grounds that it would cause less serious damage to neighbouring archaeological sites. A scatter of cropmarks is known to the west of the scheduled area, but damage to these (assuming full excavation in advance of road construction) would be less serious than destruction of part of the well preserved field system which has been observed from the air to the north-east of the town. A route to the south-east of the town might also impinge upon the Deserted Medieval village at Danethorpe: a site which should be preserved if possible in view of its potential significance for an understanding of the medieval landscape of the region and its Romano-British antecedents.

The option of embankment is not one that we could support, given that the long-term effects of the compaction of fragile and deeply stratified archaeological deposits and their artefacts cannot be demonstrated with sufficient certainty to ensure that the site will retain its archaeological value. The lateral and vertical disturbance which might be precipitated by the construction of an embankment would obviously vary according to the physical properties of the embankment material and its height, but we would argue that any disturbance of the vulnerable archaeological deposits at Brough would, in view of the importance of the site, seriously reduce its potential historic value. We would also have reservations about the possibility of damage arising from construction related activities.

The option of preservation by record is also not one that we would recommend, given the limitations of excavation as a means of preserving the archaeological data which may be expected to survive. We addressed, in the conclusion to Section 2, the argument that excavations might be justified on the grounds of the major research value of the site. It was emphasised that preservation took precedence over research in law, and that Brough would not be the most suitable site at which current academic issues could be addressed effectively. We are of the opinion that the 'absolute' value of the well preserved deposits is sufficiently high to justify the argument that Brough should act as a long term repository of archaeological information, and that this requirement should transcend the exigencies of current academic issues.

Excavation could only be countenanced as a last resort, and would presuppose sufficient funds for excavation of the highest quality (as has been proposed, for example, on the Bedford southern bypass, where road construction will destroy part of a nationally important later Neolithic / earlier Bronze Age triple ring ditch with central earthen mound surviving as a low earthwork). This would involve formidable excavation costs and, for adequate exploration of the stratigraphy, a lengthy time scale for excavation.

The time scale and hence the costs of excavation cannot be accurately determined without trial excavations designed to establish the depth of archaeological deposits along the preferred route. If, however, we assume a minimum depth of deposits of only 0.25m - an extremely conservative

estimate, based upon a careful assessment of the currently available data - we should envisage continuous large scale excavations of well over two years duration.

1. Area of deposit threatened with destruction = *c*.85800m2

2. Minimum depth of deposits after mechanical stripping = *c*.0.25m

3. Average productivity per man (calculated from the performance of 4 Archaeological Units) = $1m^3$

4. Total man-days excavation = 1 x 2÷3 = 21450

5. Ratio of man-days excavation to archive generation = 1: 0.9

6. Total man-days archive generation = 19305

7. Total man-days required = 4 + 6 = 40755

Excavation on the scale envisaged would normally take the following time:

1. Resource and start-up: 0.38 years

2. Excavation. With 20-man team: 4.76 years
   With 40-man team: 2.38 years
   Long-term stratigraphic excavation with teams of over 40 is not recommended due to the problems of adequate recording which may arise.

Total shortest time = 2.76 years.

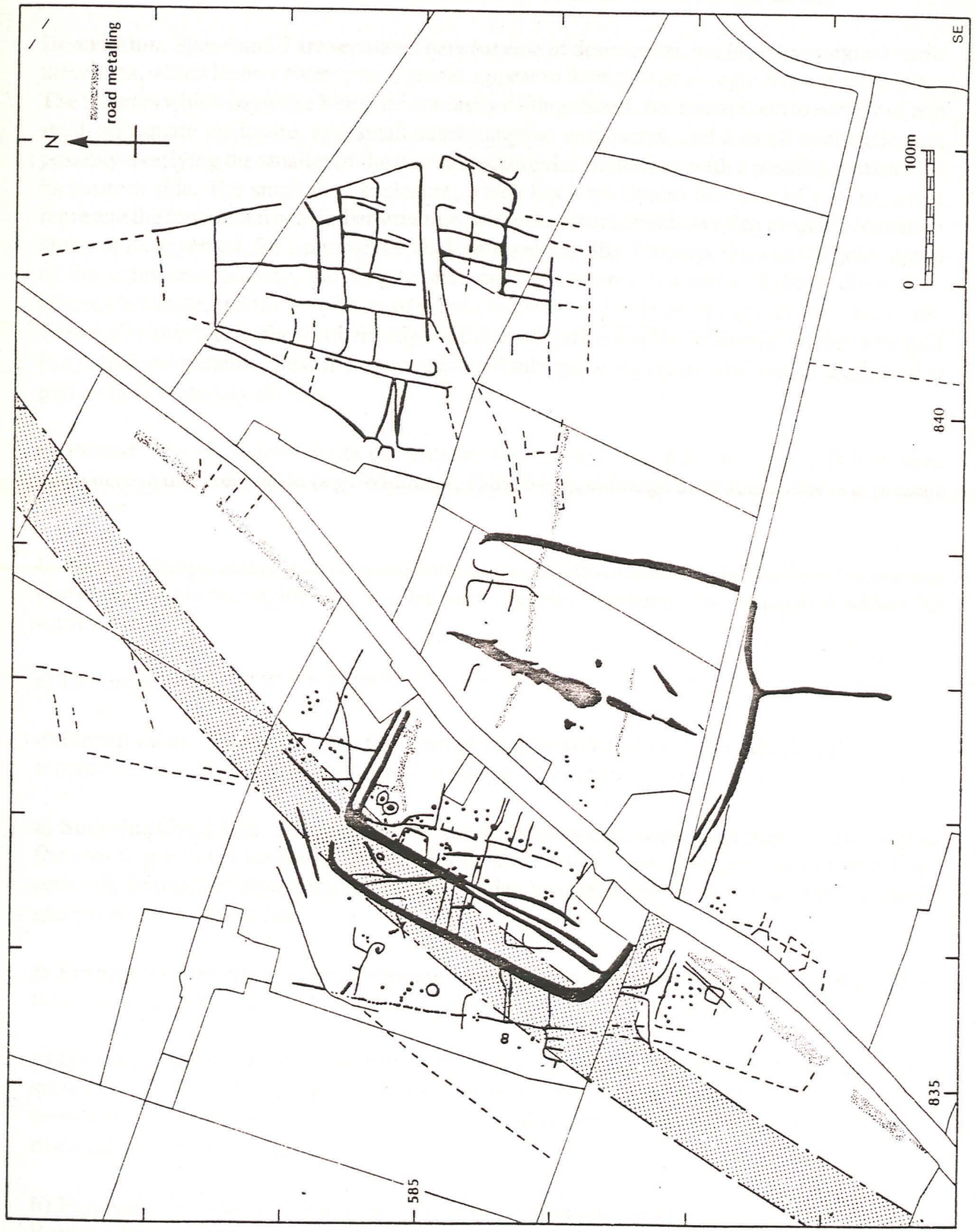

Fig.21 Cropmarks at SK837584 (Brough), including those which cannot be located securely (dashed).

SITES 6 & 7: CROPMARKS AT SK838590 (6) & SK837591 (7) (Figs. 22-23)

Description. Sites 6 and 7 are separated here for ease of description, but in archaeological terms these sites, which lie on a river terrace gravel, appear to form part of a single cropmark complex. The features which comprise Site 6 are not easily distinguished, but traces seem to survive of one small subsquare enclosure, two small subrectangular enclosures, and a small oval enclosure, possibly overlying the smaller of the two subrectangular enclosures with a possible entrance on its western side. The small oval enclosure, which has a maximum diameter of *c.* 10m, could represent the foundation of a timber structure, while the others could have demarcated occupation areas, or have served, for example, as stock compounds. Site 7 incorporates an irregular group of linear features, possibly defining several small enclosures, but many of these ditches are sinuous in nature, and the possibility of some kind of geological patterning cannot be ruled out. Traces also survive, on the southern edge of this cropmark complex, of several ditches arranged in a rectilinear pattern. These incorporate a small subsquare enclosure, and may be explained in part as field boundary ditches.

a) Period. The enclosures invite comparison with typical Iron Age or Romano-British sites elsewhere in the Trent basin (*e.g.* Whimster, 1989, 84-6), although their actual date is at present unknown.

b) Rarity. Comparanda for these arrangements may readily be identified in the Trent Valley and elsewhere within the region (*op.cit.*), but such complex arrangements are unusual within the survey corridor.

c) Documentation. CUCAP: BVR 18.

d) Group value. Sites 6 and 7 may form part of a single cropmark complex, which could possibly incorporate several occupation foci with associated field boundaries.

e) Survival/Condition. The features are known only as cropmarks, and may survive only as features dug into the sand and gravel subsoil. The tops of these features have probably been seriously denuded by ploughing and other activities, but the extent of erosion canot be accurately gauged without excavation.

f) Fragility/Vulnerability. Both sites are vulnerable to erosion by ploughing, and could be threatened by destruction were a bypass to the west of Brough suggested.

g) Diversity. Although limited in spatial extent, the cropmarks are quite varied, including small subsquare,oval and irregular enclosures, possibly with diverse functions, and a group of rectilinear field boundaries. There is also a suggestion of pits on Site 7, but these are difficult to distinguish from natural features.

h) Potential. The site, which as noted above may reasonably be ascribed a later prehistoric or Romano-British date, has considerable archaeological potential as evidence for the integration

between settlements and field systems. Evidence may be expected to survive of the form and possible functions of the surviving subsoil features, and of their stratigraphical relationships. Artefactual evidence may elucidate the chronology and functions of the site, but environmental evidence is unlikely to be well preserved.

i) Recommendations. The course of action depends entirely upon the choice of preferred route. The site is not at present threatened, but a more westerly bypass at Brough could truncate a substantial portion of these sites. The remains are not, it seems, of sufficient importance to justify preservation at all costs, but excavations to clarify the at present highly problematic cropmark evidence would be essential if the site were threatened. This could usefully be preceded by a geophysical survey designed to supplement the cropmark evidence.

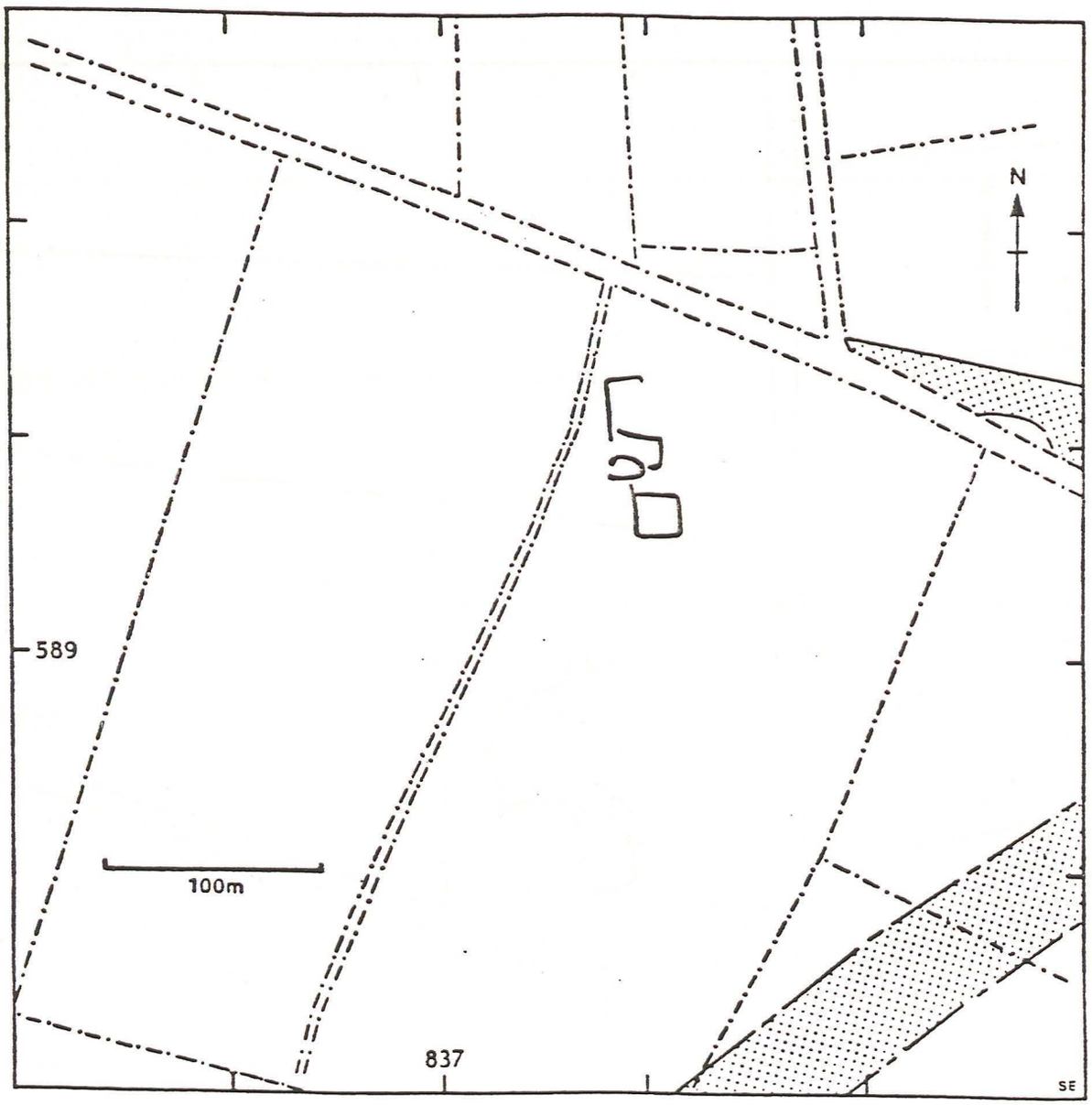

Fig. 22 Cropmarks at SK838590

Fig. 23 Cropmarks at SK837591

SITES 8 & 9: CROPMARKS AT SK839587 (8) & SK840590 (9) (Fig.24)

