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# HELPRINGHAM FEN LINCOLNSHIRE



AN ARCHAEOLOGICAL WATCHING BRIEF REPORT BY PRE-CONSTRUCT ARCHAEOLOGY

# Helpringham Fen Lincolnshire

An Archaeological Watching Brief Report

for

# Anglian Water Services Ltd.

by

## **Brian Simmons**

# Site Code: HLF94 CCM Accession Number: 65.94

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#### 1. ABSTRACT

The County Archaeologist had already written a watching brief prior to Anglian Water's commencement of work in Helpringham Fen. In principle, the objectives of the watching brief were to observe and record any archaeological deposits which might be encountered during the excavation of the trench for the water main replacement (i.e. the relay trench). However, in practice it was also considered relevant to record randomly, but at fairly frequent intervals, the nature of the subsoil when appropriate. The purpose of this record was to serve as a palaeoenvironmental measure against which future archaeological investigations might be judged, and including research into the reasons for the intermittent occupation and abandonment of Helpringham Fen in proto- and historic periods. Not least, these occupational variations could be to do with climatic changes and sea level variations during the past 2,500 years, or maybe longer, and thus the record could be an invaluable one not likely to be repeated in the forseeable future.

As was noted in the watching brief, the pipe trench was planned to pass through several areas of archaeological potential. Chief among these areas are the supposed site of the medieval village of Thorpe Latimer, now deserted, the Car Dyke and Midfendyke - both Roman watercourses - at least two Roman sites, and an Iron Age saltern. All of these sites are situated on, or alongside, South Fen Drove.

#### 2. INTRODUCTION

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Pre-Construct Archaeology was invited by Anglian Water Services Limited to conduct a watching brief on the new pipeline which was to be installed in Helpringham Fen. The laying of the water main lasted from 3 May to its completion at the beginning of July, 1994, a period of 9 weeks or so, although there was a two week break during May. In all, the watching brief took 27 days on site plus a preliminary site visit.

## 3. LOCATION OF THE WATER MAIN (see Fig. 2)

Anglian Water's replacement of the existing main in South Fen Drove (sometimes referred to as South Drove), Helpringham Fen was necessitated through the original main - a 2" iron pipe - being inadequate for its purpose. Furthermore, the existing 3" PVC pipe in North Drove produced an unequal water pressure in the Houses and other establishments along the two roads. The remedy was, thus, to create a better balance of water pressure north and south while, simultaneously, renewing an iron pipe which might have become corroded externally and furred up internally.

In length, the replacement water main is slightly more than 4,000m and was placed at least 1m away from the road's edge with the exception of that length of verge - about 100m - where the pipe trench cut through the Car Dyke, and where the pipe turned the sharp, right-angled corner at Blotoft to meet the existing pipe under the level crossing.

Excavation of the pipe trench commenced at a point immediately to the south of the slope of the railway bridge at about TF 1382 4016 and in the west verge. Where the drove road turns sharply to the east the cutting of the trench continued in the south verge, i.e. the trench was excavated in the same side of the road throughout its length.

#### 4. REASONS FOR THE WATCHING BRIEF

4.1. The Planning Background

4.1.i. North Kesteven District Council's local plan contains two statements relevant to the watching brief for the water main replacement in Helpringham Fen: a. Development proposals which are likely to adversely affect a scheduled ancient monument will not normally be approved, and b. Development proposals which are likely to adversely affect a site of archaeological interest will normally be subject to a condition of planning permission requiring archaeological investigations to take place before and/or during development. (North Kesteven District Local Plan, 1992, 48). Both statements are expanded upon in their accompanying texts.

4.1.ii. There are various Acts and guidelines which are helpful to developers and, in particular, appropriate to Anglian Water's replacement water main in Helpringham. Chief among these documents are: The Ancient Monuments and Archaeological Areas Act 1970; The National Heritage Act 1983; The General Deveolpment Order 1988; and Planning Policy Guidance Note (PPG 16) on Archaeology and Planning 1990. The latter, especially, is most useful in its application to the planning background.

