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AN ARCHAEOLOGICAL EVALUATION OF THE PROPOSED A3 IMPROVEMENTS AT HINDHEAD

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Client	Chris Blandford Associates
Date of Project	1994
Date of Report	25th June 1994

AN ARCHAEOLOGICAL EVALUATION OF THE PROPOSED A3 IMPROVEMENTS AT HINDHEAD

INTRODUCTION

An archaeological evaluation of land affected by the proposed improvements to the A3, London to Portsmouth trunk road, was carried out by staff of the Surrey County Archaeological Unit assisted by volunteers from Surrey Archaeological Society, under the supervision of Steve Dyer, on behalf of Chris Blandford Associates.

The methodology of this evaluation was to excavate small trial pits on a grid system in suitable locations, sieving the resultant top soil for the recovery of artefacts of archaeological interest. In other areas extant earthwork features were recorded and sections excavated through these where necessary.

PROJECT LOCATION

It is proposed to upgrade a 6km stretch of the A3 at Hindhead to dual carriageway and at the same time to bypass the town. The preferred Route for the scheme would leave the existing line of the A3 to the south-west of Hindhead at Nutcombe where it would then run through the grounds of Grove School into the Nutcombe Valley. The scheme would enter a 1.72 km long twin-bored tunnel in Tyndalls Wood, this would pass under the Hindhead Road, Hindhead Common and emerge to the north of Gibbet Hill into Boundless Copse. This preferred Route would then bisect Kiln Copse, before climbing up the valley side to rejoin the present alignment of the A3 dual-carriageway north-west of Black Hanger, this route is shown on Fig. 1.

The elements of this route evaluated during this project are all within areas directly threatened by this proposed route; those elements lying above the section of the road projected to be within the tunnel were not the subject of any work within this evaluation as the surface in this area would not be the subject of ground disturbance.

GEOLOGY AND TOPOGRAPHY

The area of the proposed improvements to the A3 all lies on Hythe Beds, forming part of the Lower Greensand series of Cretaceous date. This Greensand results in soils generally of an acidic sand or sandy loam composition, giving rise to acidic heath lands. Much of this land, due to its acidic nature, has been used as common land although much of this, due to lack of recent management, is reverting to birch and pine woodland.

The topography of the area varies between 146 metres AOD near Thursley to over 272 metres AOD at Gibbet Hill. A number of small streams exist close to the study area, and more have previously created valleys, now dried up.

BACKGROUND

An archaeological desk-top assessment of the area of the proposed A3 Hindhead Improvements was undertaken by Chris Blandford Associates, the results of which are included in the archaeological brief for the project (CBA/HJG/D067/Arch. brief/Rev2). This document includes, as well as the preferred route for the improvements, a corridor to either side of the proposed alignment; allowing for the elements of the historic landscape recorded to be placed in their wider context.

From this desk-top study a number of features or artefacts of archaeological interest were plotted (Fig. 2), although no definite occupation or other 'sites' were known from those parts of the study area subject to the archaeological fieldwork.

Separate to this study the National Trust had earlier commissioned a survey of its entire estate at Hindhead Commons to recognise and record all elements of the historic landscape surviving, together with a detailed documentary study of this property. The basis for this study was two-fold: firstly to incorporate the resulting information into the management agreement for the property, in order that those surviving elements might be managed as a part of the continuing understanding of the landscape in the vicinity, and, secondly, to ensure that those elements of the historic landscape which may fall within the areas affected by the improvements to the road, where these are on National Trust property, would be recorded prior to any destruction.

THE ARCHAEOLOGICAL BRIEF

The archaeological brief set out the aims of the evaluation as follows:

(a) To sample excavate the features identified during the survey of the National Trust property in order to ascertain their form, character and date.

(b) To sample excavate and plot any additional features or chance finds which may be located during field survey.

(c) To test pit where practicable in order to examine for the presence of artefacts in the topsoil and to gain additional information on soil formation.

