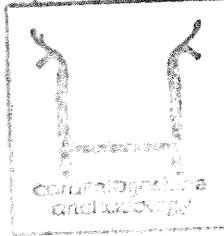
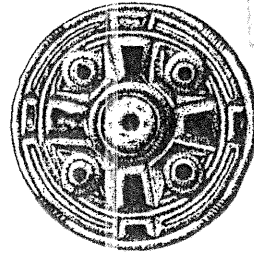


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Archaeological Field Unit

Dimmock's Cote Quarry, Wicken: An Archaeological Desktop Assessment

S.N. Kemp and S Kenney

2002

Cambridgeshire County Council

Report No. A200

Commissioned by Francis Flower

**Dimmock's Cote Quarry, Wicken:
An Archaeological Desktop Assessment**

Stephen Kemp BA MSc AIFA and Scott Kenney

April 2002

Editor: Aileen Connor BA
Illustrator: Scott Kenney

With contributions by: Rog Palmer & Martin Wilson



Report No. A200

©Archaeological Field Unit
Cambridgeshire County Council
Fulbourn Community Centre
Haggis Gap, Fulbourn
Cambridgeshire CB1 5HD
Tel (01223) 576201
Fax (01223) 880946

Arch.Field.Unit@cambridgeshire.gov.uk
<http://edweb.camcnty.gov.uk/afu>

SUMMARY

The proposed development area covers approximately 6.5 ha (TL 5470/7240) and lies to the north of Dimmock's Cote Road just outside the village of Wicken, Cambridgeshire. The proposed development consists of mineral extraction by Francis Flower Limited. The site lies in an area known to be rich in archaeological remains. Roman and prehistoric archaeology has been uncovered during excavations by the Archaeological Field Unit of Cambridgeshire County Council prior to past phases of extraction work at the quarry. The site appears to have been in agricultural usage for the last two centuries and remained so until Euston Lime began extraction of limestone. The evidence of past activity to the north, east and south, combined with the lack of recent development strongly suggests a high potential for preservation of any archaeological remains that exist on the site. This was clearly shown by excavations undertaken in the early and mid 1990's these identified complex but widely dispersed Bronze Age archaeological remains preserved within the remnants of the medieval field system.

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**Dimmock's Cote Quarry, Wicken, Cambridgeshire:
An Archaeological Desktop Assessment
(TL 5470/7240)**

1 INTRODUCTION

This study was commissioned by Francis Flower Limited in advance of mineral extraction. The assessment aims to define the archaeological potential of the land affected by the development. It has been compiled by the author in response to a design brief for archaeological evaluation written by Andy Thomas, Development Control Officer, County Archaeology Office (CAO), dated 25th Jan 02.

The site, a sub-rectangular area of approximately 6.5ha, is located to the north of Dimmock's Cote Road, which runs westwards from the north end of the village proper towards Stretham. The site is centred on TL 5470/7240. The subject area outlined in the Brief for this research is the area defined as 'land subject to option agreement to Francis Flower Ltd dated 22nd January 1987'.

2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

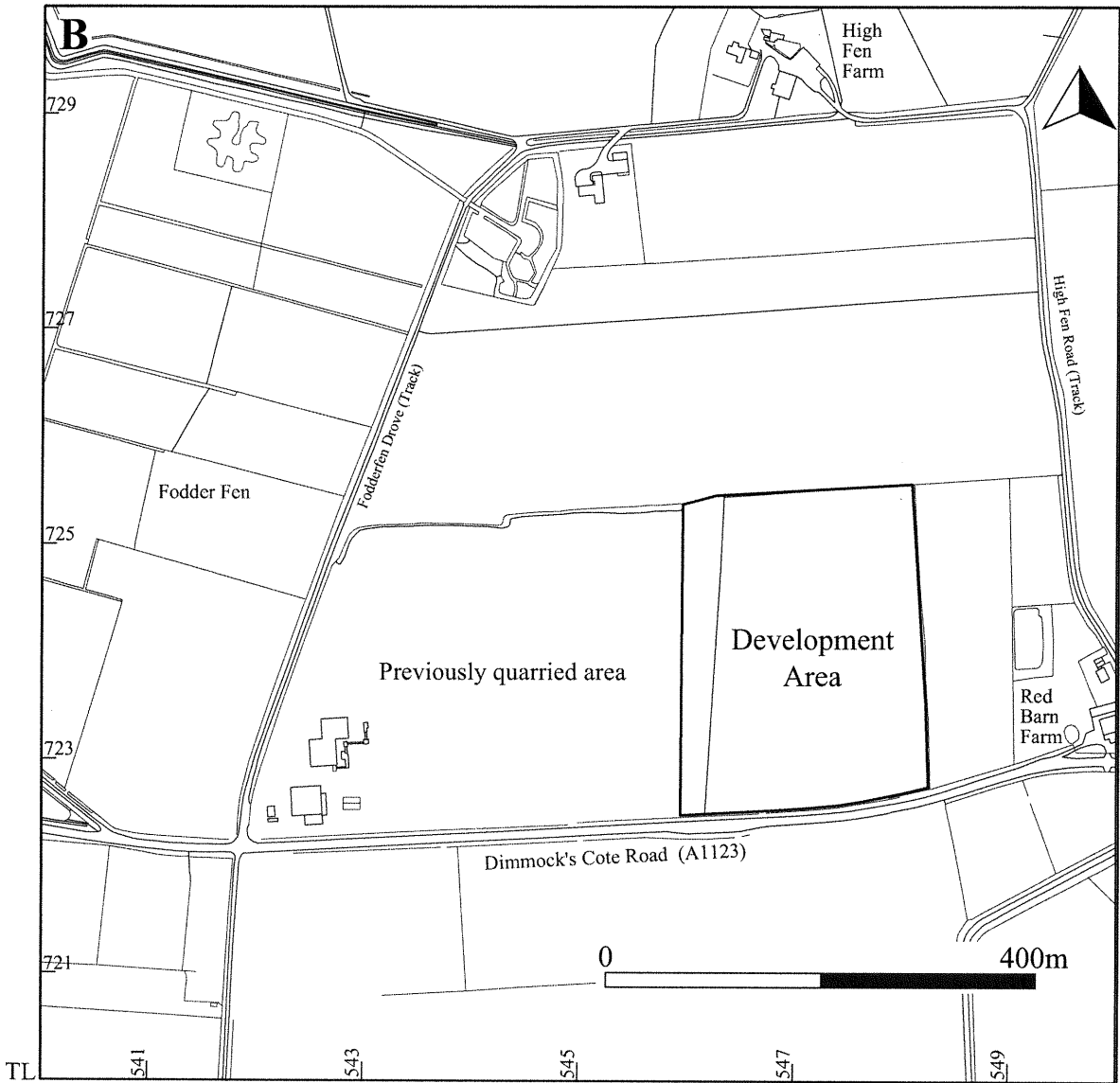
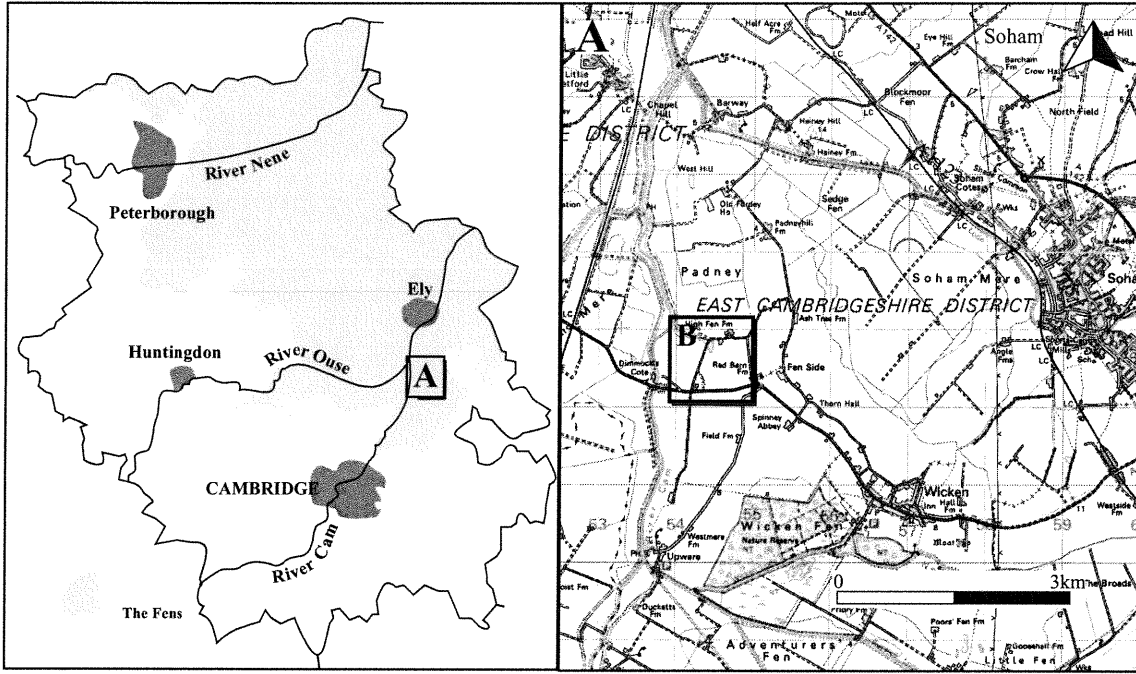
The site lies just outside the village of Wicken, 15km to the north-east of Cambridge. It is a relatively flat area, with heights ranging between 6.4mOD on Fodderfen Drove to the east of the extraction area and 5.8mOD on Dimmock's Cote Road to the south. There is a benchmark of 5.11mOD on Red Barn Farm to the west and a spot height of 5.5mOD close to High Fen Farm to the north.

