S2201-3 S2224-5 94/1
S2214-5 S0584
S2367-72 S0361
S2349-50 S2143

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WELTON-LINCOLN TRUNKMAIN
Excavations along the pipeline route

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SUMMARY
A series of small-scale excavations took place in advance of pipeline construction between Welton Pumping Station and Lincoln. The results of these excavations have added usefully to an increasing body of data which is beginning to reveal a pattern of early settlement on the Lincolnshire Limestone. Excavations at one of the sites, part of an extensive triple linear ditch, were particularly important as they produced primary dating material for the first time from a monument first examined in 1979.

INTRODUCTION
Lindsey Archaeological Services was commissioned by Anglian Water to locate and examine archaeological remains affected by the installation of a trunkmain between Lincoln and Welton Pumping Station. A programme of archaeological monitoring took place between November 1992 and July 1993 in advance of pipe-laying, comprising a series of excavations and a watching brief, which is the subject of a separate report (Tann 1994).

An assessment of existing data which included aerial photographs, field walking collections and documentary sources highlighted seven areas of archaeological sensitivity which would be affected by the route chosen for the new pipeline. These were designated as Areas A-G in a preliminary document submitted to the Conservation Section of Anglian Water at Cambridge. Provision was made for excavation of these sites in advance of the pipelaying.

As a preliminary to excavations, the route was systematically walked over looking for surface finds, with a view to identifying sites not already noted in the Lincolnshire Sites and Monuments Record and to determine the potential of areas already identified during earlier field work. A separate report on the field walking and watching brief has now been prepared (Tann, 1994). Areas under pasture could only be walked after topsoil had been removed by the contractors.

THE EXCAVATIONS

A team of experienced archaeologists under the direction of Colin Palmer-Brown was appointed by Lindsey Archaeological Services to investigate Areas A-G, following topsoil stripping within the pipeline easement, to sample archaeological features vulnerable to destruction.

The sites are described in order from the north end, at Welton Pumping Station to the Lincoln city boundary, and not in the order in which they were excavated (Fig. 1).

After topsoil removal by the contractors Stamford Construction Ltd the ground was cleaned by the archaeological team in order to locate archaeological remains. (These are usually recognised as soil discolourations in the subsoil or the underlying bedrock.) All archaeological features were photographed and drawn to scale. Their contents, or samples of their contents in the case of large features, were removed to obtain information about their form, dimensions and date.

Each feature was assigned a unique 'context' number for recording purposes. These are referred to in the text and may be identified on the accompanying plans. A full paper and photographic archive has been prepared and will be deposited with the City and County Museum, Lincoln.

Site A, (TF 014810) 52215

Approximately 750m north of Welton village, and immediately south of the Welton Pumping Station, lies a group of cropmarks first identified on aerial photographs in the 1970s . East of Hackthorn Road and the pipeline easement there are two ditched enclosures, possibly animal stockades, which may be similar to Iron Age features examined in Hackthorn and Cold Hanworth in advance of construction of the Welton-Glentham Trunkmain (Field 1991). Associated with these enclosures a linear ditch orientated NE-SW was visible crossing Hackthorn Lane and appeared to be crossed by the new pipeline route (ref. 2959/14, Fig. 2).

No archaeological features were revealed in the subsoil surface after topsoil stripping and there were no finds from this field. It is possible that the linear feature visible as a cropmark was a geological fault in the limestone bedrock. There was no further investigation of the site.

Site B (TF 008807) 52224

A faint semi-circular cropmark was detected on aerial photographs c.112m east of Prebend Lane, within the pipeline easement (ref. AGC 65, Fig. 3). It was important that the site should be investigated prior to pipeline construction to establish whether it represented a circular building or small enclosures. There was also a possibility that it might have been a ditch surrounding a prehistoric burial mound.

Approximately 150m north of the pipeline easement and its junction with Prebend Lane, lies an unusual rectangular enclosure complex (Ref. AGC 65 and AFP 31, Figs 3 and 4). There are more cropmarks in fields further north and, although neither group was directly threatened, it was possible that associated features might lie within the pipeline easement.

A single linear north-south cropmark, apparently traversing (and therefore post-dating) the superimposed rectangular cropmarks described above, was also crossed by the route of the new trunkmain. This was identified within the easement and a small section of its fill was removed. It was c.0.50m wide and its depth exceeded 1.0m. Its vertical sides cut through the natural limestone strata and its loose stony fill left little doubt that it was a modern land drain.

Despite clearing large areas, no feature corresponding to the circular cropmark image was exposed. Several sherds of 2nd-3rd century Romano-British pottery were found in the topsoil and the subsoil during investigation of the area. These may have come from the site to the north of the easement and travelled down the slope in the course of ploughing. The cropmark probably reflected geological variation; perhaps a periglacial feature.

Site C (TF 007806) 52225

A further potential cropmark site was identified on the west side of Prebend Lane. This appeared to be part of a sub-rectangular enclosure cut through by the green lane (ref. AFP 31, Fig. 4). Fields on the west side of Prebend Lane were walked to see whether or not surface finds were present which might support the possibility that the marks were archaeological in origin. No finds were recorded and when trenches were dug along the verge in Prebend Lane no features could be seen within the exposed section faces. In the absence of any remains it seems likely that it was almost certainly a feature of recent origin; possibly an impression left by agricultural machinery.

Site D (TF 006796) 52203 52202 52143

The pipeline route skirted the west side of Welton village, close to areas where both Romano-British and medieval settlement evidence had previously been recorded. In 1971, eleven Anglo-Saxon burials were exposed in the foundation trenches of a new Community Centre (TF 0077 7980). These lay in an area where medieval 'crofts' and structural features had been well preserved because they were not exposed to the rigours of perpetual ploughing (Moore 1971). The full extent of the medieval village remains and the Saxon cemetery was not determined in 1971 and there was a possibility that further remains would be found during construction of the trunkmain. A short distance west of the pipeline route are areas where scatters of Romano-British pottery have been collected over the last 20 years. The densest of these (centred on TF 005 794)

coincides with the site of a substantial rectangular stone building which was recorded from the air following ploughing.

A close watch was maintained during topsoil stripping within the pipeline easement followed by selective cleaning and test-trenching to see whether archaeological deposits were present. Pottery sherds of Roman, Saxon and medieval periods were picked up. The route taken by the pipeline easement traversed low-lying ground prone to flooding by the stream and much of the land was covered by alluvium. Test trenches were dug along the easement and recorded the depth of alluvial cover (Tann 1994); no archaeological remains were found beneath and further investigation was considered unnecessary. Whilst monitoring of the area provided no archaeological information it helped to establish the limits of the surrounding archaeological remains.

50361

Site E (~~TF~~ SK 997756) 52349 52350
RISEHOLME LANE (RL93)

Between January 25th and February 4th, 1993, a small team of archaeologists excavated sections across an extensive linear ditch system (Figs. 5 and 6). Aerial reconnaissance between 1977 and 1979 identified c.5 km of this triple ditch system and the North Lincolnshire Archaeological Unit excavated small sections through it in advance of housing development north of the Wragby Road (Field, 1980). A sizeable area examined at that time failed to produce any datable finds and, although similar features occur in other parts of the country, few have been securely dated so their cultural context is not entirely clear. It was important therefore that the threatened sections adjacent to Riseholme Lane were investigated prior to destruction during pipe-laying.

Original proposals for this section of pipeline were to lay it along the roadside verge. Provision was made for a watching brief and small-scale excavation of the ditch system. When the pipeline was moved into the fields it became possible to investigate the ditches more fully in the field immediately north of Riseholme Lane (Fig. 7).

There was a pronounced depression crossing the field from the north-west to south-east corners, interpreted as a glacial stream channel. The ditches appeared to follow the same alignment and excavation confirmed this.

Following topsoil clearance, a trench measuring 26.50m in length and varying in width from 0.80m - 1.60m was positioned across the presumed line of the ditches (Pl. 1). All three ditches were eventually located although identification proved extremely difficult due to similarities between subsoil and ditch fills.

The ditches had been dug through the subsoil into the solid bedrock where their presence was clearly defined. It is not known how much the ditches had been truncated by erosion and ploughing and their original dimension are assumed to have been greater. All dimensions were measured from the base of the topsoil.

The external width of the three ditches was 19m at the base of the topsoil. There was evidence for a bank between the central and western ditches which were 6.20m apart. The eastern ditch was only 3.40m away from the central ditch with no evidence for an intervening ditch.

The central ditch was the first of the three to be examined [011] (Pl. 2 and Fig. 8.2). It had been dug along the edge of the glacial channel whose silty fill was visible on the east side of the ditch only. It was dug into the limestone brash and bedrock to a surviving depth of not less than 1.40m. The ditch hd a V-shaped profile and was 4m wide. Evidence of a

substantial earth and rubble bank, [01], was found on its west side, sandwiched between the west and central ditches. It had been substantially levelled, prior to the complete filling up of the ditches and survived to a height of only 0.25m because of erosion and truncation by later ploughing. The combined upcast from the two ditches would have originally have created a bank of considerable size, perhaps up to 1.5m high.

A single sherd of Iron Age pottery was found in the bank material together with a small undatable sherd of Roman pottery. The Iron Age sherd fitted together with a sherd from the central ditch fill. There were several sherds from a late 3rd century Castor Ware pottery box in the same deposit. This suggests that the filling of the ditch may have occurred over a long period. Material from the ditch had slumped back into both the ditches some time after their creation, when they had already partially silted up. It is not known whether the ditches were cleaned out on a regular basis.

