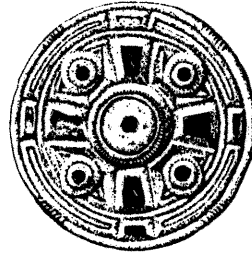


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Archaeological Field Unit

Two Sites East of Eldernell Lane, Whittlesey:
An Archaeological Desktop Study

R Heawood

1997

Cambridgeshire County Council

Report No. A112

Commissioned By ADAS on behalf of H S Potts Ltd and G and D Beaton

**Two Sites East of Eldernell Lane, Whittlesey:
An Archaeological Desktop Study**

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1997

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Report No A112

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SUMMARY

This study attempts to define the archaeological potential of two blocks of land at Eldernell, Coates, Cambridgeshire (TL 32 99). The proposed construction of two irrigation reservoirs here affects approximately 3 hectares of land in total.

Study of documentary sources, recorded archaeological finds and, in particular, reassessment and replotting of aerial photographs (see appendix A) has shown these areas and their immediate environs to have a high density of archaeological sites. They appear to have been a particular focus of activity in Roman times, lying at the interchange where the Fen Causeway met the high ground after crossing the peat fen from March. A complex system of roads and tracks has been identified and mapped on the high ground, as has the site of a possible Roman camp close to the fen edge. In addition, two ring ditches mark the location of Bronze Age burial sites, indicating earlier use of the area. In the southern block of land Early Prehistoric remains may underlie the peat and could be in an excellent state of preservation.

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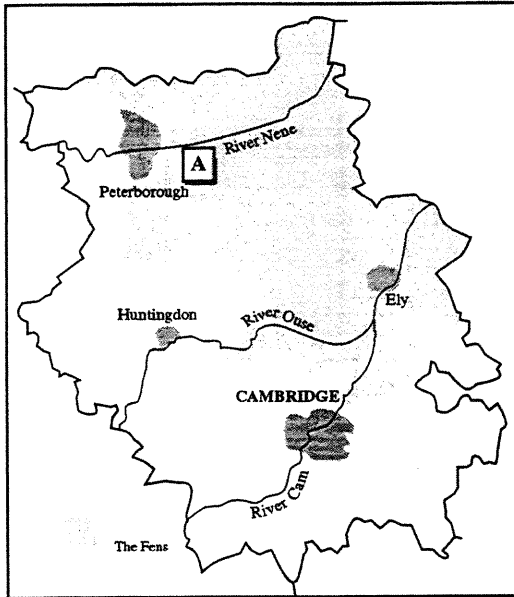
**TWO SITES EAST OF ELDERNELL LANE, WHITTLESEY:
AN ARCHAEOLOGICAL DESKTOP STUDY
(CENTRES TL 3206/9910 AND TL 3230/9845)**

1 INTRODUCTION

- 1.1 This desktop study was commissioned by ADAS on behalf of H S Potts Ltd and G and D Beaton, in response to a brief prepared by the Cambridgeshire County Council Archaeology Office (Development Control). It assesses the archaeological potential of two sites in Whittlesey parish on which the construction of irrigation reservoirs has been proposed.
- 1.2 The northern study area, Field 0606 on the plan supplied, includes approximately 3.6 hectares of land owned by H S Potts Ltd, centred on TL 3206/9910. The southern study area, Field 3710, lies *c* 160m to the south. It covers approximately 40 hectares owned by G and D Beaton, and is centred on TL 3230/9845. Most of the area is at present under arable cultivation.

2 TOPOGRAPHY AND GEOLOGY

- 2.1 The study areas lie between the towns of Peterborough and March, at the eastern end of the parish of Whittlesey (see fig 1). Field 0606 is bounded to the north by Morton's Leam, a drainage cut of late medieval origins, and the present canalised course of the River Nene is *c* 1.5km to the north. The ground surface lies between *c* 2m and 4m OD, and sloping down to the east across Field 3710 towards the former fen.
- 2.2 The study areas lie on the eastern edge of the Coates Gravel Island, a deposit of marine / estuarine gravels deposited in the former bed of the River Nene. Gravel underlies Field 0606 and the northern part of Field 3710, Oxford Clay outcrops towards the centre of Field 3710, and Nordelph Peat deposits have accumulated to the south-east in the area of former fen (Institute of Geological Sciences Sheet 158).



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0 2km

Development areas

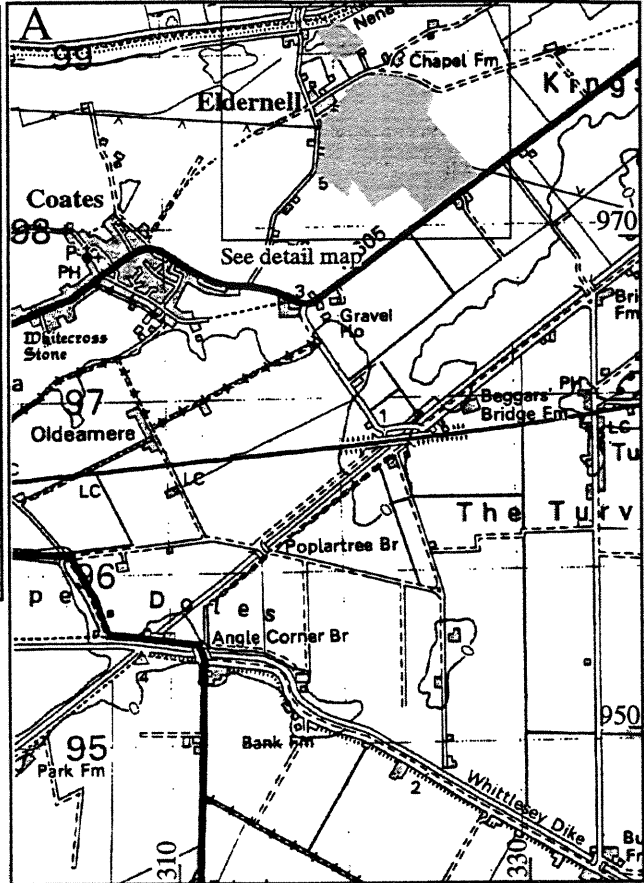


Figure 1 Site location plan

3 THE ARCHAEOLOGICAL BACKGROUND

3.1 General

Both study areas lie within a zone in which the archaeological remains have been extensively researched by David Hall in the course of his work for The Fenland Project. A 'parish essay' on Whittlesey is presented in 'The Fenland Project, Number 2: Cambridgeshire Survey, Peterborough to March' (Hall 1987). The larger part of Field 3710 has been field walked in 30 metre transects in good conditions as part of the survey. The remainder of the field, towards the south-east, was walked 'satisfactorily', but not in such close transects. To the north, Field 0606 was not walked, but fields immediately to the south and east were again walked in 30m transects. Almost all of the surrounding landscape has also benefited from detailed fieldwork, again being walked in 30m transects, or at least 'satisfactorily' (Hall 1987, Fig 37).