In this area, the Jurassic Upware Limestone forms a promontory rising to about 5m OD reaching out into the Fens from Soham (BGS 188). This is the stratum that is being extracted by Francis Flower Limited.

3 METHODOLOGY

The aim of this desktop assessment is to provide information concerning the location, extent, survival and significance of the known archaeological remains in the vicinity and on the site, as well as assessing the potential for archaeological remains to survive within the extraction zone.

In order to map the potential for archaeology at Wicken the investigation concentrated on the accessible archaeological and historical resources held at the Cambridgeshire Sites and Monuments Record (SMR), Cambridge Record Office (CRO), documentary



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Figure 1 Site Location Map

sources held by the Archaeological Field Unit, Cambridgeshire County Council (AFU) and aerial photographic records held by Cambridge University Collection of Aerial Photographs and the National Monument Record.

Aerial photographic assessment was carried out by Rog Palmer, Air Photo Services (Appendix A), and a geophysical survey of the site was undertaken by Souterrain Archaeological Services (Appendix B) to meet the requirements of the design brief for archaeological evaluation (Para 3.2 and 3.3 AT 25/04/02)

The known archaeological resource was investigated through the County's Sites and Monuments Record held by Cambridgeshire County Council. Additional published resources such as the Victoria County Histories and the Royal Commission inventory for the parish, which are commonly examined during this type of research, were not available for this area, as they have not been published yet. Reports and archives on excavations carried out in and around Wicken were consulted. Much of the recent excavation archives around Wicken and all of the recent excavation archives within the quarry are held by the AFU in the expectation that the series of interim reports resulting from earlier phases of excavation will be brought together for publication.

4 ARCHAEOLOGICAL BACKGROUND

Palaeolithic, Mesolithic and Neolithic

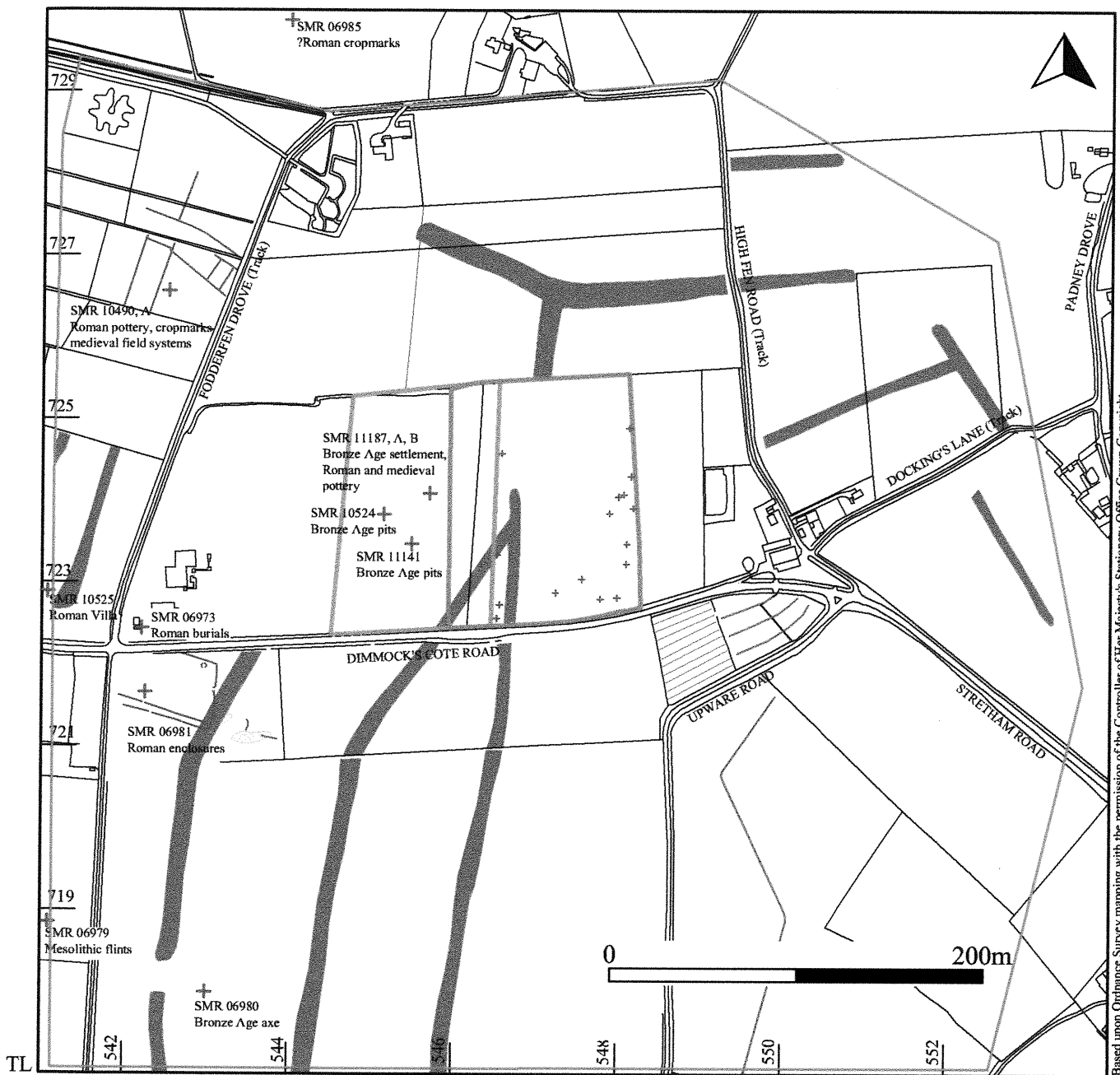
No confirmed Palaeolithic artefacts have been discovered within 1km of Dimmock's Cote. Mesolithic flints were found to the south-west of the subject site (SMR 06979). Several Neolithic finds have been made to the north of the development area, but these are beyond the study area and are not shown on Figure 2. Similarly, Neolithic flints have been found 1km to the west of Dimmock's Cote.