(d) To carry out non-intrusive survey on the open farmland at either end of the scheme in order to verify the presence or absence of subsurface features.

In addition to these elements of work areas were suggested where sampling for palaeo-environmental remains should be undertaken; these samples would indicate whether pollen survives within the buried strata, which might provide data relating to the past environment of these selected areas.

A summary of the areas subject to the different elements of work is shown on Fig. 3.

THE ARCHAEOLOGICAL FIELDWORK

For ease of showing the detail of the work, its results and recommendations for further work, this report on the fieldwork has been split into individual components of the study, each representing a distinct parcel of land, working from west to east along the route of the proposed improvements.

BRAMSHOTT COMMON (Fig. 4)

A small portion of the Ministry of Defence owned common land was walked over to assess the presence of any earthwork features of archaeological interest, where it is proposed to carry out junction improvements between the A3 Portsmouth Road and Hammer Lane.

No features of archaeological or historic interest were observed in this area, and it is not believed that any have been destroyed during previous activities.

No further archaeological work is recommended in this area.

LAND NORTH AND EAST OF BRAMSHOTT COMMON (Fig. 5)

This area was subject to a non intrusive archaeogeophysical survey, involving magnetometer and magnetic susceptibility surveys, carried out by the Barlett-Clark Consultancy. This is the subject of a separate report provided by the consultants, the results and recommendations are not therefore discussed here.

LAND TO THE NORTH EAST OF HAZEL GROVE (Fig. 6)

An area of woodland administered by the executors of the late EEN Causton was walked over to assess the presence of earthwork features of archaeological or historic interest.

A number of features of a ditch-like nature were observed and surveyed. These have been plotted onto an Ordnance Survey base map (Fig. 7). These features occur as a series of parallel linear depressions which have been interpreted as hollow ways; these

representing the course of a previous route across this area, probably prior to the construction of the modern A3 on its present line. The number of these features is caused by the shifting of the individual element in use, due to factors such as waterlogging during times of rain, or the growth of trees or scrub. A continuation of these features can be seen in the adjoining part of the National Trust property.

Due to the nature of these earthworks the excavation of sections across them would not reveal any detail of their construction or date, as previously excavated sections in the National Trust property had proved: no excavation of these features was, therefore, undertaken.

Given the nature of the land, and the results of the test pitting carried out at Nutcombe Down (below) it was not thought that test pitting within this area was necessary, as it was unlikely that artefacts of archaeological interest would be recovered during such an exercise.

Although these features represent the shifting of a previous routeway in this area, they have no significant archaeological potential and no further work on them is recommended.

GROUNDS OF WEST WING, PORTSMOUTH ROAD (Fig. 8)

The grounds of West Wing, Portsmouth Road, one wing of a large 19th century country house now sub-divided, were walked over to assess the potential for survival of features of archaeological or historic interest.

The grounds of this wing of the house, together with the gardens of the rest of the building, have been intensively landscaped in the 19th/20th century. This would probably have destroyed any areas of archaeological potential, although in places portions of the previously mentioned hollow ways were seen to continue.

It is recommended that no further archaeological work is carried out here.

NUTCOMBE DOWN (Fig. 9)

Part of the National Trust property previously surveyed, this area was subjected to test pitting of the top-soil and sub-soil, and had sections excavated across three linear features previously recorded. The locations of the test pits and excavated sections are shown on Fig. 10.

A total of twenty-one test pits, each 1 metre by 0.5 metre was excavated on a 20 metre grid basis. The top-soil and sub-soil were excavated and sieved separately with the aim of collecting any artefacts of archaeological interest from within these deposits.

None of the test pits produced artefacts of any nature, the nature of the soil revealing that it had not been affected by any major human influence, having accumulated as the result of decayed organic matter arising from leaf litter and other natural processes. Each of the test pits had levels, relating to the Ordnance Datum, taken at ground level and at the base of the excavated deposits, and these are shown in Appendix A.