Fieldwalking involves traversing areas of the landscape on foot in a systematic way, making records of any finds or traces of past human activity thrown up by the plough, and studying any earthworks which may still survive. It cannot locate all archaeological sites: some may be masked by deep deposits, may not be on ploughed land, or may date from periods when few or very impermanent artefacts were produced. However, the fact that this tract of landscape has been systematically studied gives archaeologists the ability to make informed predictions about the types and densities of archaeological remains that may be present within a given area.

3.2 Early Prehistoric

3.2.1 At the end of the last glaciation, sea levels were low relative to the present day. Most of the fen basin was a dry landscape from about 8000 BC, and a deciduous forest grew up (Hall 1987, 4). Subsequently, sea levels rose and drainage was interrupted; peat development increased until much of the fen basin was inundated with salt water in the third millennium BC.

3.2.2 Archaeological remains deriving from this period, the Mesolithic and earlier Neolithic, may survive close to the study areas. They would be best preserved where masked by the later Nordeph peat. For this reason, their occurrence and location is very difficult to predict.

3.3 Later Neolithic

3.3.1 Field 0606 and the northern and western parts of Field 3710 were areas of the Coates gravel island which stood up out of the inundated fenland basin as dry land in the later Neolithic period (Hall 1987, 56 and Fig 38). The south-eastern part of Field 3710 was wet, with Barroway Drove clay being deposited, and a

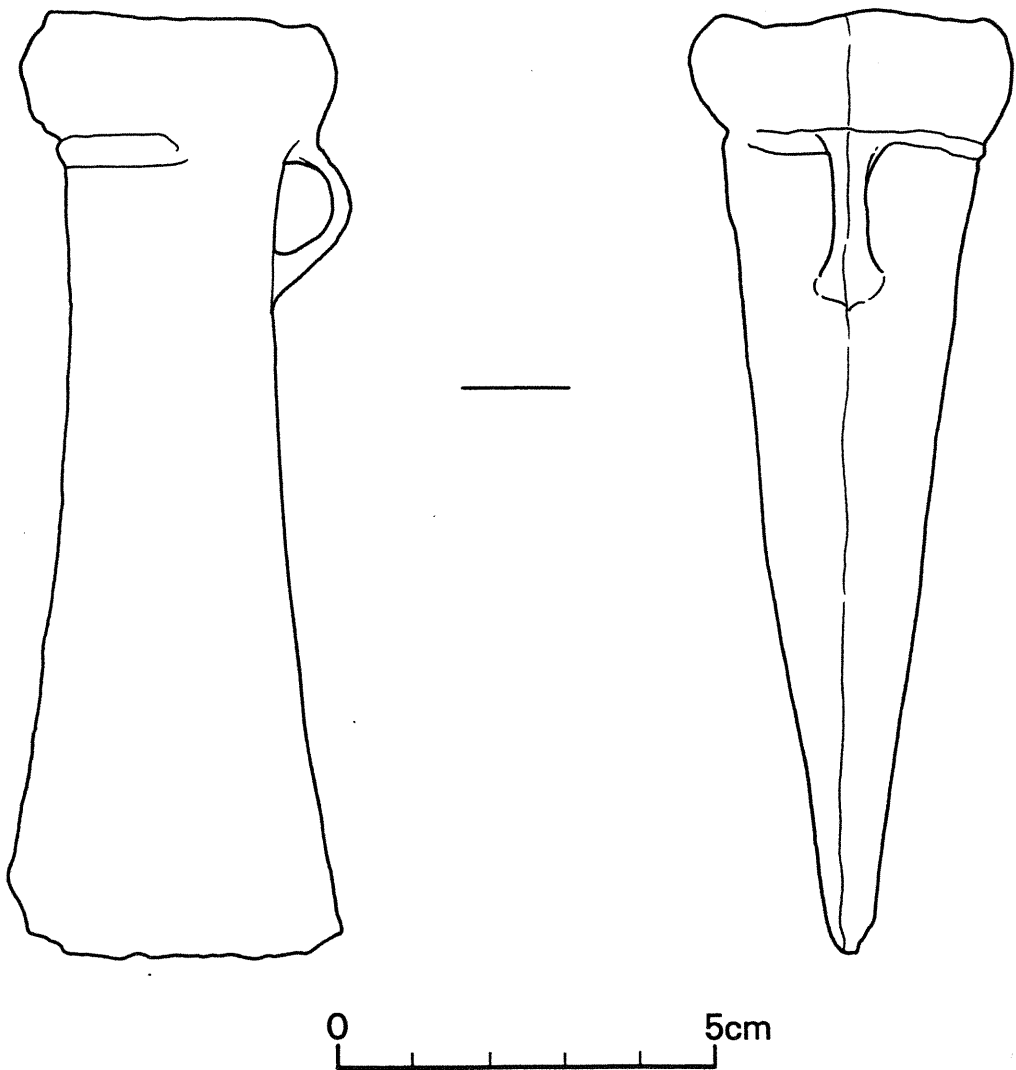


Figure 2 Bronze Age socketed axe from Chapel Farm, Eldernell

network of channels developing which have survived as silt filled Roddons.

3.3.2 Human activity on the gravel island at this time is demonstrated by finds of flint tools and flakes. A small number of polished stone axes are recorded as being found immediately beyond the north-eastern edge of Field 0606 (Hall 1987, Fig 38 A2; SMR 07724), and a further one has been found more recently 150m to the north-east (SMR 1728a). In addition, David Hall recorded a small lithics scatter *c* 700m north-east of Field 3710 and *c* 900m east of Field 0606 (Hall 1987, Fig 38 site 6; SMR 3757). He considered that the Eldernell area had a thin background of lithic artefacts, but at a lower density to the area *c* 2km to the east.

3.3.3 Whilst these artefacts do not demonstrate permanent settlement on the gravel island, they do suggest the presence of early prehistoric activity, whether resource gathering or settlement, close to the study areas.

3.4 Bronze Age

3.4.1 The steepness of slope of the gravel island implies that the slight rise in water table in the Bronze Age would have had little impact on the size of the area of dry land (Hall 1987, 57). Thus, the margin of the dry land remained in a similar location to its Neolithic position.