Description. These sites, both on river terrace deposits of sand and gravel, have been separated for ease of description, but for archaeological purposes they seem to form part of a single cropmark complex. Site 8 may be discerned only faintly on the available air photographs, but emerges as a large subrectangular enclosure, with a possible inturned entrance on its eastern side. There is a suggestion in one photograph (BR/89) of an internal ring ditch, which may possibly represent the foundation of a circular timber building, and of another curving ditch in the northern part of the enclosure. Site 9 is situated to the north-east, and comprises a pair of linear boundaries,converging at an acute angle, which may underlie or cut two intersecting linear ditches running across them. Several small subrectangular enclosures may lie at the area of intersection of these features, but none is sufficiently regular for the possibility of geological patterning to be ruled out.

a) Period. The subrectangular enclosure invites close comparison with typical later prehistoric and Romano-British enclosures (*cf.* Site 4), and a date in the Iron Age or Roman periods seems most likely. The linear boundaries to the east could also be of this period, but the remains are clearly too fragmentary for close parallels to be drawn.

b) Rarity. The cropmarks may be extensively parallelled in the Trent Valley (*op.cit.*), but such complexes are comparatively rare within the survey corridor.

c) Documentation. NMR AP: 8358/28 Frame 11 (Site 8) and CUCAP BR/89 (Sites 8 & 9).

d) Group value. The cropmarks have a high group value, both on account of the relationship of the site to the Fosse Way and Brough, with which some components might have been contemporary, and the combination of features. These include a large subrectangular enclosure, perhaps with internal occupation, and possible field boundaries, and may provide evidence of the integration of fields and settlement areas.

e) Survival/Condition. The sites are visible as cropmarks, and may survive only as features cut into the subsoil. Features may have been denuded by ploughing or other agricultural activities, but the possible level of destruction cannot be established without excavation.

f) Fragility/Vulnerability. Both sites are potentially at risk from denudation of the upper parts of subsoil features by further ploughing, and each could face partial destruction if a more westerly route were selected for the Brough bypass.

g) Diversity. A fairly diverse range of features is represented, including a subrectangular enclosure, ring ditch and linear 'field' boundaries.

h) Potential. The site would appear to have a high potential for elucidating land usage in the vicinity of Brough during the Iron Age and Romano-British periods, assuming, that is, we accept the typological arguments for the probable date of these remains. Evidence may be expected to

survive of the form and possible functions of features cut into subsoil, and of the stratigraphical relationships between intersecting features. Artefactual remains may elucidate the chronology of the site and its possible functions, but extensive environmental remains would not be expected to survive.

i) Recommendations. An archaeological response need only be contemplated if the bypass is shifted westwards from the scheduled area at Brough. Preservation could not be recommended on present evidence, except by record. Depending upon the precise course of the road, excavations designed to establish the date and character of the remains would be essential.

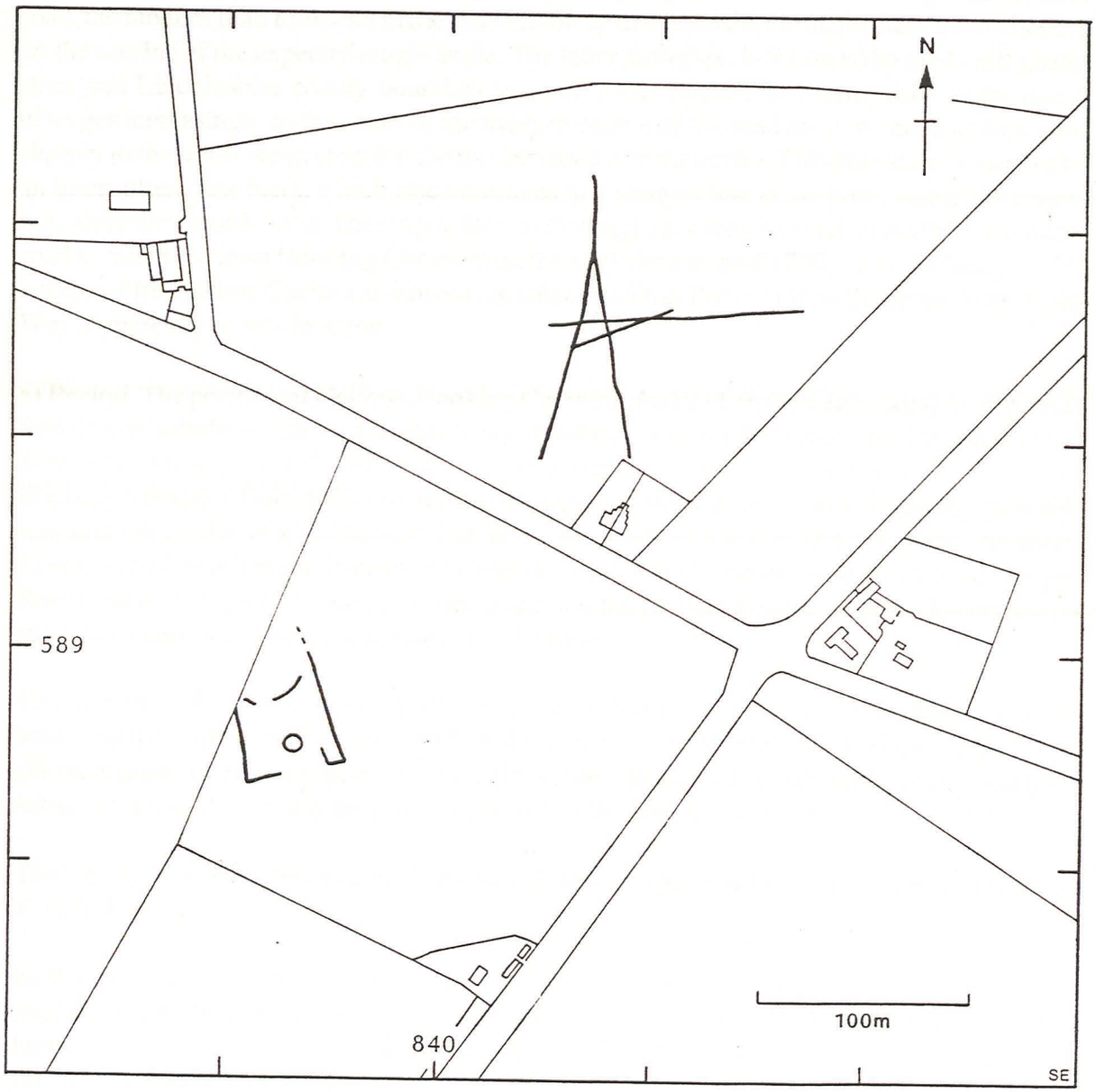

Fig.24 Cropmarks at SK839588 and SK840590

SITE 10: ORIGINAL LENGTH OF FOSSE WAY (GALLOWS NOOKING COMMON); SK856605

Description. The site is located at a significant change in alignment of the Fosse Way between Newark and Lincoln. Instead of forming a single-angled join between two straight stretches of road, the modern road follows a marked diversion up to 40m to the north, forming a broad sweep on the outside of the expected single angle. The latter, however, is followed by the Nottinghamshire and Lincolnshire county boundary west of South Potter Hill Farm, while to the east it diverges increasingly to the south of the modern course of the road for *c.* 400m, and then turns sharply to the north-west, crossing the modern road at right angles. This boundary is marked by an intermittent low bank, which also continues in a straight line at the point where the county boundary turns north-west. The strip of land in Nottinghamshire which is isolated by the modern road is called Gallows Nooking Common on the enclosure map of 1790, while Stukeley's 1776 edition of Itinerarium Curiosum shows a tumulus, known as Potter Hill, in the centre of the Fosse Way, apparently at this location.

a) Period. The position of Gallows Nooking Common, isolated on the south-east side of the A46 from the remainder of the county of Nottinghamshire, suggests that the county boundary at this point was laid out prior to the establishment of the present road line. The layout of the present road line suggests a post-Roman diversion from its original course, and the county boundary plausibly was laid out on the original Roman line at its west end. At the east end the county boundary intersects both modern and Roman road lines at an acute angle and on those grounds may be pre-Roman in date; if post-Roman, it would imply the intentional creation of an awkward narrow triangle of land between the boundary and the road.

The tumulus in the centre of the road must be of post-Roman date, and could be an Anglo-Saxon burial mound: burials of this date were found in the centre of the road at Broughton Lodge, Notts. (*Vernemetum*; G. Kinsley, pers. comm.). The name Gallows Nooking Common may imply the subsequent use of the tumulus as a gallows site in the late Anglo-Saxon period or later.

The low bank is of unknown date, but the possiblility of a prehistoric origin for the boundary has already been noted.

b) Rarity. The A46 follows approximately the course of the Fosse Way and comparatively few sections of the original road surface remain exposed (*cf.* site 3 and Fig.21). The tumulus is the only known example on the proposed line of the new road. Earthworks on boundaries intersecting with the road are also rare (*cf.* fig 19).

c) Documentation. Stukeley, 1776, *Itinerarium Curiosum* (2nd edition); North Collingham enclosure map 1790 (Notts. Archive Office).

d) Group value. If the full range of possibilities outlined above are realised, a diverse group of monuments spanning pre-Roman to late Saxon times would be present.

e) Survival/Condition. The area is currently under woodland and plough, both of which must have caused considerable damage to the upper levels of the supposed monuments. There is no clear indication of a tumulus surviving as an earthwork. The low bank on the boundary is protected from ploughing by hedgerows, and raises the possibility of good preservation.

f) Fragility/Vulnerability. Ploughing may be expected to cause further damage to the site, while the proposed road development will destroy almost all of it.

g) Diversity. The site potentially incorporates boundary earthwork, road and burial mound.

h) Potential. The bank may preserve earlier ground levels,and possibly also structural or other evidence of earlier activity. A substantial depth of stratified road deposits, which may shed important light upon the method of construction of the Roman road, may also survive to the north-west of the county boundary.

i) Recommendations. The boundary banks which survive on this site and on sites 13 and 15 are the only immediately visible antiquities along the Fosse Way, and hence we would normally recommend preservation. If this is impossible, we would recommend preservation by record of those earthworks which are threatened by road construction. This should include a survey of all surviving remains, combined with excavations designed to establish the character, purpose and date of the earthworks and to recover material from any earlier ground surfaces that may exist.

