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LINDSEY ARCHAEOLOGICAL SERVICES
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ARCHAEOLOGICAL MONITORING

of the

SUTTON-ON-SEA to MABLETHORPE RISING MAIN

Oct / Nov 1992

EVENTS LI 6261
LI 6262

SOURCE LI 5305
LI 10264

PRN 43089 43658
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ARCHAEOLOGICAL MONITORING

of the

SUTTON-ON-SEA to MABLETHORPE RISING MAIN

1.0 Introduction

Lindsey Archaeological Services was commissioned by Anglian Water to conduct an archaeological watching brief along the route of a pipeline under construction between Huttoft Road, Sutton-on-Sea and the Mablethorpe Sewage Treatment Works (Fig. 1a). The archaeological work took place as two distinct operations. The first exercise was to note surviving earthworks threatened by the scheme, fieldwalk the available land and to examine the surface left after mechanical removal of the topsoil where the route crossed agricultural land. The subsequent trench excavation through thick post-Roman marine flood deposits was expected to offer opportunities to record peat exposures or archaeological material pre-dating the sea transgression.

2.0 Archaeological Assessment

A 'desk-top' study was prepared for the land affected by the route, which was to pass through the former parishes of Trusthorpe, Mablethorpe and Sutton-on Sea. Research included checking the Lincolnshire Sites and Monuments Record and a series of aerial photographs held by LAS. All the previously reported finds or earthworks of archaeological interest were concentrated at the south end of the route close to the medieval settlement of Sutton-le-Marsh. Three areas of settlement earthworks had been identified from air photographs taken in 1947:

1) close to Hall Farm
2) south of the church
3) south of Brasenose

The first two were probably part of a single site which had since been separated by later development; at least 3 probable house platforms had been recognised close to the church. The date of the present church, dedicated to St. Clement, is the subject of some confusion. A late 18thC tradition held that the ruins of the parish church could be seen at very low water, which appears to be supported by a Petition of 1637 referring to the "ancient parish church" that "within the mind of man" had been "destroyed by the sea and now is sea". In 1789 a building was described as "a most wretched church of stud and clay with a wooden ruinous steeple" and this has been considered a replacement (Owen 1952). More recent descriptions of Sutton-on-Sea church claim it to be an early 19th century replacement of the medieval building (Pevsner 1964, 384) but parts of the visible fabric are certainly older than this.