3.4.2 Bronze Age activity is clearly shown by the Eldernell Barrow group, located *c* 1km to the west of Field 3710 (Hall 1987, Fig 38 site 11; SMR 03760). The barrows were slightly larger than is usual for the area, varying in diameter from 26m to 36m, but were being actively eroded by ploughing in the 1980s, so that the largest was no more than 1m high. No associated finds were made during the Fenland Survey, but the SMR reports that worked flints were found in the vicinity in the 1950s. A tanged arrowhead derives from a spot *c* 300m west of Field 3710 and 400m south-west of Field 0606 (Hall 1987, Fig 38 A3), and a metal axe (fig 2) is known to have been found at Chapel Farm, located to the east and north-east respectively of Fields 0606 and 3710, at a distance of *c* 400m from each (Hall 1987, Fig 38 A1; SMR 01729). A Bronze Age axe hammer is also reported to have been found close to Chapel Farm (SMR 3752), and a further stone axe hammer was derived from a location *c* 600m south of Field 3710. In addition, two barrows have been newly identified to the north-east and north-west of Chapel Farm, the better preserved lying within Field 0606 (Appendix A).

3.4.3 It is also possible that the gravel island was crossed by a Bronze Age trackway, predating the Fen Causeway Roman Road. A hoard of nine Wilburton type axes, one spearhead, one gouge, two fragments, and one lump was found at the north-western edge of Field 3710, just south of the Fen Causeway, at the point where it bends before leaving the dry land (SMR 9746). This may suggest that the hoard in fact represents a ritual deposition, and that the Roman routeway may have originated in the Bronze Age (Malim, pers comm).

3.4.4 The evidence for Bronze Age activity has been thought to suggest slight settlement, with use of the relatively clayey soils for burial and possibly grazing of stock. However, the outline of fields or paddocks can be seen surrounding one of the newly identified barrows on aerial photographs (Appendix A). These are undated, but could derive from the same period as the barrows.

3.5 Iron Age

3.5.1 The only known evidence for Iron Age activity in Whittlesey is an area of occupation on the other side of the parish, c 9km to the west of the study areas.

3.6 Roman

3.6.1 The extent of dry land remained roughly similar, but off the gravel island, salt water was replaced by fen. The edge of the fen may have crossed the northern part of Field 0606 (Hall 1987, Fig 40).

3.6.2 Roman period remains are frequent both on the Coates gravel island, and on the larger Whittlesey island to the west. The area was traversed by the Fen Causeway, a Roman Road which extended from the southern boundary of Flag Fen near Peterborough in the west, to the large site at Grandford in March parish to the east, following the higher land wherever possible. The road is not visible on the ground where it crosses the Coates Island, but it can be seen as a straight gravel track raised on a bank when it reaches the fen to the east (Hall 1987, 57). This 'fen' section of the Roman Road begins at the north-east corner of Field 3710. In this area, the gravel make-up survives to a thickness of 1.5m (*Ibid*). Further out in the fen, much of the monument has been destroyed, but in map square TL 33/98 workmen reported seeing 'sticks' beneath the causeway in 1937. This suggests the existence of an earlier Roman trackway, a worn coin of Vespasian found at the same time implying that it may have been built by the beginning of the second century (*ibid*). It is interesting to note that much of the line of the road had initially been used as a canal, and that the gravel surface seems to have been laid on top of natural silting deposits which had accumulated within the former canal (*ibid*). In addition, the possibility that the Roman route way follows an earlier prehistoric course has been explored above (para 3.4.3).

3.6.3 The position of the Fen Causeway as it emerges from the Roman fen has been thought to suggest that it must have crossed the northern edge of Field 3710 (Hall 1987, Fig 40, following OS mapping). However, it is suggested in Appendix A below that the Roman road turned sharply to the north at its landfall, and that it in fact crossed the southern part of Field 3710. Aerial photographs appear to show an arc of double ditches crossing this field, and a multiple road junction at the present site of chapel farm.

- 3.6.4 The presence of this significant routeway probably encouraged the development of Roman rural settlements along its length, and the landfall of the road from the fen is likely to have been a particular focus for settlement. The Fenland Survey has identified three settlement sites immediately east of Eldernell. Site 9 is in the form of an earthwork with an enclosure and embankment, and is located immediately beyond the northern edge of Field 3710 (Hall 1987, Fig 40, 9; SMR 03877). No associated finds were found during Fenland Project fieldwork, although the SMR records finds from roughly the same location, including a stray find of a probable Nene Valley ware beaker (SMR 03877, 01366). There are also references to the site of a 'camp' or 'fortified village' excavated in the late nineteenth century, and to pottery of first to third century date, which may relate to this Fenland Project site (SMR 03877). Nearby to the south, clearly within Field 3710, at TL 3233/9882, crop- and soil- mark evidence shows two sides of a possible square or rectangular ditched structure (Appendix A). This has some of the characteristics of a Roman camp, with straight ditch, possible internal bank, entrance gap, and rounded corners (Palmer, pers comm). This aerial photographic evidence may relate to an extension of the site represented by the evidence reviewed above.
- 3.6.5 Two further Fenland Project sites were recorded as scatters of occupation debris. One lay within the northern part of Field 3710 (Hall 1987, Fig 40, 7), one slightly to the north of this field and c 120m south-east of Field 0606 (*Ibid*, Fig 40, 8). These sites lie within an area of cropmarks known previously but replotted for this study (Appendix A), those around site 8 probably representing a metalled road with attached enclosures. Hall recorded that many of his sherd finds were not directly associated with the cropmarks, raising some doubt as to their Roman origin. However, a range of Roman pottery has been found around Chapel Farm in addition to the Fenland Project clusters (SMR 01730, 1366), and it seems probable that all these finds combine to indicate the former presence of a Roman settlement of some size. Although the possibility should be noted that some cropmarks may derive from other periods, a Roman origin for many of these features appears likely on the basis finds concentrations in the area.
- 3.6.6 The Fenland Project highlighted the difficulty in assessing what these finds clusters represent, but pointed out the superficial resemblance to agricultural settlements found on the upland, suggesting that mixed farming was practised and the grazing potential of the fen exploited (Hall 1987, 58). The probability that a Roman military camp was present must now also be considered.

3.7 Saxon and Medieval

- 3.7.1 Some encroachment of the fen seems to have occurred in the post-Roman period, with Field 3710 shown as fen in Hall's reconstruction of the medieval landscape (Hall 1987, Fig 41).
- 3.7.2 Saxon settlements often prove difficult to identify: their timber buildings are usually only represented by subtle changes in the subsoil, whilst Saxon pottery does not survive well in ploughsoil, and may originally have been used only in