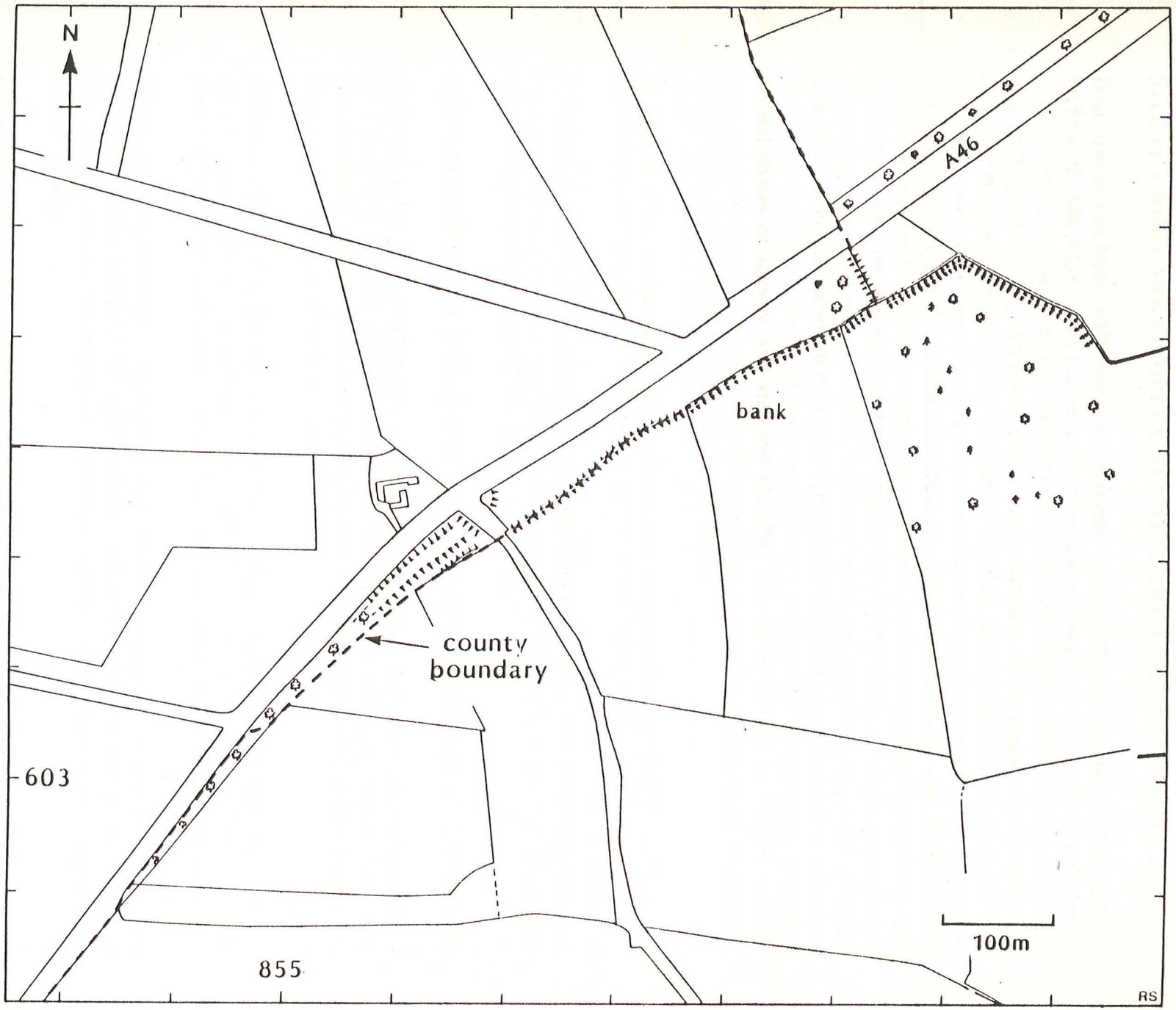

Fig.25 Course of Fosse Way near Potter Hill Farm (SK856605).

SITE 11: CROPMARK COMPLEX AT POTTER HILL; SK858608 (Fig.26)

Description. The Notts. SMR refers to a possible Romano-British cemetery at Potter Hill, at SK858608 (Site 4331). This has been described above (Section 1.4.2), and it is sufficient to emphasise here the possibility of confusion with a Saxon and Romano-British cemetery recorded near Collingham Station, to the west of the survey corridor. Of far greater significance is the extensive cropmark complex which has been revealed on glacial sands and gravels in this area, to the north-west of the Fosse Way. Traces survive of a complex palimpsest of features, indicative of multiple phases of activity. The main focus of activity is to the south-west, where we may discern a complex of small subrectangular enclosures, trackways and linear boundaries. The small enclosures, by analogy with better known sites in the region, might represent foci of occupation, associated perhaps with fields. Several of the latter are arranged coaxially, forming a roughly rectangular pattern of land parcels, integrated with trackways. To the north-east of this focus, a further series of linear ditched boundaries may be discerned. These seem to derive fron several phases of activity, and are most plausibly interpreted as field boundaries, possibly associated with the proposed settlement focus to the south-west. Several are of sinuous plan, but vestiges of a rectilinear pattern may also be discerned.

a) **Period.** Close comparisons may be drawn with supposed Romano-British and Iron Age settlements and field systems in the region (*cf.* Whimster, 1989, 66-8).

b) **Rarity.** Such complex systems are widespread in the Trent Valley (*op.cit.; e.g.* figs.60-1) but are extremely rare along the Fosse Way. With the exception of Brough, the site is the single most extensive cropmark complex within the survey corridor.

c) **Documentation.** Notts. SMR (Site 4331); Cropmarks: NMR AP 8560/2, CUCAP: BCL 74.

d) **Group value.** The complex has a very high group value, both in terms of its relationship to the Fosse Way and the integration of a possible settlement and field system. There may conceivably be an association with burials, but it is doubtful whether the SMR reference to a Romano-British cemetery in fact relates to this site.

e) **Survival/Condition.** The site is visible as a complex of cropmarks, and may survive only as features cut into the sand and gravel subsoil. These features have probably been truncated by ploughing and other agricultural practices, but the exact extent of the damage is unknown.

f) **Fragility/Vulnerability.** Further ploughing is likely to cause further erosion to the upper parts of features, but the greatest threat is the proposed road construction. The cropmarks continue up to the modern A46 and features will no doubt be cut during construction work or damaged during related activity.

g) **Diversity.** The site has a high diversity, covering trackways, small subrectangular enclosures and linear field boundaries.

h) Potential. The cropmark complex would appear to have potential for the study of Iron Age and Romano-British settlement organisation within the region, and in particular the integration between settlements and field systems. Evidence may be expected to survive of the form anfd possible functions of subsoil features, and of the stratigraphical relationships between the wide range of superimposed features which may be discerned. Artefactual evidence may shed light upon the date and possible functions of the site, but extensive environmental remains would not be anticipated.

i) Recommendations. We would recommend excavation in advance of road construction of areas threatened by destruction. This should be preceded by geophysical survey aimed at clarifying the pattern of archaeological activity, in order that a systematic programme of excavation may be devised.

Fig.26 Cropmarks at SK858608

SITE 12: CROPMARK AT SK876623 (Fig.27)

Description. Air photographs of this area of glacial sands and gravels show a seemingly discrete subsquare single-ditched enclosure, possibly with a single entrance on its north-west side. Several faint linear features may be discerned to the east, and part of a second possible discrete rectilinear enclosure to the west.

a) Period. Such enclosures are particularly characteristic of the Iron Age and Romano-British periods, in this region, where they occur generally as components of complex cropmark systems (*ibid.*, 66-7; *cf.* Phase 2 Enclosure, Gamston, Notts.: Knight, 1991).

b) Rarity. Discrete subrectangular enclosures are rare within the survey corridor, as elsewhere in the Trent basin (*op.cit.*, although as noted above (*e.g.* Site 4), we may doubt whether these are genuine phenomena or merely artefacts of survival (as hinted here in fact by the presence of several undated linear features).

c) Documentation. NMR 2172 (SK8762/1: Frame no. 1349 & 1350).

d) Group value. The site has limited group value, apart from its relationship to the Fosse Way, although the faint traces of cropmarks to the west and east of the main enclosure suggest that more features may exist than can at present be demonstrated.

e) Survival/Condition. The site survives as a cropmark, and may comprise only features dug into the subsoil. Ploughing and other agricultural activities have undoubtedly caused damage to the upper parts of features, but the extent of this is unknown.

f) Fragility / Vulnerability. Ploughing may be expected to cause further damage to the upperparts of features.

g) Diversity. The site scores poorly on diversity, comprising one or possibly two enclosures and a few discontinuous linear ditches of uncertain significance. As noted above, however, it is debatable whether this is a true reflection of its actual diversity.

h) Potential. The site might be expected to preserve evidence of the form and possibly functions of the surviving subsoil features, and perhaps also traces of other features which are not visible from the air. Artefactual emains which could elucidate the chronology and possible functions of the site may also be anticipated, but there is no reason to suppose extensive environmental remains.

i) Recommendations. The site is not threatened by the proposed scheme, although it just impinges upon the 100m corridor, and it seems unlikely that road construction will adversely affect the monument. We would recommend, therefore, no archaeological response at present - although the possibility that the site extends over a far wider area than can yet be demonstrated should urge careful monitoring of the area during road construction.

Given also that the site preserves a particularly fine example of a subrectangular ditched enclosure, it would merit preservation under a more sympathetic land use (e.g. pasture).

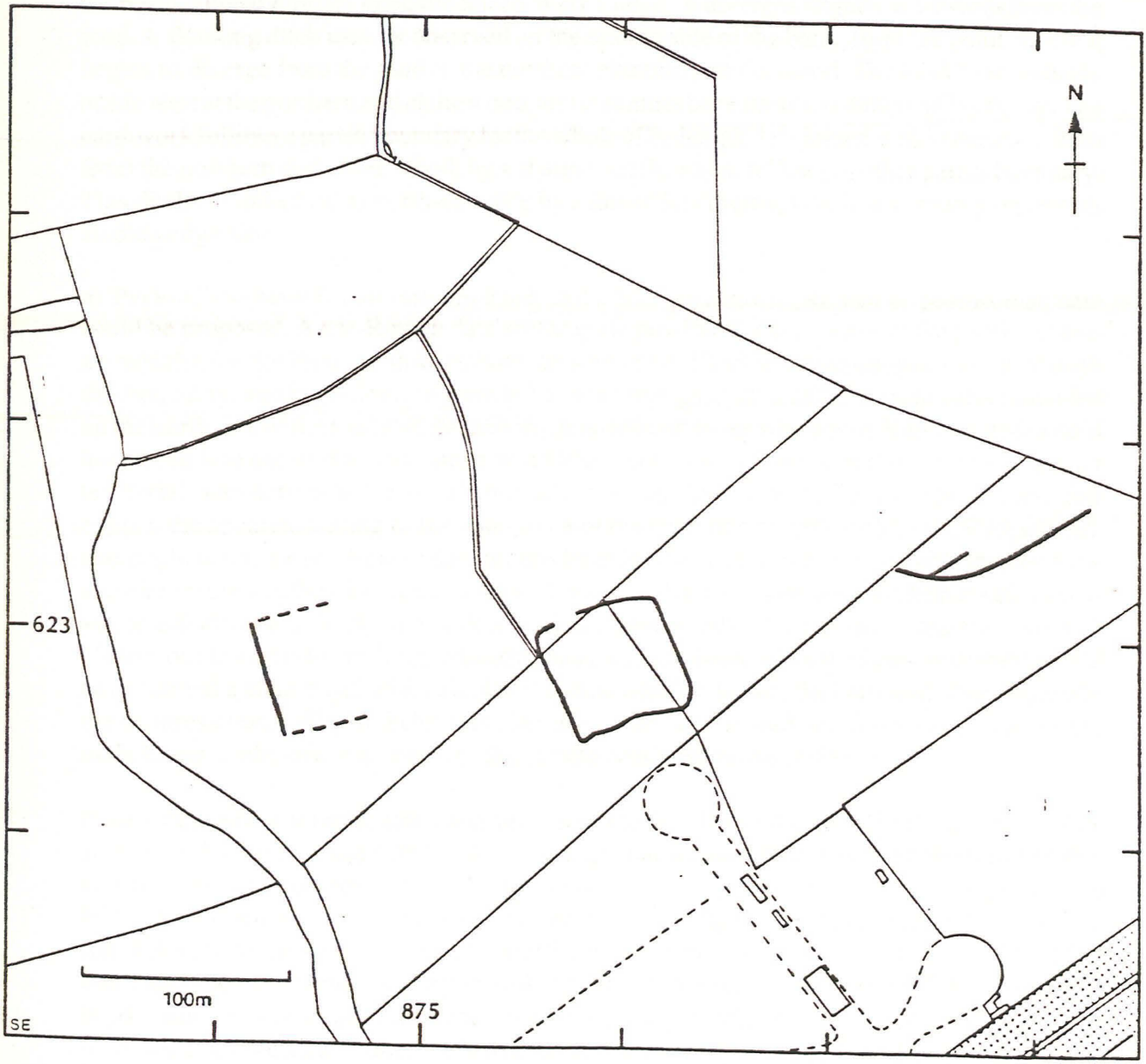

Fig. 27 Cropmarks at SK876623

SITE 13: LINEAR BANK AND DITCH AT SHEEP WALK LODGE; SK896634 (Fig.28)

Description. A linear bank may be traced within a narrow belt of woodland on the western side of the Fosse Way for a distance of *c.* 370m. For most of its course it flanks the A46, but towards the north, almost directly opposite Sheep Walk Lodge, it diverges slightly westwards from the road. A flanking ditch may be observed on the eastern side of the bank, from the point where it begins to diverge from the road to the northern extremity of the wood. The bank veers sharply north-west at the northern end of the wood, and continues beneath an existing field boundary. The earthwork follows a parish boundary for the whole of its length. It is joined at right angles, *c.* 20m from the northern end of the wood, by a shallow ditch, which follows another parish boundary. This ditch is flanked on its north-east side by a line of hawthorns, which presumably represents an old hedge line.

a) Period. The bank is currently undated, and a later prehistoric, Roman or post-Roman date could be proposed. A pre-Roman date seems quite possible for the course of the parish boundary which joins the linear earthwork from the south-east. The Roman road appears to cut through this boundary, and by so doing to have left a small triangular area of the present parish stranded on the north side of the road (SK89726356). It is difficult to see why a post-Roman parish would have been laid out in this way, and a more likely solution is that the parish reflects an earlier territorial boundary which has subsequently been cut by the road. This would perhaps also explain the apparent cutting of the outer ditch of the main linear earthwork by the Roman road, and might support a pre-Roman date for this boundary as well. It is not impossible that the bank and ditch represent the edge of the original Roman road, but consideration of the bank alignment suggests that this is unlikely. A post-Roman date is also possible, but it seems strange that so much effort would be invested in the construction of a boundary bank, when the Fosse Way itself would have formed a clear physical divide. One final possibility is that the bank and ditch represent the features observed by Stukeley on either side of the central roadway, but the alignment of the main linear earthwork at an angle to the present road makes this unlikely.