4.2. The Archaeological Background

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Helpringham parish is long and relatively narrow extending from the South Forty Foot Drain on the east to the Scredington parish boundary on the west, in length slightly more than 5 miles and in width never more than about 2 miles towards Scredington and less than 1 mile at its eastern extremity. The nucleus of Helpringham is centred on the fine medieval church of St Andrew (see front cover), and a village green. Around the green are one or two houses of note but not more than this. Incorporated within the curtilage of the parish is the hamlet of Thorpe Latimer at one time more extensive than its modern counterpart. Thorpe Latimer lies to the south-west of the parish and it is here where a summary of the archaeological background should begin. In 1334 Thorpe Latimer appeared in a tax list probably signifying its greater importance, a supposition which might be supported by the more physical information supplied by aerial photography from which traces of desertion can be discerned. On the ground only the moat remains but there are amorphous earthworks in the field to the north and east of Thorpe Latimer Farm. Beyond the earthworks to the east, and coming up to and crossing over the South Drove to the south of the railway line, are distinct indications of ridge and furrow, the remnants of the medieval field system of Thopre Latimer. It sould be noted that the smallness of the moat would almost certainly preclude any thought of it being used as the enclosure for a house of any size. If Thorpe Latimer had been a separate parish nothing on the ground suggests this.

The remainder of Helpringham has seen some considerable human activity over the past three millenia and more. Starting with an exceptionally fine flint axe, probably bronze age in date, the archaeology of Helpringham is noteworthy. Here, there have been found Iron Age and Roman saltmaking sites, one complex of Iron Age salterns having been partially excavated, while a group of Roman-British salterns is so well preserved (the best of any in the fens) that it merits legal protection. An Iron Age coin was also found on the fen edge some years ago and innumerable Roman coins have turned up in the parish from time to time. Roman presence in Helpringham is represented, too, by domestic sites perhaps of no great significance individually but taken with the rest of the archaeology from this period are suggestive of a not inconsiderable population hereabouts in the years of Roman influence. There can be little doubt that one of the major reasons for Romano-British occupation, and particularly so in Helpringham (as in the rest of the Lincolnshire silt fens) was the Roman drainage system between the Car Dyke and the Midfendyke. Between these two drainage channels, Helpringham abounded in small native settlements.

Chance finds from later periods give some clues to the progressive history of the people who lived in Helpringham: an Anglo-Saxon spindle whorl here or later medieval pottery there.

#### 5. GEOLOGY AND SOILS OF THE IMMEDIATE AREA

Denis Robson, Soil Scientist, has produced the following description of the soils and geology of the area especially for this report:

The village of Helpringham stands on high ground composed mainly of greyish till (boulder clay) containing chalk stones. Superficial layers are loamy and locally are more than 1 metre deep. Seasonally waterlogged loamy over clayey soils of the Beccles series occur with similar though better drained soils of the Ashley series where the chalky till is within 1 metre depth. Waterlogging is a result of the presence of dense, slowly permeable subsoil layers. Glaciofluvial sand and gravel in which about half the stones are limestone is present on the lower ground between Peterborough and Horbling and virtually disappears in the Helpringham area. Here the gravel is covered by alluvial deposits. These gravels were deposited by rivers flowing from the limestone and clay to the west and the soils often have loamy superficial layers. Temporary waterloggong results from fluctuating ground water levels.

Greyish clayey marine alluvium with silty deposits on the slightly higher former creeks (roddons) occurs east of Helpringham and covers the sandy and loamy deposits. An extensive tract of peat (c. 1500 sq km in 1630) formed under quiet water conditions formerly existed between Lincoln and Cambridge but this became progressively narrower on approaching the fenland margin near Helpringham from the south and does not appear to have been present to any great extent here. Some of the topsoils of the clayey Wallsea soils are dark greyish brown and this colour is the only evidence for the presence of the former, probably thin peat cover.

The alluvium in Helpringham Fen is mainly clayey and has soils of the Wallsea series but the former creek ridges have more silty soils. Here coarse silty lime-rich soils of the Wisbech series are present but non-calcareous fine silty over clayey soils of the Pepperthorpe series sometimes occur near the lower edges of the ridges.

6. BACKGROUND - Sites of Known Archaeological Significance.

Helpringham's chief claim to archaeological fame is that it contains the best preserved length of Car Dyke in the 76 miles of this little understood Roman monument (Plate 1). Not only is this remarkable stretch of Car Dyke in Helpringham but it also occurs in the South Drove close to the route of the pipeline. However, before considering the Car Dyke and its associated settlement and industrial sites, a general historical view of the parish might put the importance of the watching brief into better perspective.