The western ditch, [015], was only examined within a very narrow trench, because of lack of time. The recorded profile was more U-shaped than that of the other two ditches. Its surviving depth measured 1.2m and it was c.4.50m wide (Pl. 3 and Fig. 8.1). A rim sherd from a late first-century Roman pot was found in the upper fill of this ditch, above the slumped material from the bank.

The eastern ditch, [010], was difficult to define because it had been dug through the natural glacial channel, which was 0.60-0.75m deep, and its edges were only well-defined where they cut through bedrock. Its irregular U-shaped profile was 1.60m deep and 3.50m wide. No clear evidence of an adjacent upcast bank was recorded but a thin layer of stones on top of the glacial silt deposit may have represented the last remnants (Pl. 4 and Fig. 8.3). A single sherd of Iron Age pottery was found in this ditch.

A total of twenty-one sherds of late Iron Age domestic pottery, dating to the 1st and 2nd centuries BC, were found on the site. The small number of sherds from the narrow trenches hints at the late prehistoric origin of the ditches but the presence of Roman sherds makes positive interpretation difficult. Fieldwalking elsewhere in this field produced further concentrations of Romano-British pottery thought to derive from a site on higher ground north-west of the excavations. It is possible that the later material became incorporated into the ditch fills at some time after their construction. The possiblity that these ditches were not all contemporary cannot be discounted.

Discussion

In 1990, Lindsey Archaeological Services sampled a similar monument at West Deeping in the south of the county. In the base of one ditch was a single sherd of late Bronze Age

pottery. A triple linear ditch system near Tixover, Leicestershire on the lower Lincolnshire limestone contained pottery suggesting use between the middle and later Iron Age (Mackie 1990). It is of note that just as at Riseholme Lane there were two larger ditches at Tixover with an adjacent ditch of smaller dimensions. The survival of banks on this type of site is unusual the stretch of ditches at Riseholme Lane appear to have survived modern plough damage better than some other excavted examples.

The exact function of these extensive landscape features, which occur elsewhere within this and other regions, is uncertain. The occurrence of domestic pottery at Riseholme Lane suggests the presence of a later Iron Age settlement or farmstead in the vicinity which was active during at least part of the life of the ditches. Extensive ditched boundaries are known from many areas of Britain, though few have been sampled by excavation and even when they are, they rarely produce well-stratified, datable finds. They appear to mark major land divisions and sometimes junctions between two ditch systems have been recorded from the air.

It is assumed that boundaries, possibly hedges or shallower ditches, sub-dividing the land into fields, have been lost. There is certainly nothing identified in Lincolnshire to compare with the brick pattern fields discovered in North Nottinghamshire (Riley 1980). Their size suggests that they were constructed to establish rights over land rather than to create a defensive structure. This suggestion of increased territorialism may have been stimulated by population pressure. There is little doubt that population growth occurred during the later Iron Age within the boundaries of modern Lincolnshire (May 1984), where up to fourteen major settlements, each with origins in the late second or first centuries BC have been identified; most are on the Lincolnshire limestone and chalk wolds. Up to eight major centres lie between the Humber and Thistleton along the Jurassic limestone ridge and, in this same broad area, there are large numbers of native or peasant-type enclosures, many of which probably originated in the pre-Conquest period. Two such enclosures were recently excavated in the parish of Hackthorn (Field 1991). Both sites produced late Iron Age material and one enclosure was adjacent to a more extensive settlement of unknown dimension and character.

Larger-scale excavation is required before any link can be established between the linear ditch networks and contemporary settlements.

IRON AGE POTTERY FROM RISEHOLME LANE, NETTLEHAM, LINCS. (SK99807552)

Introduction

21 sherds (127g) of pottery, all possibly dating from the late Iron Age, were recovered during excavation. A full list of pottery by context is provided in archive, together with details of fabric, vessel part, profile class, dimensions, surface finish, decoration, abrasion, surface deposits, method of manufacture and firing. Each entry in this archive represents an individual sherd, two or more non-joining sherds with identical attributes, or several joining sherds, thus permitting analyses by weight and number of each vessel attribute; sufficient information is recorded to permit also calculation of the maximum number of vessels by context.

Fabrics

Three fabric groups were distinguished on the basis of variations in the kinds of inclusions which could be observed within the clay matrix (employing a x30 binocular microscope). The fabric divisions were devised jointly with Dr. C. Allen, who compiled a detailed archive record of each fabric group; specialist geological advice was provided by Dr. R. Firman. Thin sectioning is required to refine the fabric descriptions and to tackle the question of raw material source.

The following conventions are employed in the fabric descriptions:
Condition: unabraded (original surfaces unworn); moderately abraded (part of original surfaces worn); abraded (original surfaces substantially worn); very abraded (all surfaces worn).
Frequency of inclusions: rare (<3%); sparse (3-10%); moderate (11-25%); common (26-40%); abundant (<40%).
Size of inclusions: fine (<0.25mm); medium (0.25-1mm); coarse (1-3mm); very coarse (<3mm).

The collection is dominated by shelly wares, recalling, therefore, the important collection of predominantly shell-tempered Late Iron Age pottery which was recovered during recent excavations at 181-3 High Street, Lincoln (Darling, 1988). These are divided here according to variations in the density of inclusions (S1/S2), and occur alongside one sherd in a fine sandy ware (Fabric Q1).

Fabric S1: Dense Shell. 12 sherds (82g) derive from a fabric with common poorly sorted fine to coarse plate-like angular shell inclusions, probably added as temper. Firing is extremely variable. The surfaces may be unoxidised, oxidised or irregularly fired (black/grey/dark brown/orange), but the core is invariably unoxidised (black/grey). The fabric is soft, with a sandy feel and an irregular fracture.

Fabric S2: Sparse Shell. 8 sherds (42g) derive from a fabric with sparse poorly sorted medium to coarse plate-like angular shell inclusions, again probably added as temper. The inner and outer surfaces are unoxidised or oxidised (orange/light grey) while the core is invariably unoxidised (black/dark grey). The fabric is soft, with a sandy feel and an irregular fracture.

Fabric Q1: Fine Sand. One sherd (3g) is characterised by sparse moderately well sorted fine to medium sub-rounded quartz inclusions of high sphericity. The sherd is oxidised externally (orange) but otherwise unoxidised (black). The fabric is soft, with a sandy feel and an irregular fracture.

Forms, Surface Treatment and Methods of Manufacture

With the exception of a single base angle from Context 01, possibly deriving from a flat base, the collection comprises only body sherds from vessels of unknown form. None of the sherds preserves traces of decoration or distinctive surface finish. Two Fabric S2 sherds from Context 03 and one unstratified S2 sherd, possibly deriving from the same vessel, may derive from a wheelmade form, but the remaining sherds appear to derive from handmade vessels.

Typological Affinities and Dating

The presence of three sherds which may derive from a wheelmade vessel suggests that at least some of the pottery should be attributed to the later first century BC or early to mid-first century AD. A Late Iron Age date would be compatible with the emphasis upon shelly wares, which recent research suggests were especially common in this region in the Late Iron Age (eg. Darling, *op. cit.*; Welton, Lincs. [Sites AW 2 & 4]: Knight, in Field, 1991).

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David Knight, Trent & Peak Archaeological Trust, 31.10.93.

(SK 9953 7484?)

Site F (~~TF~~ SK 9960/7500) <2367-71
NETTLEHAM FIELD (NF 92)

Between November 4th and January 1993, much of the excavation project was centred on work close to the A46 Lincoln Road, within and immediately beyond the north side of Nettleham Fields. The pipeline route passed through the eastern periphery of a site previously identified during surface collection.

Two areas were intensively examined north of Nettleham Beck. Area 1 comprised a series of small 'box' cuttings, strategically placed after initial cleaning revealed an extensive hillwash deposit which masked underlying features (Fig. 9). Area 2 sited just 2m further north, measured more than 105m^2, taking in a 30m length of the easement (Fig. 10). The two areas were separated by a field boundary and hedge.

Today, Nettleham Field is an area of pasture and parkland, a long-established agricultural regime which has helped preserve areas of medieval ridge and furrow. Scatters of Romano-British finds including coins, pottery, tile and building materials, largely dating to within the third and fourth centuries were recorded over a broad area c.400m west of Nettleham Field (Whitwell & Wilson, 1969). It was possible that Romano-British settlement features continued eastward and might be affected by the pipe trench. The extent of the associated settlement(s) could not be determined without the use of complementary evaluation techniques such as aerial photography, geophysical survey, or trial excavation.

In the absence of site-specific survey data, large areas of the easement were cleaned on both sides of Nettleham Beck (Pl. 5). Settlement evidence dating from the later Iron Age was recorded in the Area 1 and occupation appears to have continued into the Romano-British period and later.

1) Prehistoric

The natural sub-strata varied considerably along the easement within Nettleham Field. The dominant surface geology was Jurassic limestone brash - shattered and weathered during the last glacial period, c.10,000 years ago. Some of the 'features' examined here had formed in the cold periglacial conditions (Pl. 6).

In Area 2 large numbers of post holes and other features were recorded. An arc of closely-spaced post holes in the central part of Area 2 may have been associated with a single timber structure, although the limited area excavated precluded definitive interpretation (Pl. 7). Further random post holes were excavated over much of the site (Fig. 11 and Pls 8-14). Occasionally they cut through or were cut by other features implying at least two phases of activity. One oddly-shaped substantial pit in Area 1, [013] (Pl. 15), contained a fragment of animal bone. Its north side was cut through by a small post hole-like feature. Common to most of these post holes, pit-like

features and scoops was a consistent soil fill, an homogeneous reddish-brown silty clay-sand. As there were no finds it was not possible to date them although a human origin was beyond doubt in most cases (Pl 16). Eleven worked flints dating to the Neolithic period (c.3,000 BC) were recorded on the site though these occurred in residual contexts only.