Bronze Age

Apart from the adjacent excavations, which revealed what may be a small Bronze Age structure, ditches, gullies and pits (SMR 10524, 11141, 11187), only a single other find has been made from this period. This was the Late Bronze Age winged axe found just east of Fodderfen Drove (SMR 06980).

Iron Age

There have been no finds of this date from around or within the subject site, although sherds of possible Iron Age date were found during excavations in 1997 (see section 5 of this report).



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- | | |
|-----------------------|---------------------------------------|
| Archaeological | Recent |
| — Ditch | — Pipeline |
| — Possible ditch | — Former boundary |
| ■ Headland | ■ Deep soil: ?old quarry |
| — Ridge and furrow | — Study and Development Area |
| — Narrow rig | — Area of Excavation by AFU 1992-1997 |
| + SMR entry | |
| + Geophysical anomaly | |

Original photo interpretation and mapping at 1:2500 using photographs from CUCAP and NMRAP. Air Photo Services: April 2002.

Figure 2 Location map showing SMR entries, features from aerial photographic interpretation, and geophysical anomalies, on and around the development area

Roman

At least four skeletons were disturbed when the quarry was first opened in 1951, and Roman pottery was found nearby, but not directly associated with the burials (SMR 06973). Cropmarks of Roman enclosures have been identified to the south-west (SMR 06981), and a Villa has been found to the west (SMR 10525). Pottery has been found from within a pair of parallel ditches presumed to delineate a Roman trackway during previous excavations by the AFU (SMR 11187A). Pottery was also found to the north-west (SMR 10490A) at a cropmark site that possibly includes the remains of a Roman field system. A cropmark site to the north (SMR 06985) may also be Roman in date.

Anglo-Saxon

There have been no finds of this date from around the subject site.

Medieval

Domesday (1086) records the name Wicken as *Wicha*, and a probable derivation of the name is 'dairy-farm(s)'. Dimmock's Cote is probably associated with the family of Hugo *Dymmok*, recorded in 1394 (Reaney 1943).

Medieval pottery was found during excavation in the quarry in 1993 (SMR 11187B), and to the north-west of the site lies a series of cropmarks of rectangular enclosures (SMR 10490).

Excavations by the AFU exposed medieval furrows cutting through the Bronze Age archaeology within the development area. One of the strips was found to contain two rectangular pits with a single post-hole suggesting a marker post and pit within the medieval field system (Kemp and Kenney 2002)

5 PREVIOUS ARCHAEOLOGICAL WORK

Apart from Trenches I and II, which evaluated the archaeological potential of the quarry in 1992, subsequent excavations have been undertaken within a phased extraction scheme that was defined by Euston Lime. The results of the preceding two phases of evaluation and excavation are outline below. The results of the Phase 3 excavations (Trench 5) undertaken in 1994 are discussed in detail in subsequent sections.