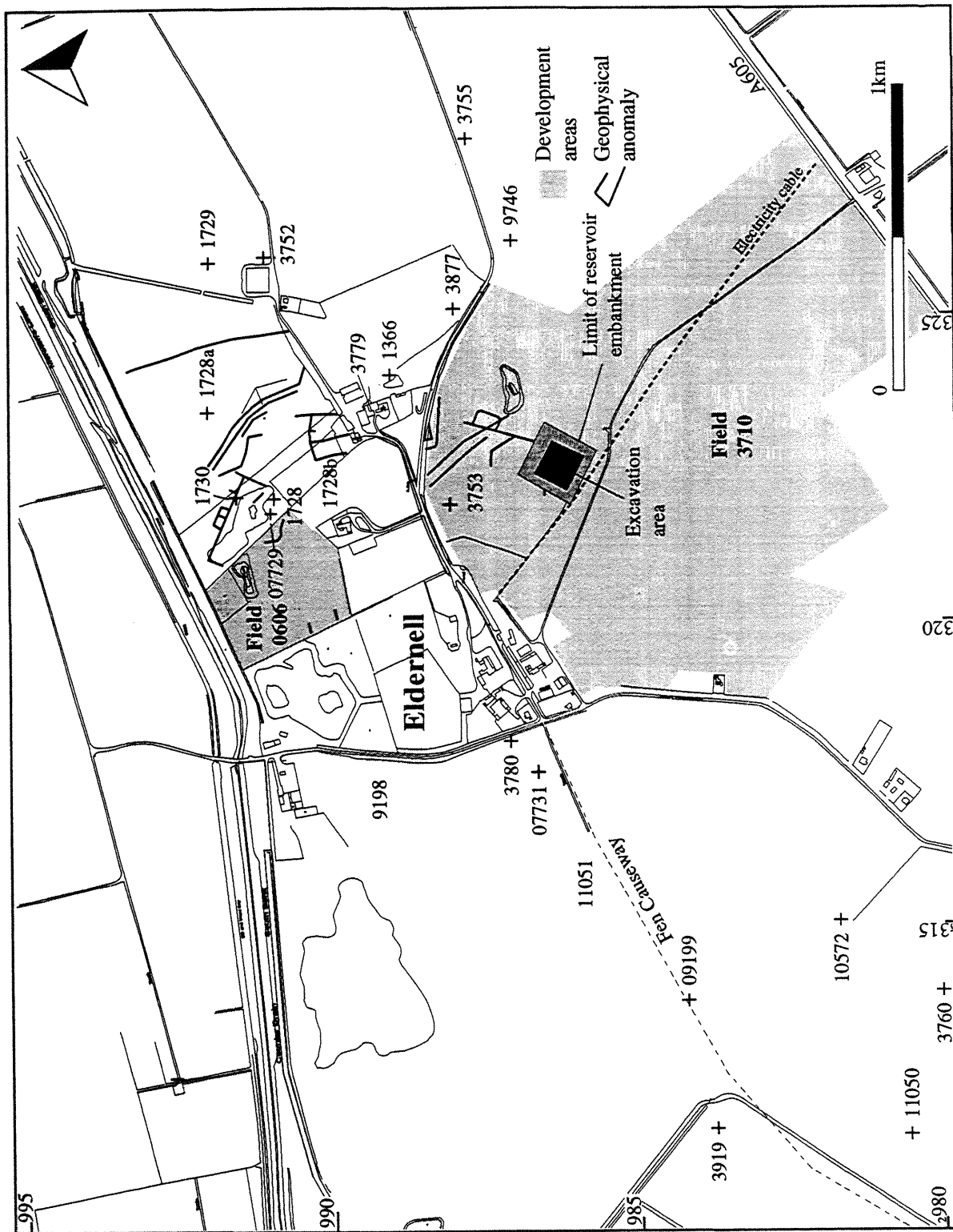
relatively small quantities. The environs of the study area have produced no evidence for Saxon occupation, but it should not be assumed that Saxon settlements or burial grounds were absent.

- 3.7.3 The nearest known possible early Saxon settlement evidence is at least 3km to the west, where a cropmark site may indicate the presence of sunken featured buildings (Hall 1987, 59). An inhumation cemetery lay 4km to the west of the study areas (Ibid).
- 3.7.4 Manors in Whittlesey parish were acquired by the monasteries of Ely and Thorney in the late Saxon period (Pugh 1967). Both estate centres were situated on the Whittlesey island, several kilometres west of the study areas.
- 3.7.5 A chapel at Eldernell was consecrated in 1527, but a print in Wisbech Museum suggests that it had earlier architectural features (SMR 3779). Another source adds that a religious house once stood at Eldernell immediately adjacent to the Roman Road, and that 'many stone coffins were from time to time turned up here' (Gardner 1851).
- 3.7.6 Morton's Leam, immediately north of Field 0606, was a drainage channel cut by Bishop Morton in the fifteenth century and recut in the mid seventeenth century (Taylor 1973).
- 3.7.7 Field 3710 seems to have reverted to fen in the Saxon and medieval periods (3.6.1 above), but no direct evidence has been seen for the use of Field 0606. The Inclosure Award for the parish of Whittlesey dates to 1844, but the Inclosure Map does not extend as far east as Eldernell (CRO uncatalogued).

4 THE ARCHAEOLOGY AND HISTORY OF THE STUDY AREA

4.1 Known Archaeological Remains, Field 0606 (see fig 3)

- 4.1.1 The aerial photographic assessment reproduced as Appendix A demonstrates that this field contains a considerable density of archaeological remains, most concentrated towards the south. Some features showed as earthworks until levelling between 1946 and 1950.
- 4.1.2 A ring ditch with internal mound can be identified as a probable Bronze Age barrow (Appendix A). It lies within a system of fields of unknown date.
- 4.1.3 An area of Roman settlement is known to have extended to within 120m of the field, on its south-western side (para 3.6.5). This appeared to be part of a larger zone of Roman settlement. Field 0606 was not fieldwalked as part of the



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Figure 3 Site location map with SMR and geophysical survey information

Fenland Survey, as surrounding fields were, and the settlement to the east strongly suggested that Roman remains might extend into this field.

- 4.1.4 Evidence of such Roman settlement has now been provided by the Aerial Photographic Assessment. Mapping shows the arc of a double ditched road extending for almost 200m within Field 0606, which it can now be suggested is the Fen Causeway (para 3.6.3). This is joined by a further road or track at TL 3201/9904, and the superimposition of features in the field suggests multiple phases of construction (Appendix A). As yet there is no artefactual dating evidence for these remains, but the form and location of the features suggests Romano-British activity. To the east of the field, a linear feature turning a rough right angle, perhaps the corner of an enclosure, was revealed by geophysical survey (Whittlesey Society Historic Buildings Survey Group and Archaeological Field Unit, n.d.). This feature is again undated, but potentially Roman given the context.
- 4.1.5 Numerous small holes and pits recorded on aerial photographs may be small hand dug quarry pits (Appendix A), but cannot be adequately characterised on the evidence currently available. They are of unknown date.
- 4.1.6 There is clear evidence for Bronze Age and Roman remains within Field 0606. However, a small number of polished stone axes has been found immediately to the east of the field (para 3.4.3), and there is a possibility that further Neolithic artefacts may be found in the study area.

