

LONGSTANTON TO BLUNTISHAM PIPELINE 1991



Cambridgeshire
County Council

Rural Strategy

CAMBRIDGE WATER COMPANY Longstanton to Bluntisham Pipeline, 1991

- AN ARCHAEOLOGICAL ASSESSMENT

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Cambridge Water Company Longstanton-Bluntisham Pipeline 1991 - An Archaeological Assessment.

Summary

In 1991 a watching brief was carried out on a pipeline between Longstanton and Bluntisham. Despite operational difficulties the work showed that the area was high in archaeological potential.

While the pipe passed close to several known sites it did in fact have a recognisable impact on only one. A watching brief and some limited excavation work demonstrated the continuation of the Roman settlement at Barleycroft Farm Quarry into the easement of the pipeline.

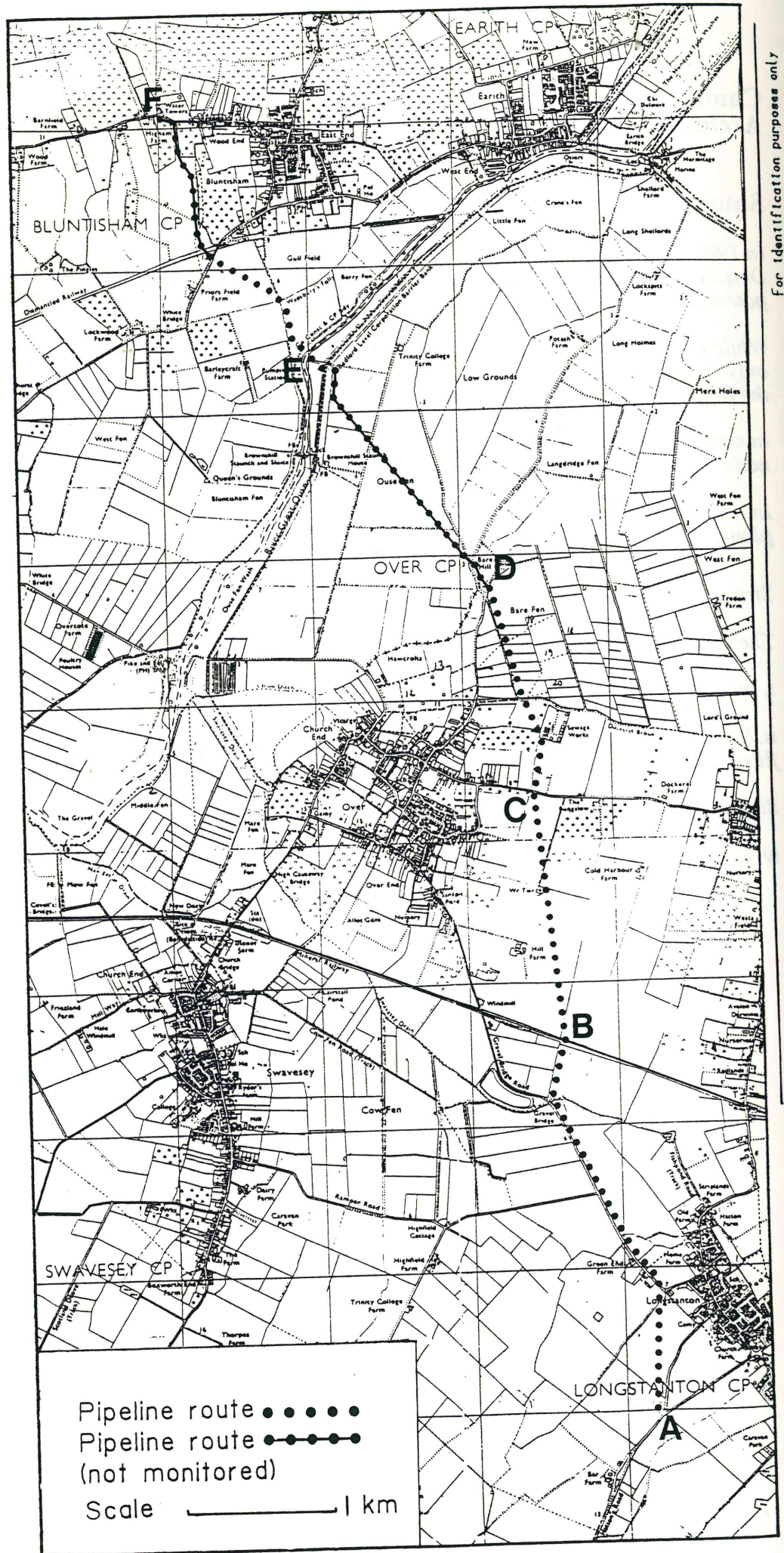
In addition, it was possible to adopt a route for part of the pipeline which would avoid the nationally important archaeological site of the Over Barrow group.