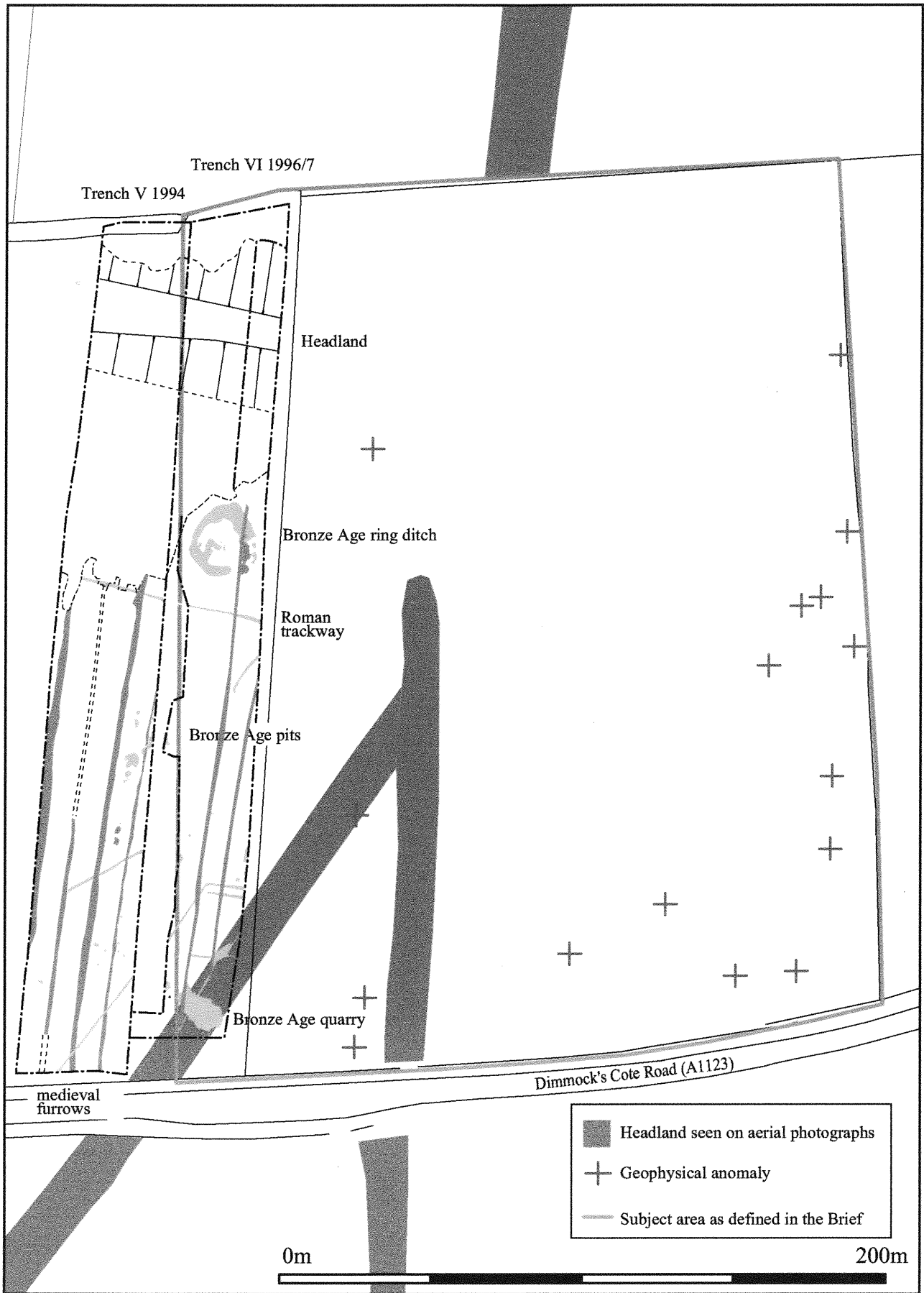


Figure 3 Detailed location map showing features from aerial photographic interpretation, geophysical anomalies on and around the development area, and features from previous excavations

Phase 1: Trenches I and II

In 1992 two trenches of 2m in width and 275m in length were opened prior to Phase 1 of quarrying (Bray 1992; 4). Archaeological remains encountered during these excavations included two parallel ditches, one of which had a series of post-holes cut into its base. These ditches were initially believed to be of Bronze Age date; but following further work in 1993 they were re-interpreted as the boundary ditches to a Roman trackway (Bray pers. comm.). The only other archaeological feature found during this phase of work was believed to be a sub-rectangular pit of 4 x 3m, although the feature was not completely exposed (Bray 1992; 9). This work suggested that there was a significant quantity of Bronze Age archaeology in the vicinity and was justification for further archaeological excavations.

Phase 2: Trench III

During July, 1993 a trench of 10m in width and 272m in length was opened (Bray 1993; 6). Excavated features consisted of a series of post-holes, sub-circular and square pits including a complex of intercutting pits. The two parallel ditches recorded in 1992 continued into this area. Three areas of Bronze Age activity were defined:

1. A series of post-holes believed to represent a circular hut and a curvilinear fence lying close to the parallel Roman ditches. These survived within the area of surviving buried soil (Bray 1993; 6).
2. A pit filled with fired clay, animal bone and a crucible has been interpreted as the remains of a funerary or industrial site (cut 43). This pit lay to the south of the remnants of a buried soil and the main complex of Neolithic and Bronze Age features (Bray 1993; 6).
3. A pit complex which Bray suggests may have been associated with a storage function lay at the southern end of Trench III (Bray 1993; 6).

The two parallel ditches continued to cut across the area enclosed by the circular hut and are therefore presumed to be of a more recent date, possibly Roman as they led towards Roman buildings removed by earlier phases of quarrying. Two undated rectangular pits were also excavated; these were believed to have been overlain by the buried soil and were assumed to be Neolithic in date (Bray 1993; 5).

Apart from the crucible mentioned above other artefacts recovered during this excavation included animal bone, pottery, flint tools, flint knapping waste and a loom weight. These artefacts are likely to indicate the presence of Neolithic or Bronze Age settlement nearby. A phosphate survey was undertaken across the buried soil that identified high concentrations of phosphates within the ancient soil; high phosphate levels are commonly indicative of domestic or agricultural waste and therefore could indicate the presence of an adjacent settlement.

Bray suggests that artefacts recovered during these excavations were largely securely within archaeological features, and the site, at least where it is overlain by the medieval headland, was in a relatively undisturbed condition (Bray 1994; 5). This

headland not only protected archaeological deposits, but also the Bw soil horizon of a buried soil which had formed near the base of the original post-glacial soil profile (French 1993; 9). This Bw horizon is referred to as "the Bronze Age buried soil" by Bray on the presumption that it formed between the late Neolithic which is the presumed date of the two pits over which it lies and the Bronze Age when a number of pits were cut in to this layer (Bray 1993:4).

Phase 2: Trench IV

Trench IV, opened in September 1993, was 35m wide, 280m long, and was excavated in advance of Phase 2 of limestone extraction (Schlee 1993).

This work continued the analysis of features highlighted in Trench III. Three types of Bronze Age arrangements were defined in addition to the continuation of the pit complex recognised in Trench III:

1. Six adjacent pits or post-holes lying to the south of the pit alignment were interpreted as a square structure (Schlee 1993; 2).
2. A semi-circular alignment of pits lying within the buried soil was suggested to be the remnants of a small roundhouse (Schlee 1993; 4).
3. Linear pit alignments within the buried soil were interpreted as a fence (Schlee 1993; 4).

The parallel ditches were found to contain Roman as well as Bronze Age pottery probably indicating a historic but pre-medieval date for the infilling and excavation of these features. Rectangular pits similar to those found in Trench III, although on a different orientation, were found to contain medieval pottery.

Excavation of the buried soil took place within eighteen 1m square test pits. Bronze Age pottery was recovered from a depth of up to 0.25m within the buried soil, although the majority of the finds came from the upper 0.05m. Schlee suggests that the Bronze Age buried soil had been disturbed by a combination of bioturbation and later ploughing and it would seem that the buried soil was preserved and largely incorporated in the headland (Schlee 1993;4)

Phase 3: Trench V (Figure 3)

Trench V, opened in November 1994 was 34m wide, 254m long, and was excavated in advance of Phase 3 of limestone extraction.

This work continued the analysis of features highlighted in Trench IV, but the majority of the features uncovered were hitherto unknown. Three types of arrangements of Bronze Age pits were defined in addition to the continuation of one ditch:

1. Eight sub-circular pits of an estimated 14 were excavated. These were arranged in a sub-linear intercutting pattern in a form similar to those encountered in 1993 (Trench IV).
2. A complex of at least four intercutting pits extending eastwards beyond the trench edge.
3. Six pits or post-holes were found that can be divided into two sub-groups by shape, either being circular/sub-circular or rectangular/sub-rectangular.
4. Two adjacent but discrete sub-rectangular pits were found in the south of the area.
5. Six pits or post-holes were found at the southern end of the area that can be divided into two sub-groups by shape, either being circular/sub-circular or rectangular/sub-rectangular.
6. The southern east-west ditch seen in Trenches I-IV was found to continue into Trench V, but no sign was seen of its northern companion.
7. Medieval plough furrows, a headland, associated pits and post-holes were shown to continue the pattern seen in previous excavations.

Typological analysis (fabric and form) of the pottery recovered from the linear pit complex suggests a late Neolithic or late Bronze Age date, although no diagnostic sherds were found within these pits. Other artefacts found within these pits included debitage indicative of Prehistoric flint knapping within this area and a few fragments of degraded bone.