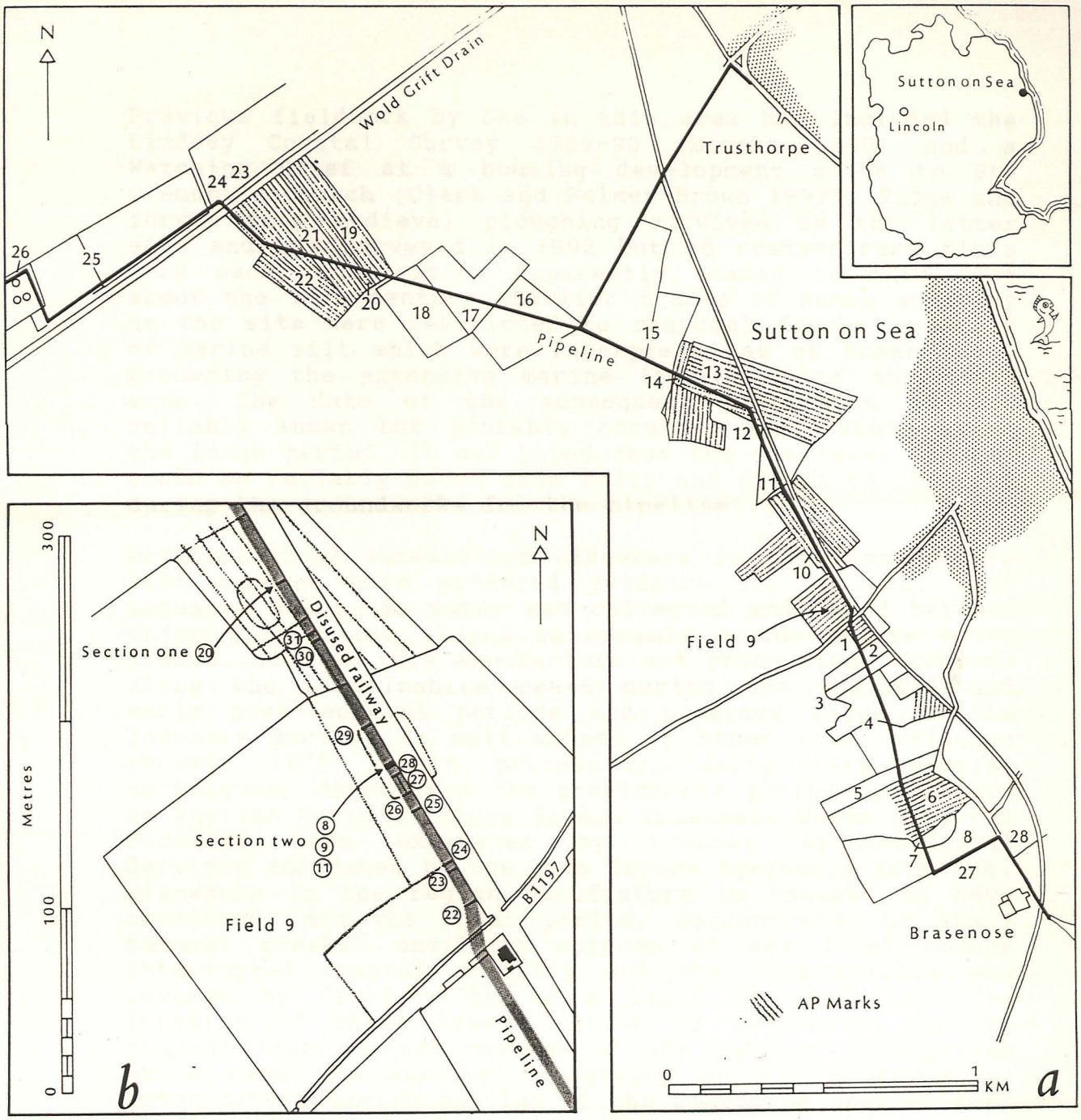

Fig.1 a) Sutton on Sea to Mablethorpe Rising Main
Location of pipeline showing field numbers and medieval ridge and furrow plotted from aerial photos
1b) Fields 9 and 10 showing ditches crossing the pipeline easement. Circled numbers refer to excavated features.

5226 8058
to
4899 8256

Previous fieldwork by LAS in this area has included the Lindsey Coastal Survey 1989-90 (Brooks 1990) and a Watching Brief at a housing development close to St. Clement's church (Clark and Palmer-Brown 1992). Ridge and furrow from medieval ploughing survived on the latter site and was surveyed in 1992 but no contemporary finds were made; cultivation apparently ceased in this plot about the 17th century. Earlier traces of human activity on the site were restricted to charcoal flecks below 2m of marine silt which were interpreted as of Roman date, preceding the extensive marine inundation of the Marsh area. The date of the subsequent regression is not reliably known but probably occurred immediately after the Roman period. It was hoped that the sea level changes could be reliably dated from soils and artefacts observed during the groundworks for the pipeline.

Archaeological excavations elsewhere in the Lincolnshire silt marshes have produced evidence for a local salt industry where sea water was collected and dried between major tides, then shaped in ceramic moulds before being traded. Much of this manufacture and processing occurred along the Lincolnshire coast during the medieval and early post-medieval periods and numerous signs of the industry survive as salt mounds in other local villages (Rudkin 1975). Salt processing, using very similar techniques, dates from the prehistoric period; a saltern at Anglian Water's Tetney Sewage Treatment Works site has recently been excavated by Lindsey Archaeological Services and dated to the late Bronze Age/early Iron Age. Elsewhere in the region manufacture is thought to have continued into the Roman period, concentrated on small natural creeks, until an episode of sea level change interrupted coastal activity and the land surface was covered by flood silts to a depth of about 2m. The location of these creeks cannot be determined on the present land surface because of the thick silt deposits which mask the earlier topography on air photographs. Later severe marine erosion of the coastline near Sutton-on-Sea has resulted in the loss of medieval saltern sites.

The assessment suggested that a small amount of medieval material might be disturbed by the pipeline project and that monitoring of the route to recognize and record this would be useful. The Lincolnshire County Archaeologist advised that further observation of the pipe trench excavation should take place in order to retrieve any information of Iron Age or Roman salterns and other early sites if the former land surface was revealed.

Each plot of land through which the pipeline passed was given a Field Number for recording purposes. These were allocated in the order that the fields were first visited by LAS archaeologists and are shown on Fig. 1a. Findspots within each field were assigned sequential letter suffixes, accompanied with an 8 figure National Grid

Reference in order to assist other fieldworkers. The site code SM92 (denoting Sutton-on-Sea to Mablethorpe Pipeline) was used for the fieldwalking and watching brief, but AWS92 was used with separate context numbers for recording the excavation in Fields 9 and 10.

