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# COTON TO LONGSTANTON PIPELINE

## An Archaeological Assessment 1992



Cambridgeshire  
County Council

# COTON TO LONGSTANTON PIPELINE

- AN ARCHAEOLOGICAL ASSESSMENT

Ken Welsh

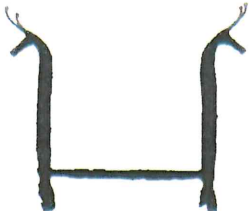
1992

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*Report no. 73*

*Cleaning the surface of 1st century features in Area 2*



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# COTON TO LONGSTANTON PIPELINE

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## SUMMARY

*Archaeological work, carried out along the route of the new Coton to Longstanton trunk main, showed that areas of ridge and furrow, previously recognised in aerial photographs, have, in recent years, been destroyed by ploughing.*

*Evidence of a previously unknown, late Iron Age or Romano-British, enclosed settlement was uncovered close to Madingley deer park. A series of ditches, post-holes and pits were recorded and finds recovered from the enclosure ditch included sherds from at least three pottery vessels, one of which was almost complete. The possibility that the settlement continued into, or was revived in, the 3rd century was indicated by surface finds of later Roman pottery in the same area.*

## INTRODUCTION

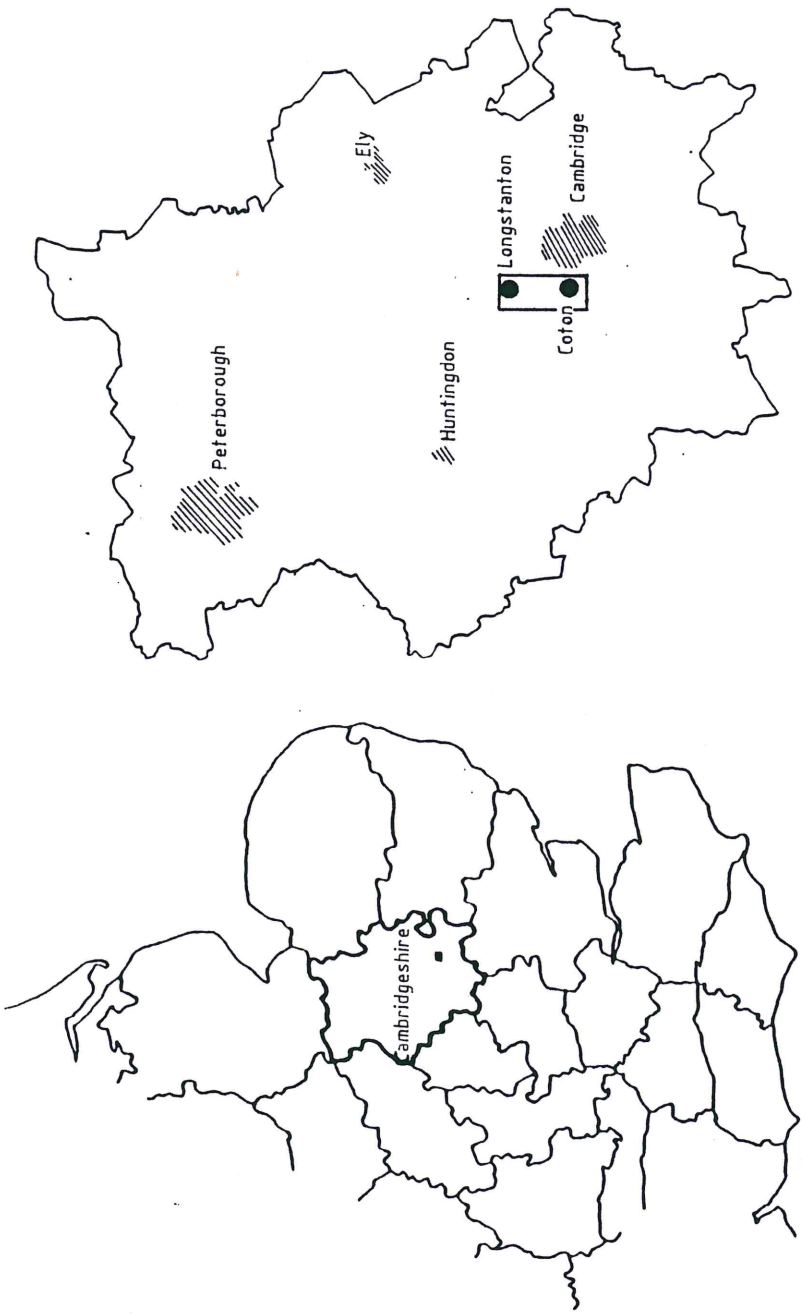
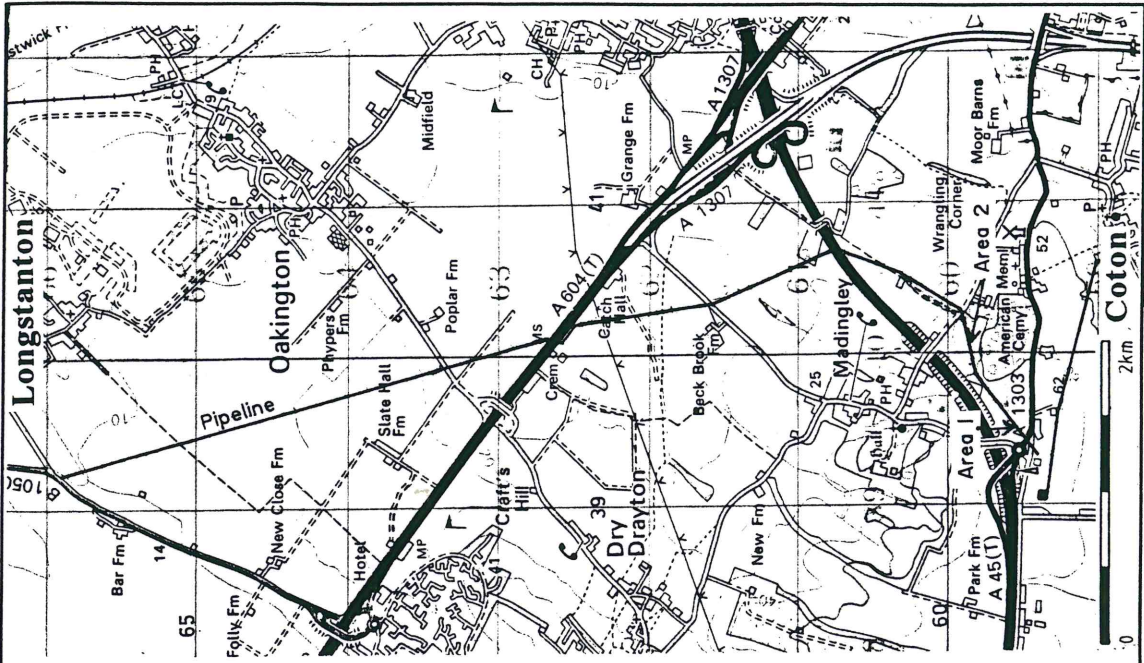
From June to September, 1992, Cambridgeshire Archaeology carried out archaeological monitoring and excavation along the route of the new Coton to Longstanton trunk mains, funded by Cambridge Water Company (CWC).

The route (see *Figure 1*) ran from Coton to a new reservoir at Comberton Plantation. From there it ran north-east, passing close to the north-west corner of Madingley Wood, to the A45 trunk road and then northerly to Hatton's Road, west of Longstanton, approximately 9 km in total.

## GEOLOGY

The geology varies along the route, with chalk marl to the south, Gault clay for about half its length then lower greensand, Kimmeridge clay and Ampthill clay to the north.





Based upon Ordnance Survey Map No. 145 with the sanction of the Controller of HMSO (Licence No LA 07649 X)

Figure 1-Site location.  
Route of Coton-Longstanton pipeline.

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## HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

Madingley Wood, in the southern part of the parish of Madingley, is an area of ancient woodland containing a complex of historic earthworks. It has been suggested by Way (appendix to Cambridge Archaeological Unit excavation report, Gdaniec, 1992) that this is the 'great park' (*magno parco*), first referred to in the Feet of Fines for the year 1232, because of its position in the parish in relation to the village and manor. The double bank and ditch system present in the wood is also redolent of other (early 13th century) deer parks.