In Area 1 there were several shallow, amorphous depressions cut into crumbly limestone brash [025], [027]/[028]/[029] (Pl. 17-19). Their depths never exceeded 0.40m and their forms and fills suggested a natural origin. For the most part, each contained homogeneous deposits of orange/brown, virtually stone-free, silty clay. In some areas, concentrations of iron-panning were noted, which is often a sign of fluctuations in water level (not surprising in an area prone to seasonal flooding even in the present day). Although these features were almost certainly natural, one of them, [06], contained sherds of late Iron Age coarse pottery, suggesting that a settlement, perhaps a farmstead, existed close by. The occurrence of similar finds from the linear ditches less than 1km further north could imply significant late Iron Age settlement in this area (see Site E above).

ii) Romano-British/Medieval

There is little doubt that occupation continued close to the excavated site, though whether this was sustained or intermittent is not clear. Beneath the topsoil was an extensive deposit of light brown sandy clay mixed with small limestone fragments, [01]/[03]/[07]/[017]. The northern limit of this deposit was examined in Area 2, and it progressively thickened southwards (Pls 20 and 21). Its maximum depth of 0.30m sealed the features described above (Fig. 12 G-H). Its southern limit was not determined although a relationship with The Beck flood deposits was established - the flood silts, [031], appeared to be later, though this relationship may be more complex, involving sporadic interleaving of accumulating silts: it is possible that the extensive sandy clay deposit formed as a result of soil-creep or hill wash - ie. that unstable soil north of the Beck was eroded and redeposited further down the natural slope. Possibly, this was encouraged by erosive farming practices such as ploughing.

A problem with interpreting the sandy clay as 'soil-creep' was the unabraded appearance of pottery sherds within it. During this kind of accumulation material remains are exposed to the rigours of climate and farming. Hence, pottery fragments collected during fieldwalking are often highly abraded and some fragile ceramic fabrics perish. By contrast, when material is buried deliberately, such erosive forces are absent. The well-preserved sherds from the Nettleham Field site would imply that deposition was fairly rapid. Its deepest point was at the hedge boundary between Areas 1 and 2 which appears to have formed a barrier to its movement further down the slope. This suggests that the soil has accumulted mainly in the last two hundred

years or so. Most of the pottery in this deposit was Romano-British and medieval in date with small quantities of post-medieval pottery in the same deposit. The presence of 18th - 19th century pottery confirms the propsed late date for this deposit.

In isolated areas, shallow north-south plough scores were examined where they cut through the soft bedrock (Figs 9 and 10). They were clearly sealed beneath the soil-creep layer and were not, therefore, modern. They may even have been Roman, though this was not verified. Modern plough scores examined on the north side of Area 2 had clearly truncated the archaeology.

Discussion

It is possible that the few sherds of pottery recovered at Nettleham Field derived from a native-style farmstead, similar to numerous examples which have been documented as cropmarks on aerial photographs in many parts of the county. Typically, these farming settlements are small (rarely more than a few acres in area) and are often defined by a sub-circular or rectangular bank and ditch. Within this boundary can sometimes be seen the plans of circular houses. Research in the Tame and middle Trent valleys has suggested that, within the river valley, settlement density in the later first millenium BC may have been as great as one farmstead per 1.2 km^2 (Smith, 1977). The two enclosures excavated by Lindsey Archaeological Services in 1991 at Hackthorn and Cold Hanworth are local examples (Field 1991).

The Romano-British material may also have been associated with farming and the rural economy. At Nettleham Field, a Romano-British farm may have continued to occupy the site of a native precursor. The site lies c.3km NNE of the Roman defences at Lincoln and is sandwiched between two major Roman routes which exit from the city: Ermine Street (modern A16) and the Wragby Road (A158[T]). Small settlements and satellite farmsteads dating to the period of Roman occupation at Lincoln might reasonably be expected almost anywhere within the surrounding rural territory. Quantities of Roman tile collected during field walking would suggest the presence of stone or half-timbered buildings, though without excavating closer to the source of these finds, it is not possible to say more on present evidence.

Well-preserved ridge and furrow was seen over much of the site at Nettleham Field and was cut through during topsoil removal. Several sherds of medieval shell-tempered and green glazed pottery, were found in the topsoil and in underlying strata. It is likely that some of this pottery was spread on the site having been incorporated into farmyard manure.

Nettleham Field
The Worked Flint. A. Myers

The collection consists of 12 pieces. Varieties of translucent and semi-translucent flint dominate. The only recognisable tool types are a fragmentary flake knife with simple retouch on one margin and a undiagnostic scraper. The flake assemblage is quite bladed, although there is only one blade and nine flakes. Only two of the 10 flakes and blades have cortex.

Flakes	9
Blades	1
Flake Knife	1
Scraper	1

Catalogue:
Context
03
(i) complete tertiary blade with hinged termination: patinated flint. 25 x 16mm.
(ii) broken tertiary flake: patinated translucent flint.
(iii) broken tertiary flake: patinated flint.
04
complete tertiary flake: patinated flint. 34 x 21mm.
07
broken tertiary flake: patinated translucent flint.
050
complete scraper: black/grey translucent flint. 30 x 29mm.
051 3
broken tertiary flake: light brown translucent flint.
051 4
broken secondary flake: patinated brown translucent flint.
051 5
broken primary flake: patinated brown translucent flint with nodular cortex.
Topsoil
(i) broken flake knife with simple retouch on part of the right-hand margin: brown translucent flint.
(ii) complete tertiary flake with hinged termination and simple platform: white opaque flint. 16 x 19mm.
(iii) complete tertiary flake: patinated translucent flint.

Area identified during the Watching Brief (Fig. 1 X)
A number of areas along the easement between Ermine Street and Nettleham Road, where concentrations of Roman pottery had been found during the watching brief, were cleaned off as there was a remote possibility that the Roman aqueduct, the course of which has been progressively mapped since the 1950s, would be disturbed during pipe laying. The source of the aqueduct is thought to have been a stream called the Roaring Meg, which lies approximately 200m south of the pipeline route. However, there is a reference in the County Sites & Monuments Record parish file which cites the late Mrs Baker of Nettleham who argued that the Roaring Meg was not a powerful enough source of water to service the Colonia at Lincoln and that a more likely source lay further north at the Nettleham Beck. When present the remains are unmistakeable but no evidence of the aqueduct was seen along the easement, throwing doubt on this interesting challenge to the orthodox view. (Traces of the aqueduct were revealed recently during an archaeological evaluation on the site of a new Safeway supermarket off Searby Road, immediately south of the Roaring Meg (Donel & Hockley 1993, 30-31)).

Site G) (~~TF~~ SK 976741) 50584
The Riseholme Road/ A46 roundabout lies close to the point where Roman burials were discovered in 1984 during construction of the A46 Lincoln Relief Road (Field 1985). Twelve skeletons were recorded in a drainage trench on the west side of Riseholme Road and it is likely that they lay within a cemetery which was sited along Ermine Street outside the city, in accordance with Roman custom.

A large area of the easement east of Ermine Street was meticulously cleaned after topsoil removal to see whether the cemetery extended to both sides of the road and to determine whether or not there were other features on the site. The cleaning revealed no archaeological features and the point at which easement stripping ceased may have been too far east of the street frontage to encounter any remains.

Archaeological monitoring was undertaken by the City of Lincoln Archaeology Unit south of the Riseholme Road/A46 roundabout.

CONCLUSIONS

The Welton-Lincoln trunkmain was fraught with problems, not least the very wet weather, which caused considerable delays to construction and archaeological investigations. LAS only became involved in the project 10 days prior to commencement of groundworks and although a Desk Top Study had been prepared by staff at the Lincolnshire Sites and Monuments Record there was no time to carry out a more detailed evaluation of the route. A rapid search was made of further archaeological records held by LAS and those at the CUCAP and RCHM, prior to commencement of works. Areas were highlighted where archaeological remains were anticipated (Fig.1). The anticipated short timetable meant that a large team of archaeologists was mobilized at short notice to minimize any delay if extensive archaeological remains were encountered. In the event, most of the seven sites identified did not fulfill their potential. With hindsight, field evaluation in advance of (or instead of) full excavation might have better defined those areas of real interest and thus reduced the archaeological excavation along the route.

However, a useful overall body of data has emerged, some of which will enhance our understanding of later prehistoric and early historical development north of Lincoln and the surrounding environment. Excavations through the triple linear ditch near Riseholme Lane verified the prehistoric origin of a monument which was first examined in 1979 on a much larger scale but where no pottery or other datable finds were present.

The site on or close to Nettleham Field must remain of uncertain status, although the excavations have demonstrated activity from the prehistoric period. The late Iron Age material is again particularly tantalising - although our understanding of the regional Iron Age is progressing, few sites have been excavated and the identification of new settlements adds significantly to an increasing body of data which is revealing a dense settlement pattern in the Lincolnshire uplands.