In the light of results from the archaeological work on the pipeline, recommendations on the planning and completion of archaeological work on similar projects have been made.

Structure of report

The report is structured as follows:

- i. Introduction - Policy and Methodology*
- ii. Results of desktop evaluation, watching brief, assessment excavation and/or walking of back-filled route of pipe trench by area (related to developers pipeline route maps 1-7).*
- iii. Discussion of archaeological findings.*
- iv. Conclusions and Recommendations*



Longstanton to Bluntisham pipeline location map

For identification purposes only

Based upon Ordnance Survey with the sanction of the Controller of H.M.S.O. (Licence No LA 07649 X)

Cambridgeshire County Council



Introduction

During the construction of a trunk water main between Longstanton and Bluntisham, an archaeological evaluation was started in compliance with the county archaeological policy. The work was funded by Cambridge Water Company.

County Archaeological Policy

The need for effective management of the county's archaeological resource is clearly recognised by Cambridgeshire County Council. It is the Council's policy to safeguard nationally important ancient monuments and other significant archaeological sites. Specific policies relate to the design of pipelines over 500 metres in length. Other important statements include the necessity to excavate and record sites with minimal loss of information 'where there is no over-riding case for preservation of an archaeological site'.

Archaeological planning in Cambridgeshire is essentially based on the County Sites and Monuments Record (SMR). This consists of over 11,630 recorded entries, varying from find spots of individual artifacts to extensive monuments and archaeological landscapes. 250 of these are currently deemed worthy of statutory protection and are now designated as scheduled ancient monuments by the Secretary of State for the Environment.

In Cambridgeshire the majority of archaeological sites and monuments only survive below the ground. These can sometimes be identified from aerial photographs, in which they show up as variations in overlying crops. However, there are many sites which do not show up in this way and whose existence is, therefore, probably not recognised. It is accepted that the SMR holds only a fraction of the surviving archaeological remains in Cambridgeshire. Previously unknown sites are continually being discovered. For this reason the lack of recorded evidence cannot be taken as proof that a particular area is archaeologically sterile.

Methodology

The sequence of pipeline laying is that an 8-12m wide easement is stripped of the topsoil, and then an approximately one metre wide trench is dug for the pipe to a depth well below that of most archaeological remains. The trench is then back-filled and the topsoil replaced. The process of trench excavation, pipelaying and back-filling is very rapid.

Archaeological monitoring of a pipeline involves several stages and techniques which are intended to make the best use of time available.

- a. **Desktop evaluation.** Initially, the SMR is searched for all recorded sites and find spots on or adjacent to the route of the proposed pipeline. Relevant entries are catalogued with this report prepared by their SMR number (eg 00284 Iron Age pottery).
- b. **Watching brief** - on site monitoring and recording. Areas identified as being of archaeological interest are then subjected to detailed inspection during the initial topsoiling for the easement, and again during the cutting of the pipe trench. On the remainder of the pipeline, where sites are not already known, a watching brief on a more ad hoc basis is carried out, allowing the contractors to strip 500 -1000 metres before walking the exposed area.
- c. **Rescue excavation.** Where features and/or artifact scatters are recorded limited trial assessments can be carried out to determine the nature and date of the site. An informed decision can then be made on the necessity for further work. This flexible approach allows the best compromise between minimum disruption of the pipeline and most effective mitigation of damage to archaeological remains.

Unfortunately in the case of the Longstanton-Bluntisham pipeline it did not prove possible to complete the watching brief let alone address the issue of further work. Therefore on resumption of the work an additional stage was added. Where it had not been possible to be present at the stripping of the easement the route of the back-filled pipe trench was inspected for scatters of artifacts or building material. This was intended to indicate any gross disturbance of archaeological features during construction work.