3.0 The Watching Brief

3.1.1 Surviving earthworks

The confirmed route of the pipeline was walked in advance of topsoil removal and the land use of the agricultural land in 1992 was noted. The route crossed several fields throughout its length where the undulations of medieval and post-medieval 'ridge and furrow' survived as evidence of widespread arable cultivation that has since contracted (Pls. 1 and 2). Reasons for this marked change in farming practice include fluctuating approaches to mixed farming, population pressure within the immediate trading area and climatic conditions. Ridge and furrow remaining into the late 20th century frequently indicates land of marginal arable fertility, poor drainage or isolated position. Some of these factors will have changed since the medieval period but the population expansion of the 11th and 12th centuries prompted agricultural expansion into land not particularly suited to sustained crop production. A climatic deterioration by the end of the 13thC, followed by a succession of 14th and 15thC plagues reduced the available labour pool and led to drastic reductions in the extent of ploughed land coinciding with a greater demand for wool; some ridge and furrow may represent arable land abandoned at that period (Platts, 1985).

The ridges and associated furrows observed along the route demonstrated the changing patterns of agriculture up to the present day; in some fields close to Boswell Farm the land had clearly been horse ploughed for many years and then converted to pasture which had probably never been ploughed again, while in other fields the ridges had been virtually levelled by recent tractor ploughing before once again being designated as pasture.

Horse ploughing in the medieval period required a sizeable headland at each end of the plot (in order to turn the plough-team) and ran parallel to a plot boundary. The fossilized pattern of furrows can often be used to construct a map of medieval land units and sometimes alerts archaeologists to failed villages or smaller settlements at the centre of a cluster of fields. The pipeline easement was too small to produce such evidence but the visible extent and direction of medieval ploughing traces noted from air photographs, site visits and trench inspection was recorded to assist future analysis (Fig. 1a). Ridge and furrow was recorded in Fields 1, 3, 6-7, 9-11, 13-14, and 19-22.

Pl. 1 Field 4. Earthwork remains of ridge and furrow

Pl.2 Field 6. Earthwork remains of ridge and furrow

Pl.3 Field 9. Vestigial remains of earthworks east of the easement

Pl.4 Field 25. Possible building platforms north of the easement

3.1.2 Other earthworks

Vestigial physical traces of archaeological features other than cultivation furrows were noted from the ground during the watching brief, both on the easement and in land immediately beyond. Most of these were in Fields 9 and 10 and were investigated within the pipe-trench area by excavation (Plate 3). An area of depressions and possible slight platforms was observed to the N of the easement in Field 25, between Trusthorpe Pumping Drain and the farm buildings (Plate 4). A single sherd of late-medieval pottery was found here and it is considered unlikely that the depressions are the remains of medieval dwellings. A more probable cause might be works for the construction or maintenance of the two Drains.

3.2 Occupation features

Field-walking of the stripped easement to the north of the B1197 Alford-Sutton-on-Sea road, in Field 9, revealed a number of backfilled ditch and pit features containing quantities of medieval pottery sherds, lesser amounts of daub and animal bone fragments. The site lay beside the former railway line and below a pasture field containing slight traces of probable 'ridge and furrow'. There were some indications that the archaeological features were sited on a headland to the east of the ridge and furrow and that undulations in the field east of the easement were settlement rather than ploughing remains but the earthworks were too slight and disturbed by the railway and later activities to be open to interpretation from the surface. There is ribbon development of mostly 20th century housing along the south side of the Alford road but the field is some distance from any existing farm or older buildings. The presence of a pottery assemblage within identifiable archaeological features gave the finds a greater significance than if they had been recovered from the topsoil and an archaeological excavation was arranged to examine the site. This was designed to define the features containing pottery, to record their physical nature and to gather a group of stratified finds which could be used to date individual features and establish the sequence of activity. It was hoped that the site could then be interpreted and placed within its landscape context.

3.3 Excavation Report by Site Director F. Coupland

The excavation of archaeological features on the site to the north of the Sutton-on-Sea to Alford road (B1197) took place over the period November 26th - 27th 1992 with the help of a team of excavators. Ground conditions were poor with much standing water on the stripped easement as well as copious amounts of churned up mud. There was a rapid influx of water from a high water table into every trench during excavation and these factors restricted the archaeological investigation; some of the water entered the site from land drains immediately beside archaeological features.

