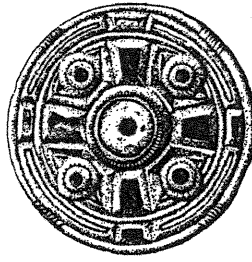


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Archaeological Field Unit

Whitefield, Hinton Way, Great Shelford: An Archaeological Evaluation

S Kenney

October 1997

Cambridgeshire County Council

Report No. B12

Commissioned By Solus Developments Ltd

SUMMARY

In September 1997, the Archaeological Field Unit of Cambridgeshire County Council conducted an archaeological evaluation on land at Whitefield and Uplands, Hinton Way, Great Shelford, Cambridgeshire (TL473/534). The work was commissioned by Lyster, Grillet and Harding on behalf of Solus Development Ltd.

No pre-nineteenth century archaeology was found in the twelve trenches excavated, and all the features located are probably related to landscaping associated with the construction of Whitefield and Uplands.

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An Archaeological Evaluation at Whitefield, Hinton Way, Great Shelford

1 INTRODUCTION

Between 29th September and 6th October 1997, the AFU carried out an archaeological evaluation on land at Whitefield and Uplands, Hinton Way, Great Shelford (TL473/534). The work was carried out at the request of Lyster, Grillet and Harding on behalf of Solus Developments Ltd, in advance of a proposed Hotel development, and was in response to a brief set by the County Archaeology Office (CAO).

The site lies on the northeastern side of Great Shelford. It is irregular, approximately 10ha in area, and consists of land on two adjacent properties, formerly separate. The area affected by the development proposals covers approximately 3.5ha. Large areas of the site are wooded, the Clarke's Hill Plantation having been laid out between 1810 and 1885. The proposed development will not have a significant effect upon these woods, and the vegetation to be removed is mostly more recent shrubs and bushes.

The presence of archaeological remains was considered likely by the CAO on the basis of information contained in the County Sites and Monuments Record (SMR). It records Neolithic activity (SMR 04893) at Clarke's Hill, the area upon which Uplands and Whitefield sit. To the southwest of the site, further Prehistoric finds are recorded (SMR 04891, 04892).

Twelve linear trenches with a total length of c350m were opened by machine, and subsequently hand cleaned, photographed, and base planned using a Zeiss RecElta 15 Total Station Theodolite.

Apart from features associated with landscaping and construction on the two properties, no archaeology was observed in any of the trenches, and no artefacts earlier than nineteenth century date were recovered.

2 GEOLOGY AND TOPOGRAPHY

2.1 Geology

The site lies on the Lower and Middle Chalk, with the highest ground being the outcrop of the latter. The Melbourn Rock horizon, which occurs at the interface of these two strata, runs NW-SE across the site, and has probably been subject to extraction in this century on the site.

2.2 Topography

Great Shelford and Stapleford largely stand on level ground at around 20m AOD, gently rising to 30m AOD to the northeast, with the slightly removed estates on Clarke's Hill at about 45m AOD. Hinton Way then falls again towards Babraham Road, dropping to around 24m AOD. Clarke's Hill is part of a tongue of higher ground that extends westwards from the Gog Magog Hills. The westernmost summit of this higher ground is White Hill, then, travelling eastwards, they are Clarke's Hill, Fox Hill, Little Trees Hill, and finally, Wandlebury. Both Little Trees Hill and Wandlebury stand at 74m AOD.