ACKNOWLEDGEMENTS

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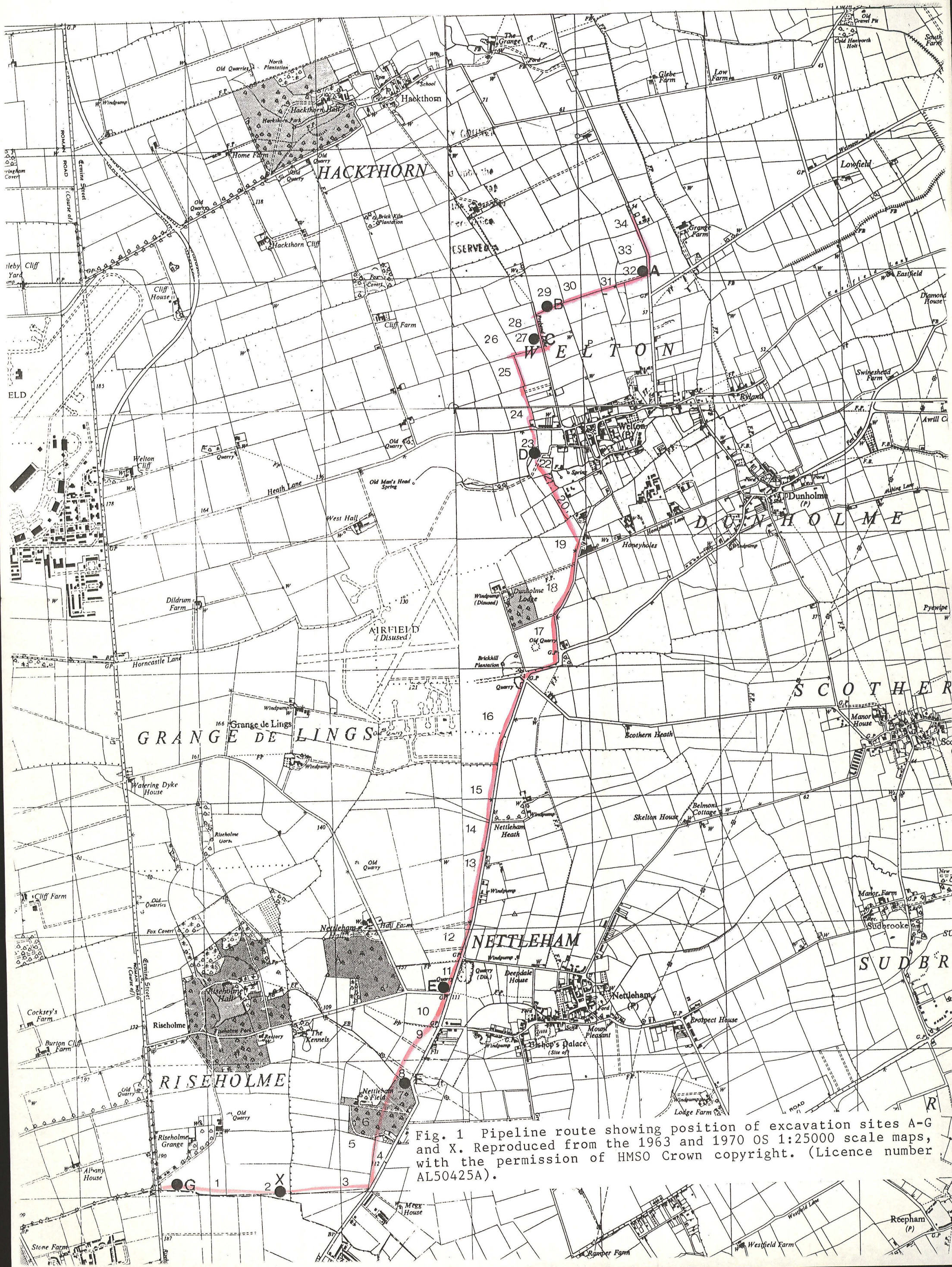
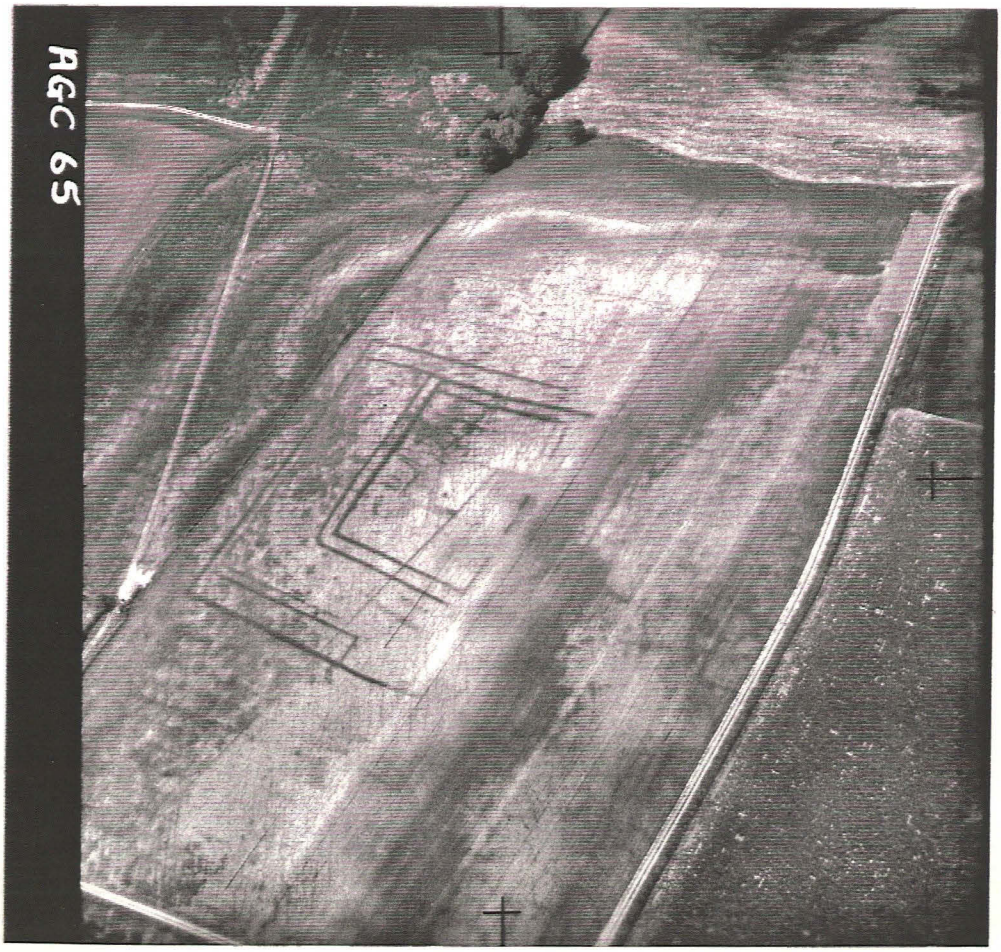


Fig. 1 Pipeline route showing position of excavation sites A-G and X. Reproduced from the 1963 and 1970 OS 1:25000 scale maps, with the permission of HMSO Crown copyright. (Licence number AL50425A).

Fig. 2 Aerial view of enclosues east of Hackthorn Road and features at Site A (Photo by P.Everson, film no. 2959/14)

Fig. 3 Aerial view of cicular feature (Site B), bottom left and linear ditch, with Roman enclosures to north (Photo Cambridge University, ref. AGC 65)



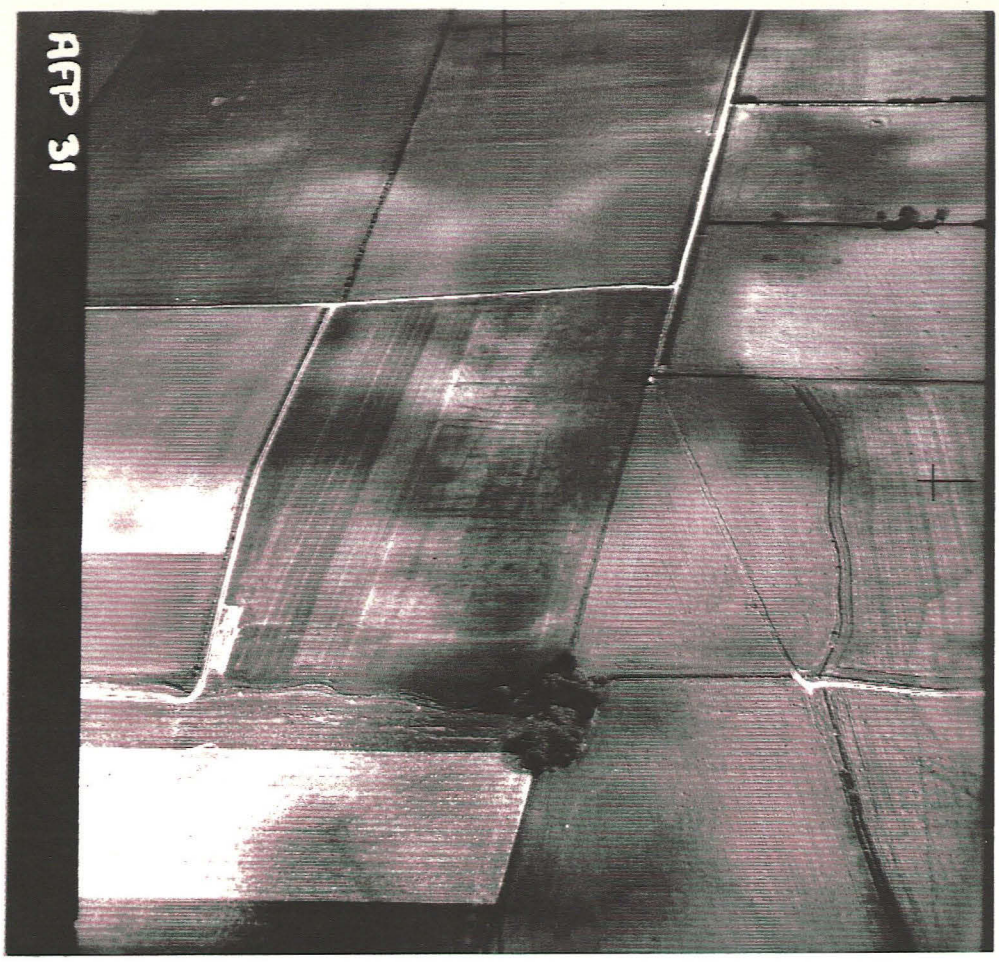


Fig. 4 Aerial view of potential site west of Prebend Lane (top right), looking south with Roman site visible in foreground. (Photo Cambridge University, ref. AFP 31)