Three sherds of pottery were recovered from the most recent feature of the second pit complex. These consisted of flint-tempered fabrics as well as pottery tempered with plant remains; in particular a sherd of Beaker pottery was recovered. Typological analysis has indicated a Neolithic or late Bronze Age date for the plant-tempered fabrics.

Eighteen sherds of flint tempered prehistoric pottery were recovered from the post-holes/pits. The typology of the pottery suggests a Neolithic or Bronze Age date for these sherds.

Thirty one sherds of flint tempered prehistoric pottery were recovered from one of the two adjacent pits, including the rim neck and body of an early Neolithic shouldered bowl. It is likely that both features relate to Neolithic activity in this area.

A single sherd of probable Iron Age pottery was recovered from the east-west ditch.

Phase 4: Trench VI (Figure 3)

Trench VI, opened in October 1996 and May 1997 was 20m wide, 170m long, and was excavated in advance of Phase 4 of limestone extraction.

This work continued the analysis of features highlighted in Trench V, but the majority of the features uncovered were hitherto unknown. Three types of arrangements of Bronze Age pits were defined in addition to the continuation of one ditch:

1. A sub-circular prehistoric enclosure with an entrance to the southeast was identified. It did not contain surviving burial remains and was not therefore interpreted as the remnants of a barrow, however it may still have once been a funerary monument.
2. A pit complex uncovered in the south of the trench was interpreted as a quarry.
3. The southern east-west ditch seen in Trenches I-V was found to continue into Trench VI, but no sign was seen of its northern companion.

The enclosure was dated as broadly prehistoric by morphology and its location in a rich Neolithic and Bronze Age landscape, while the pit complex produced sherds of Late Bronze Age pottery.

No finds were recovered from the east-west ditch during this season of excavations.

6 ARCHAEOLOGICAL POTENTIAL

Data collection has shown that the Wicken area is rich in archaeological remains of all periods. From the study of historical records and known archaeological remains it is clear that the development site has the potential for containing archaeological deposits particularly those of Bronze Age, Roman and Medieval date.

Cropmarks show that two major linear features extend into the new extraction area, and several other possibly structural features lie adjacent to it. Excavations so far have shown the richness of the Bronze Age archaeology in the immediate environs of the extraction site. The geophysical survey has also indicated a high level of response, possibly indicating a series of pits, mostly in the south-east of the extraction area, and this would fit well with previous findings in this area.

Excavations that have already occurred within the area defined by the 1987 agreement taken up by Francis Flower. Excavations have shown the presence of Bronze Age activity within the proposed quarry and highlighted the scattered nature of these remains.

7 IMPACT OF PROPOSED DEVELOPMENT

Given the mineral extraction proposed for the site, destruction of potential archaeological remains will be total. Although the aerial photographic report states that no cropmarks are visible within the site itself, the author also clearly states that this is in no way a firm indicator of negative archaeological potential (Palmer 2002, Appendix A). The geophysical scan revealed numerous magnetic anomalies that may correspond to archaeological features (Wilson 2002, Appendix B). Adjacent excavations and those within the defined area have shown that Bronze Age, Roman and Medieval archaeology extends into the quarry area.

The likelihood of finding further archaeological remains being high, and given the destructive nature of the development, a strategy of intrusive evaluation would be necessary to inform on the extent of such remains, their date and nature. Without further fieldwork it remains unclear whether the anomalies picked up by the aerial photography and geophysical surveys are caused by natural or by archaeological phenomena.

The evaluation will be important in defining areas of archaeological value and informing on potential research agendas that the site may assist in. Evaluation would usually be followed by a phase of open area excavation should significant archaeological deposits be found.

Approximately 20% of the development area as outlined in the brief was excavated in 1994 and 1996, and the archaeology present in those areas has been recorded. No further archaeological work will be undertaken in these areas (see figure 3). The results of these excavations can be found in Kemp and Kenney 2002.

8 CONCLUSIONS

The archaeological potential of the development area at Wicken can be summarised thus:

Period	Type of remains within or around quarry area	Likelihood of further remains surviving in the area
Mesolithic/Neolithic	Flint scatters, pottery	moderate
Bronze Age	Settlement, ritual and industrial activity	high
Iron Age	Not present	low
Roman	Field systems and trackways, settlement	high
Anglo Saxon	Not present	low
Medieval	Field systems	moderate
Post-medieval	Field systems	moderate

This study has demonstrated that the subject site lies within a rich archaeological landscape, surrounded by sites of prehistoric, Roman and medieval date. Since the site lies adjacent to an area that has been proven to be archaeologically rich, the potential of the development area to produce further remains of these periods is high. Based on the results of previous excavations, if archaeology is encountered on the site, conditions for preservation are likely to range from poor to very good.

Except in very exceptional occurrences, environmental analysis has been limited by a lack of suitable deposits and poor survival. The exceptions being occasional traces of burnt grain and the remains of a small furnace and crucible of Bronze Age date.

The potential for scientific dating is possible where charred remains are found. There has been no opportunity for such work during recent excavations. Thermoluminescence dating has been undertaken on the Bronze Age pottery with some success and has provided consistent Late Neolithic/Early Bronze Age and late Bronze Age dates. Any scientific dating should be undertaken as part of the research strategy defined following the evaluation.

Geomorphological and soil morphological studies have been undertaken and shown that remnants of buried soil indicative of an open agricultural landscape survive beneath the headland. No further studies are at present suggested although the evaluation may highlight additional study areas for any future excavation.

Geophysical analysis included a scan of the development area as part of the desk-top study. Detailed survey should be considered as part of the evaluation as this will add extra detail as to the extent of the archaeology and the types of features lying adjacent to those exposed and verified as archaeological within the trenches.

No further aerial photographic work is judged by the authors and the specialist to be necessary.

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**RED BARN, TL546723, WICKEN,
CAMBRIDGESHIRE:
AERIAL PHOTOGRAPHIC ASSESSMENT**

SUMMARY

This assessment of aerial photographs was to identify and accurately map archaeological and natural features in an area extending some 500m from a development centred TL546723.

The following archaeological features were identified:

Headlands remaining from medieval cultivation extended across the Study Area and indicate past arable use of the land.

Pre medieval features, probably traces of fields and enclosures dating to the Roman period, have been recorded south and west of the Development Area.

It is suggested that cultivation in the medieval period and during the period of photography (1946 to 1988) may have had a detrimental effect on the survival of any sub-surface features within the Development Area.

Photo interpretation and mapping was at 1:2500 level.

**RED BARN, TL546723, WICKEN,
CAMBRIDGESHIRE:
AERIAL PHOTOGRAPHIC ASSESSMENT**

Rog Palmer MA MIFA

INTRODUCTION

This assessment of aerial photographs was commissioned to examine an area extending some 500m from a development centred TL546723. The requirement was to identify and accurately map archaeological and natural features and thus provide a guide for field evaluation. The level of interpretation and mapping was to be at 1:2500.

ARCHAEOLOGICAL AND NATURAL FEATURES FROM AERIAL PHOTOGRAPHS

In suitable cultivated 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, which may survive in unploughed grassland, are also best recorded in winter months when vegetation is sparse and the low angle of the sun helps pick out slight differences of height and slope.