The route of the pipeline ran through, or near to, several known sites, mainly concentrated to the south and south-east of the village of Madingley, recorded in the County Sites and Monuments Record (SMR). These are shown below.

Grid Ref.	Description
TL 389-/593-	SMR No 09581 Ridge and furrow, known from crop marks.
TL 394-/595-	SMR No 03218 ?Iron Age Settlement .
TL 399-/596-	SMR No 03243 Madingley Deer Park, known from survey.
TL 402-/599-	SMR No 09614 Ridge and furrow, known from crop marks.
TL 4025/5983	SMR No 04361 Roman pottery, known from stray find.
TL 404-/603-	SMR No 09536 ?Roman ?Building. Known from crop marks.
TL 3916/6365	SMR No 07769 Mesolithic flint scatter.

## METHODOLOGY

Funding was insufficient to allow detailed monitoring of the pipeline, and so a strategy was chosen that gave priority to areas of known archaeological interest. Areas of heavy clay were not, in the main, monitored since, in this area, archaeological sites are rarely found on such geology.

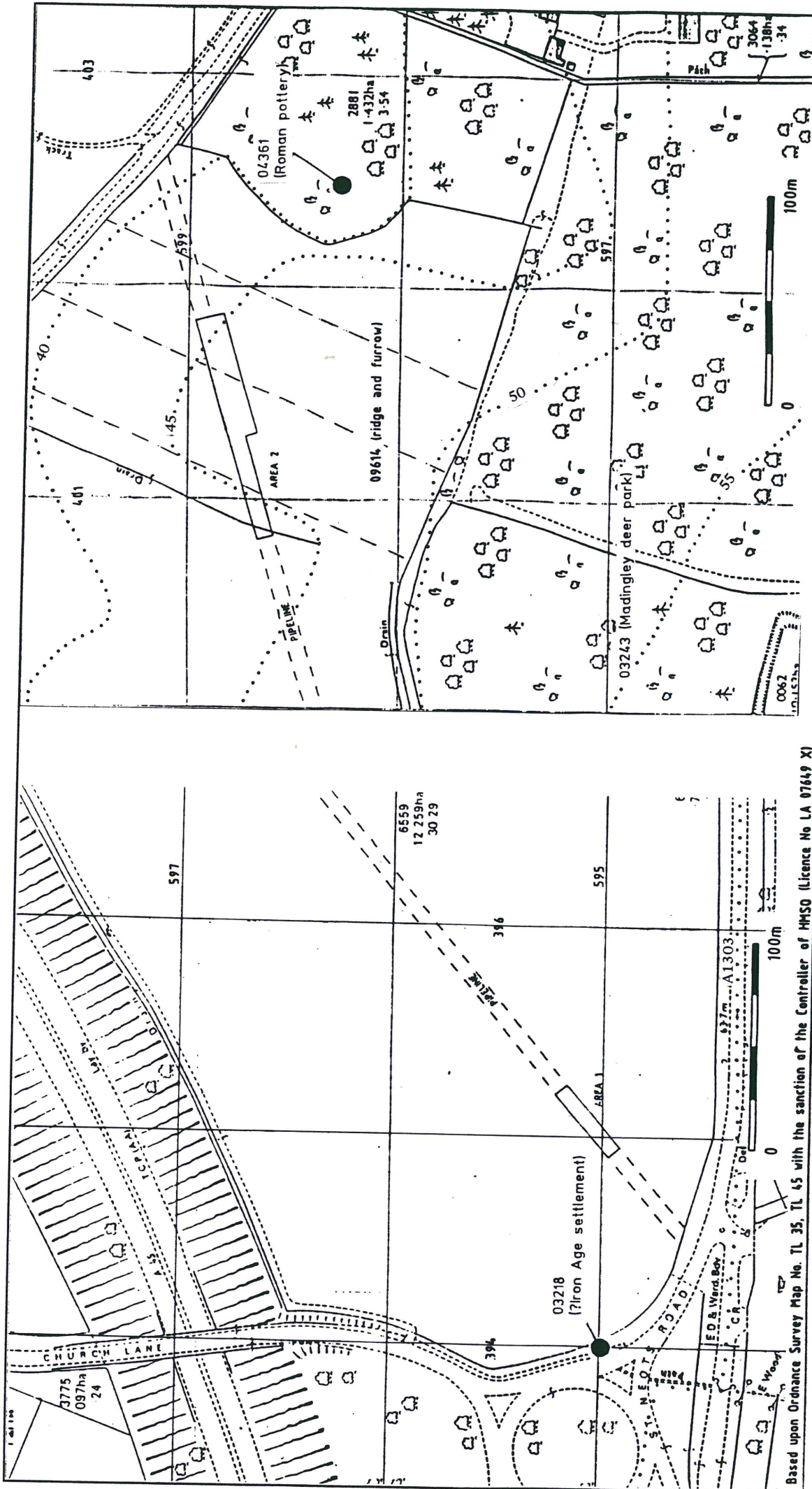
i) Walking of proposed easement route to ascertain the need for earthwork survey.