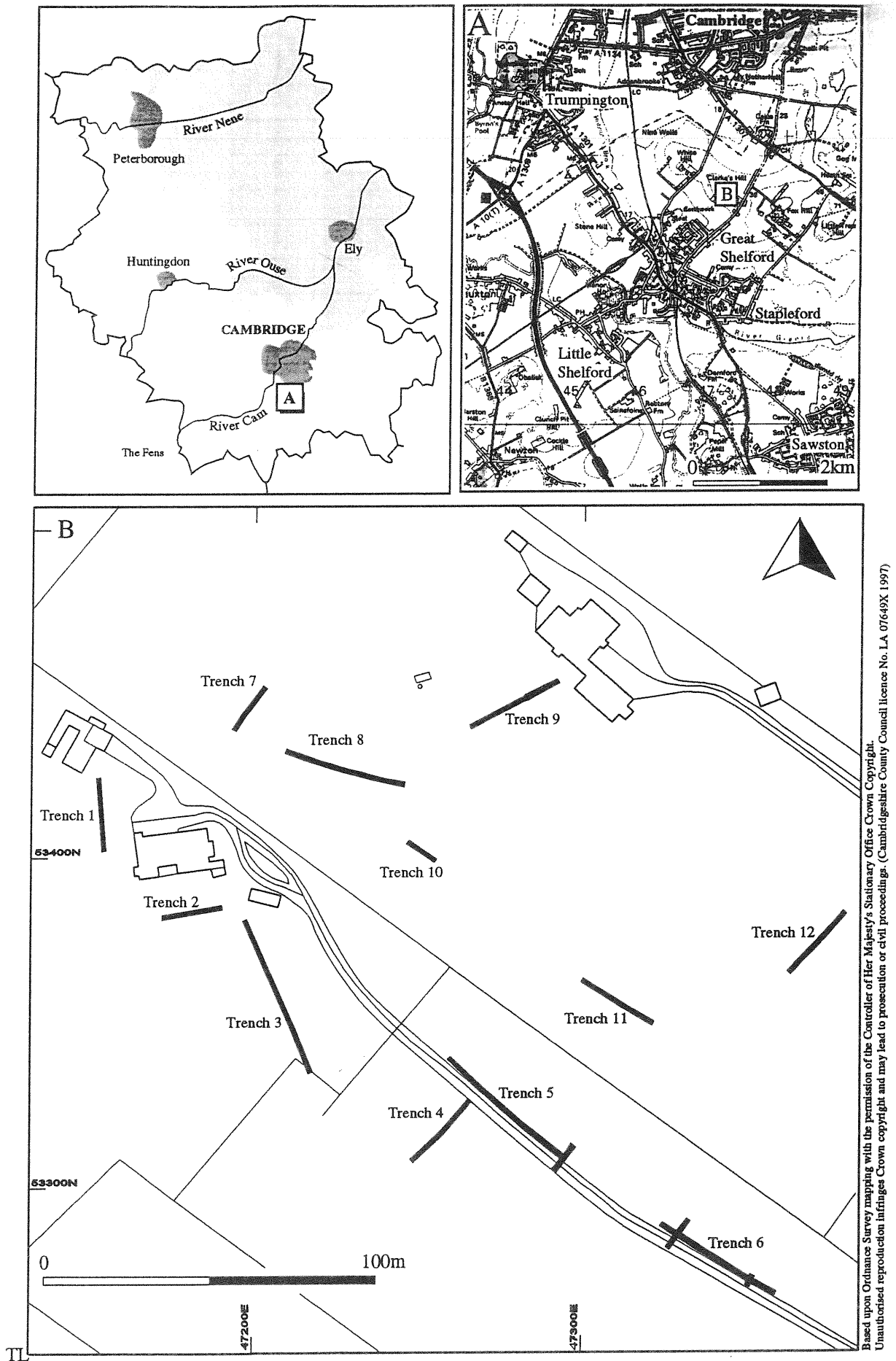


Figure 1 Location Map

3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.1 Historical Background

Lying 4km south of Cambridge, Great Shelford is mentioned in Domesday as "*Sceldeforde*", meaning 'ford through the shallow place' (Reaney, 1943). It lies on the north bank of the river Cam, and is largely low-lying, with areas subject to flooding. At least one boundary of the parish, to the northeast, may be ancient, being formed by Wort's Causeway, a possibly pre-Roman trackway; the others are field boundaries, fixed later due to the fields being shared before Enclosure with neighbouring parishes.

Early settlement in the parish is evident from the amount of flint tools recovered, and at least two prehistoric funerary structures are known. In the Iron Age, a settlement existed along the river extending nearly 2km towards Hauxton Mill, and this area was also occupied during the Roman period. Later, in the Medieval period, two moated manor houses existed, one at either end of the village. Granham's Manor, southwest of the site, retains the remnants of a rectangular moat, and a large rectangular enclosure that is surrounded by a low bank. It has been suggested recently that this latter earthwork may be the altered remains of the defences for an Anglo-Saxon mint. First mentioned in 1203, even then it was referred to as the *Aldewerke*, meaning "the ancient, old or former fortification" (Hart 1995).

At Domesday, 38 people are recorded in Shelford, there being no distinction at the time between Great and Little. By 1801 this had risen to 570, and in 1996, the population stood at 4080.