Two of the features sectioned were linear depressions interpreted as hollow ways marking the course of a previous route across this land: these features mark a continuation of those recorded and mentioned in the land to the north-west of Hazel Grove (above). Both of these sections (Figs. 11 and 12) showed the leaf litter of the present ground surface to be overlying a humic sandy soil, formed from decayed vegetation; this in turn overlay a grey sandy sub-soil, below this a thin band of light grey sand, the result of natural filling, overlay natural sand deposits.
The third excavated section was cut across a bank and ditch in an area where this feature had suffered some recent damage. This section (Fig. 13) showed the construction method of this feature, but failed to produce any evidence of the date of its formation. The bank had been formed as a result of the material excavated from the ditch being placed in a mound alongside this ditch. The ditch showed a primary deposit of grey soily sand below a grey sandy soil formed from the erosion of the redeposited bank material; this erosion was also seen on the tail of the bank where the same deposit had eroded off the bank. The ground level prior to the construction of the bank was marked by a buried soil horizon. As with the sections of the hollow ways the modern surface is marked by a layer of leaf litter overlying a humic soil.

The bank and ditch have a limited local archaeological interest, and if this feature is to be affected by the proposed road improvements, the relevant elements should be further excavated with the aim of attempting to gain some dating evidence from within the deposits. The other features have no significant archaeological importance and no further work on these is recommended. The negative results of the test pitting and the evidence from them of the method of soil formation indicates that further excavation in this area would not be necessary.

NUTCOMBE VALLEY (Fig. 14)

The archaeological brief for the project suggested this as an area where a transect across the valley could be made for palaeo-environmental sampling.

The area was assessed by Dr R Scaife for this sampling, where it was found that a thin layer of top-soil lay directly upon natural deposits of Hythe Beds. The area was deemed unsuitable for palaeo-environmental survival and the suggested transect was not undertaken.

No further work is recommended for this area.

TYNDALLS WOOD (Fig. 15)

The previously undertaken earthwork survey of the National Trust property had recorded a series of strip lynchets on a spur of higher ground in this area, and it had been recommended within the archaeological brief that these be sectioned within the landtake that would form the tunnel entrance for the proposed scheme.

Where the proposed landtake affects these features they are already largely eroded, or covered by dense woodland; where these features are more significant they are also covered by dense woodland cover. No position could be defined where a suitable section could be excavated through these features, and therefore no action was taken in this respect.

This type of feature has yet to be properly assessed in Surrey and therefore these features should be regarded as of, at least, local archaeological importance. As it was not possible during this phase of the assessment to excavate these features, provision should be made for their evaluation prior to any works on the proposed road scheme in this area, but following the clearance of the tree cover.

BOUNDLESS COPSE & ADJOINING NATIONAL TRUST PROPERTY (Fig. 16)

The archaeological brief suggested that test pits be carried out over a large part of this area, and that sections be excavated across a boundary bank that had been recorded during the survey of the National Trust estate: this feature would also have a core for palaeo-environmental evidence taken from it. It was also suggested that the Forestry Commission land be surveyed for extant earthworks; any such features recorded would also have excavated sections cut through them at suitable positions.

On examination of the ground it was seen that not all of the suggested areas for the excavation of test pits appeared suitable for this type of evaluation, due to disturbance by modern forestry activities, the dense planting of trees, or the presence of peat deposits (Fig. 17). All of these areas thought unsuitable were tested by the excavation of some trial pits to establish the truth of this theory.

Within Boundless Copse a number of extant earthwork features were noticed and recorded, Fig. 19, these representing a field system previously occupying this land. One section was excavated through one of these features to ascertain its nature and if possible obtain dating for this agricultural use of the land: following the excavation of this section it was not deemed necessary to excavated further sections on these features due to the nature of the deposits and the fact that they largely fall outside the preferred route for the road scheme.