4.2 Known Archaeological Remains, Field 3710 (see fig 3)

- 4.2.1 A hoard of Bronze Age Wilburton type axes has been found at the north-eastern edge of this field (para 3.4.3). The possibility exists that this represents a ritual deposition, in which case further artefacts may exist within the field. It has also been suggested that a Bronze Age precursor of the Fen Causeway Roman road may have made its landfall in or close to this north-eastern corner of the field.
- 4.2.2 The Roman Fen Causeway clearly made its landfall at the north-eastern corner of the field, and was formerly thought to have crossed the field's northern edge. This is still a possibility, although the evidence presented in Appendix A appears to favour a route which would have traversed Field 0606.
- 4.2.3 To the south, there is good evidence for Roman occupation within the field (para 3.5.4), and this may be part of a larger Roman settlement. Appendix A (below) shows that a square or rectangular ditched enclosure can now be identified in the north-eastern part of the field, possibly coinciding with the finds scatter. This most probably represents a Roman camp (para 3.6.4). It can be suggested that it may also be the continuation of the Hall's Whittlesey site 9 to the north, and contain deep ditches which still retain waterlogged deposits (Hall 1987, 58). Such deposits allow the examination of organic remains, and can offer rare opportunities for the detailed environmental reconstruction of a settlement.

4.2.4 The plots of aerial photographic evidence also indicate a small sub-square enclosure further south in Field 3710. This is of uncertain date.

4.2.5 Additional evidence comes from geophysical survey (Whittlesey Society Historic Buildings Survey Group and Archaeological Field Unit, no date). The two enclosures referred to above were partially revealed as anomalies, as well as a number of other linear features not seen on aerial photographs. These linears were undated, but may represent ditches comprising part of the Roman landscape

4.3 Modern Landuse

4.3.1 The Ordnance Survey First Edition (Draft) One Inch Map of 1799 shows a pattern of agricultural fields over both study areas. A similar pattern was apparent on the Ordnance Survey 1:2500 Map of 1889, although there was some variation of field boundaries.

4.3.2 The 1889 map also showed the locations of two small gravel pits in Field 3710. These correspond with probable gravel pits revealed by the Aerial Photographic Assessment (Appendix A). The Aerial Photographic Assessment also showed the positions of a number of additional small gravel pits, in Fields 0606 and 3710, and modern maps additionally show the locations of one former gravel quarry in each field.

5 THE POTENTIAL FOR THE SURVIVAL OF ARCHAEOLOGICAL DEPOSITS

The small quarries identified above (para 4.3.1) would have removed archaeological remains present when they were dug. However, the largest of these is no more than 0.2 hectares in size. With this exception, archaeological deposits within Fields 0606 and 3710 can be expected to have survived.

6 THE POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENTS

6.1 Development proposals are for two irrigation reservoirs, with associated groundworks. Such reservoirs would clearly destroy any archaeology beneath their sites. The development would affect the whole of field 0606 and here the archaeology underlying the entire field would be completely destroyed.

6.2 In field 3710, the area of the proposed reservoir is less than the entire field. All the archaeology beneath the site of the reservoir itself would be destroyed;

however, any earth movement or consolidation associated with access roads or machine access in other areas of the field could destroy the archaeology beneath. In addition, heavy machinery movements of any kind could damage underlying archaeology wherever they occur, especially in wet weather. Furthermore, the plans supplied with the design brief (Kaner, 1997) indicate an electric cable to be laid across the south-eastern part of the field; this is likely to damage any archaeological deposits lying in its path.

7 CONCLUSION

7.1 General

This desktop study has identified the general archaeological potential of the Eldernell area, and has also established the location of a number of significant monuments within Fields 0606 and 3710. The date and character of several of these monuments has been suggested.

- 7.1.1 However, the limitations of non-intrusive survey methods (such as this desk-based assessment) should be born in mind: by themselves, they *can* indicate where archaeological deposits may exist, but *cannot* indicate where they definitely do not exist. Apparently blank areas identified by this study, therefore, merely reflect gaps in our current knowledge, rather than gaps in the underlying archaeology. Paradoxically, the areas with the least apparent archaeology (in the southern part of field 3710) may actually contain the best-preserved remains, owing to the masking and preserving effects of the overlying peat.

7.2 Field 0606

- 7.2.1 In the southern, western, and northern parts of Field 0606, aerial photographic evidence has shown a dense concentration of archaeological remains dating from at least two periods, Bronze Age and Roman .
- 7.2.2 The eastern side of the field has a lower density of features visible on aerial photographs. However, this may mean that conditions here were less receptive to the identification of archaeological remains. Paradoxically, such remains might here be masked by deeper soil, and might survive in better condition than elsewhere. This is reinforced by the presence of a known settlement site immediately to the east, and by the fact that a curving linear feature not revealed on aerial photographs shows as a geophysical anomaly. In addition, a triple ditched trackway seen on aerial photographs to the west of the study area might prove to continue into Field 0606 (Appendix A).

7.3 Field 3710

- 7.3.1 The north-eastern edge of this field has been found to contain significant archaeological remains including two enclosures and a scatter of occupation debris.
- 7.3.2 The rough development plan provided proposes a reservoir affecting a total area of *c* 1 hectare, located just to the south of the area of densest known archaeological remains within the field. There is no positive aerial photographic evidence here, but a linear anomaly from geophysical survey extends into the footprint. Again, extensive settlement evidence lies just to the north, and archaeological remains may exist. The fading out of modern field drains on

aerial photographic plots illustrates the selective nature of the aerial photographic record.

- 7.3.3 To the south-east of the field, beyond the limits of the later prehistoric and Roman dry land, archaeological remains are not at present known. Here, remains of human activity predating the later Neolithic could exist, masked by the later Nordelph Peat. Such remains have the potential to be waterlogged and in excellent condition.

ACKNOWLEDGEMENTS

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Historic Maps Consulted

Inclosure Map, Whittlesey CRO (uncatalogued)

Ordnance Survey, 1799, First Edition (Draft) One Inch Map

Ordnance Survey, 1889, 1:2500 Map

APPENDIX A

FLINT FARM, ELDERNELL LANE, COATES, AREAS CENTRED TL32069908 and TL32209850 CAMBRIDGESHIRE: AERIAL PHOTOGRAPHIC ASSESSMENT

SUMMARY

This assessment of aerial photographs examined two adjacent areas totalling 51 hectares (centred TL322985) in order to identify and accurately map archaeological and natural features in advance of field evaluation.

These areas and their immediate environs have been studied and show the area to have been a focus of activity in Roman times. The locality provides the interchange where the Fen Causeway met the high ground after crossing the peat fen from March. A complex system of roads and tracks has been identified and mapped on the high ground as has the site of a possible Roman camp close to the fen edge. Earlier use of the area is shown by the presence of two ring ditches that mark bronze age burial sites.

Mapping of the archaeological features has been undertaken at 1:2500 and context for the assessment areas, and some of the non-archaeological features, is shown at 1:10000.