The area of the site seems to have been outside any area of development until the end of the nineteenth century, and until the Enclosure Act of 1834, it was within the large common field called Whitefield, from which one of the houses takes its name. Haigh (1975) cites a map in St Johns College library of c1790 which purports to show a "clay pit" in the northern corner of the site. However, parish records indicate that the sole clay pit in the village was northeast of Granham's Farm, a rather wet area now used by the County Council as a storage depot (Taylor 1971); the lack of clay on Clarke's Hill tends to confirm the idea that the 1790 map mentioned may show an erroneous location.

Uplands was completed in 1893, having been built for Walter Gaskell, lecturer in Physiology at the University. The other properties, including Whitefield, were completed by 1901. No records seem to exist of the quarry in the northern part of the grounds of Whitefield, although it was only dug between 1925 and 1950, probably for Clunch extraction, which would fit with the known pattern of quarrying on nearby hills such as White Hill and Little Trees Hill.

3.2 Archaeological Background

3.2.1 Palaeolithic and Mesolithic

No definitively Palaeolithic or Mesolithic finds have been attributed to the area around the site.

3.2.2 Neolithic and Bronze Age

Numerous finds of flint artefacts dating from either the Neolithic or the Bronze Age have been located in the vicinity. Several finds scatters have been located (SMR 04880a, 04881, 04882, 04891, 04892, 04893, 04894a, 05016, 05056a). Stray finds have also been made (SMR 00969a, 04540, 04851, 04880, 05011, 05012, 05058, 05059). A polished Neolithic flint axe has been found (SMR 04886). A ring ditch (SMR 04894) seen as a cropmark, is undated, but the causewayed camp and bowl barrow at Little Trees Hill (SM 24422, SMR 05056), are Neolithic and Bronze Age respectively.

3.2.3 Iron Age

The Iron Age hillfort of Wandlebury Camp (SM 24406), lies to the northeast of Little Trees Hill, and is a monument of national importance.

3.2.4 Roman

Stray Roman finds have been found in a few places (SMR 04791, 05050).

3.2.5 Anglo-Saxon

No definitively Saxon finds have been attributed to the area around the site.

3.2.6 Medieval

Stray Medieval finds have been found in several places (SMR 00969, 04540a, 04894b).

4 METHODOLOGY

Prior to the commencement of work on site, a desktop study was undertaken in conjunction with an assessment of the aerial survey data. A geophysical survey, as outlined in the brief, was considered unlikely to be effective, due to the extensive landscaping and the presence of roads and buildings (Noel, pers comm). The desktop study revealed limited information about the historical and archaeological background of the site, the results of which are detailed elsewhere in this report. The aerial photographic survey did not indicate any cropmarks, soilmarks, upstanding or sunken features within the development area, other than those due to nineteenth or twentieth century landscaping.

Twelve trenches were opened using a mechanical excavator with a 1.5m toothless ditching bucket, under the supervision of an archaeologist (see fig. 1).

The trenches were cleaned by hand, photographed, and base planned using a Zeiss RecElta 15 Total Station Theodolite with an internal data logger. The survey data was downloaded to, and manipulated in AIC's ProSurveyor v3.35, and the resulting drawings plotted.

5 RESULTS

5.1 Trench 1

Trench 1 was 22m long and contained no archaeology. Modern tarmac overlay hardcore and mixed redeposited sands and gravels to a depth of 1.0m. Below this was chalk natural.

5.2 Trench 2

Trench 2 was 18.5m long and contained only nineteenth or twentieth century archaeology in the form of concrete foundations. Turf and topsoil overlay 0.5m of modern makeup, which in turn overlay 0.5m of subsoil; below this was natural chalk.

5.3 Trench 3

Trench 3 was 50.5m long and contained only nineteenth or twentieth century archaeology in the form of drains and pipe trenches. Turf and topsoil overlay 0.5m of subsoil; below this was natural chalk.

5.4 Trench 4

Trench 4 was 25.5m long and contained only nineteenth or twentieth century archaeology in the form of a single planting pit. Turf and topsoil overlay 0.25m of subsoil; below this was natural chalk.

5.5 Trench 5

Trench 5 was 46m long and contained only nineteenth or twentieth century archaeology in the form of a drain. Turf and topsoil overlay natural chalk.

5.6 Trench 6

Trench 6 was 40.5m long and contained only nineteenth or twentieth century archaeology in the form of chalk makeup for the drive. Turf and topsoil overlay 0.15m of subsoil; below this was natural chalk.

5.7 Trench 7

Trench 7 was 16.5m long and contained only nineteenth or twentieth century archaeology in the form of a small pit or posthole. Turf and topsoil overlay 0.1m of subsoil; below this was natural chalk.