Fig. 5 Aerial view of triple linear ditch north of Riseholme Lane, looking west. (Photo P.Everson, film no. 2990/11)

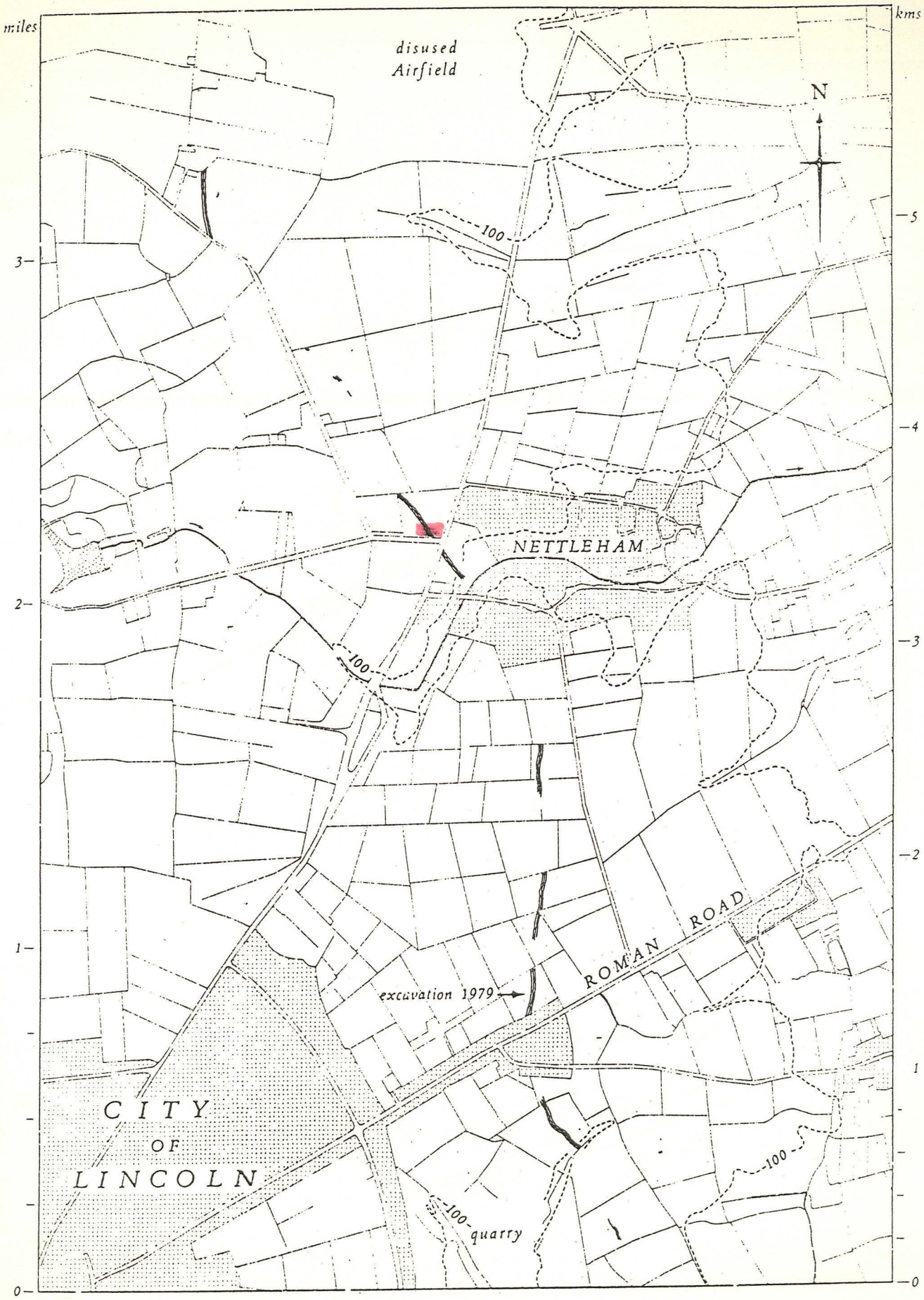


Fig. 6 Sketch map showing length of triple linear ditch north east of Lincoln (M.Clark).

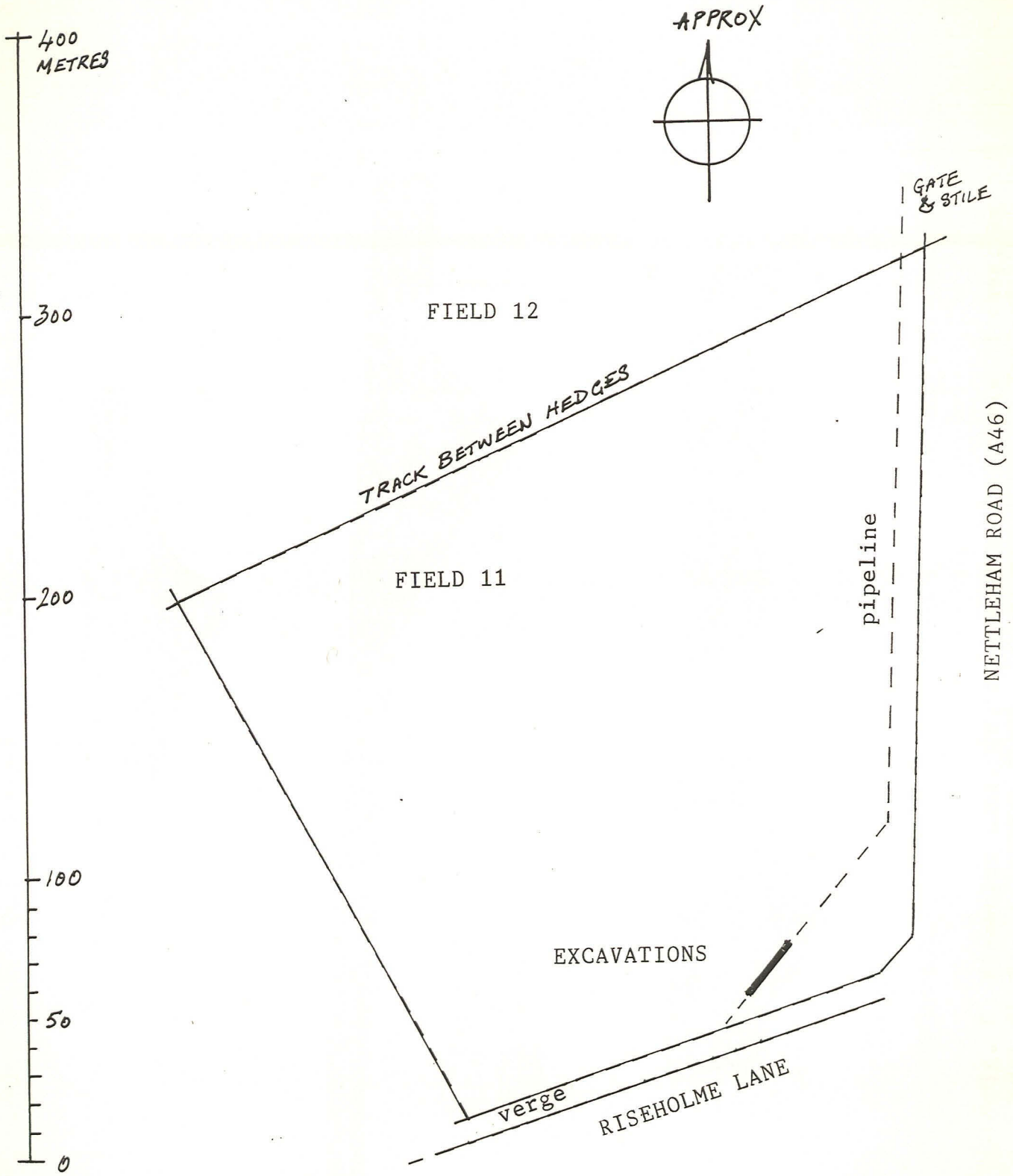


Fig. 7 Riseholme Lane, location of excavation trenches (M.Clark)