Like most of the villages along the Lincolnshire fen edge, Helpringham is mentioned in the Domesday Book (1086/7). These villages are situated on a band of gravel which stretches from close to Lincoln in the north and continues to the County boundary at Market Deeping. As such, Helpringham is representative of the total in that it is neither on the heavy - and presumably forested in earlier times - clays of the Lincolnshire Limestone, nor yet on the once unattractive lands of the former marsh to the east of the village. But because of its topographical situation, Helpringham was on a spring line; the same springs still function continuously in Horbling and Billingborough to remind us that an essential necessity in former times, as now, is water, a commodity which is often taken too readily for granted. Thus, most of the basic requirements for our forbears were to be found in such places as Helpringham; well drained gravelly soils which could be easily ploughed and which were fertile enough for constant farming, a regular supply of water and some form of defence to the east - the marshes were hostile enough to keep out any but the most determined raider.

For these reasons, it can be seen that Helpringham flourished, perhaps in a modest way and no doubt dependent upon changing political, social, economic and climatic conditions over which the *hoi poloi* had little or no sway. Some of this can be deduced from the 5 Domesday entries for Helpringham. For instance, from the death of Edward the Confessor (1066) to the time of William I's inventory (1086/7) the value of some of the holdings in the parish had quadrupled, a far from common occurrence at the time. Equally, there is an oblique reference to a church, not the present one of St Andrew

whose earliest architectural feature is 13th century (see Front Cover), but probably a Saxon one. Whatever the fate of the Domesday church, one thing is certain, there was sufficient wealth to construct much of the present splendid edifice. And finally from Domesday, there is also insight into the other, less attractive side of the parish - the marsh - 'This land is almost waste' the record informs us. (All these references are taken from: Foster & Longley, 89, 115, 121, 156, & 174; and Pevsner & Harris, 379).

Another view of ancient Helpringham may be contained within the place-name itself. There is some reason to suppose that the first element of the name hel is Celtic in origin meaning salt or brine; Helpringham's neighbouring villages, Great and Little Hale also include the same word while other examples are known from further afield in Lincolnshire and elsewhere. If this is so, then Helpringham's place-name echoes what has been found archaeologically on the ground and from this period, Iron Age salterns; two large groups of salterns have been discovered in both the north and south fens. (Place-names - Simmons forthcoming; Salterns - Simmons, 1979, 188). The fact that the pre-Roman coast came up to the line of these salterns is also indicative of the presence of saltwater (Simmons, 1980, 56-73) and that the Car Dyke, together with its parallel watercourse, the Midfendyke, may have brought about the demise of the Iron Age salt industry through draining away the raw material of that industry - seawater (Simmons, 1980, op.cit). Both groups of Iron Age salterns are within a few yards of the Car (Simmons, 1979, 188). Later, after the drainage of this part of the Dyke marsh had taken place and, no doubt, had been helped by an ameliorating climate together with a consequent drop in sea-level, the salt industry, now Roman, moved some 2 to 3 miles eastwards to the area of Blotoft, immediately to the east of the Midfendyke.

As would be expected with this Iron Age and Roman activity, there are many tell-tale signs of human presence in the two periods; domestic pottery abounds and, from time to time, other artefacts are found including one Iron Age coin (a rarity in or close to the fens) and several Roman coins. Of the salterns, their distinctive crude pottery - briquetage in the jargon of the archaeologist - is associated in large quantities with the residue of saltmaking still to be seen on the surface of some fields. On the parish

boundary between Helpringham and Swaton occurs a Roman road crossing the Car Dyke, perhaps the means by which the surplus produce of these fens found its way to the bigger markets to the west (Simmons, 1975, 74-5).

Close to the area of the pipe-laying is the near-deserted medieval village of Thorpe Latimer. The first part of the place-name, *Thorpe*, implies that the settlement was never large: often, but not always, *thorp* in its various forms meant a dependent farm belonging to a village, or a smaller place subordinate to a larger one. Modern Thorpe Latimer still appears to fulfil this condition and yet it could be argued that medieval Thorpe Latimer was larger than its present day successor. Marks on aerial photographs show distinctive if faint traces of earlier structures, but of these only the moat remains to be seen at ground level, even so, the moat could hardly have enclosed a house of any great size. To the east of these vestigial reminders of Thorpe Latimer's medieval past are the associated field systems extending to South Drove and beyond. It is hardly likely that the village itself came this far.