Results

Area A - B, (CWC maps 1 and 2) - School Lane to disused railway

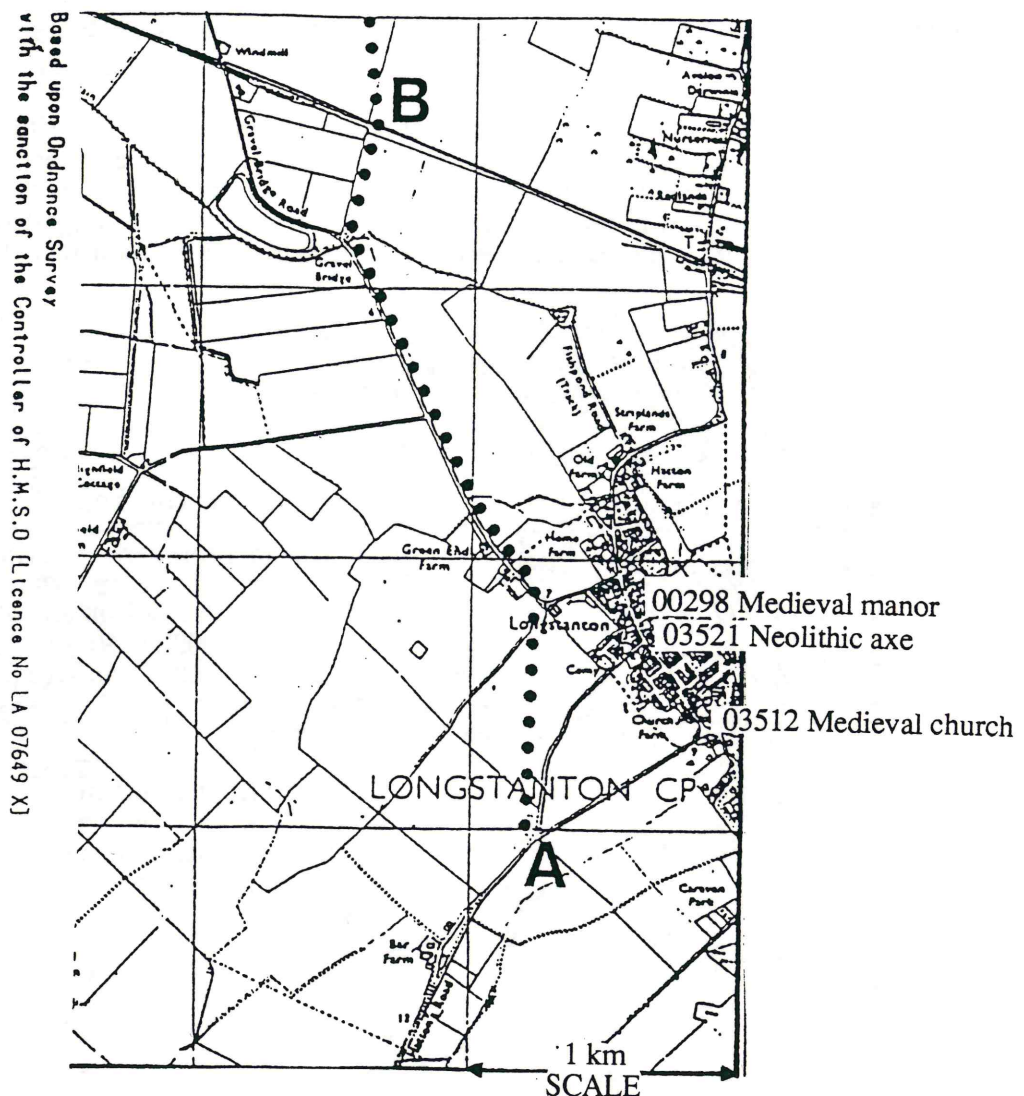
Desktop evaluation

a, Adjacent archaeological sites likely to be affected by pipeline (within 1000m):

00298 Medieval manor
03521 Neolithic axe
03512 Medieval church

Watching brief

Although no sites were identified as likely to be disturbed by this area of the pipeline during the desktop evaluation, walking the exposed easement recorded a curved linear ditch 1m wide and 34 m in exposed length. When sectioned it was found to be 0.5m deep and of Post-Medieval date. Other features noted but not excavated may have been the ploughed out remains of Medieval ridge and furrow.



Area B - C, (CWC map 3) - Disused Railway to Willingham Road

Desktop evaluation

a. Sites identified from the SMR on the pipeline route (within 100m):

- 08334 Undated soilmark - possible enclosure
- 08300 Roman cropmark/soilmark representing settlement and enclosures