A total of sixty-nine trial pits, each 1 metre by 0.5 metre was excavated in Boundless Copse and the adjoining National Trust property on a 20 metre grid basis. Each of these trial pits had only the top soil removed and sieved for the recovery of artefacts,

each pit also had levels related to the Ordnance Datum taken at the present ground level and at the lowest point of excavation; these values are listed in Appendix B. The positions of these trial pits, together with the location of sections excavated through extant earthwork features is shown on Fig. 19.

None of the excavated trial pits at the southern end of this area, numbers 22-64 produced any artefacts of archaeological interest. In this part of Boundless Copse the ground was seen to becoming more peaty and after consultation with Chris Blandford Associates it was decided that further excavation in this area would not produce information of the standard required: it was further agreed that this area would be assessed for palaeo-environmental survival by coring. Where the trial pits were excavated away from the peat deposits the soil could be seen to be formed from the decaying of vegetation related to woodland and non agricultural activities.

Four trial pits, numbers 65-68, excavated within the area disturbed by forestry activities confirmed that this area had previously had all of the top-soil and parts of the sub-soil formed into ridges on which tree planting had been carried out. No artefacts of archaeological interest were recovered from these trial pits and from the amount of disturbance caused here the aims of the evaluation could not be met and no further excavation was carried out in this area.

Twenty-two trial pits, numbers 69-90, were excavated towards the western edge of the proposed route within Boundless Copse, four of these, numbers 73, 77, 78 and 79, produced slightly eroded fragments of roof tile from within the sieved top-soil; these are all of modern appearance. The presence of these tile fragments is not thought to represent the presence of a building within the immediate area, as it is thought that they may have been introduced during forestry operations or as the result of colluvial activities.

The section excavated across the bank and ditch forming the boundary between the Forestry Commission and National Trust estates, (Section 4) Fig. 20, failed to produce any artefacts that would help to date this feature. The method of construction of this bank was revealed by the excavation: a double ditch was evident after the excavation, the material resulting from the excavation of these ditches being thrown up to create the bank, which sealed a buried soil horizon this representing the ground level prior to the construction of this feature. Two distinct levels of the bank showed that the former top-soil and sub-soil had been excavated and placed separately to form the bank, with natural deposits being placed over these. The ditches had become infilled both with the erosion of the bank material into the ditches and with the accumulation of organic matter resulting from subsequent tree cover. It was suggested in the archaeological brief that a core sample be taken from this bank for the assessment of palaeo-environmental remains; at the suggestion of the consultant, Dr R Scaife, a monolith soil sample was agreed to be the better method for the recovery of such material, but due to the density of tree roots within the excavated section it was not possible to obtain such a sample.

A bank and ditch within Boundless Copse, (Section 5) Fig. 21, appears to represent the boundary of a small compartment of land of unknown use. The material used in the construction of the bank contained too much material to have been created from the excavation of the ditch alone: the adjoining area had at some stage been levelled and the material resulting from this appears to have been used in the construction of this feature. No dating evidence was recovered during the excavation of this section and no distinct stratigraphy was observed in the resulting cross-section.

One of the banks forming the field system previously mentioned and recorded had a section excavated through it with the aim of interpreting its construction and if possible gaining evidence for the dating of the creation of this field system, (Section 6) Fig. 22. No ditch was apparent as a surface feature prior to the excavation of this section, and following excavation it was seen that this bank was constructed using colluvial deposits from the surrounding area. At some time subsequent to the construction of the bank a ditch was cut on either side of the bank, this having later been infilled with material eroded from the bank. Fragments of brick and tile, together with burnt sand, probably the result of natural wood fires were recovered from this section through the bank, these appearing to date from the 18th or 19th century. Below the colluvial deposits and lying above natural sands one sherd of abraded pottery of probable medieval date was recovered, this suggesting that the deposition of the hillwash occurred after this time, and therefore dating the construction of the field boundaries into the post-medieval period.

Given the date suggested for the formation of this field system and that the majority of the features relating to it lie outside the line of the proposed route, no further sections were excavated across the other boundaries.