**FLINT FARM, ELDERNELL LANE, COATES,
AREAS CENTRED TL32069908 and TL32209850**

CAMBRIDGESHIRE:

AERIAL PHOTOGRAPHIC ASSESSMENT

Rog Palmer MA MIFA

INTRODUCTION

This assessment of aerial photographs was commissioned to examine two fields covering an area of some 51 hectares (Area 0606, 3.5 ha, centred TL32069908 and Area 3710, 48 ha, centred TL32209850) in order to identify and accurately map archaeological and natural features and thus provide a guide for field evaluation. Mapping was to be at 1:2500.

ARCHAEOLOGICAL AND NATURAL FEATURES FROM AERIAL PHOTOGRAPHS

In suitable soils, sub-surface archaeological features – including ditches, banks, pits, walls or foundations – may be recorded from the air in different ways in different seasons. In spring and summer these may show through their effect on crops growing above them. Such indications tend to be at their most visible in ripe cereal crops, in June or July in this part of Britain, although their appearance cannot accurately be predicted and their absence cannot be taken to imply evidence of archaeological absence. In winter months, when the soil is bare or crop cover is thin (when viewed from above), features may show by virtue of their different soils. Upstanding remains may best be recorded in winter months when vegetation is sparse and the low angle of the sun helps pick out slight differences of height and slope.

Natural faults and deposits can cause similar differences in crop growth and may also appear as startling colour changes in bare winter soils. On the gravels of this assessment area we may expect indications of periglacial cracks – which may be mistaken for archaeological ditches – and of patches of deeper and shallower soil. Both can affect the growth of crops and become visible at the same times as archaeological features. In the peat fen, former water courses (roddons) may be identified on winter photographs as silt bands. Some of these occur in the southern part of Area 3710.

The most informative aerial photographs of archaeological subjects tend to be those resulting from specialist reconnaissance. This activity is usually undertaken by an experienced archaeological observer who will fly at seasons and times of day when optimum results are expected. Oblique photographs, taken using a hand-held camera, are the usual product of such investigation but record mainly those features noticed by the observer and thought to be of archaeological relevance. To be able to map accurately from these photographs it is necessary that they have been taken from a sufficient height to include surrounding control information.

Vertical photographs cover the whole of Britain and can provide scenes on a series of dates between (usually) 1946-7 and the present. Unfortunately many of these vertical surveys have not necessarily been flown at times of year that are best to record the crop and soil responses that may be seen above sub-surface features. Vertical photographs are taken by a camera fixed inside an aircraft and adjusted to take a series of overlapping views that can be examined stereoscopically. They are often of relatively small scale and their interpretation requires higher perceptive powers and a more cautious approach than that necessary for examination of obliques. Use of these small-scale images can also lead to errors of location and size when they are rectified or re-scaled to match a larger map scale.

Interpretation for this assessment has made use of vertical and oblique photographs, among which those of earlier date record some of the features in earthwork form. Most were ploughed by the end of the 1960s.

PHOTO INTERPRETATION AND MAPPING

Photographs examined

Cover searches of vertical and oblique photographs were obtained from the Cambridge University Collection of Aerial Photographs (CUCAP) and the National Library of Air Photographs (NLAP), Swindon. Additional oblique photographs were in my own collection (APS) resulting from a flight with RCHME in 1994.

Photo interpretation was begun on the Cambridge photographs. The information mapped was then compared against photographs at NLAP and amended as appropriate. All work was undertaken to 1:2500 standard.

Photographs consulted are listed in the Appendix to this report.

Base maps

Base maps, compiled from 1:2500 tiles, were provided by the client in digital and paper form.

Photo interpretation and mapping

All photographs were examined by eye and under slight (1.5x) magnification, viewing them as stereoscopic pairs when possible. Vertical photographs were also examined stereoscopically using a 1.5x magnification stereoscope. Interpretations were marked on overlays to individual prints following procedures described by Palmer and Cox (1993). All rectification was computer assisted and carried out using AERIAL 4.2 software (Haigh 1993).

AERIAL computes values for error of control point match between the photograph and map. In all rectifications of archaeological features within the assessment areas these were less than $\pm 2.0\text{m}$. Some larger errors, of up to $\pm 3.5\text{m}$, were returned for features beyond the assessment

areas. Rectified output was combined and located on the 1:2500 tiles to form the basis of the digital plans that accompany this assessment (Figure 1 and 2).

COMMENTARY

Soils

The Soil Survey of England and Wales (SSEW 1983) shows the high ground of the area to comprise river terrace drift (series 573a) surrounded by marine alluvium and fen peat (series 851a). Field work by David Hall for the Fenland Survey suggested the gravels at Eldernell to be 'several metres deep' (Hall 1987, 55) and also shows the changing fen edge in the area (Hall 1987, Figs 38, 40-41).

Archaeological and non-archaeological features

Figure 1 shows both assessment areas in their local context and helps show the importance of the location while Figure 2 adds detail to the archaeological features within the assessment areas. Previous work had noted the arc of metalled road with its attached enclosures immediately east of Area 0606 and added two scatters of Romano-British finds south of that (Phillips 1970, 196-197; Hall 1987: Whittlesey site 8 (TL32309905); site 7 (TL32309881) and site 9 (TL32409890) respectively). These indicate a density of occupation as may be expected in the vicinity of the landfall of the Fen Causeway Roman road from March.

Aerial photographs show clearly the course of the Fen Causeway through the peat fen between the islands of March and Whittlesey with its final peat phase now being followed by a farm track. Previous workers proposed a course for the Roman road in the vicinity of Eldernell that was based largely on conjecture and recent tracks (this is most fully detailed in the Ordnance Survey Roman road file RR25, held at NLAP; but see also Margary 1967). Photo interpretation for this assessment has identified a more probable course and suggests that, from the fen edge, the road turned through almost a right angle towards Hall's site 8. After 300m, at a point now under the Chapel Farm complex, there appears to be a multiple road junction from which the Fen Causeway continued in a sweeping arc to the west and then followed a straight line to Coates (TL30819795). This course can be identified on aerial photographs for almost the complete length and includes almost 200m within Area 0606.

The Chapel Farm road junction and the newly identified tracks and enclosures in this vicinity suggest the area to have been much used during the Romano-British period. Mapping suggests that there was more than one phase of construction as superimposition of features occurs (eg within Area 0606 at TL32069904) while the presence of two ring ditches (one still retaining a very slight mound at TL32089901, the other at approx TL32199902¹) implies bronze age activity at Eldernell. [Fields containing these ring ditches were not inspected as part of the Fenland Survey (Hall 1987, Figure 37).]

¹ This ring ditch showed on one set of vertical photographs only. These did not allow accurate location to be made and this feature has been mapped by measured sketch.