None of the above interpetations is entirely satisfactory. However, possibly the most plausible is the one that on first sight seems the most improbable, namely that both earthworks are pre-Roman boundary features, cut by the road. This might imply that the Roman road engineers had laid out the Fosse Way with some general regard to existing boundaries, and that the line of the road might reflect in some way an earlier territorial boundary. The other major implication of this conclusion pertains to the antiquity of medieval parish boundaries in the region. Whimster (1989, fig.61) has published a plan showing a parish boundary continuing the line of a presumed later prehistoric double pit alignment in North Muskham, Notts. (SK793603), and the possibility that some parish boundaries respect pre-Roman land divisions should be seriously considered.

b) Rarity. Similar linear earthworks are known at several locations elsewhere along the Fosse Way (Fig.19), and as far as is known invariably correlate with parish boundaries . They are sufficiently rare, however, to merit close attention - especially in view of the suggestion above that some at least may be of considerable antiquity.

c) Documentation. Sheet 77 of the 1887 OS 1st Edition map shows the Swinderby and Thorpe parish boundary following the line of the earthwork, but there is otherwise no documentation.

d) Group value. The earthwork flanks the Fosse Way for much of its course, and as noted above is presumably closely associated with it in some way. The bank and ditch, which also follow a parish boundary, are related to another parish boundary, marked by a ditch, which joins the former earthwork from the south-east.)

e) Survival/Condition. For much of their lengths the bank and ditch are well preserved, although much disturbed in parts by burrowing animals and by tree-root activity. The bank survives in parts up to a height of *c.* 0.5m by a width of 2-3m.

f) Fragility/Vulnerability. Although comparatively well preserved, the earthwork is vulnerable to further burrowing and tree root activity, and would be seriously damaged by road building activity. The most vulnerable areas are the junctions between the linear boundaries, for any damage here could destroy important stratigraphical evidence for their chronological relationships.

g) Diversity. Three monuments may be represented: the main south-west/north-east linear bank and ditch, the shallow ditch which joins these from the south-east, and the Fosse Way itself.

h) Potential. The earthwork is of considerable importance as possible evidence of the pre-Roman origins of part of the Fosse Way alignment and of some parish boundaries. Evidence may be expected to survive of the structure of the earthworks and of their stratigraphical relationships. The earth banks may also seal earlier ground surfaces; which could preserve important environmental evidence.

i) Recommendations. Few linear earthworks survive along the Fosse Way (cf. sites 10 and 15), and in normal circumstances we would recommend preservation. If this is impossible, we would recommend preservation by record. Excavations should be designed to establish the character, purpose and date of the earthworks, and to recover material from any earlier ground surfaces which might survive. We would recommend that excavations focus upon the relationships between the earthworks and the modern road, and between the main linear earthwork and the ditch which joins it from the south-east.

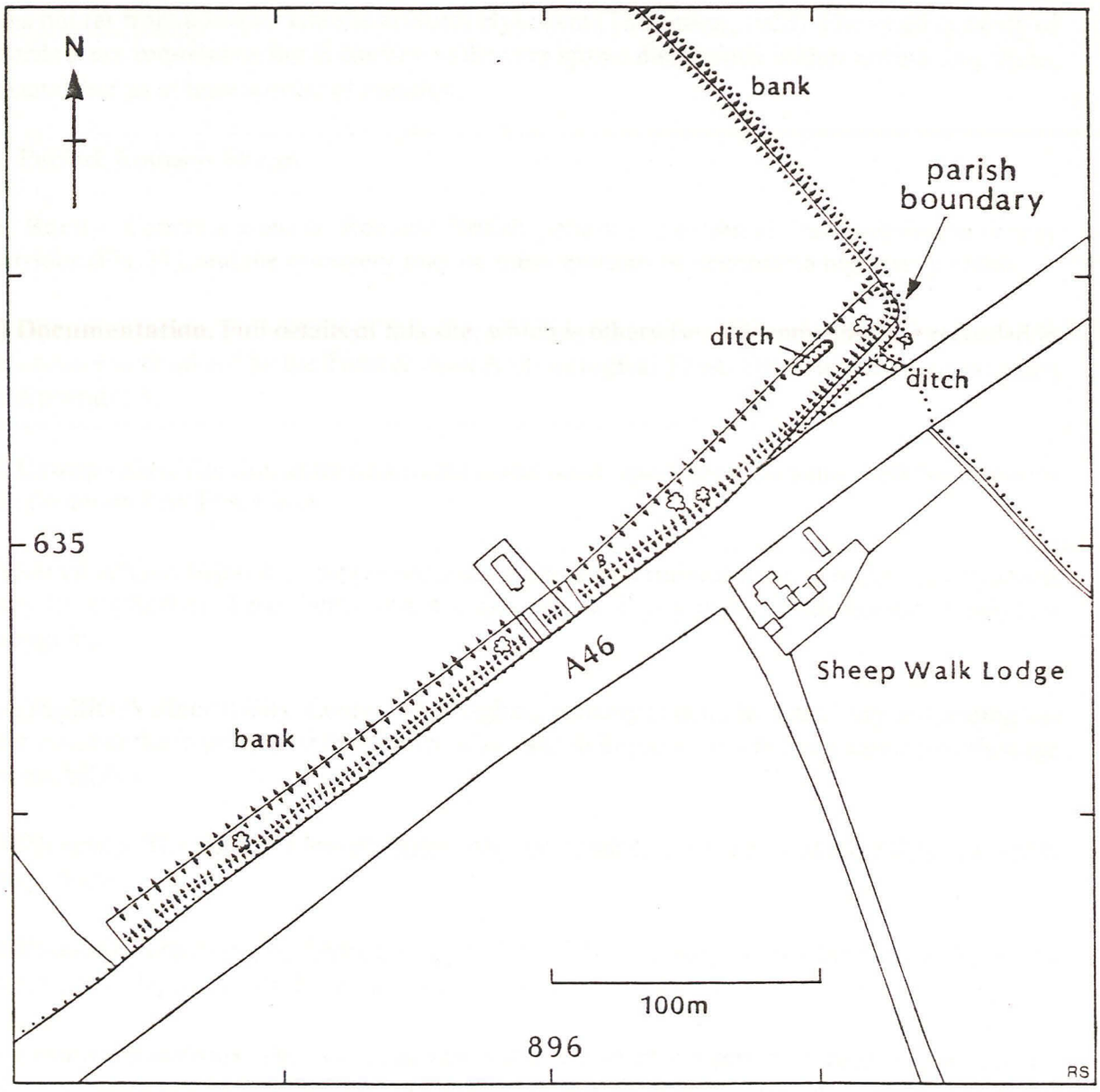

Fig.28 Linear earthworks at Sheep Walk Lodge (SK896634)

SITE 14: ROMANO-BRITISH POTTERY CONCENTRATION AT NORTH HYKEHAM; SK918654

Description. A minor concentration of Grey Ware sherds, including later first and second century AD types, was found during fieldwalking by Trent & Peak Archaeological Trust in an area not far from a known kiln site at North Hykeham (Thompson, 1958). The small quantity of sherds is not impressive, but in contrast to the very sparse distribution within surrounding areas, it standsout as at least worthy of mention.

a) Period. Romano-British.

b) Rarity. Concentrations of Romano-British pottery are extremely rare within the survey corridor (Fig.31), and the discovery may on these grounds be accorded a high rarity value.

c) Documentation. Full details of this site, which is otherwise undocumented, are recorded in an archive maintained by the Trent & Peak Archaeological Trust. The evidence is summarised in Appendix 1.

d) Group value. The site has no significant group value, apart from a presumed relationship with the contemporary Fosse Way.

e) Survival/Condition. It is impossible at this stage to determine the nature of the activity which may be implied by these sherds, but it is possible that they derive from features eroded by ploughing.

f) Fragility/Vulnerability. Continued ploughing is likely to denude further any archaeological features, but the fragility or vulnerability of any surviving structural remains cannot at this stage be established.

g) Diversity. The site has a low diversity. All that survives is pottery, and all of this material is Grey Ware.

h) Potential. This is impossible to gauge, in view of the wide range of mechanisms which might underlie the deposition of this material (*e.g.* manuring; erosion from settlement features).

i) Recommendations. The site, although within 100m of the proposed road corridor, is not directly threatened by the development, and hence no archaeological response need at present be contemplated.

SITES 15a AND 15b: MISCELLANEOUS LINEAR EARTHWORKS; SK832579 & SK890631

63180

In addition to Sites 10 and 13, linear banks have been recorded at SK832579 (15a) and SK890631 (15b). Both features are aligned approximately at right angles to the Fosse Way and coincide with parish boundaries, and for convenience of description are considered together.

Description. A substantial bank up to c. 1m high may be observed beneath the hedge flanking the south side of Danethorpe Lane (SK832579). At SK890631 a bank of comparable dimensions, and flanked on either side by a ditch, may be observed on the south-west side of a minor trackway ('The Avenue'). Both continue away from the Fosse Way beyond the 100m survey corridor.

a) Period. The date of these earthworks and of the parish boundaries with which they coincide is unknown.

b) Rarity. Linear earthworks are comparatively rare within the survey corridor, the only other examples having been recorded at Sheep Walk Lodge (Site 13) and Gallows Nooking Common (Site 10).

c) Documentation. No documentary references have been located.

d) Group value. The main value of these earthworks is in their possible relationship to the Fosse Way.

e) Survival/Condition. The earthworks have been protected from ploughing, and hence may be reasonably well preserved. At SK890631, the south-east end of the monument, where it might have joined the Fosse Way, has been damaged by later building activity.

f) Fragility/Vulnerability. Both features may be truncated by the proposed road development, and are vulnerable also to further disturbance by tree roots and burrowing animals.

g) Diversity. Neither site scores high on diversity. All that survives is a bank, associated in one case with flanking ditches.

h) Potential. Evidence may be expected to survive of the structure of the bank and of any associated boundary features (*e.g.* ditches). Artefactual evidence of date might possibly be preserved, while the banks might also seal traces of earlier activity or even buried ground surfaces. The latter might yield important environmental evidence, but the potential for this may only be determined by excavation.

i) Recommendations. Road development will destroy only small parts of these visible monuments, and preservation by record would seem the most appropriate response. We would recommend the excavation of sections through the earthworks to elucidate their character and

date, and to establish whether earlier ground surfaces survive; this could be supported by surveys to establish their extent. A key question is the relationship of these monuments to the Fosse Way, but only at SK832579 may sufficient structural evidence survive for this to be examined by excavation.

APPENDIX 1 THE FIELDWALKING SURVEY

The fieldwalking survey which forms the subject of this section was conducted between October 1990 and February 1991, and was supervised by K. Childs, with the assistance of I. Howell, W. Livesey, L. Stapely and S. Whitehead. The finds were identified by R. Alvey (medieval and post-medieval pottery), D. Garton (flintwork), P. Hammond (clay pipes), D. Knight (miscellaneous worked stone and Iron Age pottery) and T.S. Martin (Romano-British pottery and tile), and are listed in an archive maintained by the Trent & Peak Archaeological Trust.