The peat deposits formed as a result of an Alder Carr along a woodland ghyll was assessed by coring for palaeo-environmental evidence, Fig. 23, the sites of the best deposits being collected for laboratory analysis to enable further recommendations to be made in respect of further work of this nature. The results of this are included in Appendix C.

None of the areas sampled by test pitting produced artefacts to suggest settlement in the vicinity, and it is not thought that any would have existed in those areas not sampled by this method. No further work is therefore recommended in these portions of the proposed scheme. Where sections were excavated through extant earthwork features these all appeared to be of local archaeological interest and where the proposed scheme affects these it is recommended that further excavation and/or monitoring of the works on these be carried out in order that any potential dating evidence be recovered.

KILN COPSE (Fig. 24)

A section was excavated across the bank and ditch forming the boundary at this point between the Forestry Commission and National Trust properties, a monolith soil sample was also taken for the assessment of palaeo-environmental remains.

The excavated section again failed to produce any evidence for the dating of this feature, but did confirm the construction method, Fig. 25. The bank had been formed from the material resulting from the excavation of the ditch, the top-soil and sub-soil being deposited together: no buried soil horizon was visible within the excavated section. The ditch had subsequently become silted with material eroded into it from the bank.

The results of the pollen analysis from the monolith core are discussed in Appendix C.

This feature is of local archaeological importance, forming as it does a major property boundary: further excavation of this is recommended in advance of any work on it by the proposed road scheme.

LIME KILN OFF BOUNDLESS LANE (Fig. 26)

The remains of a lime kiln exist to the east of Boundless Lane, and it was suggested that this be sectioned as part of the field evaluation.

This lime kiln is currently under dense undergrowth, and is not threatened by the preferred route of the proposed scheme. Excavation of this feature was not, therefore, undertaken.

This lime kiln is of local archaeological potential and if threatened by the realignment of the road in this area should be fully recorded and excavated.

SUMMARY

As has been reported in the individual components of this report only one artefact of archaeological interest, apart from a few more modern fragments of brick and tile, was recovered during this field evaluation. The general appearance of the soils excavated is that they have formed as the result of natural events with no human influence, apart from that of woodland management. None of the areas subjected to the trial pitting produced any evidence for settlement within those areas or their immediate vicinity. Given the nature of much of the topography, or the wet nature of the land it is not thought that any such activity existed in those parts not subject to any evaluation by trial pitting.