The newly identified sweep of the Fen Causeway is itself interesting and raises questions as to why the road makes that arc and what, if anything, it was avoiding. Although the area is now managed as several fields (with much lost under farm complexes, plantations, and to quarrying) the aerial photographs appear to represent a good record and do not indicate the presence of a large ditch-divided site (as, for example at Grandford, served by the Fen Causeway, on the west edge of March island). One hint concerning the route of the road comes from crop- and soil-marked evidence in area 3710 at TL32339882. At that location, crossed by the modern track that previously was thought to follow the Fen Causeway, are two sides of a possible square or rectangular ditched structure that shows some of the characteristics of a Roman camp. This feature is also at, or close to, Hall's Whittlesey site 7.

This general description indicates the archaeological potential of the area and includes features that fall within both assessment areas.

Area 0606. This contains a considerable archaeological content although most of that identified is in the southern part of the modern field. Some of the features were recorded in earthwork form in 1946 but had been levelled by 1950 when the present buildings (immediately south of the area) were erected and current land divisions established. A ring ditch with an internal mound is likely to be a bronze age barrow and lies within a ditch-divided block of fields or paddocks of unknown date. These fields overlay, or are overlain by, the arc of the Fen Causeway which is joined by a further road or track at TL32019904. There has been no photographic evidence in area 0606, or in the field to its west, for continuation of the triple-ditched feature recorded in the field centred TL316988. Periglacial cracks show the sub-soil to be gravel and the numerous small holes and pits mapped are likely to indicate former hand-dug quarrying. The fen edge can be seen in the north-west corner of the area as a shelving slope immediately south of Morton's Leam.

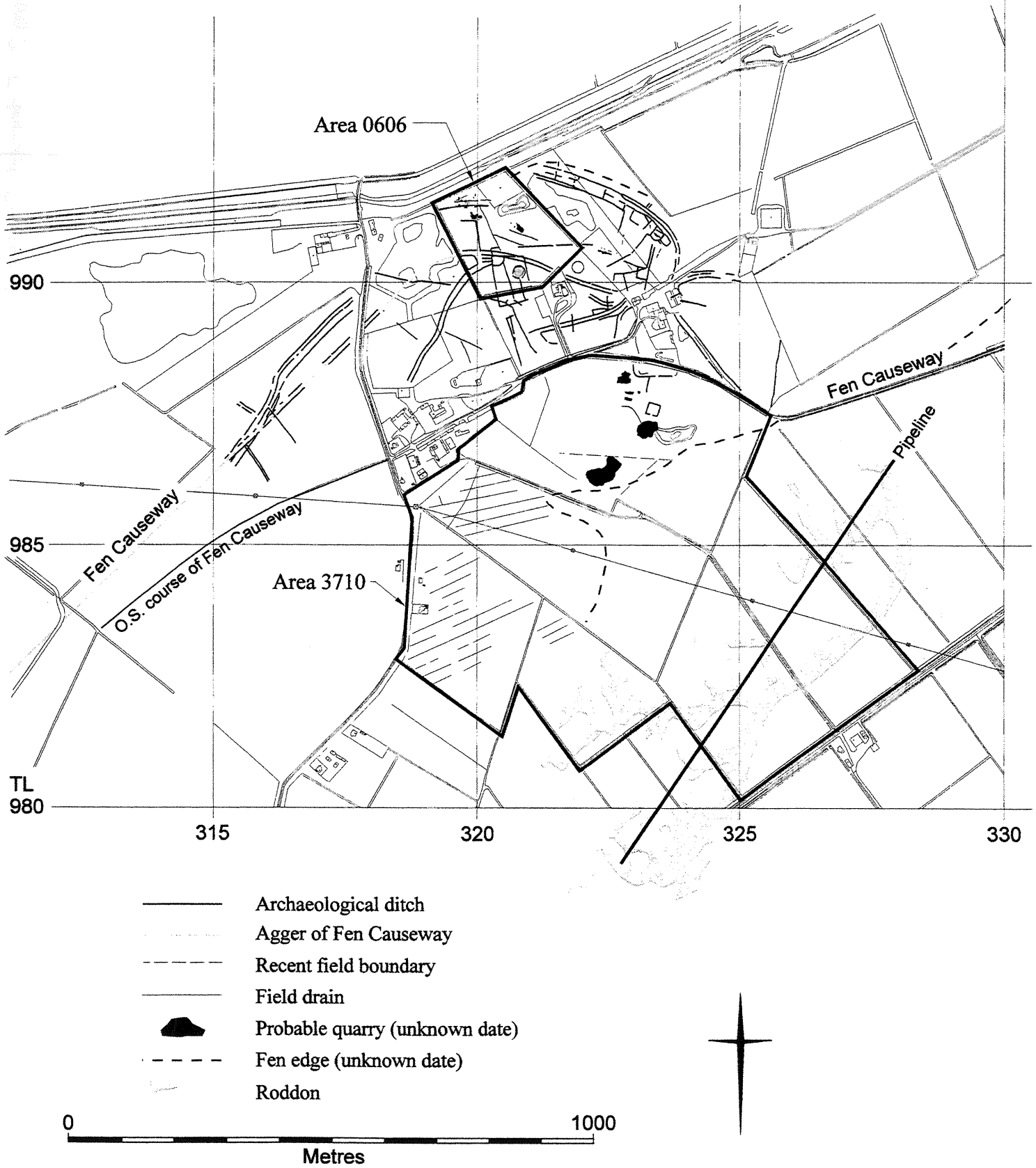
Area 3710. The northern part of this area is on high ground and includes the possible Roman camp against its north-east boundary. A small, near-square, enclosure (at TL32339876) represents the only other identified archaeological feature. In the vicinity of these sites are three large gravel pits, probably hand dug, which were still open (although not apparently in use) in the 1940s. It is uncertain whether the area mapped as 'mottled soil' is a result of other quarrying activity or a local natural phenomena. The soils in this fen-edge environment show different responses in different years and seasons and it is not clear exactly what lies beneath the topsoil.

Field drains are apparent on the high ground and are also likely candidates for SMR site 15 (at TL321984 on the 1:10560 maps) although these were not noticed on the photographs examined for this assessment. The fen edge as mapped in Figure 1 is an approximate line which shows in a variety of forms and locations on the photographs. South of the fen edge is the peat fen with roddons. Recent photographs show what appears to be a pipeline crossing the peat.