Mention has been made of Blotoft, a place-name and small post-medieval settlement which occurs at the extreme eastern end of South Drove. Little can be said of the origin of the name without extensive research which is outside the remit of this present study. The name itself has a Danish ring to it and if it is contemporaneous with that period then it is a rare piece of evidence of Viking incursion deep into the North Kesteven fens, and provocatively illusive as such. Nevertheless, what can be said of Blotoft is that it is situated on, or alongside, the Midfendyke. Whether the Midfendyke was usable in Danish times is too speculative to allow but, as the relay trench will approach and cut through the area, an outside possibility is presented to examine this question.

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#### 7. OBJECTIVES OF THE WATCHING BRIEF

In general terms, all archaeological remains should be seen as finite, and a non-renewable source (PPG 16; see also The Planning Background 4.1. above). Ideally, it is necessary for archaeologists to be able to discuss projects with potential developers before any earthmoving work commences. The policy which Anglian Water Services Limited has adopted with regard to conservation is laudable, and particularly so when much of the work is outside the control of Planning Acts. With this well founded policy it is possible to formulate a practical programme of archaeological investigation before the start of any groundwork. The water main replacement in Helpringham presented such a chance and a brief was written by the County Archaeologist in which most areas of potential threat were stated to Anglian Water.

#### 8. REQUIREMENTS FOR WORK

8.1 Pre-Construct Archaeology, as the chosen archaeological contractors for the work, undertook to comply with the requirements of PPG 16, to observe the standards suggested by the Institute of Field Archaeologists with regard to watching briefs, and to adhere to the County Archaeologist's brief. In this way, not only were those areas of archaeological importance, designated as such by the County Archaeologist, observed, but also much of the entire length of the pipeline was inspected. The work included the examination of the subsoil for archaeological features together with their recording, and the observation of natural deposits, again recording details wherever necessary. Nevertheless, as mentioned in 1 above, time did not always allow for this criterion to be resolved to the ultimate.

8.2 After completion of the fieldwork, Pre-Construct Archaeology arranged with the City and County Museum, Lincoln for the long term storage of all artifacts, and the deposition of the site archive, as well as a copy of the report commissioned by Anglian Water Services Limited, the report to comply with the recommendations listed in paragraph 7.1.3. in the County Archaeologist's brief.

8.3 The site code used by Pre-Construct Archaeology is HLF 94 and the Archive Number for reference at the City and County Museum Lincoln is 65.94.

#### 9. RESULTS OF THE WATCHING BRIEF

9.1. The route of the water main relay is detailed in 3 above. Work commenced at the western end of South Fen Drove, on 3 May 1994 and continued, with breaks for annual leave of Anglian Water's crew, until 7 July 1994 when the trench was completed. The length of the water main relay was slightly more than 4km and an average of about 130m was laid daily. In all, 27 journeys were made from Pre-Construct Archaeology's office to the pipeline; mostly these visits were of 6 hours or more. Details of the visits were made on daily log sheets which then became part of the project's archive.

#### (Fig. 2 - Site Plan - relates to the description given below)

#### 9.2. Thorpe Latimer.

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Thorpe Latimer was once a larger settlement than at present with its centre said to be threequarters of a mile to the south-east of Helpringham. If this is so, the first stage of the water main relay would have passed through the early village. In practice, however, the water main trench cut through the remains of ridge and furrow ploughing - the results of medieval strip farming. The tell-tale marks of this system of farming are to be seen on both sides of, and running parallel with South Fen Drove from the railway bridge to where the Drove Road turns abruptly eastwards. It was as though the Drove road is either later than the ridge and furrow or takes as its route a former headland dividing two parcels of ridge and furrow. Whichever it may be - or, indeed, there could be other explanations - there was no evidence from the water main trench to suggest that in this vicinity there was once a medieval settlement.

#### 9.3. From Thorpe Latimer to the Car Dyke

The major soil feature in this area is gravely clay which has, in the past, made farming unattractive. For this reason the area is known locally as Poor Grounds. Nevertheless, it retains some archaeological appeal for two reasons: there are indications from aerial photography that ancient

occupation took place here, and secondly, in support of the aerial photographic information, Romano-British finds have been made randomly, together with an Iron Age coin (the nearest Iron Age coin to the Lincolnshire fens). There is some importance attached to these finds but, as yet, no formal archaeological investigations have taken place in or around Poor Grounds. Unfortunately, nothing was noted of any merit in the relay trench with the exception of two large pieces of limestone lying at a depth of about 25cm below the surface and alongside the water main trench (see Pl. 2). Each stone measured about 65cm x 45cm x 15cm and both were dressed on one side - the tooling marks are quite plain to see. No explanation can be given for these stones nor for their location alongside and clearly later than the original water main. On the other hand the find may be of some significance as stone is a rare commodity in the fens, especially stones as large as these, and bearing the tooling marks of a much earlier age. The find occurred at TF1397 3955.