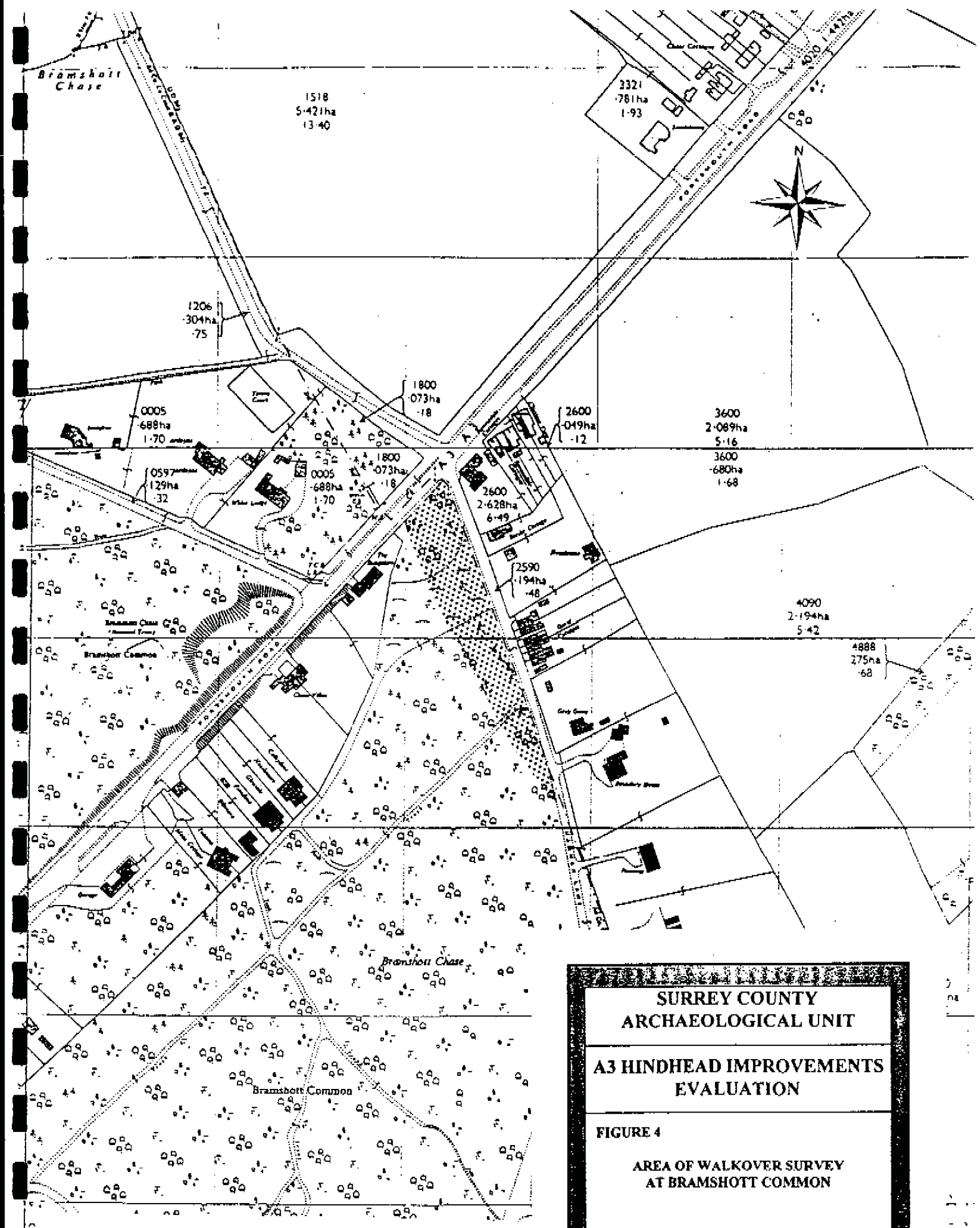
Where sections were excavated across extant earthwork features these were seen to be of local archaeological interest, and where these are to be subject to works associated with the proposed road scheme further excavation is recommended. This should be aimed at understanding the methods employed in the construction of these features, and if possible to gain evidence that would assist in their dating.

As it was not possible to undertake the excavation of a section across the strip lynchets in Tyndalls Wood, provision for some excavation across these features should be made if the proposed scheme is to affect the better preserved portions of these. This should be aimed at attempting to understand this type of feature, which as has been stated above has not been attempted in Surrey; this would greatly aid research into this element of the historic landscape in southern Britain.

ACKNOWLEDGEMENTS

Thanks should be made to Helen Glass of Chris Blandford Associates for co-ordinating and assisting during all stages of the work. The staff of the National Trust and Forestry Enterprises, particularly Andrew Storey and Laurie Wittle, have given assistance in access to much of the land and have shown an interest at all stages of the work. Finally, but not least, the staff of Surrey County Archaeological Unit, Jane Robertson, Simon Hind and Mark Dover for conducting much of the excavation, and members of Surrey Archaeological Society for their assistance in the excavation of one of the banks and for the survey of earthworks.