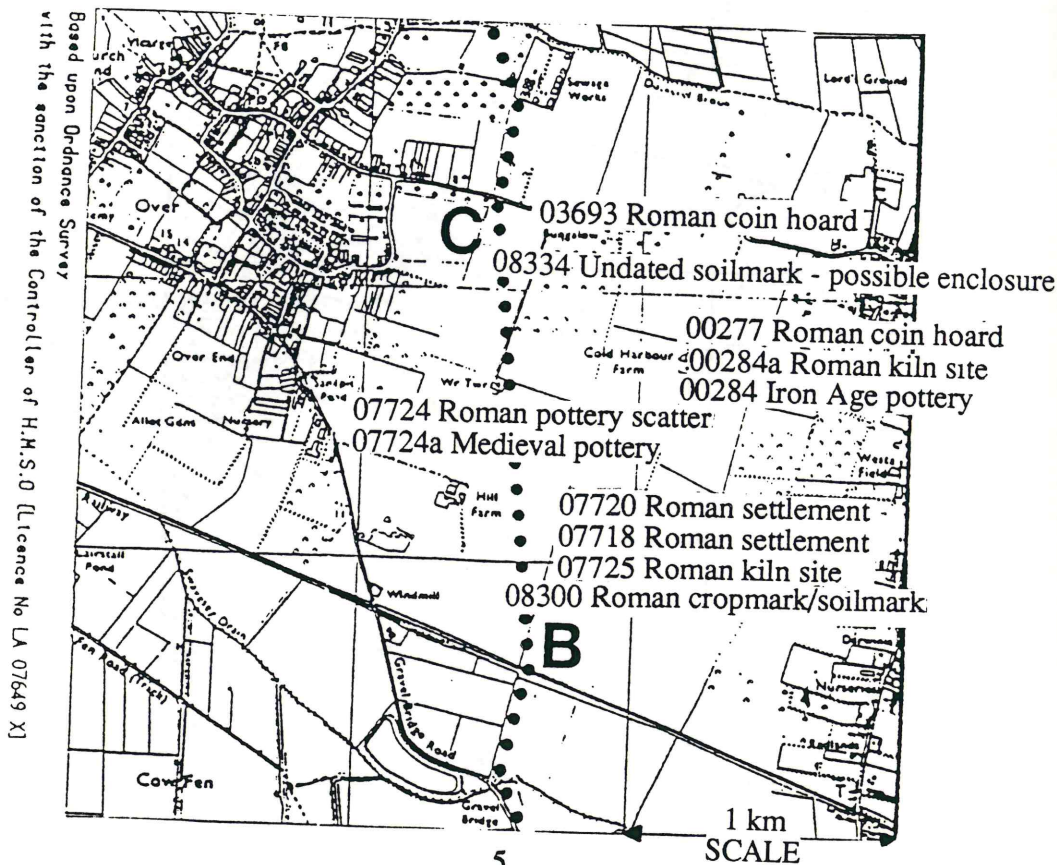
b. Other adjacent archaeological sites likely to be affected by pipeline (within 1000m):

- 03693 Roman coin hoard
- 07724 Roman pottery scatter
- 07724a Medieval pottery
- 00277 Roman coin hoard
- 00284 Iron Age pottery
- 00284a Roman kiln site type site for Cold Harbour Ware
- 07720 Roman settlement
- 07718 Roman settlement
- 07725 Roman kiln site

Watching brief

08300 is a soilmark and cropmark associated with a large amount of occupation and kiln debris. However the walking of the stripped easement revealed no Roman features.

08334 is a soilmark showing an enclosure of possible Roman date. This site is close to the find spot of a Roman coin hoard (03693). Further to walking the easement there was no evidence of the feature, either preserved in the subsoil or as a finds scatter. The area is heavily disturbed by the roots of an old (now removed) orchard. To the north of the area suggested by the record of the soilmark parallel linear features were noted which may be the remnants of ploughed out ridge and furrow.



Area C - D, (CWC map 4) Willingham Road to Bare Hill

Desktop evaluation

a. Sites identified from the SMR on the pipeline route (within 100m):

- 06825 Undated cropmark of trackways and enclosures
- 07716 Roman earthwork, pot scatter
- 08896 Undated cropmark of enclosures