The report is divided into the following main sections:
1. Objectives.
2. Fieldwalking methods.
3. Collection strategy.
4. Documentation.
5. Extent of coverage.
6. Synthesis of results.

1. OBJECTIVES

The survey was devised with the aim of locating all major concentrations of post-medieval or earlier material within 100m of the proposed new road, in order to provide further data on the distribution of archaeological sites within the area threatened by development, and to elucidate the possible date range of known cropmark sites. The survey corridor was widened to 500m either side of the road in the vicinity of Brough, in view of the broad lateral extent of this monument.

2. FIELDWALKING METHODS

Fields were walked along a series of transects spaced 10m apart from centre to centre. Walkers were instructed to collect surface material lying up to 1m from the axis of each transect, thus providing a *c.*20% sample of the surface of each field. It was decided to opt for this sampling scheme on the grounds that major sites were unlikely to escape discovery by this method, and by the need to cover as much ground as possible in the time available.

Walking was restricted to ploughed or drilled fields whose surfaces had been sufficiently weathered for surface finds to be clearly visible. In the case of drilled fields, walking was carried out when the crop was insufficiently high to mask surface concentrations of archaeological material, but sufficiently established to withstand light trampling.

A 50 metre grid was constructed in each case from a convenient baseline, and the axis of each transect was marked by sufficient ranging rods to ensure that walkers did not stray from this line. The initial surveying work was carried out with the aid of Electronic Distance Measuring equipment. Walking was, where possible, aligned along the plough furrows or drilling lines, as these provided useful guides for walking. A 50m tape was laid out along each transect, and finds to either side of this line were measured in by offsets.

Finds were allocated three letter codes, and plotted in the field at a scale of 1:1000 or 1:500, depending upon the density of finds.

3. COLLECTION STRATEGY

All artefacts which might have derived from medieval or earlier activity were plotted in the field, and retained for further study. Post-medieval finds were plotted and (where possible) classified in the field, but only material of uncertain character was retained for further study. Faunal remains, undatable fragments of brick and tile and worked masonry were plotted but, except for brick and tile which was obviously modern, were not retained. Subsoil scatters were also planned, on the grounds that these might shed light upon the level of plough damage to any underlying archaeological remains.

4. DOCUMENTATION

The fieldwalking archive comprises two basic elements, as follows:

i. Field Plot: at a scale of 1:1000 or 1:500.

ii. Fieldwalking Record Sheet. Details were recorded on standard proformas (Fig.29) of field location, land ownership, present land use, surface geology and topography, in addition to information on other archaeological remains and previous discoveries. A day record was maintained on the back of this sheet, on which were included details of visibility, the state of the land when walked, and information on the depth of ploughing. The date and purpose of walking, the fieldwalking method, and the names of the walkers (with details of transects walked by each) were also recorded.

5. EXTENT OF COVERAGE

All arable land which was in a state suitable for fieldwalking between October 1990 and February 1991 was walked, with the exception of two fields for which owner consent was not given. As shown below, this enabled coverage of c. 62% (223.4 ha) of the survey area cf. Fig.30).

LAND USE:	TOTAL Ha.	% OF SURVEY AREA	TOTAL Ha WALKED	% WALKED PER LANDUSE TYPE
CEREALS	174.5	48.8	166.5	95.5
SUGAR BEET	77.5	21.6	44.5	57.5
OIL SEED RAPE	26.5	7.5	7.5	28
POTATOES	3.0	0.8	3.0	100
BEANS	2.0	0.5	2.0	100
PERM. PASTURE	39.5	11.0	0	0
BUILT UP	5.0	1.5	0	0
WOODLAND	3.0	0.8	0	0
MISCELLANEOUS	27.0	7.5	0	0
TOTAL	358	100	223.4	-

TRENT & PEAK ARCHAEOLOGICAL TRUST

PROJECT : _____ FORM COMPILED BY : _____ DATE : / /

1 PARISH	NAT GRID REF SK	FIELD NUMBER	FIELD NAME

2 OWNER or AGENT : Name _____ Address _____ Phone No _____

TENANT : Name _____ Address _____ Phone No _____

3 PRESENT LAND-USE

4 TOPOGRAPHY

5 (underline as applicable)
a) EARTHWORK b) SOIL-MARK c) CROP-MARK d) RIDGE & FURROW e) BUILDING
f) OTHER g) FINDS h) FIELD-WALKED (see overleaf)

6 DESCRIPTION of 5 a-f

7 PREVIOUS INFORMATION

8 S M R Numbers :

Fig. 29 Fieldwalking record sheet

TRENT & PEAK ARCHAEOLOGICAL TRUST

FIELDWALKING DAY RECORD

Date Walked / /

Visibility GOOD/INDIFFERENT/BAD

State of land when walked 1. WET/DAMP/DRY/FROZEN
2. WEATHERED PLOUGHING/UNWEATHERED PLOUGHING/HARROWED/SOWN/OTHER - specify
3. If sown specify state of crop NOT THROUGH/JUST THROUGH/THICK
4. EVEN LIGHT/SUNLIGHT WITH SHADOW

Are there indications that recent ploughings have cut into the subsoil?
YES/NO/DON'T KNOW

Purpose of walk PRELIMINARY SURVEY/DETAILED SURVEY/OTHER - specify

LINE DISTANCE APART OF WALKERS

LINE NO	WALKER'S NAME	LINE NO	WALKER'S NAME

Form completed by

PLAN NUMBER : DR

6. SYNTHESIS OF RESULTS

The results of this survey are summarised below by period.

6.1 PREHISTORIC

This period is represented by only a thin scatter of flintwork and by six sherds of probable Iron Age pottery from the environs of Brough (Fig.31). Part of a Millstone Grit rotary quern (DMN) and a possible rubber or pounder (DLE) from field 0012, on the eastern side of the Fosse Way and to the immediate south-west of the defences, may date from the Iron Age or Romano-British period, but clearly close dating of these these objects is impossible.

6.1.1 Flintwork

The flintwork comprised 3 flakes which might derive from Neolithic or Bronze Age activity, as follows:

FFQ (SK827573): hard hammer flake with plain platform, from wholly cortical piece of probably Wolds origin. The ventral left edge preserves evidence of plough damage.

FFS (SK827573): hard hammer flake with plain platform, struck from multi-platform core without cortex. The edges are plough damaged.

FGO (SK912644): flake with shattered platform struck from multi-platform core, and possibly used on the distal end. It preserves a 'tarry' substance on its distal end which is probably post-depositional.

The quantity of flintwork is unexpectedly small, and provides a sharp contrast to the results of surveys conducted within neighbouring areas, such as the Vale of Belvoir (Hills and Liddon, 1981), and north Nottinghamshire (Garton 1987), although unpublished work by Naomi Field along Ermine Street, immediately north of Lincoln, produced a similarly low density of material (N. Field: pers. comm.). The fieldwalking team was competent in the recognition of lithic material, and given that fields were, wherever possible, walked only after prolonged weathering, there is no obvious reason to doubt that the recorded distribution reflects other than a genuine paucity of surface material. It would be useful, however, to verify this by re-walking fields in future seasons for, if genuine, the sparse distribution of flint would have important implications for our knowledge of the possible level of activity in this area during the Neolithic and earlier Bronze Ages. Indeed, without further research of this kind, the results of this work must remain controversial.

6.1.2 Iron Age pottery

Six sherds which on fabric grounds invite comparison with local Iron Age pottery were found to the south-west of Brough in close proximity to one another (Fig.31; finds DEJ, DJZ, DLK, DQM, EBN & EFV). All are plain body sherds deriving from vessels of uncertain form, and cannot be

closely dated. DEJ preserves traces of light brushing on the outer face, and EBN appears to have been lightly burnished on the exterior. None preserves evidence of having been produced on a wheel. Although little may be deduced regarding their precise typological affinities, their discovery may provide further evidence for a phase of pre-Roman activity at Brough. Later Iron Age activity is suggested by the available cropmark data, and as noted elsewhere in this report, this adds significantly to the potential archaeological importance of the site.

The absence of Iron Age material elsewhere along the line of the road also merits mention, for it seems unlikely that similar material would have eluded discovery in the remainder of the survey area. This could imply that Iron Age sites were sparsely distributed along the line of the later Fosse Way, but as excavated Iron Age sites within the region have commonly produced little or no surface evidence for their existence (*e.g.* Gamston, Notts.: Knight 1991) this does not necessarily follow. The argument may be developed by reference to the cropmark evidence which is available within the survey area. Many compare closely on typological grounds with Iron Age or Romano-British cropmark sites (*cf.* Whimster, 1989, 84-7), and their presence suggests a more dense pattern of settlement than is implied by the limited evidence of surface artefact scatters.

6.2 ROMANO-BRITISH

Evidence of Romano-British activity is provided by surface scatters of pottery, the distribution of which is summarised in Fig.31. Field 0012, to the east of the Fosse Way, and to the immediate south of the defences, produced a fragment of Millstone Grit rotary quern (DMN) and a probable pounder or rubber (DLE), also of Millstone Grit. Neither object may be closely dated, but both could derive from Romano-British activity. The range of ceramic types which was obtained is described in the first part of this section, and then the evidence for the spatial distribution of pottery is considered.

6.2.1 Ceramic Types

Each sherd was examined macroscopically, and was catalogued by T.S. Martin on A4 proformas by field. The pottery is grouped here into three main classes on the basis of the main production source, and within these categories into standard ware types. All vessels are wheel-made, unless stated otherwise.

Imported Wares (Gaulish/Iberian sources)

1. Samian (S): of South Gaulish (mid-first to early second century AD), Central Gaulish (second century AD), and East Gaulish (mid-second to mid-third century AD) type (cf. Oswald and Pryce 1920).

2. Amphorae (Am): of globular Dressel 20 type (later first century AD to third century AD), derived from southern Spain (Peacock and Williams,1986).

3. Colour-Coat (CC): mostly regional Nene Valley products, but one sherd (AEW) may on fabric grounds possibly have derived from central Gaul (after Greene, 1978, 18). This sherd derives from a beaker, with a fabric identical to central Gaulish samian ware and a dark colour coat, and may date, as at Chelmsford, to between the second and third centuries AD (*cf.* Going, 1987).

Regional Products (transported over a distance of at least 50 miles from provincial production centres)

1. Colour-Coat (C): very fine white, buff or orange-red fabrics, with no visible inclusions (as Richardson, 1986), and sometimes with barbotine or rouletted decoration. Forms include beakers, bowls, dishes, and jugs. Vessels are probably derived from the Nene Valley kilns, and date from the mid-second century AD to at least AD 400.

2. Mortaria (Mo): mainly in a fine white sandy fabric, comparable to White Ware. These probably derive from the Mancetter/Hartshill kilns of Warwickshire, and date from the early second century to late fourth century AD. The range of types is small, and identifiable forms are confined to the 'hammerhead' types (*cf.* Gillam, 1970, nos.279-284).

3. White Ware (WW): a fine white sandy fabric, used principally for plain flagons, but undecorated beakers, bowls, lids and 'inkwells' are also known (cf. Derby Little Chester: Martin, in prep.). The nearest production centre is at Mancetter/Hartshill in Warwickshire, and an early second to early third century AD date range would seem most likely.

4. Black-burnished Ware (BB1): coarse hand-made jars, bowls and dishes. The jars usually bear burnished lattice decoration, while the bowls and dishes may be plain or ornamented with lattice patterns or with intersecting chevrons or arcs. These vessels almost certainly derive from the Poole Harbour kilns or other Dorset sources (*cf.* Farrar, 1973), from which material was traded widely between *c.*AD 120 to c.AD 375.

5. Calcite-Gritted Wares (CG): plain wheel-made Dales Ware jars (see Loughlin, 1977). The exact source of these vessels is unknown, but Yorkshire or Lincolnshire seem the most likely candidates (*op.cit.*). A date between the third and fourth centuries AD would be appropriate.

Local Products

1. Oxidised Ware (OW): coarse, sandy orange fabrics, used for undecorated jars of uncertain form (*cf.* Darling, 1984, 53: fabric 16), and possibly for two mortaria. The mortaria could be fourth century AD products of the Lincoln Swan pool kilns (*cf.* Webster and Booth 1947, 64, fig.3), while the remainder of the oxidised vessels could also have derived from the vicinity of Lincoln (Darling, *op.cit.*). Apart from the mortaria, oxidised wares have a very wide date range, spanning the period from the late first to fourth centuries AD.