Steve Dyer
Archaeological Survey Officer
Surrey County Council



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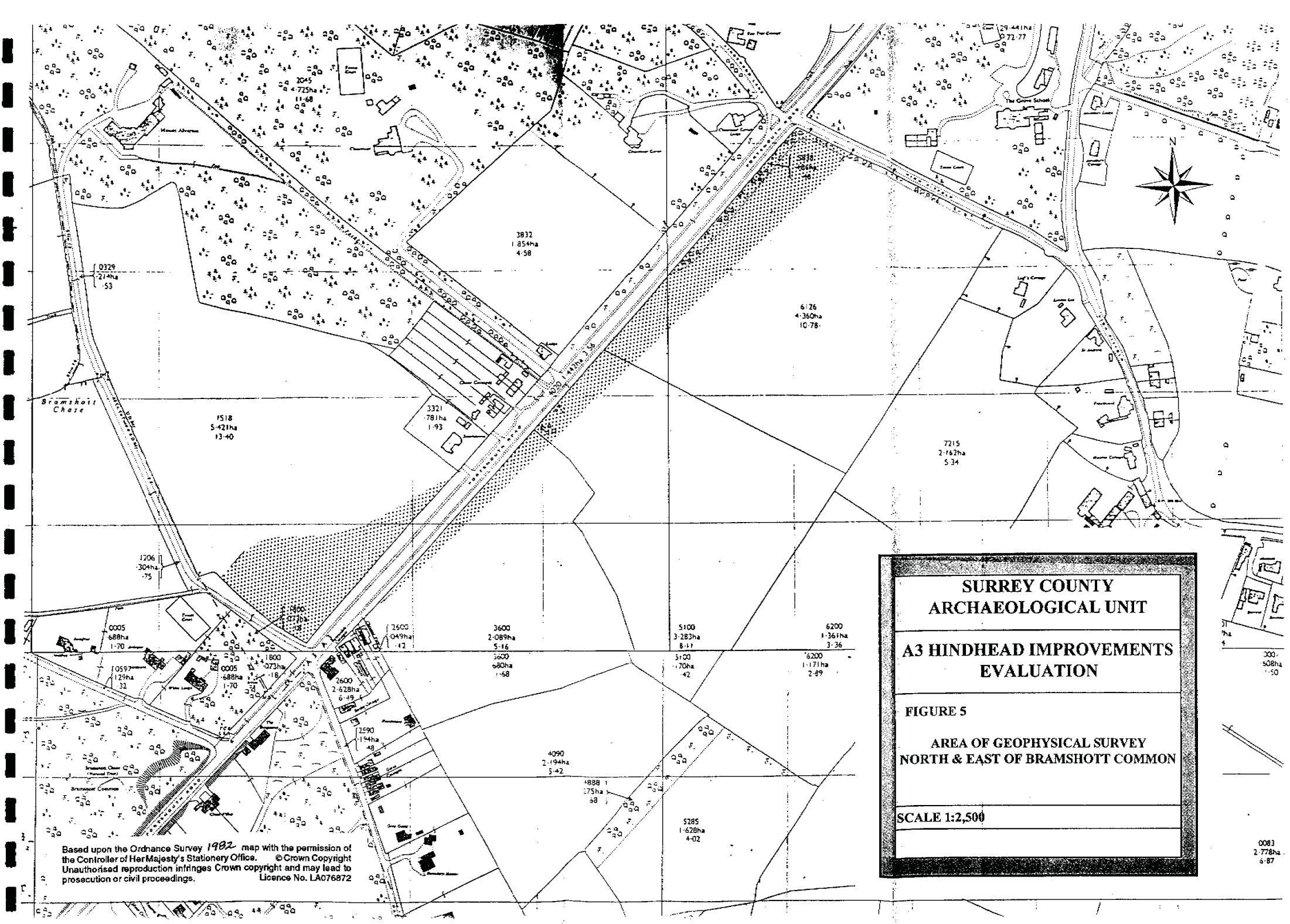
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 4