ii) An 8 metre wide easement was stripped of topsoil, to a depth of 0.30m by contractors. This was unsupervised by archaeologists. The easement was walked after stripping in order to identify any archaeological features. This was complicated by incomplete removal of topsoil.

iii) Limited excavation of two areas (*see Figure 2*).

a) a series of features was observed at TL 395-/595-, possibly corresponding to the Iron Age settlement (SMR No 03218). By agreement with CWC, it was possible to remove all topsoil, using contractor's machinery, from a 2m





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Figure 2-location maps.  
Areas 1 and 2, known archaeology.

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wide strip along the western edge of the easement and, subsequently, a second 2m wide strip immediately to the east of the first.

b) Investigation of ridge and furrow (SMR No 09614) and a lynchet at TL 401-/598-.

iv) Monitoring of pipe-laying at other areas identified in the Sites and Monuments Record. Pipe trenches were dug at a rate of 30 to 50m per day and back-filled almost immediately. Liaison with CWC and contractors enabled us to be present when machining was to take place in areas of interest.

## RESULTS

i) Area of new reservoir. Ridge and furrow in the fields surrounding the reservoir had been completely destroyed by ploughing.

ii) Corner of Madingley Wood. A track following the present field boundary did not appear on estate map of 1811 and is, therefore, probably not associated with the medieval earthworks of Madingley Wood.

iii) Excavation of features at TL 395-/595- (Area 1).

A series of features were observed, cutting into the natural Gault clay (see *Figure 3*):

Ditch 3 (fill (002)). A steep-sided ditch, 0.60m wide and 0.35m deep, with a flat base. The ditch ran south-north with a right-angle turn to the east at its northern extent. Filled with homogeneous, pale brown, clay, it contained several large, sub-rectangular, limestone cobbles but no pottery or other finds.

Ditch 5 (fill (004)). Cut by ditch 3. A straight, parallel-sided, east-west ditch, 0.48m wide and 0.14m deep, with a slightly concave base. Filled with homogeneous, pale brown, clay. No pottery or other finds retrieved.

Shallow linear depression (fill (007) cut (006)). Cut by ditch 3. The fill was a mid brown, slightly silty, clay containing several small sherds of post-medieval pottery.

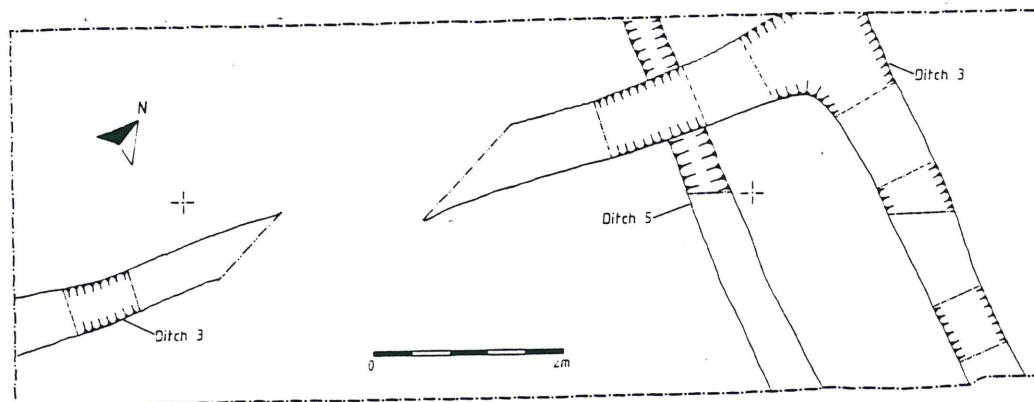


Figure 3-Area 1, plan of post-Medieval ditches 3 and 5.

iv) Excavation at TL 4008/5986 (Area 2).