Beyond this point and to the Car Dyke the only finds of any merit were local changes in the subsoil. For example, at about the bridge before H. Barnes' farm is encountered (i.e. to the west of the farm), there can be seen on the road surface, and fields on either side of the road, a trace of a broad, partially filled in ditch together with a slight bank. The bank can be seen as hump in the road surface at TF1462 3931. In association with this feature and at 80cm below the modern surface occurs a heavy clay layer which may or may not have been the upcast from the digging of an earlier ditch running north-south (see Pl.3). Elsewhere it has been argued that the Car Dyke in the length running through Helpringham and Swaton Fens is an afterthought, a re-routing made by the Roman military engineers (Simmons, 1975, 30). It may be that the bank and ditch referred to here are the remnants of a putative and earlier arrangement which was superseded by the re-routing.

Immediately after this feature the channel of the Car Dyke can be seen on both sides of South Drove and crossing the road at an oblique angle. Indeed, in the grass field to the south of the road is the best preserved length of Car Dyke in the County (see Pl. 1). A section measuring 117m was drawn of the north side of the relay trench in order to include both banks

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of the Car Dyke and the top of the filled-in channel. This drawing is retained in the archive but is not published here because of its length and the impracticality of reproducing it. However, the information retrieved from the drawing demonstrates that the upper layers of the banks and channel, together with the dimensions of the top of the Car Dyke, the distance from bank to bank and so on, compare more or less with the measurements which have been noted previously but mainly from Billingborough (Simmons, 1975, 91-104), Heckington (Simmons, 1994) and Dowsby (Simmons, 1975, 104-9). In other words , the top of the channel is approximately 45 feet (14m) wide, while the distances between the banks, middle to middle - or as near those positions as can be adduced, is of the order of 80 feet (24m). Nevertheless, these measurements have to be taken with caution as the depth of the relay trench was only, on average, 80-85cms thus allowing only the topmost layer/s of the Car Dyke to be observed.

#### 9.4. From the Car Dyke to the Midfendyke.

At about this locality it had been seen elsewhere (Simmons, 1975, op. cit.) that ancient creeks could be observed in the fields on either side of South Drove, Helpringham. These creeks, no doubt tidal in their day, were almost certainly the ones which brought brine to the salterns and which were active during the Iron Age immediately to the east of the line of the Car Dyke and to the south of South Drove. 1994 was a particularly dry summer and once again the patterns of extinct creeks could be discerned in the fields. Plate 4 shows the contrasting dark and light coloured soils indicative of this phenomenon in this part of Helpringham Fen (centred on TF150 392). The existence of long-defunct creeks was also apparent in the stratigraphy revealed in the relay trench. Some 80-100m to the east of the eastern Car Dyke bank the usual soils gave way to gravel subsoil overlying loose clay. After a short distance the gravel and loose clays were cut by two layers of very heavy clays, one brown about 50cm thick and a lower blue one about 10cm thick. Further east along the relay trench, at about 300m from the eastern Car Dyke bank, further changes in the subsoil indicated the possibility of ancient creeks but this time with clays tending towards grey with heavy brown/orange staining occasionally appearing to be silty.

Indications of this arrangement of clays continued for a further 100-150m when observations ceased until the Midfendyke at Blotoft was almost reached (the cessation of observations at this point was in accordance with the watching brief).

#### 9.5 Midfendyke and Blotoft

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The watching brief recommenced within 300m of Blotoft although one or two cursory visits had been made prior to this in order to ascertain the nature of the subsoils as a control before the Midfendyke was encountered, and to check that the buried archaeological record, if any, was properly recorded in advance of the Midfendyke.

In fact, the buried layers changed at about 300m in advance of the west bank of the Midfendyke; at about 40cm below the present ground level some coarse silts - crumbly grey/yellow - were encountered. These silts continued for about 200m until the west bank of the Midfendyke was met except that, in places, some loamy subsoils, including occasional large flints, were noted. From time to time, these loamy subsoils/flint layers were associated with heavy brown clay.