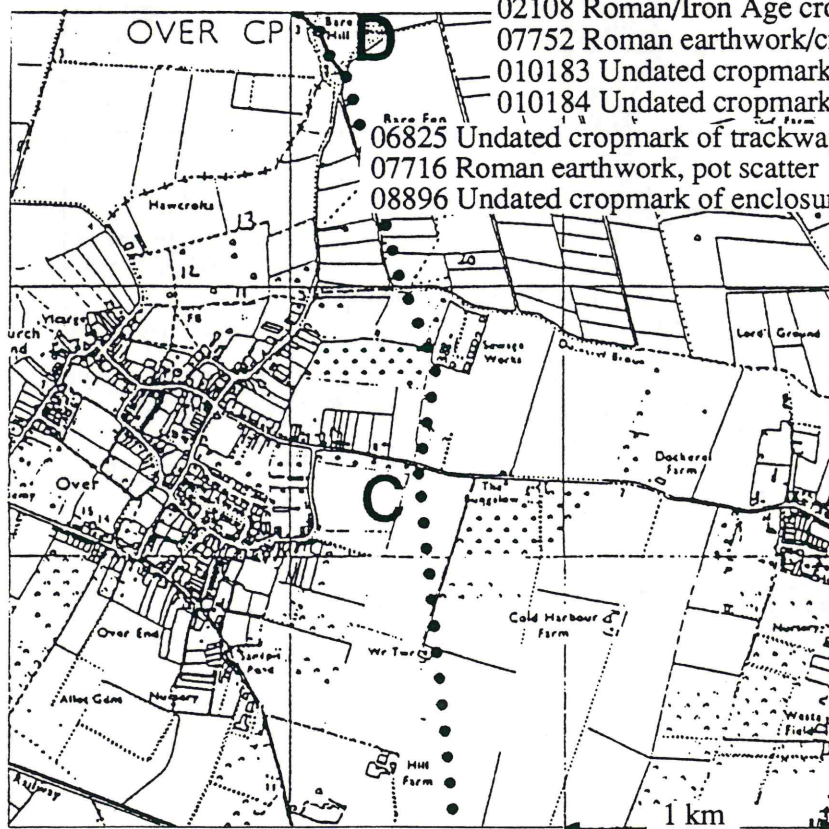
b. Other adjacent archaeological sites likely to be affected by pipeline (within 1000m):

- 03933 Iron Age pottery
- 01812 Roman cropmark, pottery scatter
- 02108 Roman/Iron Age cropmark, pottery scatter
- 07752 Roman earthwork/cropmark
- 010183 Undated cropmark
- 010184 Undated cropmark

Watching brief

Walking the exposed easement provided no evidence of the preservation of any earthworks nor any archaeological features in the subsoil. However there was evidence of ploughmarks into the subsoil suggesting that damage by agriculture to any surviving remains in this area would be severe.

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- 07752 Roman earthwork/cropmark
- 010183 Undated cropmark
- 010184 Undated cropmark
- 06825 Undated cropmark of trackways and enclosures
- 07716 Roman earthwork, pot scatter
- 08896 Undated cropmark of enclosures