No evidence of ridge and furrow remained, having been destroyed by ploughing. However, limited removal of remaining topsoil by hand revealed two features:

Ditch 15 (fill (014)). North-south, U-shaped ditch, 0.52m wide and 0.24m deep (see Figure 4). Filled with mid grey-brown, slightly silty clay which contained a few sherds of pottery dated to the Roman period.

Ditch 12 (fills (011), (013)). Cut by ditch 15. North-south ditch with a fairly shallow profile, the sides becoming much steeper towards the base (see Figure 5). It was 3.20m wide and 0.75m deep. This was filled with a mid grey-brown, slightly silty clay (013). It contained several pottery sherds, which have been dated to the late Iron Age or to an Iron Age tradition in the early Roman period, and a considerable quantity of bone. This was sealed by an upper fill (011), a mid brown, slightly silty clay which contained occasional pottery fragments and some bone. At the base of the upper fill were found sherds from three pottery vessels, one of which was almost complete, though broken (see Figure 6).

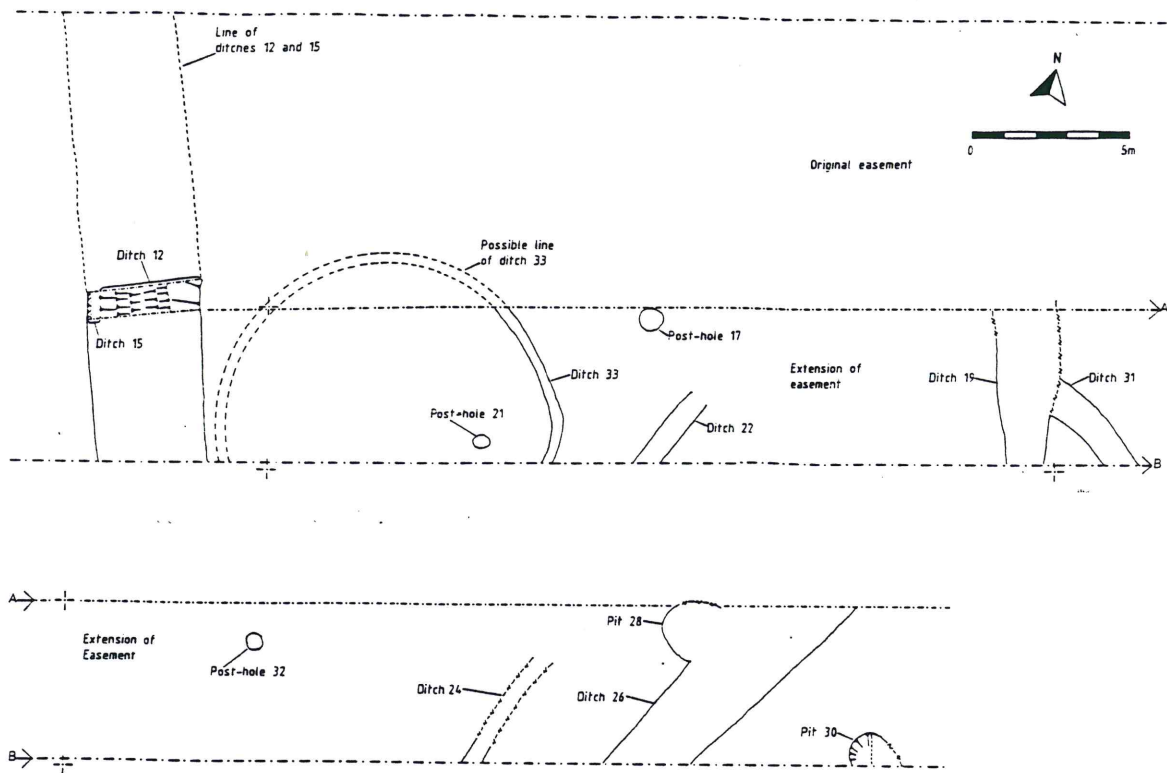


Figure 4- Area 2, plan of features.