The most immediately 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. Although oblique photographs are able to provide a very detailed view, they are biased in providing a record that is mainly of features noticed by the observer, understood, 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 these vertical surveys are not necessarily 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.

PHOTO INTERPRETATION AND MAPPING

Photographs examined

Cover searches were obtained from the Cambridge University Collection of Aerial Photographs (CUCAP) and the National Monuments Record: Air Photographs (NMRAP), Swindon. Photographs included those resulting from specialist archaeological reconnaissance and routine vertical surveys.

Photographs consulted are listed in the Appendix to this report.

Base maps

OS digital data from survey at 1:2500 were provided by the client. Use was also made of a 1:10560 map to provide control information for obliques taken in 1952 which showed field boundaries that had since been removed.

Study area

It was requested that the study area extended about 500m from the development site. This meant that almost the whole area of the map provided was examined.

Photo interpretation and mapping

All photographs were examined by eye and under slight (2x) magnification, viewing them as stereoscopic pairs when possible. Interpretations, made at 1:2500 level, were marked on overlays to individual prints following procedures described by Palmer and Cox (1993). These overlays were then scanned and transformed to match a 1:2500 base map using Irwin Scollar's AirPhoto program (Scollar 2002). Two additional control points were measured from the 1:10560 map for use with 1950s obliques of the small site centred TL542721. Transformed files were set as background layers in AutoCAD Map, where features were overdrawn using standard conventions. Layers from this final drawing have been used to prepare the reduced figure in this report. The digital drawing has been provided to the client.

Accuracy

AirPhoto computes values for mismatches of control points on the photograph and map. In all transformations prepared for this assessment the mean mismatches were less than $\pm 1.50\text{m}$. These mismatches can be less than the survey accuracy of the base maps themselves and users should be aware of the published figures for the accuracy of large scale maps and thus the need to relate these mismatches to the Expected Accuracy of the Ordnance Survey maps from which control information was taken (OS 2002).

COMMENTARY

Soils

The Soil Survey of England and Wales (SSEW 1983) shows the study area to be Permian, Jurassic and Eocene limestone (soil association 511a). This description is enlarged by Hall (1996, 72) who notes that the deposit is rich in calcium carbonate and is commercially quarried.

Archaeological features

Land within the study area produces a bland appearance on air photos which rarely indicates any differences of soil depth or crop growth such as are often visible on some of the more 'responsive' soils in this part of England. The main exceptions are the headlands described below which show as tonal differences in winter soils and retain height when viewed stereoscopically.

The predominant archaeological features in the study area are the headlands remaining from medieval cultivation. These indicate that the area has been in arable use for several hundred years and suggest that earlier, pre-medieval, features may have suffered substantial damage from this landuse. Within the trapezoidal area bounded by modern roads north of the centre of the map, headlands are very indistinct, sometimes unusually broad, and show virtually no height on aerial photographs viewed stereoscopically. This most probably indicates continued lowering of them by post-medieval ploughing, as those fields have been in arable use on all dates of photography between 1946 and 1988.

The headlands form a usual pattern of regularly spaced strips except for the angled junction of two at TL544667235. This does appear to be a genuine feature as it can be seen on at least two vertical photographs of different dates and the angled turn is paralleled by the headland to the west. These changes of direction may reflect topographical features.

Earthwork strip ploughing survives in pasture fields enclosed by a modern road junction and centred TL549722. These may remain from post-medieval ploughing although strips in the eastern field appear, on some photographs, to be wider spaced and to have the typical curve of medieval ridge and furrow.

Pre-medieval features have been identified in two locations. At TL542721 are three sides of what may be a rectangular enclosure of unknown function. It has a slightly inturned entrance near the centre of its eastern side and there are very slight indications of a possible circular feature (?hut) within its north-east corner. This feature was first recorded as crop-marked ditches in 1951 and was also visible in 1988 suggesting that some of the sub-surface features may still survive. The headland that crosses the south-east corner may have provided some additional protection of accumulated soil. Hall's Site 9 (1996, 76 and fig 37) is west of this feature and may be related.

Other ditched features at TL542726 survive as slight earthworks in pasture and equate with Hall's Site 8 (1996, 76 and Fig 37). The alignment of these is similar to that of the site to the south and they may once have been components of a system of fields of unknown extent. Both

of Hall's sites produced Roman pottery as did a third site immediately outside the northern boundary of the study area (Hall 1996: Wicken Site 7).

Because of the apparently unresponsive soil/crop combination and degradation from past cultivation, the mapped sub-surface features may represent only a minimal view of those present within the Study Area.

Non-archaeological features

Two linear features have been mapped as pipelines, although neither are definitely identified as such. A short straight features connects the corner of the property at TL545728 to the northern boundary of the lime quarry. This may be a pipeline or a recent boundary although, if the latter, it was not visible on early photographs or on dates before enclosure of land for the property at TL545728. The second possible pipeline is the zigzag linear that continues south of the study area. This seems unlikely either as a pipeline or a former boundary although it is a definite sub-surface feature and was visible on photographs taken on at least two dates. Neither feature appears likely to extend into the Development Area.

One short length of angled ditch has been mapped crossing the ridge and furrow at TL550722. This was an extant ditch until 1947 but recent photographs show it to have been backfilled.

Two small areas of deeper soil have been mapped immediately east of the rectangular feature at TL542721. These may be archaeological but are more likely to indicate sites of former hand-dug quarries. Similar features, but slightly larger, were extant in 1946 near the south-west corner of the current lime quarry.

Land use

Almost all fields within the study area have been in arable use on all dates of photography. Exceptions are the small pasture fields west of Fodder Fen Drove and those near the road junction at TL550722. Medieval cultivation has been noted above, and the long duration of arable use of the land may have been to severely truncate any pre-medieval sub-surface features. Continued cultivation may also account for the bland appearance of the fields from the air.

The lime quarry has extended in a number of phases. Small hand-dug quarries were extant in the south-west corner and showed little change between 1946 and 1954. The area had enlarged to become a trapezoid in the south-west of the present quarry by 1956 and extended to the north in stages, reaching the present northern boundary (and remaining west of the kink in that boundary) by 1968. Staged extensions of the working area then moved to the east.

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- SSEW, 1983. *Soils of England and Wales: sheet 4: Eastern England (1:250,000).* Soil Survey of England and Wales, Harpenden.