2. Grey Ware (Gr) (*cf.* Darling 1984; 53: fabric 105). Vessels of this type are mainly reduced

versions of the oxidised wares, and have a similarly broad date range. Jars predominate, but bowls, dishes, flagons, beakers and single examples of strainers and cheese presses are also represented. Vessels are mainly plain, but rustication and rouletting may occasionally be discerned on jars and beakers. These could derive from a wide range of East Midland sources, but the exact sources of production cannot be specified.

3. Grey Ware/Black-Burnished Type (Gr/BBT). Included under this heading is a group of coarse grey wares which in terms of their fabric, form (dishes and jars) and decoration (including intersecting arcs) exhibit many of the characteristics of BB1, and fall within the export period of this ware (*cf.* Farrar, 1973: BB1 and allied fabrics).

4. Trent Valley Ware (TVW): calcite-gritted plain jars, notably coarser than the regional Calcite-Gritted wares described above (as defined by Todd, on the basis of his excavations at Margidunum: Todd, 1969, fig.31, nos.20-21). All date from the later first century AD.

5. Grog-tempered (GT): single plain jar, in a coarse grey fabric tempered with crushed, pottery. The source is unknown, and the exact date is uncertain.

Local Products

1. Oxidised Ware (OW):coarse, sandy orange fabrics, used for undecorated jars of uncertain form (cf. Darling, 1984,53:fabric 16), and possibly for two mortaria. The mortaria could be fourth century AD products of the Lincoln Swanpool kilns (*cf.* Webster and Booth,1947, 64, fig. 3), while the remainder of the oxidised vessels could also have derived fromthe vicinity of Lincoln (Darling, *op.cit.*). Apart from the mortaria, oxidised wares have a very wide date range, spanning the period from the late first to fourth centuries AD would be appropriate.

2. Grey Ware (Gr)(*cf.*Darling 1984; 53: fabric 105). Vessels of this type are mainly reduced versions of the oxidised wares, and have a similarly broad date range. Jars predominate, but bowls, dishes, flagons, beakers and single examples of strainers and cheese presses are also represented. Vessels are mainly plain, but rustication and rouletting may occasionally be discerened on jars and beakers. These could derive from a wide range of East Midland sources, but the exact sources of production cannot be specified.

3. Grey Ware/Black-Burnished Type (Gr/BBT). Included under this heading is a group of course grey wares which in terms of their fabric, form (dishes and jars) and decoration (including intersecting arcs) exhibit many of the characteristics of BB1, and fall within the export period of this ware (*cf.* Farrar, 1973: BB1 and allied fabrics).

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5. Grog-tempered (GT): single plain jar, in a course grey fabric tempered with crushed pottery. The source is unknown, and the exact date is uncertain.

Sherd counts for each of the ware types obtained during fieldwalking are summarised in the following table (excluding the material obtained during the intensive survey of Field 0012, described below).

IMPORTED WARES	Sherds	REGIONAL WARES	Sherds	LOCAL WARES	Sherds
Samian	30	C	61	Mo	2
C	1	Mo	8	OW	6
Am	2	WW	7	Gr	564
		BB1	18	Gr/BBT	5
		CG	5	TVW	3
				GT	1
TOTALS	33		99		571

Additional pottery was obtained during a more detailed investigation of part of Field 0012, to the south of Brough. The NW part of this field, immediately adjacent to the Fosse Way, produced an exceptionally large quantity of finds, and in view of its potential importance for an understanding of the extra-mural development of the town, it was decided to rewalk the main artefact concentration with the aim of collecting all surface finds from this area. The material obtained during transect walking of the extra-mural artefact cluster is shown in the following table, and should be compared with the greater range of pottery which was obtained from total coverage of this area. The more detailed survey succeeded in obtaining a slightly wider range of material, but as noted in the following section, it did not alter significantly our views of the date or character of the ceramic assemblage.

Number of sherds obtained from preliminary survey of extra-mural artefact cluster, field 0012 (*c.* 20% coverage).

IMPORTED WARES	Sherds	REGIONAL WARES	Sherds	LOCAL WARES	Sherds
Samian	5	Mo	2	OW	2
		WW	3	Gr	193
		BB1	5	Gr/BBT	1
		CG	2	TVW	1
				GT	1
TOTALS	5		12		198

Number of sherds obtained from detailed survey of extra-mural artefact cluster, field 0012 (100% coverage).

IMPORTED WARES	Sherds	REGIONAL WARES	Sherds	LOCAL WARES	Sherds
Samian	45	C	138	OW	13
Amphorae	5	Mo	13	Gr	1726
		WW	9	Gr/BBT	2
		BB1	24	TVW	2
		CG		GT	1
TOTALS	50		268		1746

6.2.2 Spatial Distribution

As noted above, fieldwalking located a major concentration of Romano-British pottery to the south-west of Brough. Otherwise however, with the exception perhaps of a minor concentration of material near North Hykeham (SK918654; Fig.19, site 14), no possible foci of activity were discerned. These concentrations, and the possible social and economic implications of the ceramic data which were obtained from them, are considered first, and then the evidence from elsewhere within the survey corridor is assessed.

a) Brough and Environs

Fieldwalking was carried out in Fields 0012 and 2340 to the south-west of Brough, either side of the Fosse Way, and to the north-east of the town in Field 0031/0057 (Fig.31). All other fields were inaccessible for fieldwalking during the period of the survey.

Field 0012 (SK838581)

Preliminary walking of this field along 10m transects revealed a total of 259 sherds, the majority

of which derived from a linear spread running roughly parallel with the south-east edge of the Fosse Way. It continued for approximately 150m along the road, and extended south-east for c. 50-60m. The range of ceramic types is listed fully in the ceramic archive, but identifiable forms included Calcite Gritted Dales Ware type jar rims of third century AD date (Todd, 1968, fig.2, no.13; Darling, 1977, fig.6, nos. 105-10), a BB1 incipient flanged dish of the early third century AD (*cf.* Gillam, 1976, no.42), Nene Valley Colour-coated folded and bag beakers of the late second to fourth centuries AD (Howe *et.al.*, 1980), Grey Ware flat-rimmed dishes of *c.*AD 120 to the early third century AD (*cf.* Gillam, 1970, no.221), Colour-coated dog-dishes of the fourth century AD (*cf.* Gillam, 1970, no.333), Grey Ware lids, mainly of second century AD date, a Colour-coat Castor box of the late second to fourth centuries AD (Howe *et.al.*, 1980) and several Grey Ware jars with everted rims of the second century AD. Samian was the only imported ware recovered from this initial survey. The only identifiable form was from a decorated body sherd from a Drag. 30 bowl, dating to within the period from *c.*AD 100 to *c.*AD 250. Detailed fabric analysis would be required to establish the source within Gaul of this samian import.

The more detailed survey produced an additional 2064 sherds, but, as shown in the tables above, with the exception of six sherds of possible Iron Age date (described above) and five sherds of Dressel 20 amphora, our knowledge of the range of ceramic types has not been enhanced significantly. Both tables demonstrate the importance of locally produced pottery at Brough, and in particular of Grey Ware (83% of pottery from the detailed survey). Regional Colour-coats (probably from the Nene Valley) formed the next largest group (mainly beakers and a few dishes), while as noted above the range of imported wares includes Samian and Dressel 20 amphorae.

A significantly less pronounced but discrete scatter was located *c.* 150 metres to the south-east of the Fosse Way. This comprised 27 sherds, including 25 Grey Ware sherds, one mortarium fragment and one Nene Valley Colour-coat sherd (neither closely datable). All the identifiable forms were in Grey Ware, and include a beaker, a ring-necked single-handled flagon of Hadrianic-Antonine type (*cf.* Gillam 1970, nos. 4 and 5) and several jars. The sherds are generally highly abraded, and may be ascribed a wide date range (possibly late first to fourth centuries AD).

Field 2340 (SK834583)

Fieldwalking in the adjacent field, immediately to the north-west of the Fosse Way, revealed a second dense linear concentration of sherds, extending away from the road for up to *c.* 80m, and continuing south into Field 4025 for up to *c.* 50m. This was presumably an extension of the scatter described above, and suggests possibly quite extensive extra-mural activity along the Fosse Way to the south of the town. Forms include Nene Valley Colour-coat plain-rimmed beakers and folded beakers of late second to fourth centuries AD date (Howe *et al.*, 1980), a plain Grey Ware pie-dish of second to early third century AD date (*cf.* Gillam 1970, no.310), Grey Ware and BB1 straight-sided bead and flanged dishes of the late third to fourth centuries AD (*cf.* Gillam, 1970, nos.229-32), Grey Ware sherds with rusticated decoration of early second century AD date (*cf.* Thompson, 1958), and a calcite-gritted Dales Ware Type jar of the third century AD (*cf.* Gillam, 1970, no.157), and suggest an early or mid-second to fourth century AD date range.

Field 0031/0057 (SK842585)

This field produced no major concentration of finds, but in the density of material (totalling 33 sherds) is far from uniform. The generally low density of finds (compared, for example, to Field 0012) may reflect in part the collection of ceramic material by metal detectorists. But given that the field overlaps the field system to the north of the town, the low density of finds might reflect in part contemporary manuring practices. The pottery is very abraded, and includes body sherds of Nene Valley Colour-coat folded beakers, dating from the first half of the second to the fourth century AD, a Grey Ware pie dish, cooking pot and bead-rimmed jar of the second to mid-third centuries AD, a BB1 plain dish of the late second to fourth centuries AD, a single sherd of Dressel 20 amphora of the late first to third century AD, and several abraded sherds of Samian and Grey Ware (none closely datable).

Brough: General Interpretation

The numbers of sherds deriving from common imported (Samian), regional (Nene Valley Colour-coat and BB1) and local wares (Grey Ware & Trent Valley Ware) from the artefact scatter to the south of Brough are summarised by vessel class below, in an attempt to elucidate the exchange networks which may have centred upon Brough, and by implication the possible social and economic status of the site. This is a selective analysis, but it serves to illustrate the main general implications of the ceramic data.

Field 2340, Brough: minimum number of imported, regional and local vessels, based on the number of diagnostic sherds (10m transects).

VESSEL CLASS	IMPORTED	REGIONAL		LOCAL		TOTAL
	SAMIAN	NVC	BB1	GREY WARE	T.V.W.	
DISHES	3	1	3	3	-	10
BOWLS	1	-	-	1	-	2
JARS	-	-	4	26	2	32
BEAKERS	-	8	-	-	-	8
JUGS/FLAGON	-	-	-	1	-	1
TOTAL *	14	25	11	207	2	259/53

* Including undiagnostic body sherds

Field 0012, Brough: minimum number of imported, regional and local vessels, based on the number of diagnostic sherds (10m transects).

VESSEL CLASS	IMPORTED	REGIONAL		LOCAL		TOTAL VESSELS
	SAMIAN	NVC	BB1	GREY WARE	T.V.W.	
DISHES	1	4	2	7	-	14
BOWLS	1	1	-	-	-	2
JARS	-	-	1	12	1	14
BEAKERS	-	4	-	1	-	4
JUGS/FLAGON	-	-	-	-	-	-
TOTAL *	5	17	4	189	1	213/34

* Including undiagnostic body sherds

Field 0012, Brough: Minimum number of imported, regional and local vessels, based on number of diagnostic sherds (total coverage of extra-mural artefact concentration).

VESSEL CLASS	IMPORTED	REGIONAL		LOCAL		TOTAL VESSELS
	SAMIAN	NVC	BB1	GREY WARE	T.V.W.	
DISHES	8	10	10	53	-	81
BOWLS	5	3	-	3	-	11
JARS	-	-	3	147	2	160
BEAKERS	-	29	-	11	-	40
JUGS/FLAGON	-	3	2	2	-	7
TOTAL *	43	138	24	1726	2	1933/299

* Including undiagnostic body sherds

These tables emphasise the surprisingly small number of imports which may be identified. These derive mainly from Samian workshops in Central and Eastern Gaul, and are confined to dishes (e.g. forms 18 and 18/31) and bowls (*e.g.* forms 30 and 37). Other evidence for contact with Gaul may be the discovery of a single sherd of possibly Central Gaulish Colour-coat beaker in Field 2340 (AEW), to the immediate west of the Fosse Way, just outside the town defences. The several amphorae which were recorded provide evidence of links with Iberia. Readily identifiable forms comprise globular Dressel 20 amphorae for olive oil from the Guadalcuivir valley in Baetica (Greene, 1986, 110-14).