A few metres to the west, a north-south lynchet was observed. A slot was hand-excavated through this and the section drawn.

The lynchet consisted of a mid brown, silty clay (008) with extensive root disturbance. It sealed a buried soil horizon (009) of dark brown silty clay. No finds were recovered from (009) but sherds of eighteenth century stoneware pottery and glass were found in (008). Cut into the lower, western side of the lynchet, was a modern drainage ditch and some of the material of the lynchet may be upcast from this ditch.

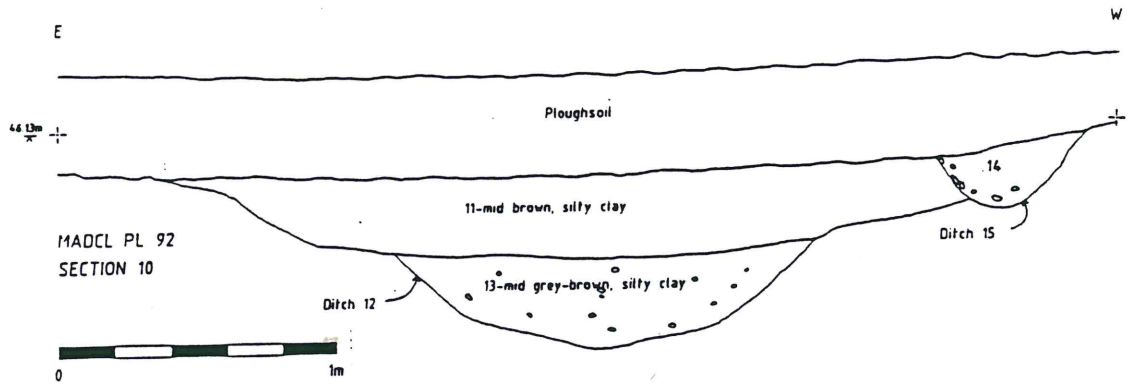


Figure 5-Section through Iron Age/Romano-British ditches 12 and 15.

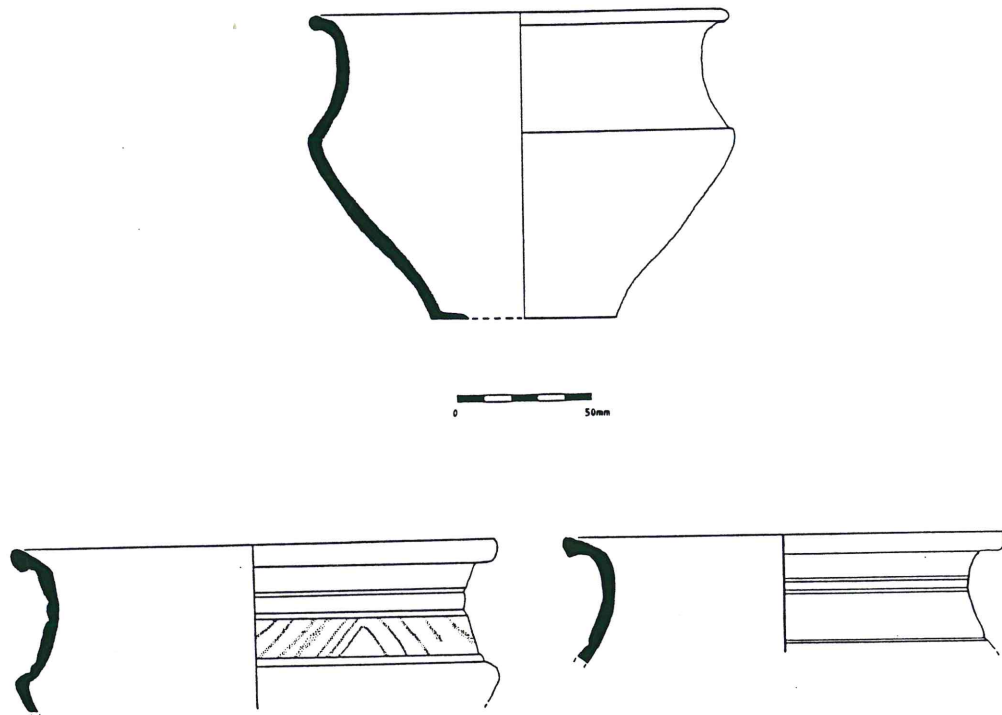


Figure 6-Late Iron Age/Romano-British pottery vessels.