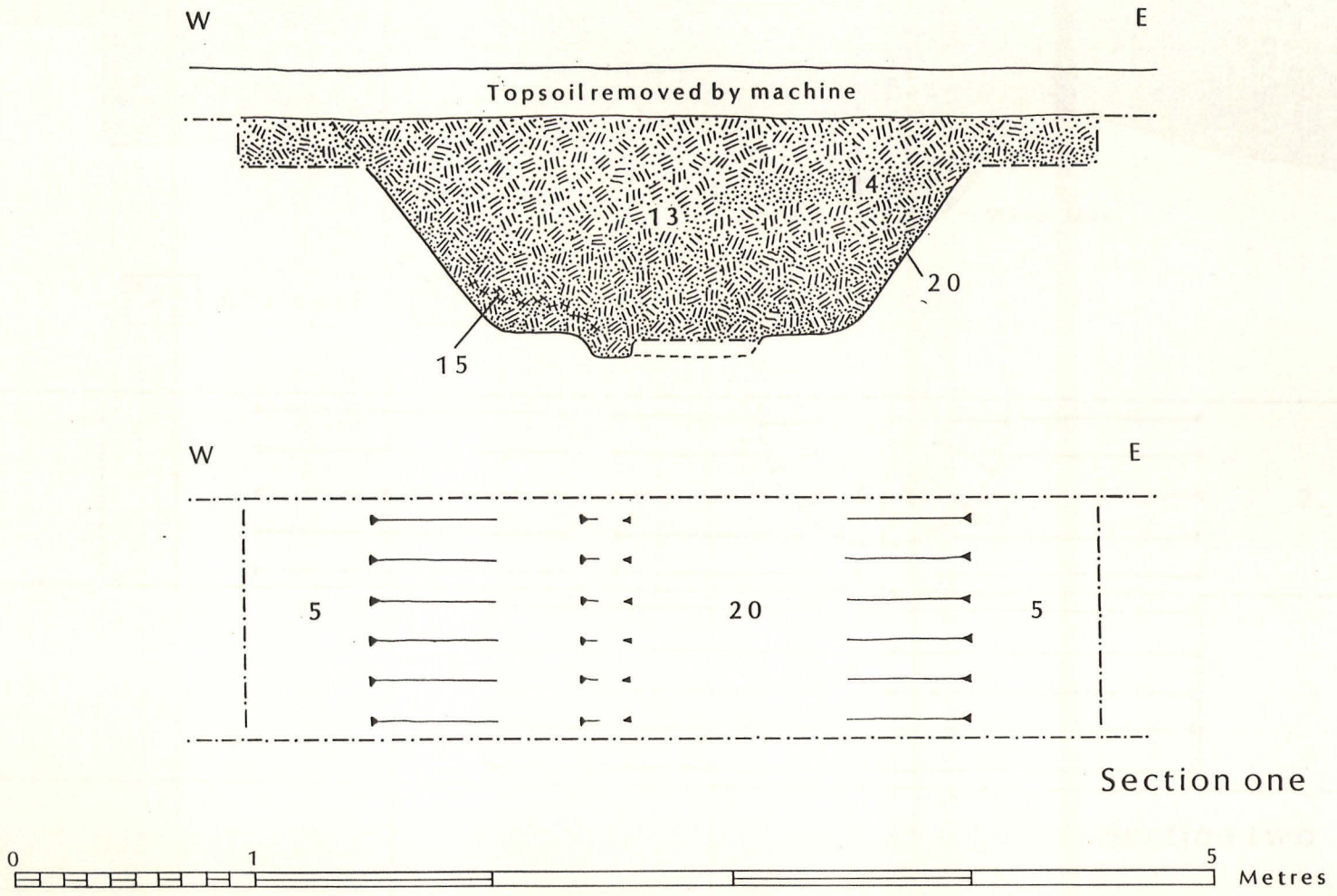

Fig.2 Field 10 Ditch 20

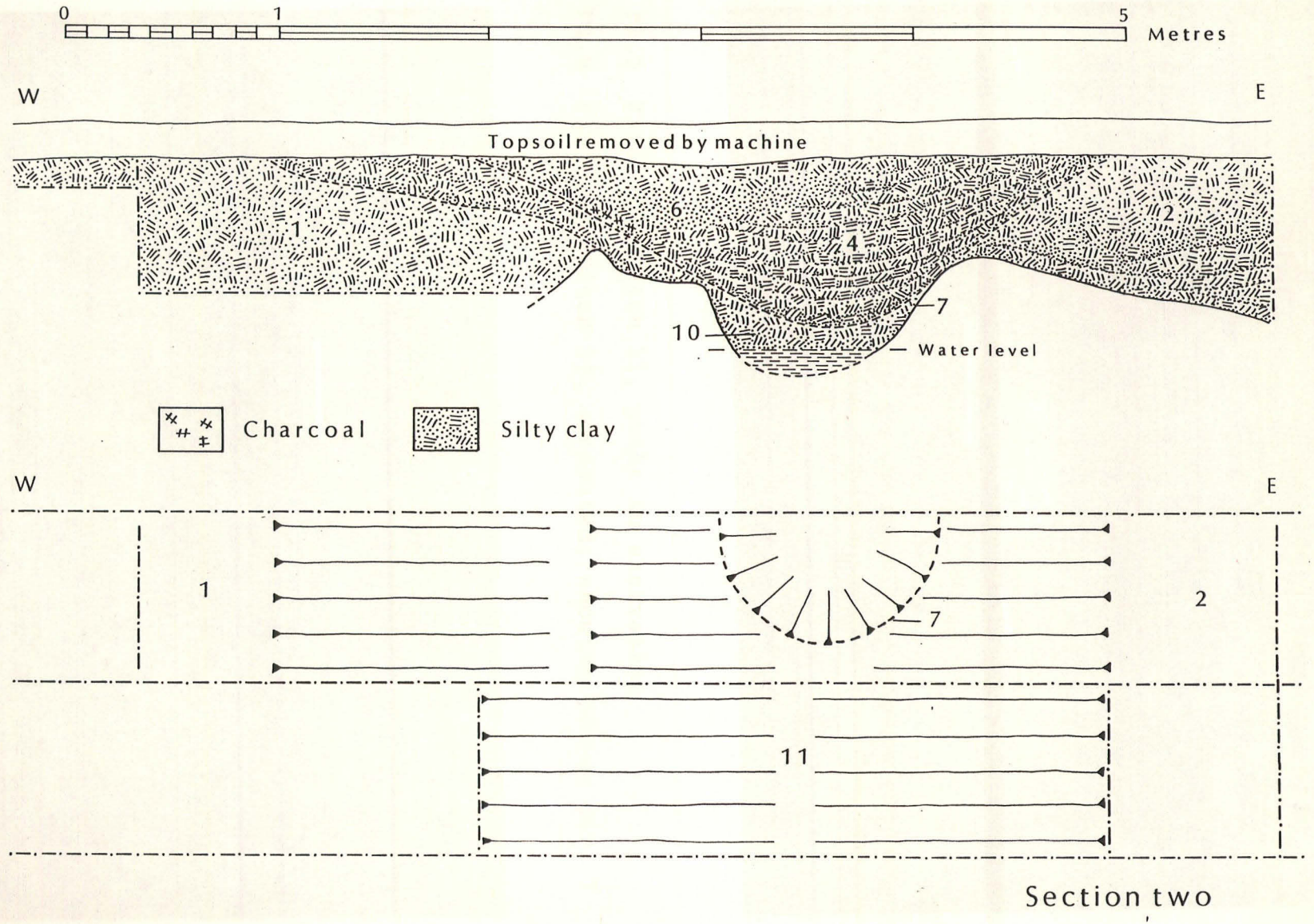

Fig.3 Field 9 Ditch 11

Pl.5 Field 9. Ditch 11, prior to excavation

Pl.6 Field 9. Ditch 11, excavated, showing deeper pit, 7

Pl.7 Field 10. Ditch 20

Pl.8 Pipe trench excavation in progress

Initially work was centred where pottery had been found on the surface of the easement. Several areas 3-4m long and 1m wide were cleared by hand to confirm that the yellow silty clay was naturally deposited although contaminated with medieval pottery sherds on the surface. The grave of a small dog was encountered but was interpreted as a modern feature. Further work investigated areas of much darker soil which appeared to be redeposited. Two linear features containing dark organic fill proved to be shallow, surviving only 0.1-0.15m below the stripped topsoil. These lay to the south of the deeper features.

An excavation area 6.3m N-S and 1.6m E-W was opened in Field 9 at 103m to the north of the road. This was positioned over a larger spread of dark soil and revealed three ditches (Contexts 8, 9 and 11) and a pit (Context 7) (Plates 5 and 6; Fig. 3).