Area D - E, (CWC map 5) Bare Hill to east bank of River Ouse

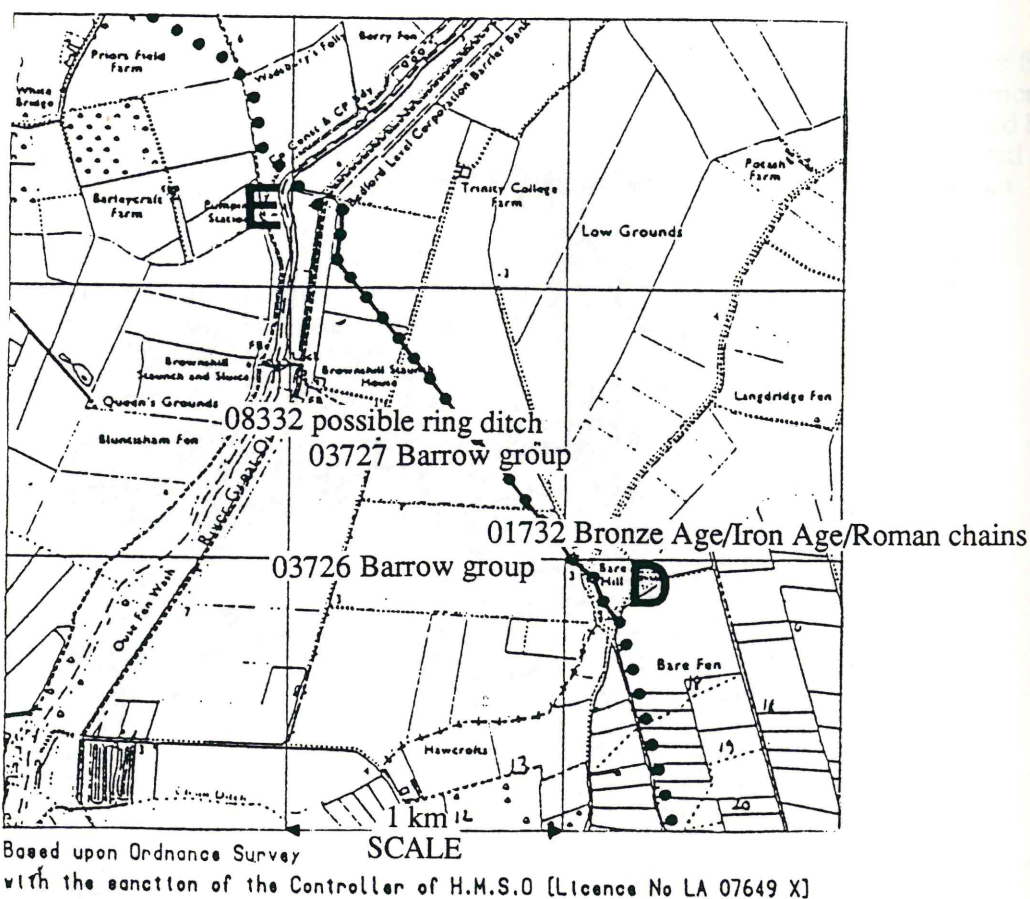
Desktop evaluation

a. Adjacent archaeological sites likely to be affected by the pipeline (within 1000m):

- 03727 Barrow group
- 03726 Barrow group
- 08332 possible ring ditch
- 01732 Bronze Age/Iron Age/Roman chains

Watching brief

Very little of this stretch of the pipeline was stripped during the watching brief. No features were noted at the north or south ends where it was possible to inspect the exposed easement. Nor was any disturbed archaeology noted in the inspection of the back-filled pipe trench with the exception of a single rough flake.



Area E - F, (CWC Map 6 and 7) East bank of river Ouse to Bluntisham water towers.

Desktop evaluation

a, Sites identified from the SMR on the pipeline route (within 100m):

08335 Barleycroft Farm cropmark showing ring ditches and enclosures.
03562 Pot scatter east bank of Ouse at Sharp Corner

b. Other adjacent archaeological sites likely to be affected by pipeline (within 1000m):

i. Prehistoric

West of Bluntisham Village

03620 Neolithic/Bronze Age worked flint
03618 Neolithic/Bronze Age worked flint
03628 Neolithic/Bronze Age worked flint
01760 Neolithic worked flint
03627 Neolithic/Bronze Age worked flint
03624 Neolithic/Bronze Age worked flint
03622 Neolithic/Bronze Age worked flint
01759 Neolithic worked flint/axe
01761 Neolithic leaf-shaped arrowhead
03625 Neolithic/Bronze Age worked flint
03621 Neolithic/Bronze Age worked flint
03626 Neolithic/Bronze Age worked flint

Barleycroft Farm Quarry Area

07930 Palaeolithic flint
01699 Neolithic flint
03623 Neolithic/Bronze Age flint
03630 Neolithic/Bronze Age flint
03648a Bronze Age flint
06686 Bronze Age (?) ring ditch
08767 Neolithic/Bronze Age find scatter, pits, postholes, gully
09183 Bronze Age pits, trackway/ditches
10196 Bronze Age Beaker pottery

West of Quarry Area

03619 Neolithic/Bronze Age find scatter
07876 Bronze Age Barrow
08332 Ring ditch (dubious)
09182 Undated cropmark

ii. Roman

East of Bluntisham,

03577 Roman pottery
01545 Roman coin may be from Barleycroft Farm
00949 Roman coin ditto
00979 Roman coins 'from Bluntisham'
03578 Roman coins

South of Bluntisham,

03566 Roman pottery

Barleycroft farm Quarry Area

- 00947 Roman burials
- 00947a Roman coin hoards(?)
- 00948 Roman lamp
- 01549 Roman burials and urns
- 03534 Roman pot scatter
- 03648 Ditch, Roman pot and coins
- 06687 Roman? wall, pits, features, stone
- 07874 Roman finds scatter