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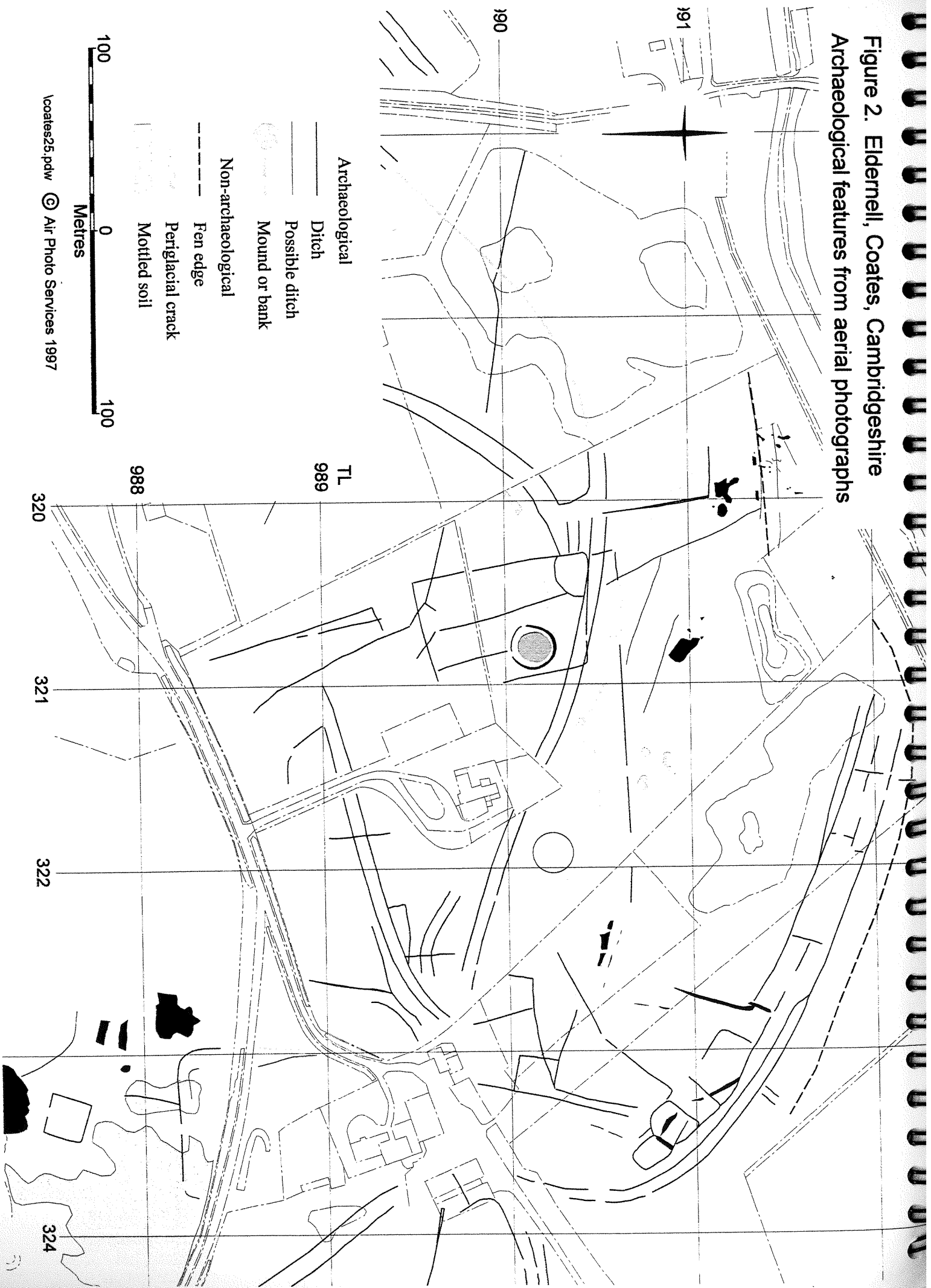
Figure 1. Eldernell, Coates, Cambridgeshire.
Location and context.



lcoates10.pdw © Air Photo Services 1997

Original interpretation and mapping at 1:2500
from aerial photographs at APS, CUCAP and NLAP
Background map from OS 1:2500 tiles provided by
Cambridgeshire Archaeological Field Unit

Figure 2. Eldernell, Coates, Cambridgeshire
Archaeological features from aerial photographs



APPENDIX

Aerial photographs examined

Source: Air Photo Services

Oblique photographs

94.144/11-15 14 July 1994

Source: Cambridge University Collection of Aerial Photographs

Oblique photographs

AIU 90-92 29 May 1964
BFI 18-19 13 May 1971

Vertical photographs

V-CM 49-50	29 May 1964	1:3000
V-CM 52-53	29 May 1964	1:3000
RC8-AT 245-247	17 March 1975	1:13650
RC8-DR 245-246	26 November 1980	1:5000
RC8-EE 207-208	25 March 1982	1:10000
RC8-EE 259-262	25 March 1982	1:10000
RC8-KnBI 38, 40	13 June 1988	1:10000
RC8-MB 110-112	25 July 1990	1:5700

Source: National Library of Air Photographs

Specialist collection

TL3298/1-2	3 July 1981
TL3298/3	28 July 1981
TL3298/4-7	12 July 1984
TL3298/8	3 July 1981
TL3298/9-11	28 July 1981
TL3298/12-13	14 July 1994
TL3299/1-2	3 July 1981
TL3299/3-4	28 July 1981
TL3299/5-6	12 July 1984
TL3299/7-10	3 July 1981
TL3299/11-14	28 July 1981
TL3398/2	undated 1930s

Vertical collection

106G/UK/1634: 1270-1274	9 July 1946	1:10000
106G/UK/1634: 3253-3257	9 July 1946	1:10000
CPE/UK/1891: 2172-2173	10 December 1946	1:9840
CPE/UK/1891: 3002-3006	10 December 1946	1:9840
CPE/UK/2045: 4029-4034	29 April 1947	1:9840
CPE/UK/2045: 4041	29 April 1947	1:9840
58/493: 5006-5009	7 June 1950	1:10000
58/493: 5014-5017	7 June 1950	1:10000
58/515: 5005-5008	29 June 1950	1:10000
58/515: 5014-5017	29 June 1950	1:10000
F21.540/1312: 27-29	26 May 1954	1:10000
F22.540/1312: 27-29	26 May 1954	1:10000
F22.540/1312: 31-35	26 May 1954	1:10000
1F41.543/1107: 206-213	5 November 1960	1:4000
1F42.543/1107: 206-214	5 November 1960	1:4000
V.543/1107: 52-55	5 November 1960	1:12000
MAL/65092: 32-34	29 October 1965	1:12000
MAL/65092: 98-91	29 October 1965	1:12000
OS/68136: 887-888	1 June 1968	1:7500
MAL/68061: 190	12 August 1968	1:10000
MAL/69058: 161-164	10 June 1969	1:10500
MAL/69058: 201-203	10 June 1969	1:10500
OS/75194: 177-182	8 June 1975	1:7500
OS/75194: 187-193	8 June 1975	1:7500

Most informative photographs (archaeology)

Area 0606

APS	94.144/11
CUCAP	RC8-MB 111

Area 3710

NLAP	TL3298/4
CUCAP	BFI 19



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