5.8 Trench 8

Trench 8 was 37m long and contained only nineteenth or twentieth century archaeology in the form of a possible hedge planting trench or drain. Turf and topsoil overlay 0.2m of subsoil; below this was natural chalk.

5.9 Trench 9

Trench 9 was 30.5m long and contained only nineteenth or twentieth century archaeology in the form of pipe trenches and an extensive possible landscaping feature. Turf and topsoil overlay natural Melbourn Stone chalk rock.

5.10 Trench 10

Trench 10 was 10.5m long and contained no archaeology. Turf and topsoil overlay natural chalk.

5.11 Trench 11

Trench 11 was 25m long and contained no archaeology. Turf and topsoil overlay up to 0.4m of subsoil; below this was natural chalk.

5.12 Trench 12

Trench 12 was 25m long and contained no archaeology. Turf and topsoil overlay 0.1m of subsoil; below this was natural chalk.

6 DISCUSSION

Despite the SMR entries indicating various prehistoric artefacts found in the surrounding area, it appears that any evidence of settlement, if it ever existed on Clarke's Hill, has been obliterated by the landscaping which has taken place on the site. No artefacts dated to before the nineteenth century were recovered, and all anthropogenic features are very likely to relate to the construction and improvement of the properties which stand on the site.

7 RECOMMENDATIONS

No further archaeological works are recommended before construction takes place.

ACKNOWLEDGEMENTS

The author wishes to thank Solus Development Ltd for funding the project, particularly Graham and David Wood for their unflagging interest; William Wall, the Project Manager; the site staff- Carole Fletcher, and Jon Cane, who produced the illustration. Thanks are also due to Dr Tim Reynolds, Senior Archaeologist at the SMR and Lesley Akeroyd at the County Records Office. Dr Mark Noel provided advice on the potential success of geophysical survey. This project was carried out in response to a brief drawn up by the County Archaeology Office.

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Ordnance Survey of Cambridgeshire, 25", 1950

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WHITEFIELDS/UPLANDS, TL473533, GREAT SHELFORD

CAMBRIDGESHIRE:

AERIAL PHOTOGRAPHIC ASSESSMENT

SUMMARY

This assessment was commissioned to examine an area of some 11 hectares (centred TL473533) in order to identify and accurately map archaeological and natural features.

Other than one headland, probably of medieval date, no archaeological features were identified within the assessment area.

Notes are provided on some of the changes in garden use and design.

Mapping was at 1:2500.

WHITEFIELDS/UPLANDS, TL473533, GREAT SHELFORD

CAMBRIDGESHIRE:

AERIAL PHOTOGRAPHIC ASSESSMENT

Rog Palmer MA MIFA

INTRODUCTION

This assessment of aerial photographs was commissioned to examine an area of some 11 hectares (centred TL473533) in order to identify and accurately map archaeological and natural features. 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 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.

Grass rarely shows such marks but instead may reveal sub-surface features through the withering of the plants above them. These may occur towards the end of very dry summers and usually indicate the presence of buried walls or foundations. Such dry summers occurred in Britain in 1949, 1959, 1975, 1976, 1984, 1989 and 1990 (Bewley 1994, 25) and more recently in 1995 and 1996. This does not imply that every grass field will reveal its buried remains on these dates as local variations in weather and field management will affect parching. However, it does provide a list of years in which photographs taken from, say, mid July to the end of August may prove informative.

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. The edges and extents of deep soil areas tend to vary from year to year with the amount of ground moisture content.

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. 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), Cambridgeshire Record Office (CRO) and the National Library of Air Photographs (NLAP), Swindon. Photographs included those resulting from specialist archaeological reconnaissance and routine vertical surveys.

Photo interpretation was begun on the Cambridge photographs by Rog Palmer. The information mapped was then compared against photographs at NLAP by Chris Cox (APS, Swindon) and amended as appropriate. Final compilation and drawing was by Rog Palmer.

Photographs consulted are listed in the Appendix to this report.

Base maps

Digital base map tiles at a scale of 1:2500 were provided by the client.

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 prepared for this assessment these were less than $\pm 2.0\text{m}$. Rectified and plotted

output was combined to form the basis of the digital plan that accompanies this assessment (Figure 1).

COMMENTARY

Soils

The Soil Survey of England and Wales (SSEW 1983) shows the area to be situated on chalky drift and chalk (series 511e) with the possibility of chalk (series 342a) being present in the northern part of the assessment area. Arable fields on such soils would have good potential for differential growth of cereal crops over sub-surface features and for some of these to show as colour differences in bare soil.