Ditch 11
This was the latest feature in the group and crossed the easement from west to east. It was 3m wide at the easement surface and cut 0.8m into the silty clay. The sides sloped evenly at 35-40 degrees into a rounded base. The fill (Context 4) was a dark - very dark grey silty clay with numerous minute roof-tile fragments and charcoal flecks; finds consisted of medieval pottery and animal bones. The fill appeared to have accumulated gradually until the ditch went out of use and was forgotten. There was no surviving evidence of a bank of upcast from excavation or cleaning of the ditch but the tip-lines within the backfill indicated that soil had entered from the north side and it is assumed that a bank lay to that side. The feature probably served a dual purpose as a land division and drain but the extent of the ditch beyond the easement was not clear.

Ditch 8
A shallower ditch parallel to Ditch 11 lay immediately to the north; most of its south side had been removed by the excavation of that feature. The excavation area included only part of the feature: its width was at least 1.5m and the depth was 0.7m. No indication of the slope to either face of this ditch was found but it had had a broader base than Ditch 11. A very dark primary fill was distinctly different from the bulk of the fill which was yellow-brown; either an upcast bank had been deliberately backfilled into Ditch 8 or soil from the excavation of its successor had been thrown into the channel while it survived as a relief feature. Pottery and animal bone were found in the upper fill.

Ditch 9
Another ditch was located to the south of Ditch 11, which was earlier than the centre ditch but not stratigraphically related to Ditch 8. Most of this

Pl.9 Marine silts, characteristic of whole route, exposed during trench cutting

Pl. 10 Field 9. Archaeological features revealed in pipe trench, depite poor ground conditions

Pl.11 Field 9. Ditch 24 west of pipeline easement, visible as depression in the middle background, running L-R.

Pl.12 Field 9. Ditch 24 crossing easement, filled with rainwater

feature lay beyond the excavation area or below the depth excavated; the width and depth are not known.

A suggested sequence for this group of ditches has been based on the fill characteristics. Ditch 9 may have been the earliest feature which filled and was then replaced by a shallower Ditch 8. That ditch remained open until replaced by the deeper Ditch 11, during the excavation of which Ditch 8 to the south became backfilled. The boundary remained in a very similar position throughout this process which may have lasted several centuries.

Pit 7

At the west edge of the trench was part of a pit (or the butt-end of a ditch) exposed below Ditch 11. Its width was 1m and it had been dug to 1.05m below the easement surface. The sides tapered at an angle of 45-50 degrees, easing gradually into a rounded base. The fill was a dark yellow-grey silty clay with charcoal flecks and some evidence for banding suggested a gradual infilling process.

Ditch 20 (Field 10) (Plate 7; Fig. 2)

A second excavation area was opened 216m north of the road. This examined another ditch which crossed the easement from west to east. It was 2.8m wide and cut 0.95m below the easement surface. Its profile was very different to those to the south, with its sides sloping at an angle of 65-70 degrees to a mostly flat base. A slight shelf 0.1m above the base may have been the result of ditch cleaning. The ditch seemed to have been in use for only a short time before it was backfilled and a substantial deposit of yellow clay near to the top may have been redeposited from the upcast bank. Perhaps fortuitously this was the least wet of all those features examined.

3.4.1 Unexcavated features: Field 9

The pipe-trench was excavated in early 1993 and parts of the operation were monitored (Plate 8). It was found that the flood deposit was thicker than the trench depth, so no buried former land surface was revealed (Plate 9). Close observation was restricted to Field 9 where the excavation of ditches and pits had taken place.

This second phase of the watching brief produced evidence of a number of minor ditches crossing the easement, mostly apparently in a SW-NE direction. Slight surface indications of some of these had been present on the stripped surface but ground conditions had prevented further investigation. The trench was excavated after several days of rain and the consequent muddy conditions again obscured the detail of the trench sides (Plate 10). No stratified finds were recovered from the minor ditches but the quantities of pottery in the adjacent topsoil heap indicated a medieval date for most.

22 Ditch, 1.25m wide, 0.80-1.0m deep.
23 Ditch, 2m wide, 0.3m deep; light grey silty clay fill.
24 ?Ditch, 1m wide, 1.25m deep; black silt and grey clay fill; pieces of modern brick in upper fill: apparently recently back-filled. Interpreted as a field ditch or drain associated with railway (now removed). Cropmarks of a field sub-division to the W of the railway line at this point have been noted on air photographs.
25 Ditch, 0.75m wide, 0.3m deep; filled with black silt. This was immediately S of a land drain and both features were associated with 19th-20thC rubble. There was another, earlier, cut of this drainage feature to the N of the land drain; this was 1m wide, 0.3m deep; black crumbly silt fill.
26 ?Ditch, unknown width; 0.25m deep. This seems to coincide with the S side of a small pre-railway enclosure visible on air photographs.
27 Ditch, probably running NW-SE on pipeline alignment and linking 26 with 28. Width unknown; 1m deep. Black silty clay fill. This feature was traced for 13m but may have diverged from the trench to the N of 28.
28 Ditch, width unknown, 0.3m deep.
29 ?Ditch, details unclear, but restricted area of darker soil coinciding with N side of pre-railway enclosure visible on air photographs (see 26).