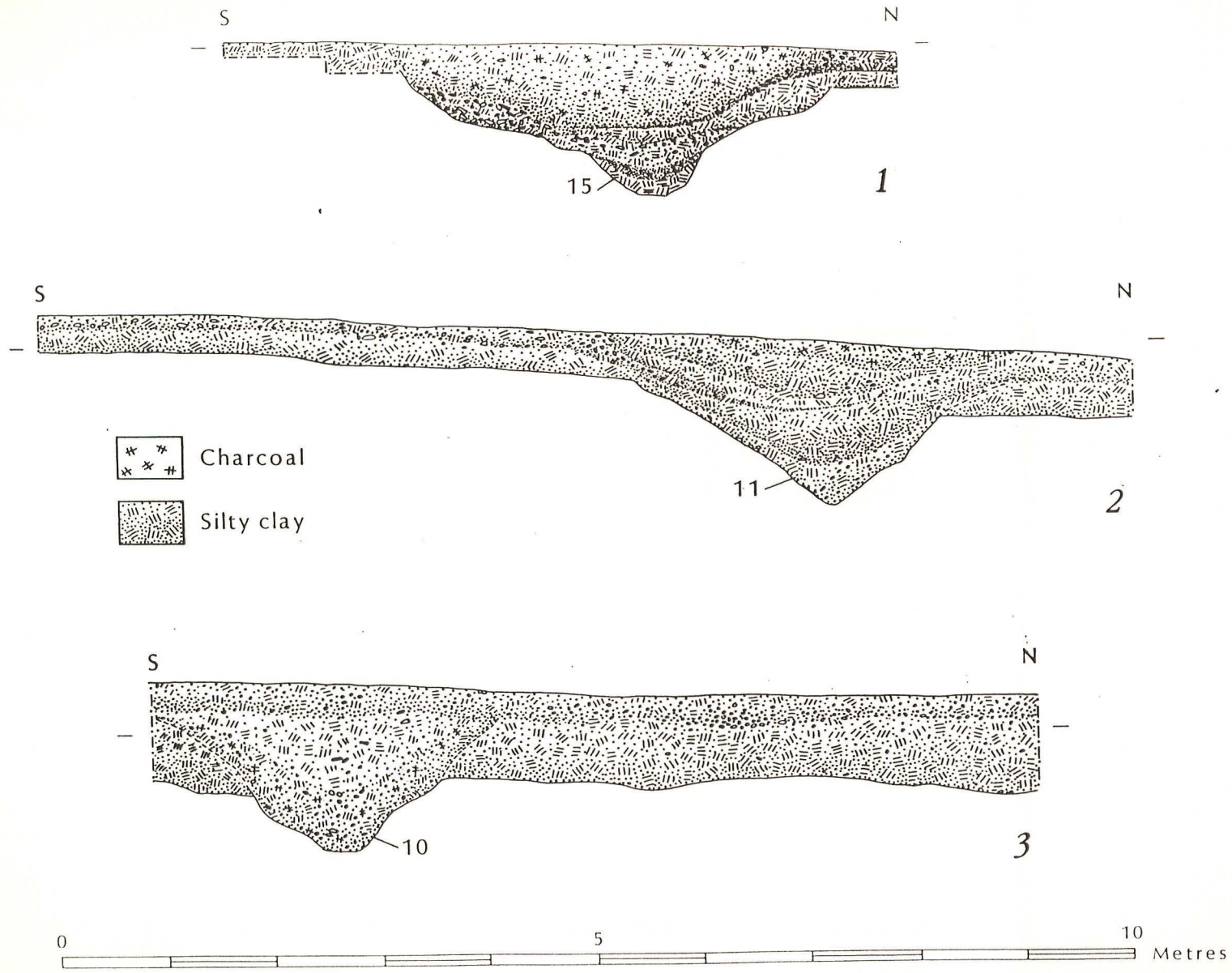


Fig. 8 Riseholme Lane, sections across the triple ditches; 1: west ditch, 2: central ditch, 3: eastern ditch (D.Taylor)

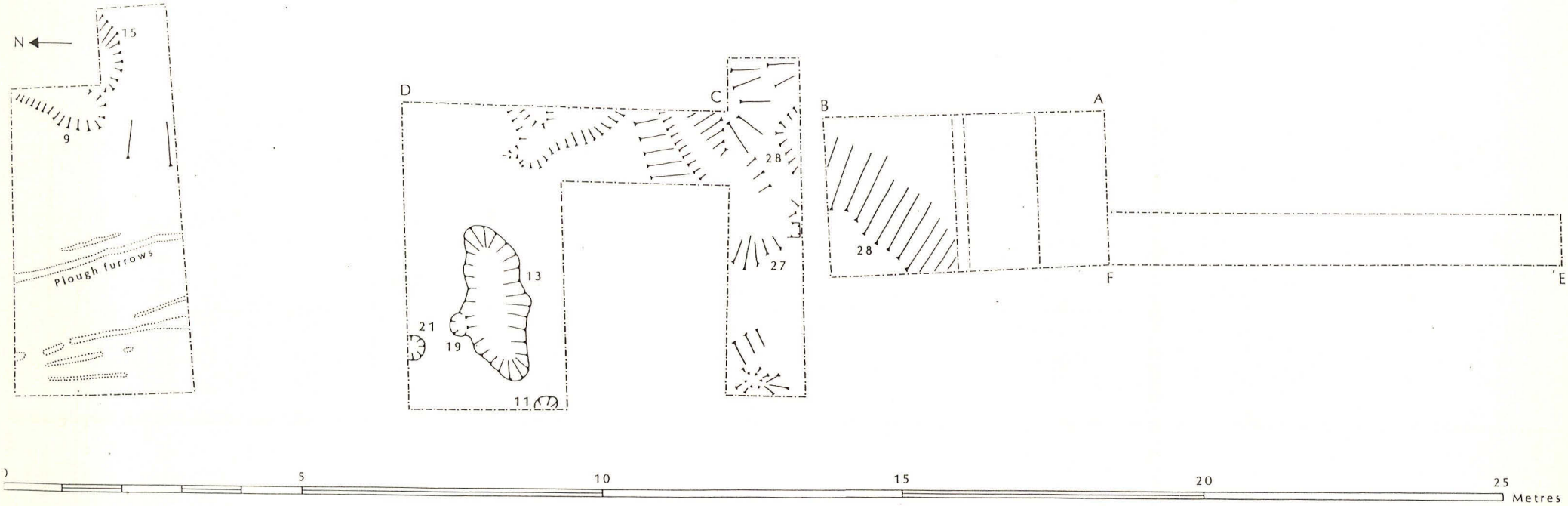


Fig. 9 Nettleham Field, plan of Area 1 (D.Taylor)

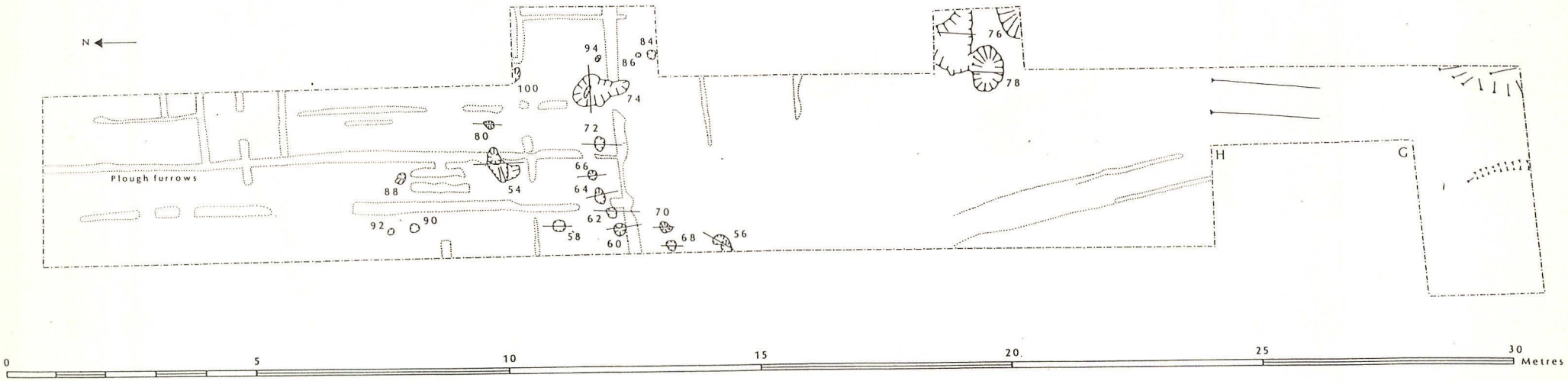


Fig. 10 Nettleham Field, plan of Area 2 (D.Taylor)