Archaeological features (Figure 1)

With the exception of a headland which crosses field 2621, and another which, if projected, would also cross that field, no archaeological features were identified within the assessment area. The headlands were probably of medieval date.

The headland is one of a small number that are barely visible in the north Shelford area and which are now almost totally levelled by modern ploughing. Hints of others to the north-west of the assessment area are suggested on some photographs but have not been mapped.

Only one crop-marked feature was noted near the assessment area: a single ring ditch at TL46785326.

Non-archaeological features (Figure 1)

The vertical photographs examined show minor changes to the landuse within the assessment area, mostly of changes to the garden layout. Figure 1 mixes former features with those now (1988) present. South-west of The Uplands there was a formal terraced garden which was maintained and used as such into the 1980s. Between the 1940s and 1975 there were other garden areas: a kitchen garden north of The Uplands (presumably in the property to the north) and an area of what appears to be soft fruit or orchard to the south-east. By 1988 boundaries in The Uplands had changed and, with most old boundaries removed, virtually the whole property was grassed over.

Between 1969 and 1982 a small platform was made at TL47225329. This appears to have been created by cutting a ditch on three sides (the low sides) and using the spoil to build up a level, near-square, platform. There was no evidence for this feature on photographs before 1969, and its presence was uncertain, possibly due to adjacent gardening activity, on the 1975 prints.

Land use

Changing gardens have been noted above. The other significant factor which masks some of the assessment area is the amount of mature tree cover. The maximum extent was in the immediate post-war years (as shown in Figure 1) and shows where the ground could not be seen on any of

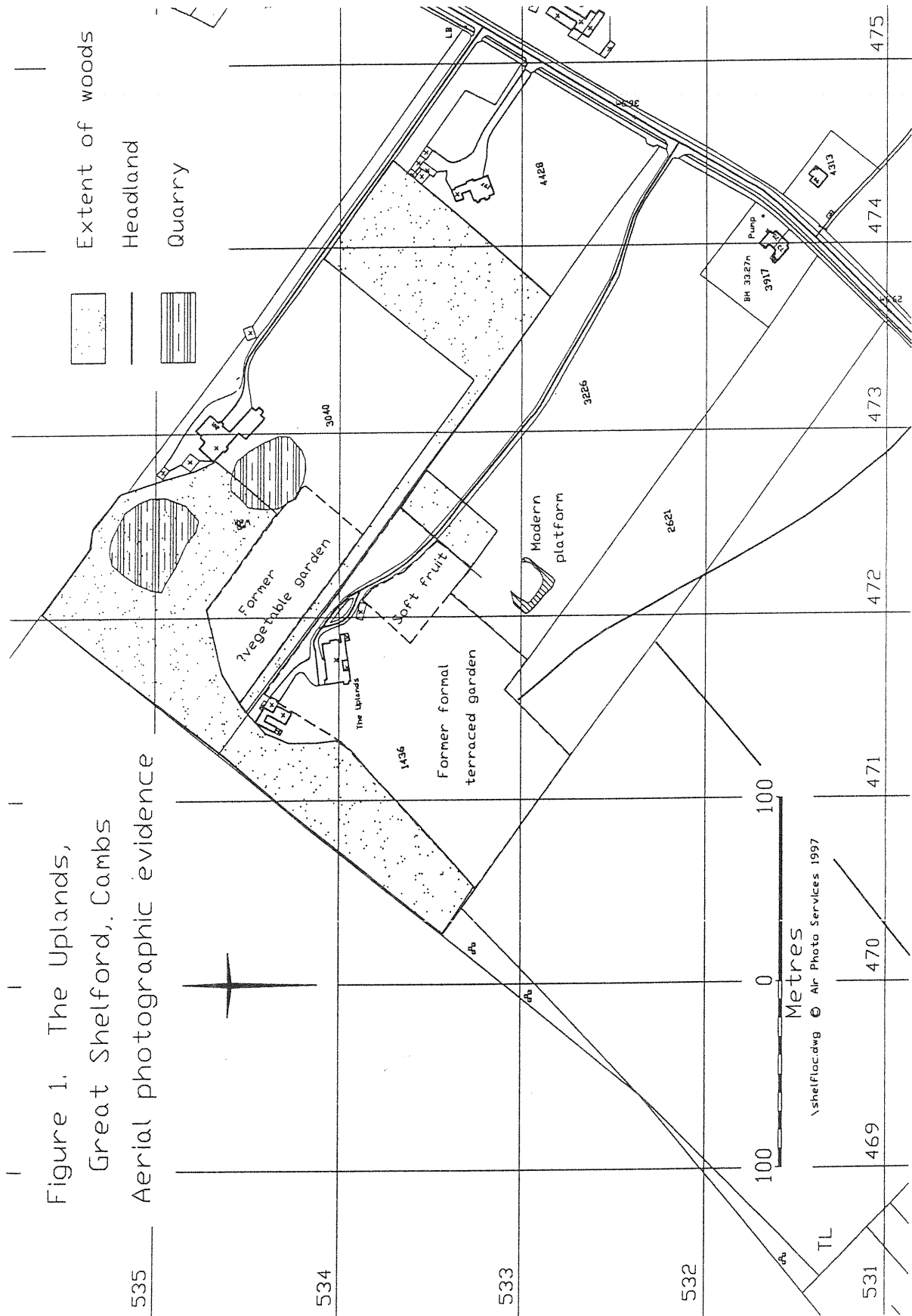
the photographs examined. The quarry within the wood (at TL47245350) has been implied by a visible lowering of the tree canopy (most clearly seen in 1982), while its neighbour has always been recorded as a grass-covered hollow.