APPENDIX

Aerial photographs examined

Source: Cambridge University Collection of Aerial Photographs

Oblique photographs

GW 1-3	17 July 1951
HH 90-92	11 June 1952
BUF 44-45	10 July 1975

Vertical photographs

RC8-EH 118-120	5 April 1982	1:10000
RC8-EH 194-196	5 April 1982	1:10000
RC8-JL 33-34	30 June 1987	1:10000
RC8-KnBN 62, 64	16 July 1988	1:10000
RC8-KnBN 66	16 July 1988	1:10000

Source: National Monuments Record: Air Photographs

Specialist collection

TL5472/1	26 July 1950
TL5472/2-3	25 July 1953
TL5472/5/7-11	2 August 1977
TL5473/1-2	20 July 1950
TL5473/3	26 July 1950
TL5473/4-6	1 August 1953
TL5473/7-8	20 July 1950

Vertical collection

106G/UK/1557: 1152	7 June 1946	1:9800
106G/UK/1557: 4330-4333	7 June 1946	1:9800
106G/UK/1589: 2063-2065	21 June 1946	1:10000
CPE/UK/1952: 2111-2113	25 March 1947	1:10000
CPE/UK/1952: 4064-4065	25 March 1947	1:10000
F22.58/1337: 16-18	11 January 1954	1:10000
F21.58/2041: 94	3 October 1956	1:10000
2F21.543/2409: 230-231	16 September 1963	1:10000
MAL/68061: 112	12 August 1968	1:10000
MAL/68061: 131	12 August 1968	1:10000
MAL/69055: 196-198	9 June 1969	1:10500
MAL/69056: 15-16	9 June 1969	1:10500

OS/71274: 53-54	2 June 1971	1:7500
OS/71274: 66-67	2 June 1971	1:7500
OS/72159: 338-339	2 June 1972	1:7100

Most informative photographs

GW 3
HH91
RC8-EH 119-120
RC8-EH 194-196
CPE/UK/1952: 2111-2112
MAL/69056: 196-7
OS/71274: 53-54

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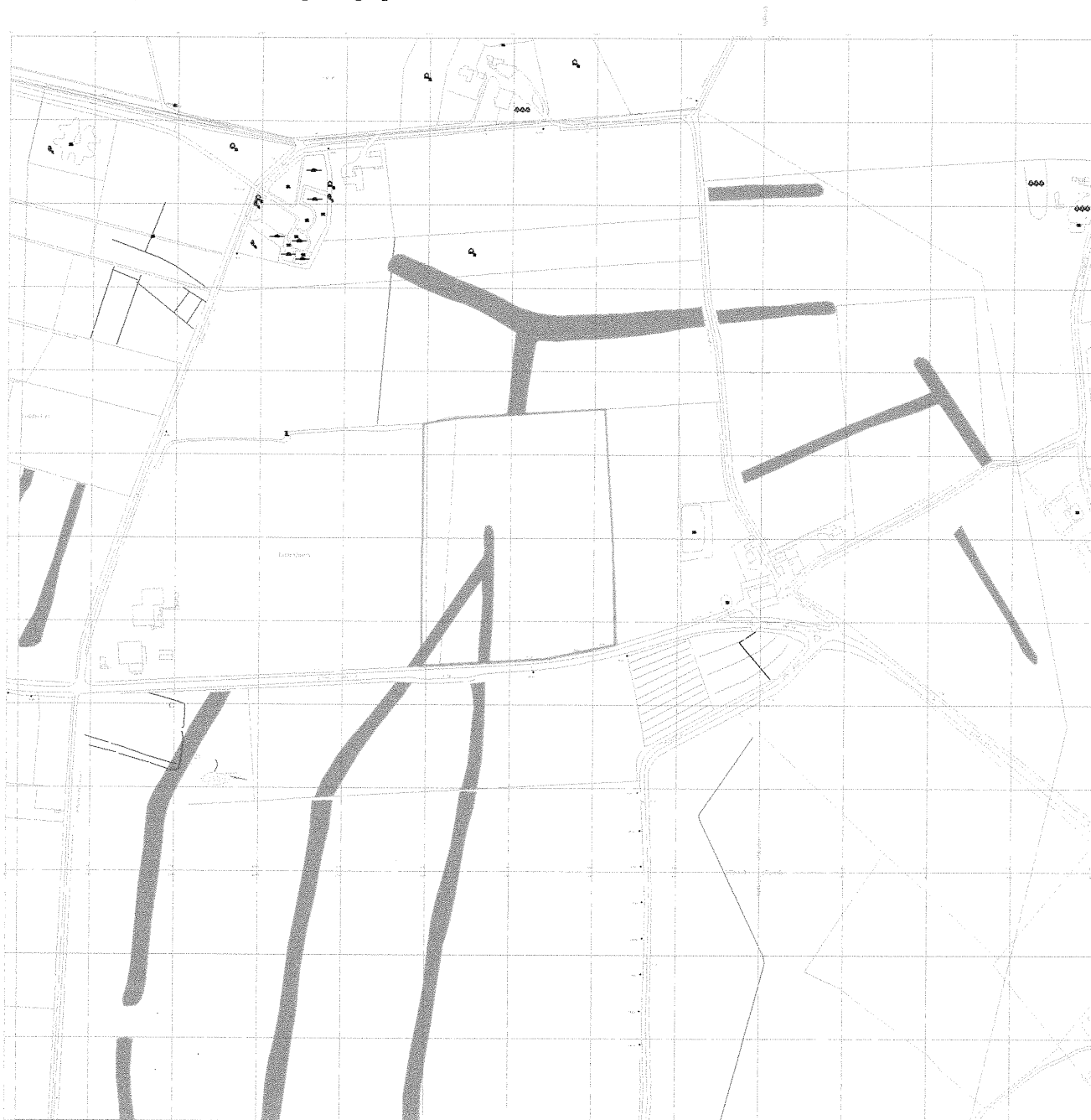
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Red Barn, Wicken, Cambridgeshire:
 Features interpreted from aerial photographs



- | | |
|-----------------------|-----------------------------------|
| Archaeological | Recent |
| — Ditch | — Pipeline |
| — Possible ditch | — Former boundary |
| ■ Headland | ▨ Deep soil: ?old quarry |
| --- Ridge and furrow | |
| --- Narrow rig | |
| | Study and Development Area |

Original photo interpretation and mapping at 1:2500
 using photographs from CUCAP and NMRAP.
 Air Photo Services: April 2002.
 Drawing: 0205RedB.dwg

**Proposed Lime Quarry,
Wicken, Cambridgeshire
(TL 5470 7240)**

Gradiometer Scan Observations

M.D.Wilson BA (Hons), MIFA, MAAIS, FSA Scot

March 2002

SAS Report No. 11/02

Commissioned by:

Cambridgeshire County Council Archaeological Field Unit

Southern Archaeological Services Limited

Registered Office: 4 Coventry Road Bedworth Warwickshire CV12 8NN
Tel: 024 76 311567 / 76313792 Registered No. 3394485

Affiliated to the Council for British Archaeology (CBA)

Summary

In March 2002, a geophysical survey was undertaken in an area of proposed lime quarrying at Wicken, Cambridgeshire (TL 5470 7240). The survey comprised part of an archaeological field evaluation and was conducted by Souterrain Archaeological Services Limited, on behalf of Cambridgeshire County Council Archaeological Field Unit. The surveyors were J.MacQueen BA Hons HND and M.D.Wilson MIFA.

The results were sparse but show a general clustering in the eastern and south-eastern part of the Study Area. It is believed that the responses indicate the presence of pits.