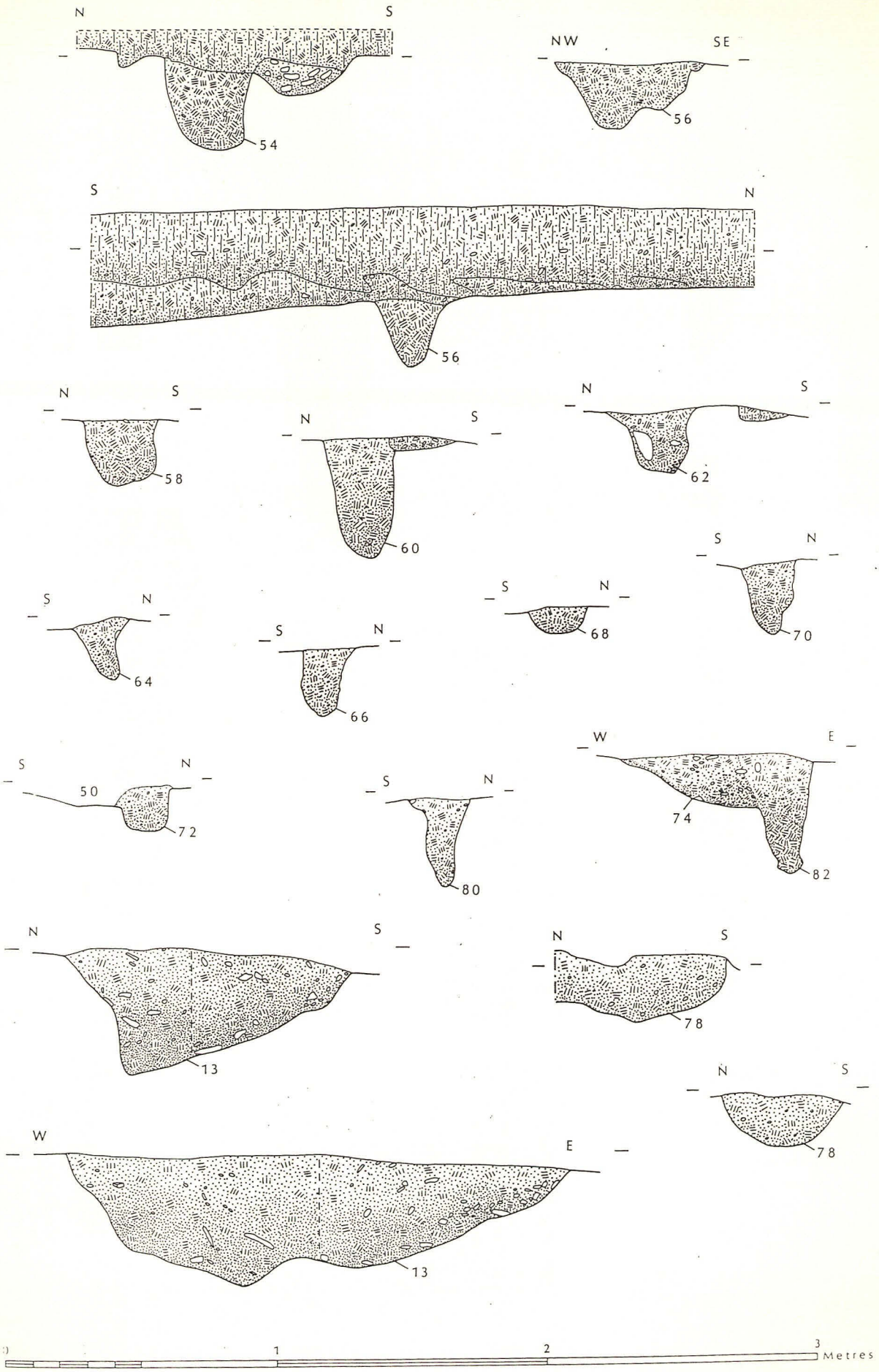


Fig. 11 Nettleham Field, sections through post-holes (D.Taylor)

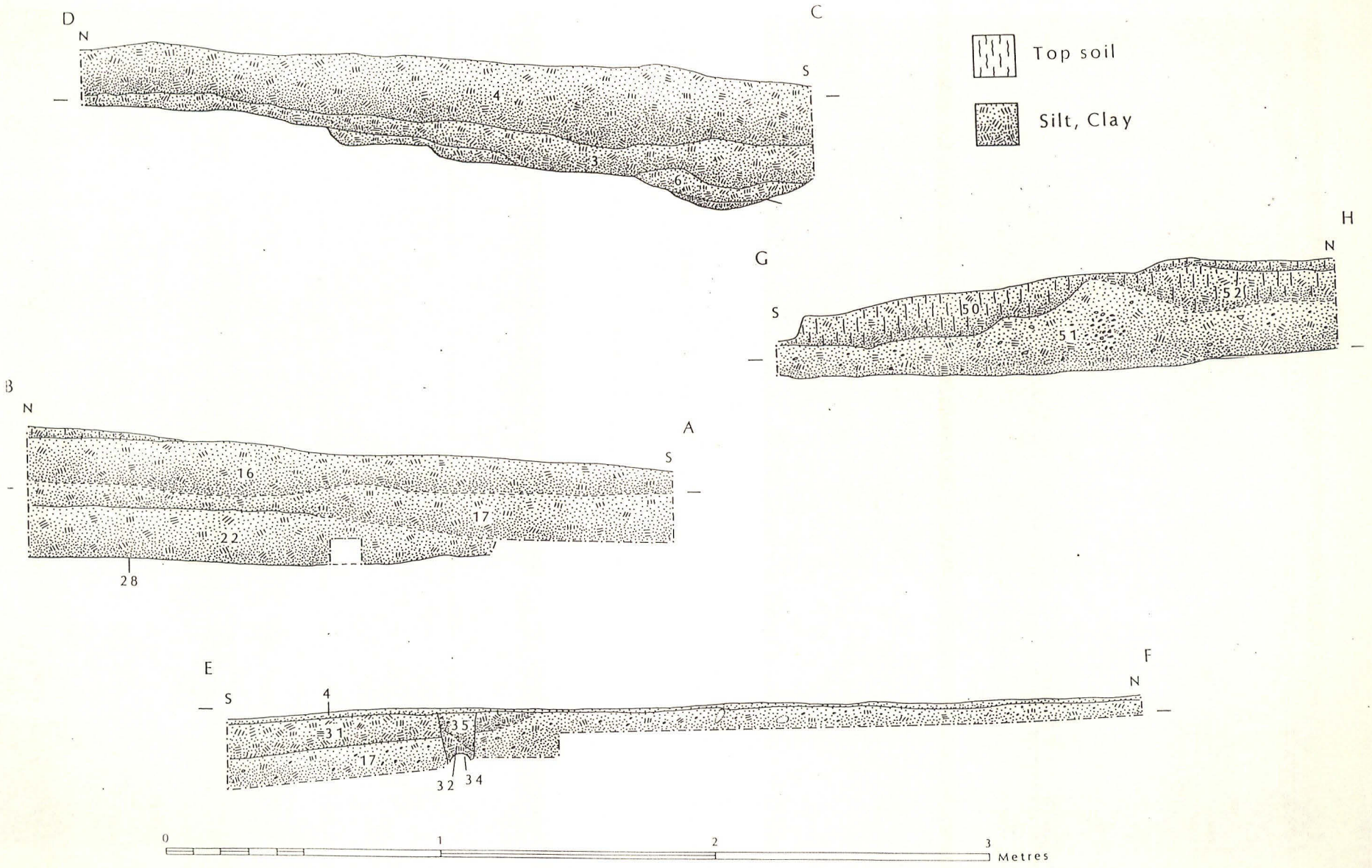


Fig. 12 Nettleham Field, sections along excavated trenches (D.Taylor)

Pl. 1. General view of trenches across the linear ditches at Riseholme Lane, looking east.

Pl. 2. The central ditch [011], looking north.

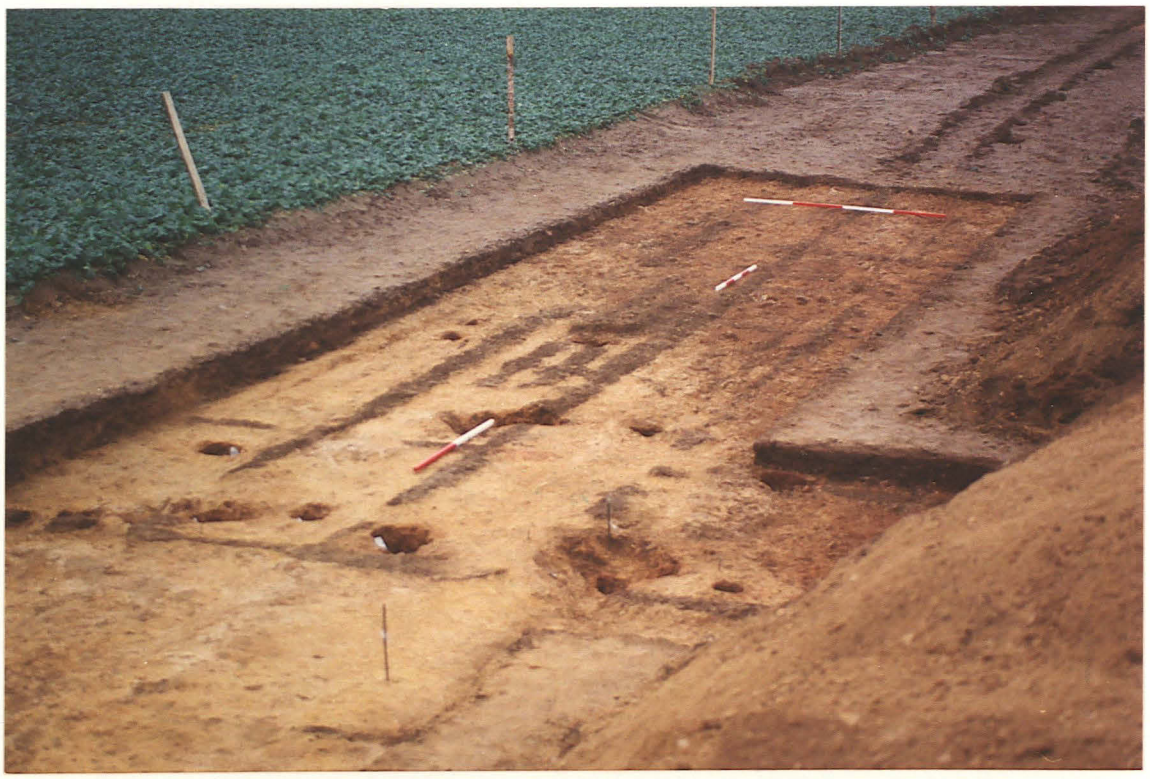
Pl. 3. The western ditch [015], looking east.