Land use in adjacent fields has been predominantly arable but has offered very little evidence of archaeological or natural features.

In 1949 a pipeline was cut north and east of the assessment area but its route does not intrude within it.

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APPENDIX

Aerial photographs examined

Source: Cambridge University Collection of Aerial Photographs

Oblique photographs

NF 79-80	8 March 1954
ASK 99-100	3 July 1967

Vertical photographs

RC8-KnBE 164, 230	12 June 1988	1:10000
RC8-CK 58	16 November 1977	1:10000
RC8-EO 78-80	2 July 1982	1:5000

Additional verticals were listed as possibly covering the area, but had not been printed:

Z-KnEG 396(±)	9 July 1994	1:12500
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Source: Cambridgeshire Record Office

Vertical photographs

Fairey Surveys: 201274-201275	late summer 1949	1:6000
Fairey Surveys: 201308-201311	late summer 1949	1:6000
BKS Run 15: 56993-56995	late summer 1962	1:10000

(other photographs in the Record Office duplicate those listed under NLAP)

Source: National Library of Air Photographs (cover search 454997)

Vertical collection

106G/UK/1718: 4133-4134	6 September 1946	1:9800
58/214: 5401-5402	17 April 1949	1:8000
541/507: 4005-4007	20 April 1950	1:10000
OS/52R32: 86-88	23 May 1952	1:8000
F21.540/1143: 162-163	9 June 1953	1:10000
OS/67145: 179-180	5 June 1967	1:7500
OS/67145: 193-194	5 June 1967	1:7500
MAL/68038: 156-157	2 June 1968	1:11000
MAL/69070: 37-38	22 July 1969	1:10500
HSL/UK/75/34: 2589-2591	undated 1975	1:11000

Most informative photographs

RC8-EO 79-80	best for detailed information
MAL/69070: 37-38	} show changes in garden areas
HSL/UK/75/34 2589-2591	}

TERMS AND CONDITIONS

Air Photo Services have produced this assessment for their clients, Cambridgeshire Archaeological Field Unit, subject to the following conditions:

Air Photo Services will be answerable only for those transcriptions, plans, documentary records and written reports that it submits to the clients, and not for the accuracy of any edited or re-drawn versions of that material that may subsequently be produced by the clients or any other of their agents.

That transcriptions, documentation, and textual reports presented within this assessment report shall be explicitly identified as the work of Air Photo Services.

Air Photo Services has consulted only those aerial photographs specified. It cannot guarantee that further aerial photographs of archaeological significance do not exist in collections that were not examined.

Due to the nature of aerial photographic evidence, Air Photo Services cannot guarantee that there may not be further archaeological features found during ground survey which are not visible on aerial photographs or that apparently 'blank' areas will not contain masked archaeological evidence.

We suggest that if a period of 6 months or more elapses between compilation of this report and field evaluation new searches are made in appropriate photo libraries. Examination of any newly acquired photographs is recommended.

That the original working documents (being interpretation overlays, control information, and digital data files) will remain the property of Air Photo Services and be securely retained by it for a period of three years from the completion date of this assessment after which only the digital files may be retained.

It is requested that a copy of this report be lodged with the relevant Sites and Monuments Record within six months of the completion of the archaeological evaluation.

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