[All features crossed the easement ?SW-NE unless stated; depths from top of easement after topsoil removed. All figures approximate; ditch shapes unknown.]

The complex of ditch features observed in Field 9 seems to represent the edge of an area of settlement surviving as very slight earthworks to the E of the easement. There are traces of SW-NE ridge and furrow to the W of the easement but this appeared to end at a headland immediately to the W of the stripped ground. At least one of the ditches (23) was visible at ground level as a depression across the field with ridge and furrow but the stratigraphic relationship was not clear (Plate 11). This depression contained surface water, and in view of the tendency of the silt subsoil to become intractable after rain a large number of drainage features may have been essential to permit habitation, arable farming or useable pasture (Plate 12). It is likely that the ditches represent slight variations in surface drainage arrangements over many years.

The quantity of medieval pottery in the upper fills of several of the features supports the inference of a settlement site. Ditches 26 and 29 are part of a sub-rectangular ditched enclosure which could be seen from the air and apparently predated the 19thC railway course. The enclosure, about 40m NW-SE and 25m SW-NE, has rounded ends but virtually the entire internal area has been

levelled or destroyed by the railway, the pipeline or works associated with overhead cables. Ditches 27 and 28 are probably safely interpreted as internal divisions or drains contemporary with the enclosure; the material excavated archaeologically from features 8, 9 and 11 provides a date for the site between the 15th and 18thC. The enclosure may have been an isolated platform, raising a barn or dwelling above the wet reclaimed marshland or it may have been a stock enclosure beside a small nucleus of buildings further to the E.

3.4.2 Unexcavated features: Field 10

30 ?Ditch, about 0.75m wide, depth unknown, dark grey silty clay fill.

31 Ditch, about 1m wide, depth unknown, dark grey silty clay fill. This seems to be a former land boundary, possibly altered because of railway.

Air photographs show a small NW-SE sub-rectangular enclosure between these ditches and the excavated Ditch 20; this enclosure is of unknown function but looks similar in shape to that in Field 9. The medieval pottery found in and close to the ditches in Field 10 indicates that the enclosure may be contemporary.

3.5 Miscellaneous Finds

The pipeline easement was field-walked on several occasions until the route through agricultural land had been stripped. A number of finds from prehistoric to late medieval date were recovered from the easement surface during this process and are listed below (Appendix 1).

4.0 Discussion

Most of the unstratified finds recovered from the easement surface had probably been introduced to the fields in the medieval period during the spreading of farmyard waste as fertilizer. A small number may have been disturbed from pits and ditches by recent deep ploughing and circulated for some years in the ploughsoil. It is possible that other operations including the excavation of land drains and the construction of the railway line may have moved archaeological material from its original context. Little can be said about the unstratified medieval pottery fragments other than to identify the likely kiln centre from which they were traded and the date range during which they were probably used. This provides some information about local trading patterns and implies settlement fairly close to the findspots (although the pipeline was never very distant from established farms and villages).

The single flint implement recovered was not anticipated at this first stage of the archaeological watching brief as it lay on the surface of the marine silts. These silts were deposited about 2000 years after the flint had been adapted for human use and would have sealed the previous

ground surface. Possible explanations for the find include post-Roman excavation of deep pits, post-holes or ditches through the 2m thick layer which might have raised the flint into the present ploughsoil, or an irregular prehistoric topography which rose in places to the present ground level. No evidence of the latter was observed along the pipeline route.

Five sherds of late Iron Age/Romano-British pottery and 1 fragment of Roman tile were found. The presence of this material may indicate the existence of contemporary occupation sites in the vicinity, sealed by the marine transgression silts layer; deeper excavations for future developments may provide an opportunity to investigate this. Sherds of Late Saxon pottery were retrieved but the number of these was too small to permit the date of the marine regression to be determined by traces of settlement activity.