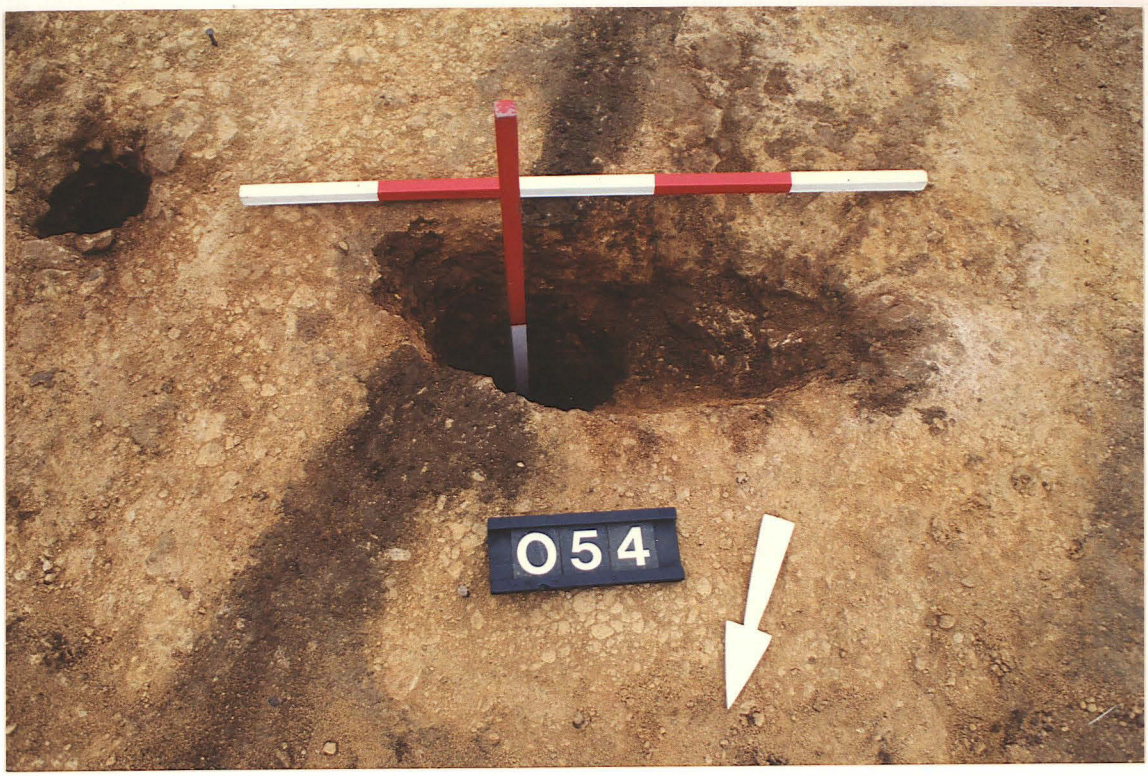
Pl. 4. The eastern ditch [010], looking north.

Pl. 5. General view of excavations at Nettleham Field, looking south along the pipeline route.

Pl. 6. Partially excavated natural periglacial feature in the surface of the limestone at Nettleham Field.

Pl. 7. General view of Area 2, looking north, showing curving line of post holes. They have been damaged by modern ploughing (shown as parallel dark lines of soil).





Pl. 8. Post hole in Area 1, damaged by plough mark.

Pl. 9. Excavated post hole, Area 2.

Pl. 10. Excavated post hole, Area 2.

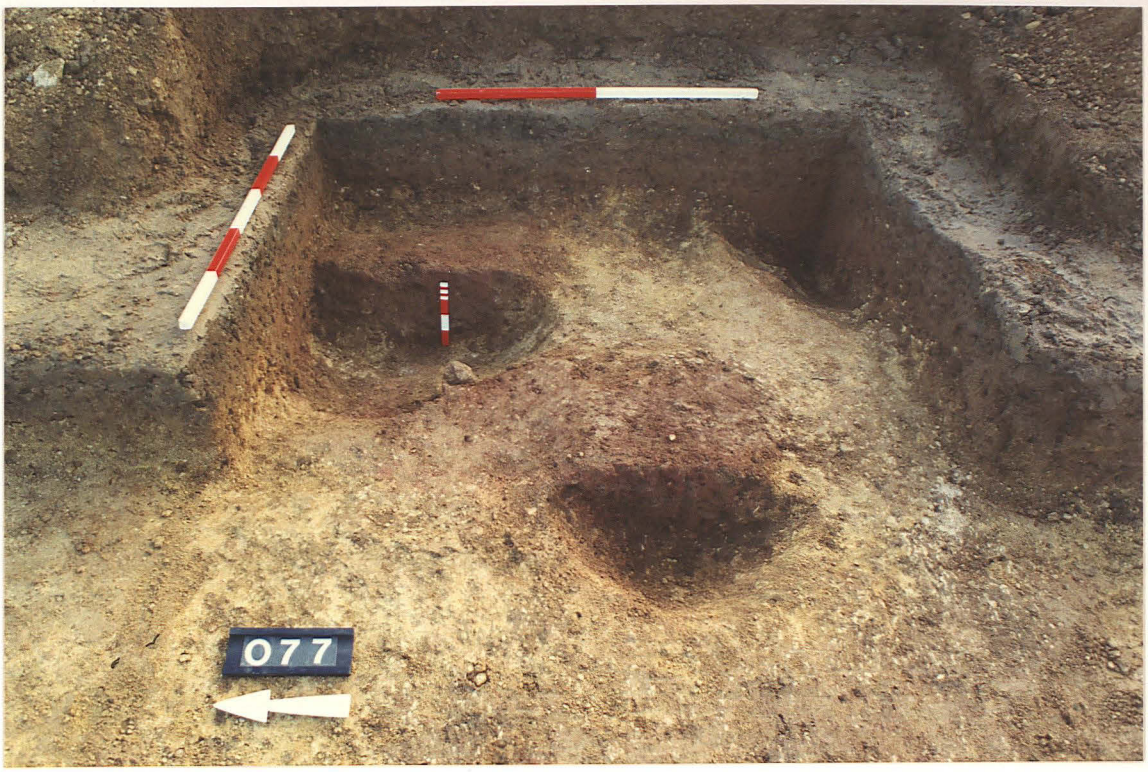
Pl. 11. Excavated post hole, Area 2.

Pl. 12. Excavated post hole, Area 2.

Pl. 13. Excavated post hole, Area 2.

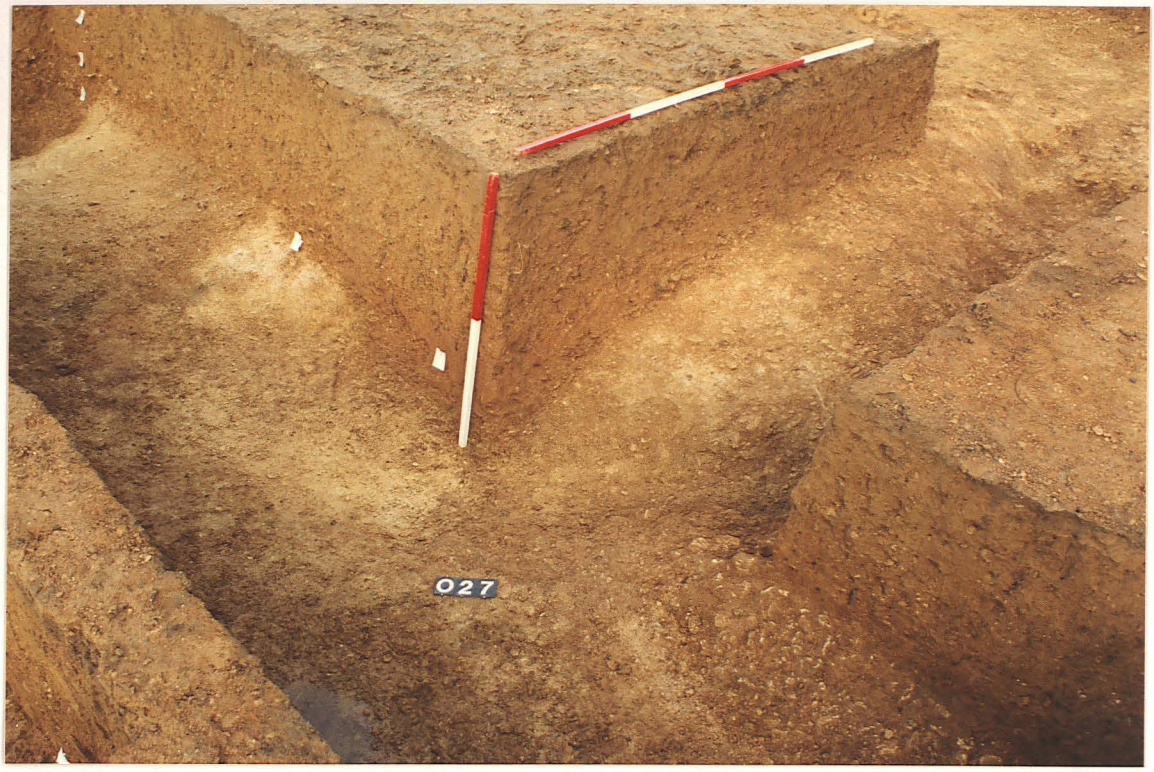
Pl. 14. Excavated post hole, Area 2.

Pl. 15. Pit [013], general view looking west. Area 1.



Pl. 16. Pits on east side of Area 2.

Pl. 17. Natural depression in limestone [025] overlain by thick deposit of hill-wash.



Pl. 18. Natural depression in limestone [027] overlain by thick deposit of hill-wash.

Pl. 19. Natural depression in limestone [028] overlain by thick deposit of hill-wash.

Pl. 20. Area 2, general view prior to excavation showing area of hill-wash to the left.

Pl. 21. Area 2, same area after excavation of hill-wash, (progressively deeper towards hedge boundary), this material seales the post holes (Plates 8 - 14).