#### v) Monitoring of pipe-laying

When pipe-laying began, the contractors found it necessary to extend the width of the easement in area 2, initially by 4m. This was due to the depth (5-6m) of the pipe trench at this point. When the topsoil was removed, using a JCB with a toothed bucket, a series of features was observed (see *Figure 4*) to the east of ditches 12 and 14. These had not been visible before because of incomplete removal of topsoil over the original easement. Unfortunately, lack of time, bad weather, and the constant activity of contractor's machinery, made it only possible to record them very briefly and to excavate narrow slots across selected features:

Post-hole? 21. Not excavated. Diameter 0.5m.

Ditch 33 (fill (016)). Curving, flat-based ditch with steep/vertical sides. Filled with a dark, grey-brown, slightly silty clay. It contained several pottery sherds (late Iron Age or Romano-British) and some bone. Length observed in easement extension, 4m, width 0.3m, depth 0.3m.

Post-hole? 17. Not excavated. Diameter 0.7m.

Ditch? 22. Not excavated. Ditch runs roughly south-north for 2.8m before being obscured by topsoil. Width 0.7m.

Ditch 19 (fill (018)). Ditch with V-shaped profile, running south south west to north north east. . It was filled with mid brown-grey, slightly silty clay with yellow-brown, silty clay lenses. It contained several pottery sherds, bone, burnt clay and flint, and occasional charcoal fragments. Length recorded 4.8m, width 2m, depth 0.7m

Ditch 31 (fill (020)). Appeared to be cut by ditch 19. Steep-sided ditch with a narrow, concave base. The ditch ran south-east to north-west and was filled with dark grey-brown, silty clay.

Post-hole? 32. Not excavated. Diameter 0.5m.

Ditch? 24 (fill (023)). Feature running south-north. On excavation, its extent could not be determined and it may have been machine disturbance.

Ditch 26 (fill (025)). Ditch running south-west to north-east. Although not excavated to its full depth, it appeared to have a fairly shallow profile. It was filled with grey-brown silty clay and contained fairly frequent pottery sherds (late Iron Age or Romano-British) and bone fragments. A length of 5m was recorded with a maximum width of 2.3m. It was at least 0.4m deep

Pit 28 (fill (027)). Intercut with ditch 26 but the relationship was not clear. The pit was sub-circular and filled with grey-brown, silty clay. Maximum dimension 1.8m.

Pit 30 (fill (029)). Sub-circular pit filled with dark grey, silty clay with occasional sherds of pottery and bone fragments. Maximum dimension 1.5m.

## CONCLUSIONS

Aerial photographs, taken 20-30 years ago, show considerable areas of ridge and furrow in many places around Madingley. It is clear that much of this may have been destroyed by recent ploughing. Certainly, in the two areas examined, no trace of ridge and furrow remains.

The Cambridge Museum of Archaeology and Anthropology could find no record of the Iron Age site, close to area 1, reported in the SMR and so its importance, or even the accuracy of the record, could not be assessed. Excavation produced no evidence of Iron Age activity and the features (ditches 3 and 5) in this area may well be a Post-Medieval agricultural building, although there is no documentary evidence to support this.

In Area 2, the ditches and other features do not appear as crop marks on aerial photographs, but would have been masked by the ridge and furrow, now destroyed, which existed in this area. Ditches 12 and 15 could be a field boundary but it seems more likely that, given the number of other features recorded in the area, they form part of an enclosure for a settlement of late Iron Age or Romano-British date; ditch 26 could form part of the same enclosure as it has similar dimensions. The curved ditch 33, to the east of ditch 12 and just within the enclosure, may well be part of a circular structure of some sort; its profile certainly suggests that it was a foundation trench for posts. It is estimated that the structure would have had a diameter of about 9 or 10 metres. Several other features also contained pottery dating them to the same period, along with quantities of bone suggesting a domestic context. In aspect, the site is typical of such settlements, situated, as it is, at the brow of a hill overlooking the Callow Brook. Sherds of Roman pottery of the third century found on the stripped surface and in topsoil after removal by machine, indicate continuing, or renewed, occupation of the site in the later Roman period. However, since none of the features excavated produced any finds of this date, it is possible that the focus of the settlement had shifted, or that ploughing has destroyed the later remains. A find of Roman pottery approximately 200m to the east (SMR No 04361) may point to this having been a fairly substantial settlement.