The opportunity to monitor the Sutton-on-Sea to Mablethorpe pipeline project was welcomed and the results will contribute to archaeological knowledge of the area. It was disappointing that the trench remained within the flood silt layer, as the discovery of stratified artefacts in the lower layers would have permitted improved dating of the marine transgression. The few Late Saxon sherds found are probably indicative of the earliest settlement since the subsequent regression - but the presence of Roman material emphasizes the unreliabilty of its provenance.

The medieval settlement remains represented the periphery of existing habitation sites rather than entirely lost sites. It was impossible to determine whether the ditches were associated with additional dwellings (and the settlement has migrated slightly or contracted) or had been outliers serving buildings sited below currently occupied sites. These questions have now been raised and future archaeological investigations in the locality can be directed towards their resolution.

Acknowledgements

The co-operation received from Anglian Water Engineering Systems, Mr. D. Osbourne and staff employed by C.G. Godfrey Ltd. enabled the monitoring, excavation and recording to be conducted safely despite very poor weather and ground conditions. Fred Coupland directed the short excavation in Field 9 with the help of a team of experienced archaeologists. The illustrations were prepared for this report by David Taylor, The University of Nottingham.

Geoff Tann
Lindsey Archaeological Services
6.9.1993

Appendix 1
The Finds

a) Casual finds

Findspot	NGR (all TF)	Description ("pot" = fragment)
1A	5166 8150	1x 18thC, 2x 18-19thC pot; 1 key
3A	5177 8122	1x late 9th-11thC bowl
3B	5175 8128	1x Roman pot
4A	5178 8117	1x 13-15thC bowl/pipkin
8A	5184 8073	2x 14-15thC pot
9A	5162 8158	29x late 15-mid 16thC pot, incl. imported Raeren stoneware and Toynton/Bolingbroke wares; 1x Roman tile fragment
9B	5160 8161	4x Roman pot; 155x medieval pot incl. 95 fragments of Toynton/Bolingbroke wares, also Humber and Nottingham Raeren stoneware, Cistercian types and wares from Beverley and Lincoln and imported Dutch earthenware; 3x animal bone, 1x ?bird bone; 3x brick frag., 2x rooftile, 15 fired clay/daub fragments
9C	5162 8155	1x late Saxon pot; 15x 13-17thC incl. Potterhanworth wares
10A	5159 8170	3x 15-18thC pot
10B	5154 8177	1x Late Saxon pot; 7x 15-18thC
10C	5158 8172	1x 15-17thC Toynton/Bolingbroke pot
10D	5155 8172	33x pot: mostly Potterhanworth jars (13-15thC); also chafing dish frag.
12A	5137 8212	1x 13-15thC pot
12B	5140 8199	1 flint
13A	5121 8225	3x 14-15thC pot
13B	5135 8217	3x 13-15thC local pot
15A	5110 8239	2x 14-16thC pot

16A	5090 8292	1x 14-16thC pot
18A	5026 8257	4x late-15/18thC pot
22A	4978 8273	3x 15-18thC pot, incl. Humber-ware bowl and local thumbed base
25A	4959 8282	1x late 15-18thC pot
27A	5200 8076	1x late 13-14thC Toynton jug

Finds from excavated contexts

Context 1 (base of post-medieval ploughsoil)
13 sherds, incl. 1 Late Saxon and 1 Early Medieval ware with shell inclusions; sherds of Toynton (Roses kiln) and Potterhanworth wares. 1 daub/fired clay fragment
late 13th- early 14thC date range

Context 2 (base of post-medieval ploughsoil)
6 sherds, mostly Toynton/Bolingbroke wares incl. rim and base sherds of a jug.
late 15th-18thC date range

Context 3 (fill of Ditch 8)
7 sherds, mostly Toynton/Bolingbroke incl. fragments of a jar and a bowl. 1 brick fragment
late 15th-18thC date range

Context 4 (fill of Ditch 11)
19 sherds (of which 17 Toynton/Bolingroke wares and 1 Toynton "Roses kiln"); fragments of a jug with an early rim form and bowl base sherds with thick base. 12x daub/fired clay fragments, 7x rooftile fragments, 1 piece of brick ?mm x ?mm x 42mm. 3x marine shells.
15th-17thC date range

Context 13 (fill of Ditch 20)
30 sherds; 17 local Late Medieval wares (possibly from Kirkstead) and wares frm other sources incl. 2 fragments of late 16thC imported Frechen/Cologne stoneware and a sherd of a 16thC Martincamp Flask from a London kiln. 2 brick fragments.
16thC date probable, with later contamination

Context 16 (base of post-medieval ploughsoil)
1 late medieval sherd, not from a local source. 3 brick fragments.
16th-18thC date range

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