Regional fine wares are dominated by products of the Nene Valley kilns, from which a range of Colour-coated vessels was disseminated. These include dishes, bowls, jugs and a substantial number of beakers. Oxfordshire red Colour-coats, although present in Lincoln in small quantities (Darling, 1977), are absent: a surprising result in view of their presence elsewhere along the Fosse Way at, for example, *Ad Pontem* and Leicester. The principal regional coarse ware reaching Brough was BB1. The range of forms includes jugs, jars and dishes, most of which were probably derived from the Poole Harbour kilns. Both BB2 and Derbyshire Ware were absent. The absence of BB2 is not surprising in view of its rarity in the East Midlands generally. But the absence of Derbyshire Ware, which was exported widely from the main kiln sites at Hazelwood and Holbrook from the late second century AD, is more notable. This has a marked North and East Midland distribution (Jones and Webster, 1969), and hence should be expected at least in small quantities.

Although imported and regional wares may be identified, the bulk of the pottery from Brough appears to have been produced within a 10-15 mile radius of the site. The principal local potting tradition was the production of coarse Grey Wares, tempered with varying amounts of sand, and almost certainly produced in the vicinity of Lincoln. Plain jars dominate, and in particular storage vessels with heavy rims, lid-seated jars and high-shouldered neckless jars, all with a wide date range. More closely datable are several straight-sided bead and flanged dishes, which we may ascribe to the mid-third and late fourth centuries AD (*cf.* Gillam, 1970, nos.229-32).

Examination of the pottery from Brough has demonstrated, therefore, a range of far-flung exchange links to production centres in southern Britain, Gaul and Iberia, but in quantitative terms such material is surprisingly rare. This may reflect only the small size of the sample, but it may conceivably imply a comparatively low level of material prosperity (at least for the proposed extra-mural occupation).

b) North Hykeham

The only other noteworthy concentration was recorded at SK918652 (Field 6500), at the northernmost point of the survey corridor. This comprises 11 abraded Grey Ware sherds, including two rims from a late first or second century AD pie-dish (*cf.* Gillam, 1970, no.310), a fragment of a late first century AD platter (*cf.* Going, 1987, fig.1, form A2 5.1) and three bases (probably from jars, and not closely datable). This group lies not far from a known kiln site at North Hykeham (Thompson, 1958), but the nature of the activity that is represented is unclear.

A thin scatter of Grey Ware sherds was located to the south-west and south-east of this minor concentration, in Fields 5500 (SK916650) and 0004 (SK841591), and in Field 6500 away from the main concentration of material described above. The only datable form is a Grey Ware straight-sided bead rim dish from Field 6500, which may be dated to the second half of the 2nd century AD (*cf.* Gillam, 1970, no.310).

c) Other Surface Finds of Pottery

Romano-British pottery was distributed very sparsely elsewhere along the corridor.

To the south-west of Brough, scatters of up to four sherds, dating to between the early second and fourth centuries AD, were located in Fields 3074 (SK833577), 4700/7800 (SK836580) and 6347 (SK823573). The identifiable forms comprise a plain Grey Ware pie dish from Field 3074, dating to the second century AD (*cf.* Gillam, 1970, no.310), a very abraded Grey Ware wide-mouthed jar rim (not closely datable), a 'hammerhead' mortarium rim, dating from the late third or fourth centuries AD, and two abraded Grey Ware body sherds of uncertain date from Field 4700/7800 (*cf.* Gillam, 1970, nos.279-282). The mortarium is probably a Mancetter/Hartshill product. A single abraded sherd of Samian, of uncertain form, was found in Field 6347.

To the north-east of Brough, the pottery may be divided for ease of description into two main groups, *c.* 4km apart.

Group 1: Fields 0005, 0671, 2725, 5627 & 7961/9471 (from SK849598 to SK858607)
This group comprises 12 sherds spread over more than 1km. Identifiable forms include one Grey Ware/Black-Burnished vessel and one Grey Ware straight-sided bead and flanged dish, dating from the mid-third to fourth centuries AD (cf. Gillam, 1970, nos.229-32), a large Grey Ware wide-mouthed storage jar from Field 5627 and the base of a Mancetter/Hartshill mortarium, not closely datable, from Field 5627 (SK855601). Apart from these types, the pottery comprised only abraded Grey Ware sherds of uncertain date.

Group 2: Fields 1226, 1800, and 0002 (SK881631 to SK898640)
This comprises seven very abraded Grey Ware sherds, none of which may be dated closely. The scatter spread over a distance of *c.* 1km along the west side of the Fosse Way, and was separated from the North Hykeham group discussed above by a gap of *c.* 2km.

General comments
Interpretation of these sparse scatters of material is extremely problematic. The low density of material might imply manure spreads (as suggested above for some of the material from Brough). As noted elsewhere in this report, however, work by Daryl Garton on the 'brickwork plan' fields of north Nottinghamshire has shown that many potential occupation sites of this period (as revealed by cropmark evidence) may leave little or no surface artefactual trace. A similar phenomenon may be observed on Iron Age sites within the Trent Valley (*e.g.* Gamston, Notts.: Knight, 1991), and it must be stressed that the absence of clear surface evidence of occupation should not be taken at face value. This point is possibly reinforced by consideration of the relationship between surface scatters of pottery and known crop-mark sites within the survey corridor. None of the crop-mark sites which may date from the Roman period correlates with pottery scatters, and the sparse distribution of surface material may quite possibly mask the true complexity of the Romano-British settlement pattern.

6.3 MEDIEVAL AND POST-MEDIEVAL

Both periods are represented by a thin scatter of sherds, the distribution of which is shown in Fig.32. A detailed catalogue is available in an archive maintained by the Trent & Peak Archaeological Trust, and attention will be focussed here upon a few general points.

We ought to emphasise first the absence of any major concentration of medieval or post-medieval material which might imply a hitherto undetected archaeological site. The mechanisms of deposition of the limited quantity of material which has been found are unclear, but the most plausible processes are manuring and the deliberate disposal of rubbish over outlying arable fields. It is interesting in this latter respect to note the higher concentration of debris around Brough, the only extant settlement along the line of the Fosse Way between Newark and Lincoln.

Also worthy of emphasis is the bias of the Medieval material to the period from the twelfth to fifteenth centuries AD. Earlier material is conspicuous by its absence, even at Brough, where stray metalwork finds may imply Saxon burials, and where a plausible case for continued activity into the sub-Roman period might be made. This may reflect a genuine dearth of activity in this period, and it is to be hoped that future archaeological work along the Fosse Way will be able to test this hypothesis.

APPENDIX 2 MAPS OF SITES AND FINDS IN COUNTY SITES AND MONUMENTS RECORDS

The following maps provide a summary by period of all sites and finds that are currently listed in the Nottinghamshire and Lincolnshire Sites and Monuments Records. Full details are contained in archive.

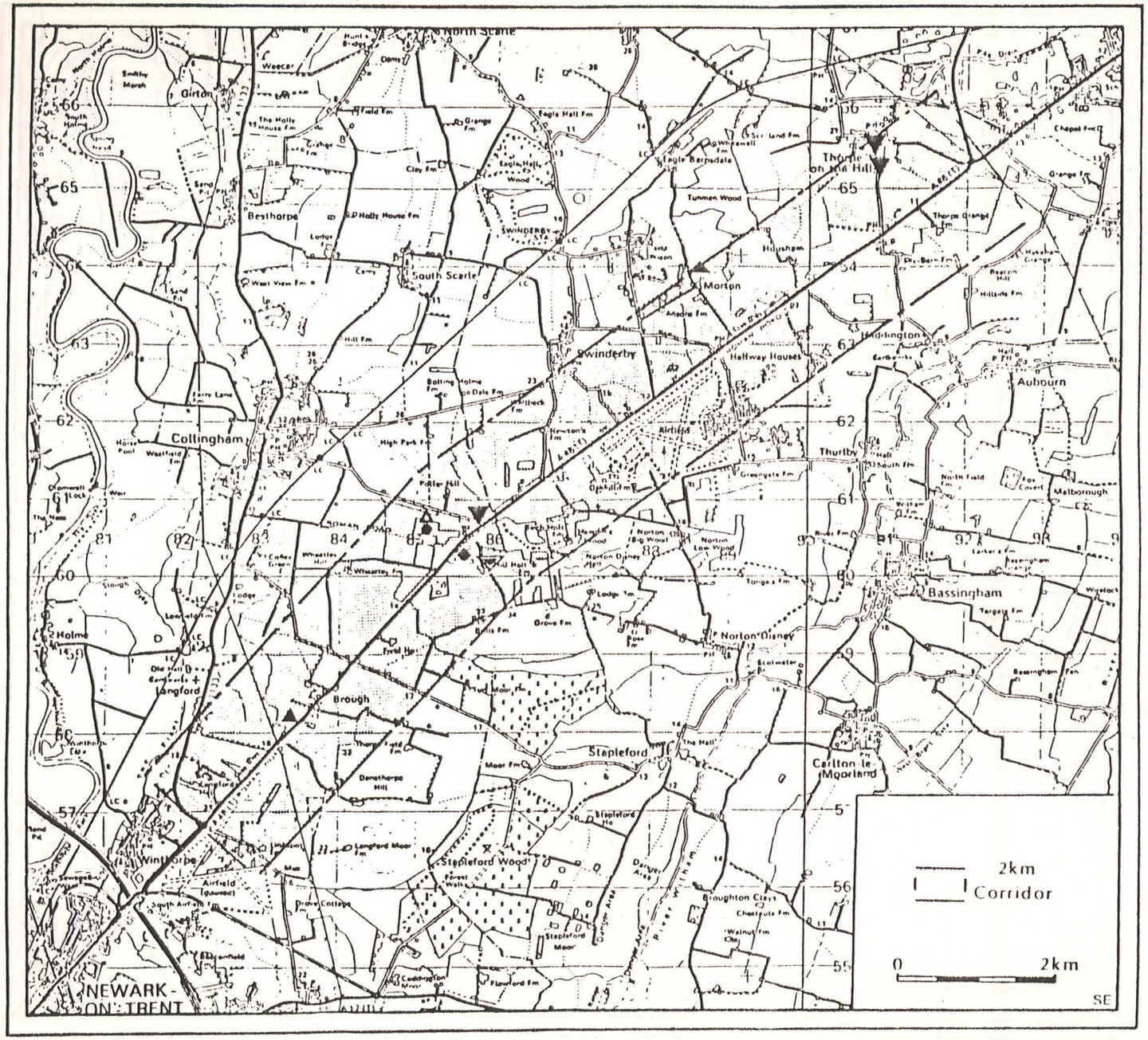

Fig.33 Prehistoric sites and finds listed in the county sites and monuments records

PREHISTORIC

SITES AND FINDS

LISTED IN THE COUNTY SITES AND MONUMENTS RECORDS

- ▼ Polished stone axe
- ▲ Barbed and tanged arrowhead
- △ Worked flint awl
- ◆ Late Bronze Age socketed axe
- ● Pebble macehead
- ▽ Stone hammer
- ▼ Flint scraper
- ▲ Flint flake