The recording of the upper layers of the Midfendyke proved to be a difficult task as the definition of the infilling of the Midfendyke, together with its banks, was not clear. Nonetheless, a complete drawing was achieved of the west bank and the channel and is included in the archive but not published here because, as in the case of the Car Dyke, the impracticability of so doing. One of the insuperable difficulties of understanding the Midfendyke in this part of Helpringham Fen is that the eastern edge of the original channel appears to have been cut away by a more modern ditch. A further problem was that much of the ground levelling hereabouts seemed to have been achieved by spreading railway ballast and large stony rubble. As can be imagined, this type of material constituted an unforeseen complication. However, an estimate of the width across the top of the former Midfendyke is suggested as 12.4m although it should be pointed out that this is not an entirely satisfactory result. If this

measurement is accurate, the Midfendyke is about 1.6m less than the Car Dyke.

Bank to bank, the Midfendyke is somewhat narrower than the Car Dyke, being of the order of about 25m bank top to bank top, although, it should be said, Anglian Water's relay trench turned at right angles along the length of the Midfendyke's eastern bank and a true width for this bank was therefore not obtainable.

One feature noted on the approach to the Midfendyke was that, in the relay trench, a buried soil was observed at about 50cm or more below the surface. A similar buried soil had been recorded at Billingborough in 1974 at about the same depth or slightly deeper but under the bank of the Car Dyke (Simmons, 1975, fig 21). At that time it was suggested that subsequent flooding levels had obscured the original ground surface; the same observation is offered here for the buried soils close to the Midfendyke in Helpringham. In other words, there had been a deterioration in the climatic and possible marine conditions at some indeterminable time after the Midfendyke had ceased to function.

#### 10. DISCUSSION

Like Littleworth Drove Heckington, South Fen Drove Helpringham has been the subject of some fairly intensive archaeological fieldwork over many years. Again like Heckington, Helpringham Fen includes within its bounds an interesting place-name - in this case Poor Grounds. The name Poor Grounds suggests that at one time the land here was of insignificant value. But was this always so? If the Car Dyke is seen, arguably, as the division between fen or marsh, (i.e. a freshwater affected landscape against a salt water affected one) and upland, and therefore 'bad' land as opposed to 'good'. variations of land use might indicate differences caused through a multiplicity of conditions: worsening and ameliorating weather patterns, transgression and regression of the sea, lowering and heightening of the water-table and so on. All of these effects can be studied as they relate, albeit subtly, to the ancient land settlement in Poor Grounds in particular and along South Fen Drove generally. The known improvement in climatic conditions at about 100AD gave Roman administration the chance to drain a good proportion of the land between the River Slea in the north to Bourne in the south, and between the Car Dyke in the west to the Midfendike in the east. Into this tongue of land was attracted a whole array of new settlers. Their remains can be detected everywhere, including several sites along Helpringham Fen. Indeed, it can be said that Roman land use and occupation in Helpringham Fen was a microcosm of what happened generally in the silt fens of Lincolnshire. More than this, other types of activity came to Helpringham Fen in this period, not least of which was saltmaking.

Periodically, other people left their marks along South Fen Drove, from pre-history to the middle ages and beyond. A Celtic coin in one place and Iron Age saltmaking sites are found in several others, Roman drainage channels and settlements seem to abound, medieval farming with a deserted medieval village close by are also known; the archaeological record is an impressive one. It is pleasing to note that through the excavation of Anglian Water's relay trench in Helpringham Fen further knowledge has been gained of the earlier land uses and settlements in Lincolnshire.

#### 11. ACKNOWLEDGEMENTS

Pre-Construct Archaeology would like to thank Anglian Water Services Limited for the opportunity to conduct the watching brief and for taking an interest in the work as it progressed, especially the site engineer involved (Mr L. Cooper). Thanks are also due to the staff of the County and City Museum, Lincoln who gave assistance when required. None of the work could have been done without the co-operation of the pipe-laying team (Mr. R. Gray, Mr. R. Sharman and Mr. D. Lacey), all of whom went out of their way to be co-operative. PCA would like to show its appreciation to each of them. Finally, a special tribute should made to Denis Robson for his erudite account of the soils and geology of the area.

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Plate 4. Ancient Creeks Seen As Soil Marks, TF150 392