iii. Anglo-Saxon

Barleycroft farm Quarry Area

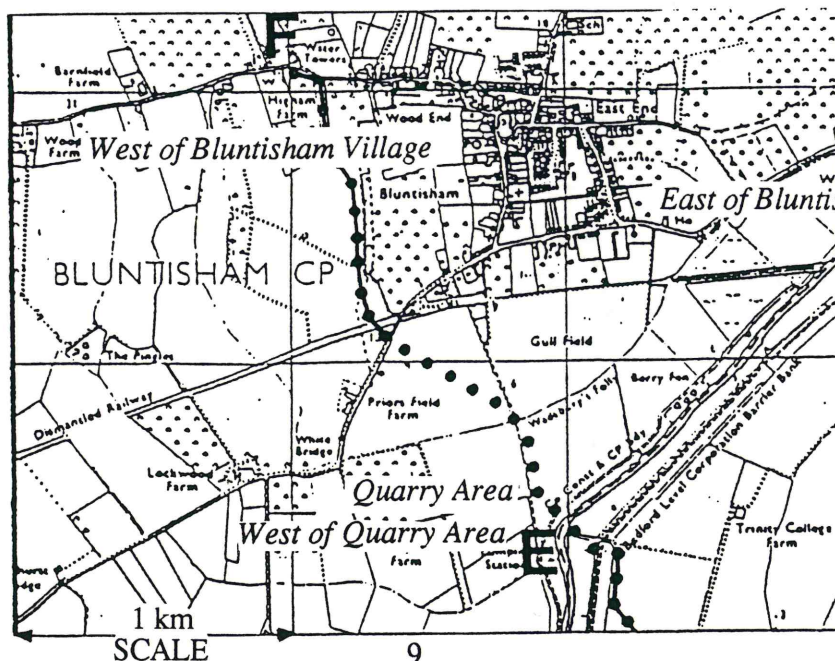
03662 Anglo Saxon bead

Watching brief

During the time of the watching brief only the area from the Ouse to the A1123 was stripped and therefore available for inspection. After the pipe trench had been back-filled the entire length of the easement in area 1 was fieldwalked. This produced no signs of disturbed archaeological material.

In the area available to the watching brief the known settlement site at Barleycroft Farm (08335 et al) was disturbed by the pipeline. Interpreted from cropmark evidence the site contains several enclosing ditches containing a number of large pits, postholes and hearths extending up to the line of the pipeline. Work in the neighbouring Barleycroft Farm Quarry site has in the past shown the existence of stone structures and extensive artefactual evidence.

The stripping of the easement exposed a series of features interpreted as ditches, pits and small scale gravel quarrying. A brief assessment was carried out by the County Council Archaeology department, involving a sketch plan and limited excavation to obtain dating evidence. From the limited excavation of one ditch and pit cut into a second ditch, dating from pottery evidence would seem to indicate that there was occupation from the late 1st century A.D. to the 5th century A.D. including pagan (early) Saxon.



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Discussion of Results

Area A - B showed nothing of archaeological importance. However it was noted that the clay subsoil of the easement was heavily disturbed by plant using it for access. This means that less substantial evidence of archaeological remains may have been obscured.

In **areas B - C and C - D** the available evidence suggests that the patches of higher ground, gravel patches in this area were heavily settled during the past. Industrial activity including the kiln site for Cold Harbour type pottery is well represented in the known sites.

Neither of the sites identified by the SMR were visible in the stripped easement. It seems likely that the pipeline passed through a part of site 08300 which had a low density of activity which would not have left sufficiently substantial traces to be seen during the watching brief. Disturbance by land drains may also have helped to hide archaeological evidence. The area of site 8334 was heavily disturbed by later activity and again this area of the easement suffered from disturbance by plant using the easement.

The pipeline passed through the western end of the Bare Fen cropmark complex (01812, 02108) representing settlements and field systems. This is an area of the dense fen edge Roman occupation on the first gravel terrace. It would appear from the watching brief that no major elements of the complex were affected.

In **area D - E** on the advice of the County Council Archaeology Section the pipeline reused the route of an existing pipe in order to reduce any possible damage to the Over Bronze Age barrow field (03727, 03726) and any associated features. On the available evidence this seems to have been effective in avoiding any further damage to archaeological features.

The area of Ouse Fen and Low Grounds is archaeologically extremely sensitive. It is known to contain a series of very well preserved Bronze Age burial mounds. Preservation from plough damage is due to their burial by peat and alluvium. The apparent gaps between these groups of Bronze Age barrows and the ring ditches at Barleycroft Farm have not been tested to see what further sites may exist. Other material of Prehistoric date will still be buried (eg flat cemeteries, settlements and other earthworks). This can be demonstrated by the accidental discoveries of Prehistoric material during various works such as digging ditches near the Bronze Age barrows, north of Low Grounds. The amount and location of preserved archaeological material could not be quantified without extremely extensive trial excavation.

As expected **area E - F** included a great deal of archaeology. In fact there was too little time to record the various remains before they were destroyed by the pipe trench:

a. Prehistoric remains in area E-F

The lack of material evidence from the pipeline for Prehistoric occupation in the area of the Barleycroft Farm site affected by the pipeline seems to confirm previous observations that the bulk of the cropmark is not of Prehistoric origin. However aerial photographs and previous finds suggest both ritual and domestic Neolithic/Bronze Age activity in the general area. A sample this small is unlikely to pick up finds spreads from even relatively close activity areas.