It is unfortunate that lack of time and money precluded more extensive excavation of the features observed. Incomplete removal of topsoil also meant that the site was not recognised for what it was until the easement was extended once pipe-laying had already begun in the area.

The lynchet was interpreted as a post-medieval field boundary not associated with the medieval earthworks of Madingley Wood.

Of the other areas monitored, no artefacts of Mesolithic date were observed at the small stream at TL 399 635. However, given the distance (700 m) to the flint scatter at Slate Hall (SMR No 07796) it is not surprising that the site does not extend so far, but the possibility still exists for further small sites of this period to be found scattered along the banks of this ancient watercourse.



## REFERENCES

Gdaniec, K, 1992. *Archaeological Excavation at Madingley Hall, Madingley, Cambridgeshire*. Cambridge Archaeological Unit Report

## ACKNOWLEDGEMENTS

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*Iron Age Pottery Vessel from ditch 12*



## GLOSSARY OF ARCHAEOLOGICAL TERMS.

**Artefact.** Any object made by people. Generally, this word is used for finds such as pottery, stone tools, or metal objects, but it can be used in a much wider context in that the landscape we have today is a product of human activity and is thus an artefact itself.

**Cropmarks.** Archaeological features below the ploughsoil can affect the growth of sensitive crops through moisture retention or loss. For example, the growth of cereal crops over buried ditches or pits will encourage rapid growth leading to tall, dark coloured plants, whereas walls and roads will lead to stunting and faster yellowing of the crop. These discrepancies in crop growth can be easily detected from the air, and by taking photographs the cropmark patterns can be plotted onto maps and given provisional interpretation.

**Enclosures.** An area defined by a continuous surrounding ditch. These may be enclosures around human settlements, fields, or paddocks for stock. Rectilinear enclosures are ones with straight sides and corners, whilst curvilinear enclosures are ones with rounded sides.

**Fieldwalking.** Technique of archaeological survey. Walking over ploughed and weathered soil, an experienced observer can collect many ancient artefacts, and by plotting the distribution of such find spots on maps an idea of the use of the landscape can be built up for each period of the past.

**Iron Age.** Prehistoric period c. 700 BC - AD 43 when iron was used extensively for tools and weapons. The period traditionally ends with the Roman invasions of AD 43 but in fact there was a considerable time of adjustment after this date when the Iron Age way of life continued with little change from Roman influence.

**Medieval.** Historic period that begins with William the Conqueror's invasion in 1066. **Post-Medieval** is generally considered to date from 1500.

**Mesolithic.** The period from the end of the Last Ice Age at 10,000 BP until the start of the Neolithic period at c. 3500. The life style of the people was a continuation of hunting and gathering, no polished stone tools or pottery are associated with it in England.

**Posthole.** A hole dug to receive a post. They can also result from driving posts into the ground. The latter, however, do not have distinct fills such as packing and a post pipe. A post pipe is the fill of a posthole which formed in the place of a removed post.

**Ridge and Furrow.** Medieval cultivation techniques led to a phenomenon of corrugated fields. Strips of land were allotted to individuals and a furrow was left between one person's strip and the next, leading to a corrugated ridge and furrow effect. Ridge and furrow shows up as cropmarks on air photographs and more rarely as earthworks in pasture fields.

**Roman.** Historic period AD 43 - 410 when much of Britain was part of the Roman empire. The term **Romano-British** is now widely used to describe the people of this period, as few were Roman themselves, but they were a provincial manifestation of the empire developing in a unique way. AD 410 was the date the legions were withdrawn, but the Romano-British culture continued for some time into the 5th century in tandem with Anglo-Saxon migration.