THE SURVEY

Methodology

The Study Area was closely scanned at traverse intervals of 3m with a Geoscan Research fluxgate gradiometer FM36. The instrument was set on the 1nT range. The co-ordinates of anomalies considered to have archaeological potential were captured by hand held GPS (accuracy constant between 3m and 4m) and plotted to a field drawing at 1:100 scale.

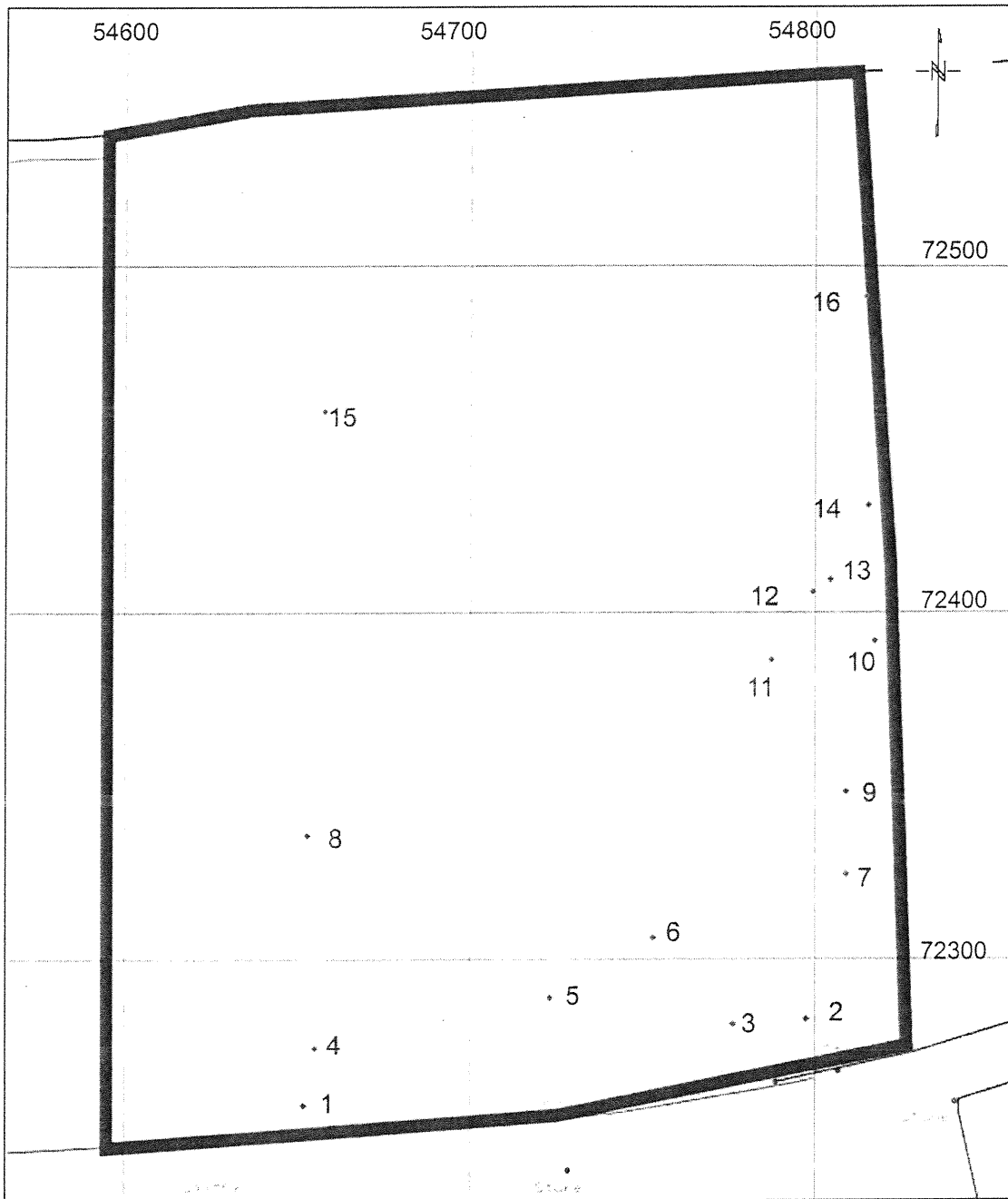
Scanning Results

A total of 16 anomalies that suggest buried archaeological features were located. Figure 1 shows their distribution. Most features appear to be pits, generally ranging in size, between c.0.5 and 2m in diameter, but occasionally larger (Nos.6, 9 and 15). Fairly recent quarry pits, other subsoil disturbance cannot be precluded.

It is notable that the anomalies are clustered mainly around the eastern and south-eastern part of the Study Area. It was also noted that the scatters of flint artefacts and debitage largely occur in the eastern and southern part of the site, and that the central, north and north-western parts of the Study Area have been ‘sub-soiled’ during ploughing, breaking up the ceramic field drains throughout in the process.

Table 1. Scanning Results Wicken

No.	TL	E	N	NOTES: (comparative background magnetivity: -4 / -5 constant, 1 to 16; -3/-4, 15)
1	54797		72282	c.1m dia. possible pit +5>+7
2	54776		72280	c.0.5m dia possible small pit +4>+5
3	54660		72275	c.1m dia. possible pit ?modern -6/+8
4	54723		72285	c.2m dia. probable large pit
5	54753		72306	c.2m dia. probable pit +4>+6
6	54808		72328	c.2.5m dia. irregular. uncertain feature +5>+9
7	54775		72335	c.1m dia. probable pit -9>+4
8	54807		72348	c. 1m dia. probable pit -7>+5
9	54686		72353	c.2.5m-3m dia. ?large pit +5>+11
10	54816		72391	c.1m dia. possible pit -7>+4
11	54790		72386	c.1.5m dia. ?pit +5>+11
12	54799		72405	c.1m dia. possible pit -1>+7
13	54804		72408	c.0.5-1m dia. -7>+14 probable modern disturbance
14	54815		72431	c. 0.5m dia. small feature +4
15	54658		72458	c.3m dia. probable large pit -7>+8
16	54816		72492	c.0.5m dia. small feature >+8



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Figure 1 Distribution of possible archaeological features (scale 1:200)

APPENDIX C

Sites and Monuments Record Gazetteer for Dimmock's Cote, Wicken

SMR no	Grid ref. TL	Period	Description
06973	5422/7224	Roman	Burials, pottery
06979	541-/719-	Mesolithic	Flint scatter
06980	543-/718-	Late Bronze Age	Winged axe
06981	543-/721-	Roman	Ditches, pottery, bone, tile
06985	544-/730-	?Roman	Cropmarks
10490	543-/726-	medieval	Enclosure
10490A	543-/726-	Roman	Pottery, possible enclosure
10524	5458/7223	Bronze Age	Gullies, pits
10525	541-/723-	Roman	Villa
11141	544-/723-	Bronze Age	Buried soil, pottery, bone
11187	546-/724-	Bronze Age	Ditches, post-holes, pottery
11187A	546-/724-	Roman	Pottery
11187B	546-/724-	medieval	Pottery



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*The Archaeological Field Unit
Fulbourn Community Centre
Haggis Gap
Fulbourn
Cambridge CB1 5HD
Tel (01223) 881614
Fax (01223) 880946*