Previous finds from Barleycroft are notable in their lack of Iron Age material. Iron Age occupation is shown nearby both in East End, Bluntisham and on the sand ridge to the south of the Bluntisham/Earith stretch of the Ouse. Roman use of land not inhabited in the Iron Age is well attested elsewhere in the fens and although finds in 1991 included late Iron Age 'Belgic' type pottery, these sherds were associated with Roman pottery and do not extend this phase of the occupation of the site earlier than 1st century AD.

b. Roman evidence in area E-F

The range of Roman material and features found along the easement supports the idea of lengthy occupation of the site during this period. These finds also demonstrated that the site continued into the neighbouring field despite nothing being visible on the aerial photographs. It seems reasonable to assume that the rest of the east end of the gravel island was occupied in the Roman period. However no further remains of buildings were identified nor was the nature of the building(?) seen in the excavation of the quarry made any clearer.

The easement was not completely stripped of alluvium where the gravel sloped down to the Ouse river bank. It is therefore not possible to say whether there is a link between the Barleycroft farm site and the finds from the river bank recorded in the SMR (03562).

c. Anglo-Saxon, Medieval, Post medieval in area E-F

Perhaps one of the most interesting results from the pipeline was the increase in evidence for Anglo-Saxon activity in the area. The only previous evidence was 03662 a stray find of a bead, with no other evidence for Anglo-Saxon activity in the immediate area and thus the finds of Romano-Saxon pottery are extremely interesting in suggesting a continuity of occupation.

However there is no evidence for occupation of the area after Anglo-Saxon times until the establishment of Barleycroft Farm in the 19th century. The farm has since been destroyed by gravel extraction in the 1980s which had taken place on a small scale at least since the 19th century.

In CWC map 7 the route of the pipeline passed through an area to the West of Bluntisham which shows a scatter of Neolithic/Bronze Age finds. This may indicate a concentration of Prehistoric occupation on this ridge overlooking the fen/Ouse valley. The lack of substantial Roman finds in this area suggests that the concentration of Prehistoric finds is not just the result of chance finds because of concentrated disturbance.

Unfortunately this area of the easement was not stripped during the watching brief and the walking of the back-filled pipe trench did not produce any further information making it impossible to test this hypothesis further.

Conclusions and recommendations

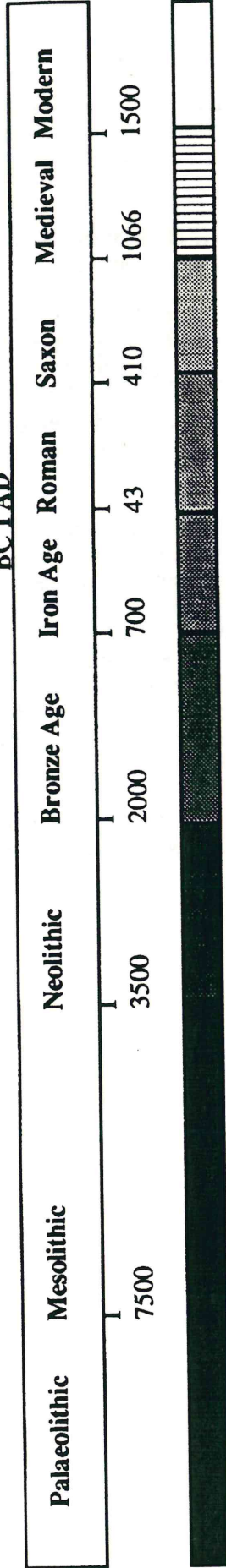
The Bluntisham to Longstanton pipeline passed through areas of high archaeological value. It was identified as cutting through or close to 4 proven sites. Where it was possible to undertake the planned monitoring of the easement it was seen that only one of the known sites was in fact recognisably damaged.

In the light of results from the archaeological work on the Longstanton-Bluntisham pipeline the following recommendations are made:

1. Advance consultation on route planning to include archaeological implications. Where discussion took place over the planning of the route it proved possible to avoid damage to highly important archaeological remains.
2. Advance agreement to allow planned work on affected sites. This should include stripping of the easement well in advance of pipeline construction to allow sufficient archaeological recording.
3. Advance planning to allow archaeological monitoring of pipeline excavation to facilitate location and recording of previously unknown sites. This is because the process of pipeline construction causes many problems for archaeological monitoring:
 - i. The easement is not always completely stripped of topsoil and overburden; the archaeology under threat therefore remains hidden.
 - ii. The use of the easement by the excavation plant disturbs the underlying subsoil making recognition of archaeological features difficult.
 - iii. Finally the process of trench excavation and back-filling is so rapid that it is seldom possible to monitor the actual level of disturbance of archaeological material. All these problems could be eased with very little inconvenience to the contractor.
4. The automatic inclusion of archaeological work as part of the project's budget to allow recommendations 1,2, and 3 to be adequately executed.

Archaeological Timechart

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