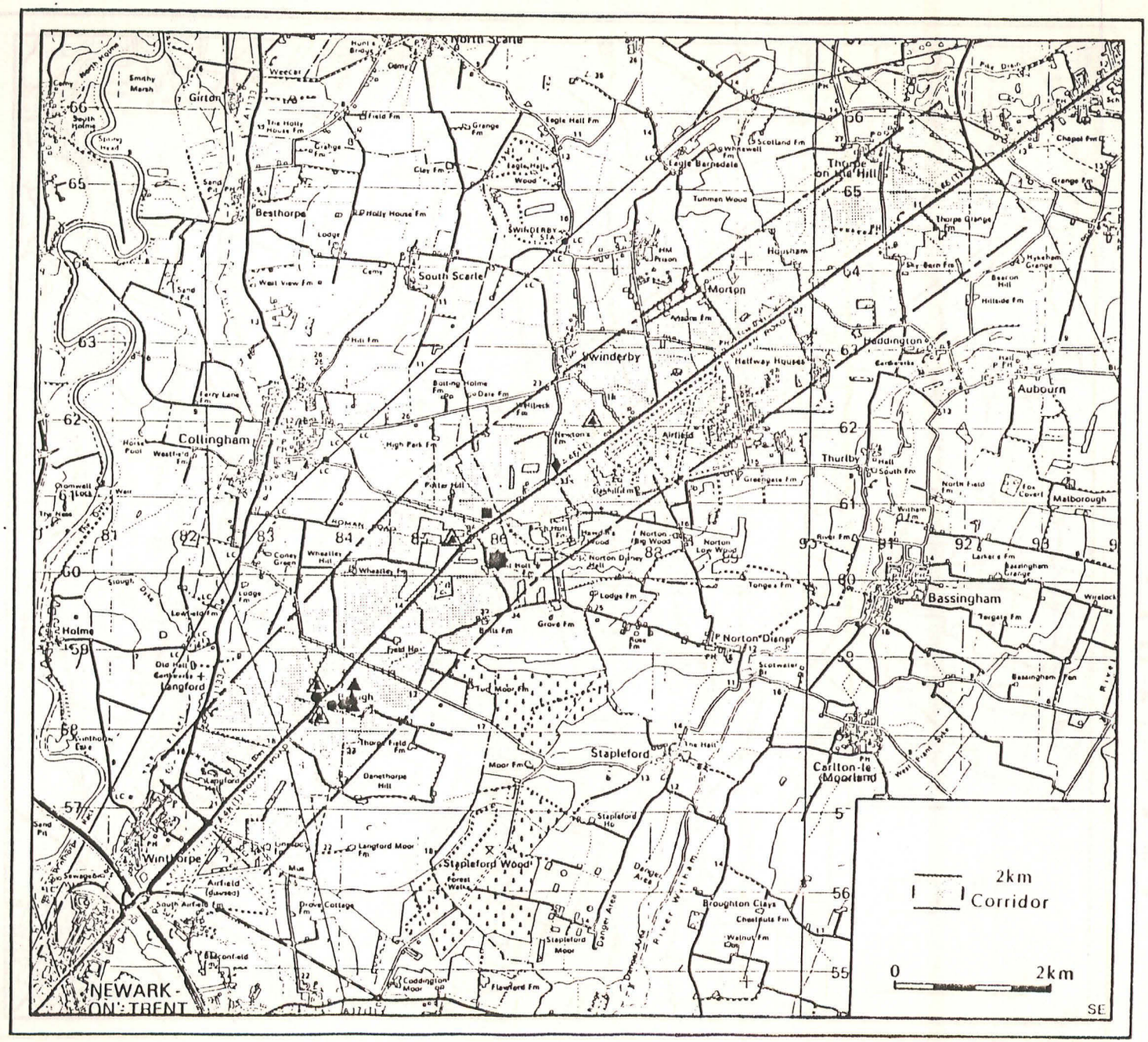

Fig. 34 Romano-British sites and finds listed in the county sites and monuments records

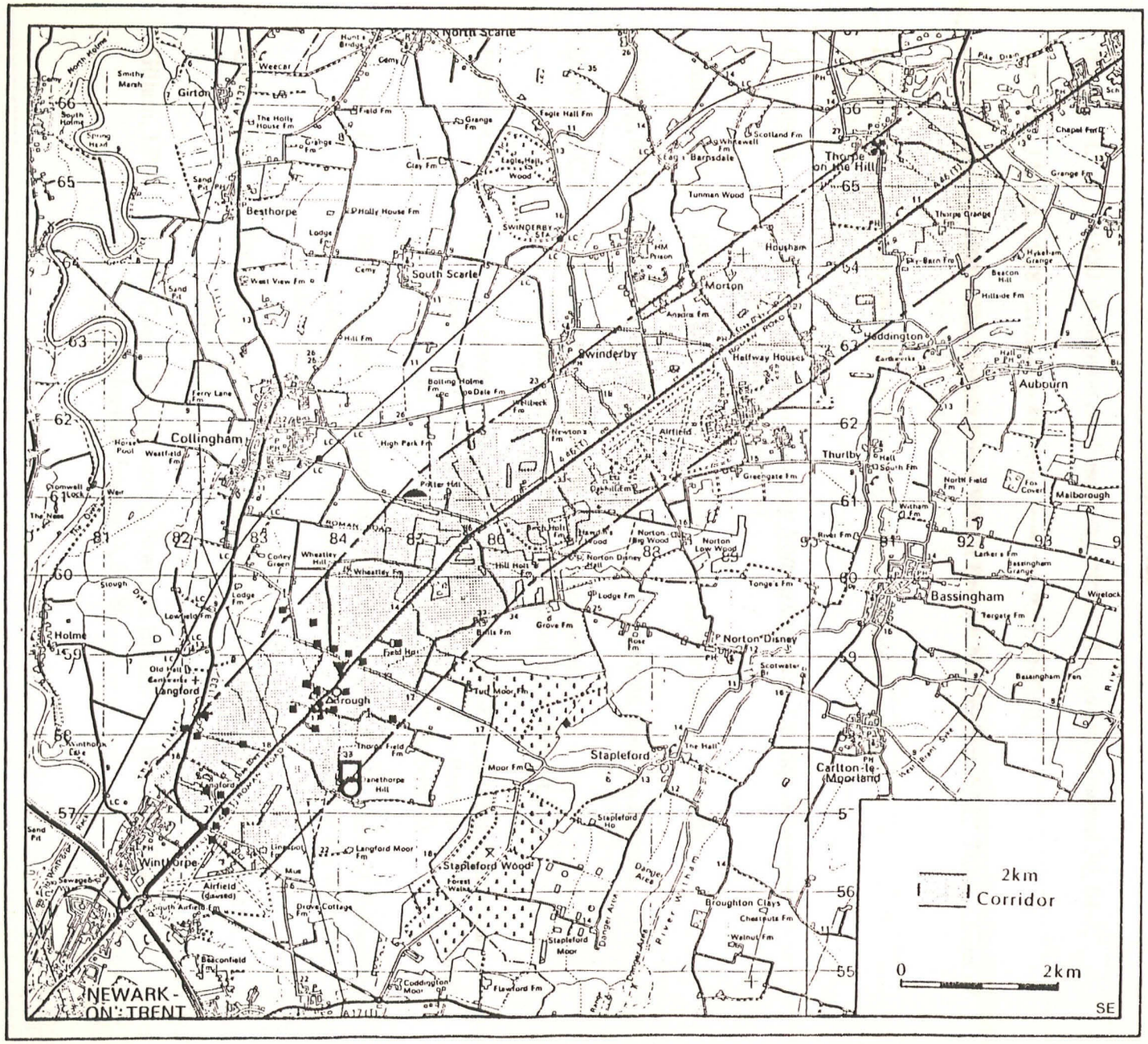

Fig. 35 Medieval and post-medieval sites and finds listed in the county sites and monuments records

MEDIEVAL AND POST-MEDIEVAL SITES AND FINDS

LISTED IN THE COUNTY SITES AND MONUMENTS RECORDS

- ▲ Saxon cruciform brooch
- ◗ Saxon cemetery
- ○ Later medieval pottery concentration
- × Medieval church
- □ Deserted medieval village
- ○ 16th Century signet ring
- ▼ Post-medieval smithy
- ✢ Post-medieval chapel
- ■ Post-medieval pump

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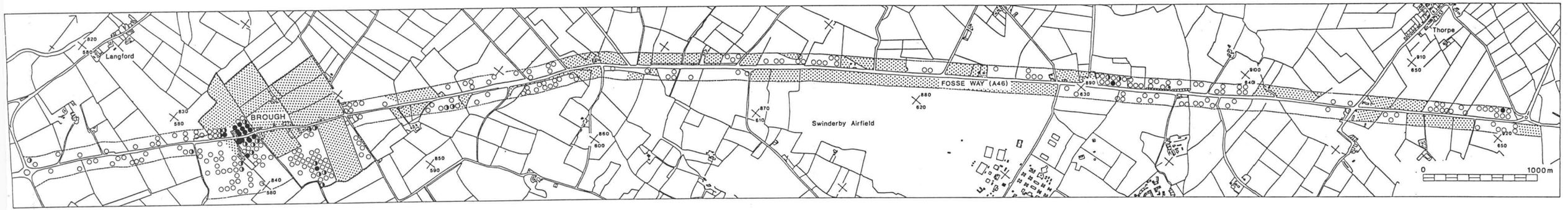
ALL PERIODS :



Edge of fieldwalking corridor

Areas inaccessible for fieldwalking

Finds per 50 metres square:

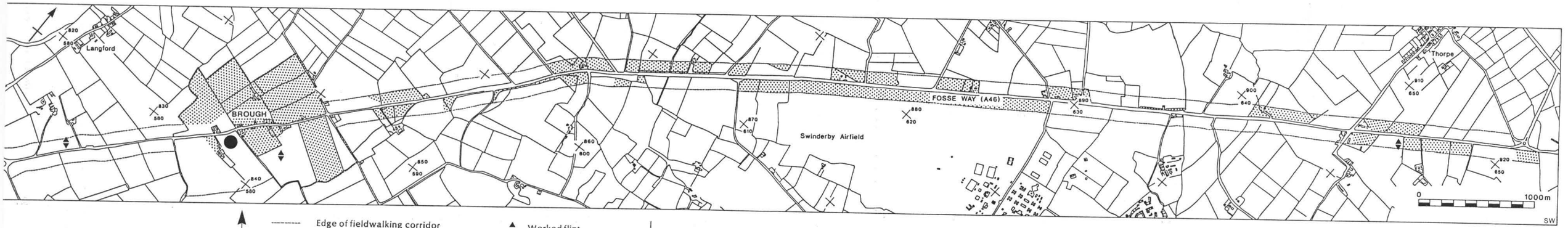
1 - 4

5 - 9

10 and over

Fig.30 Fieldwalking finds: all periods

PREHISTORIC :



ROMANO-BRITISH :

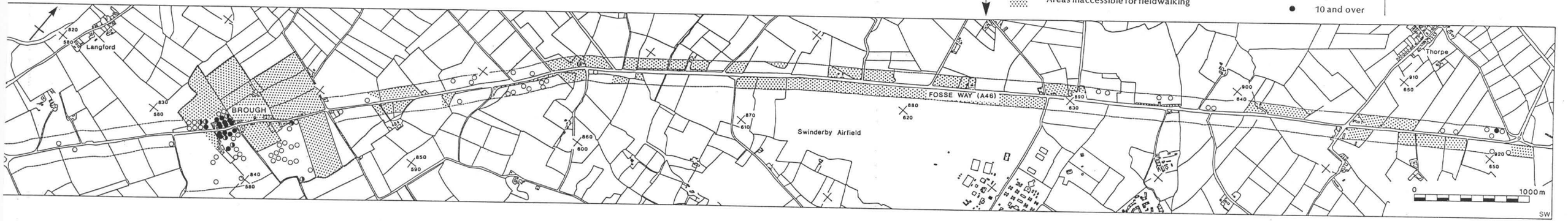
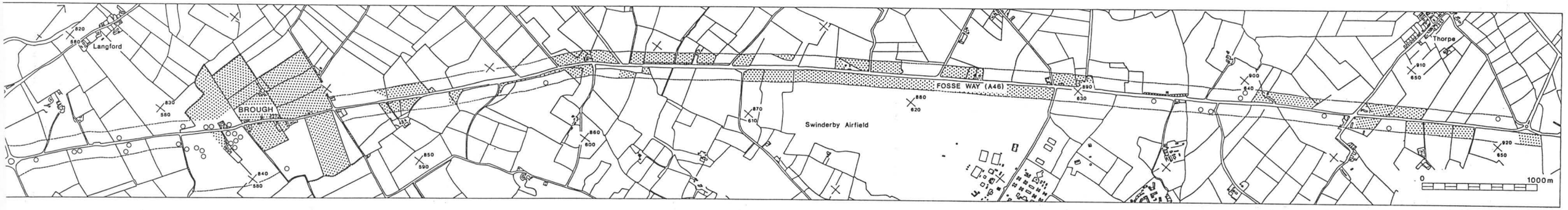


Fig.31 Fieldwalking finds: prehistoric and Romano-British

MEDIEVAL :



Edge of fieldwalking corridor

Areas inaccessible for fieldwalking

Sherds per 50 metres square:

- 1-4
- 5-9
- 10 and over

POST-MEDIEVAL :

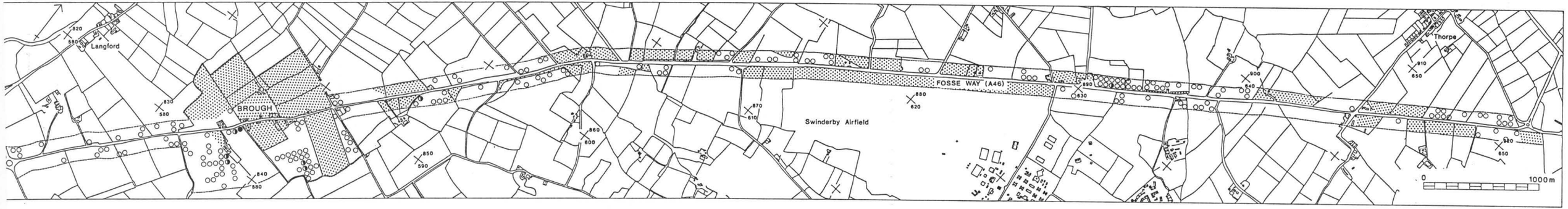


Fig.32 Fieldwalking finds: medieval and post-medieval