AREA OF WALKOVER SURVEY AT BRAMSHOTT COMMON

SCALE 1:2,500


SURREY COUNTY
ARCHAEOLOGICAL UNIT
A3 HINDHEAD IMPROVEMENTS
EVALUATION
FIGURE 5
AREA OF GEOPHYSICAL SURVEY
NORTH & EAST OF BRAMSHOTT COMMON
SCALE 1:2,500
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Bramshott Chase
Bramshott Common
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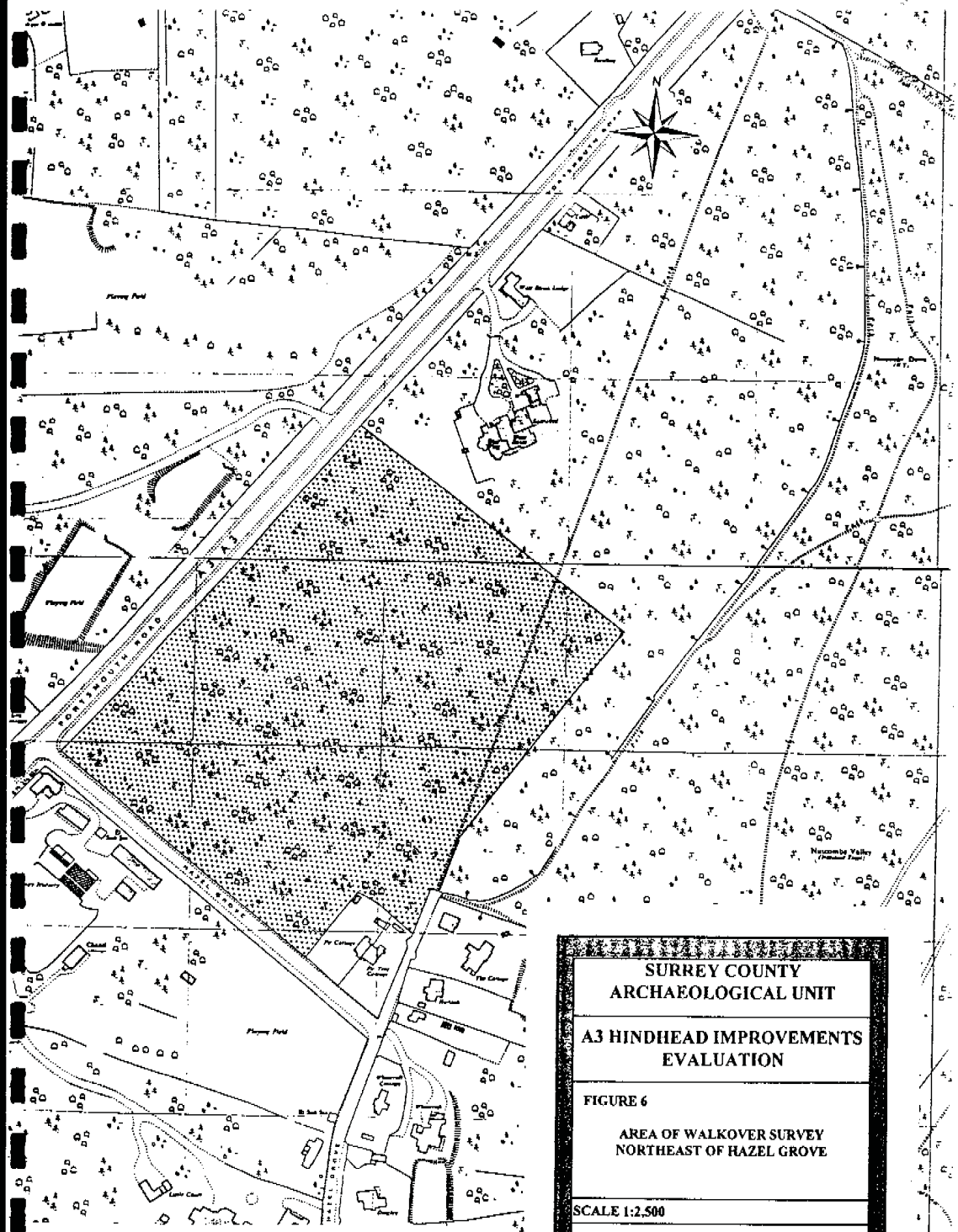


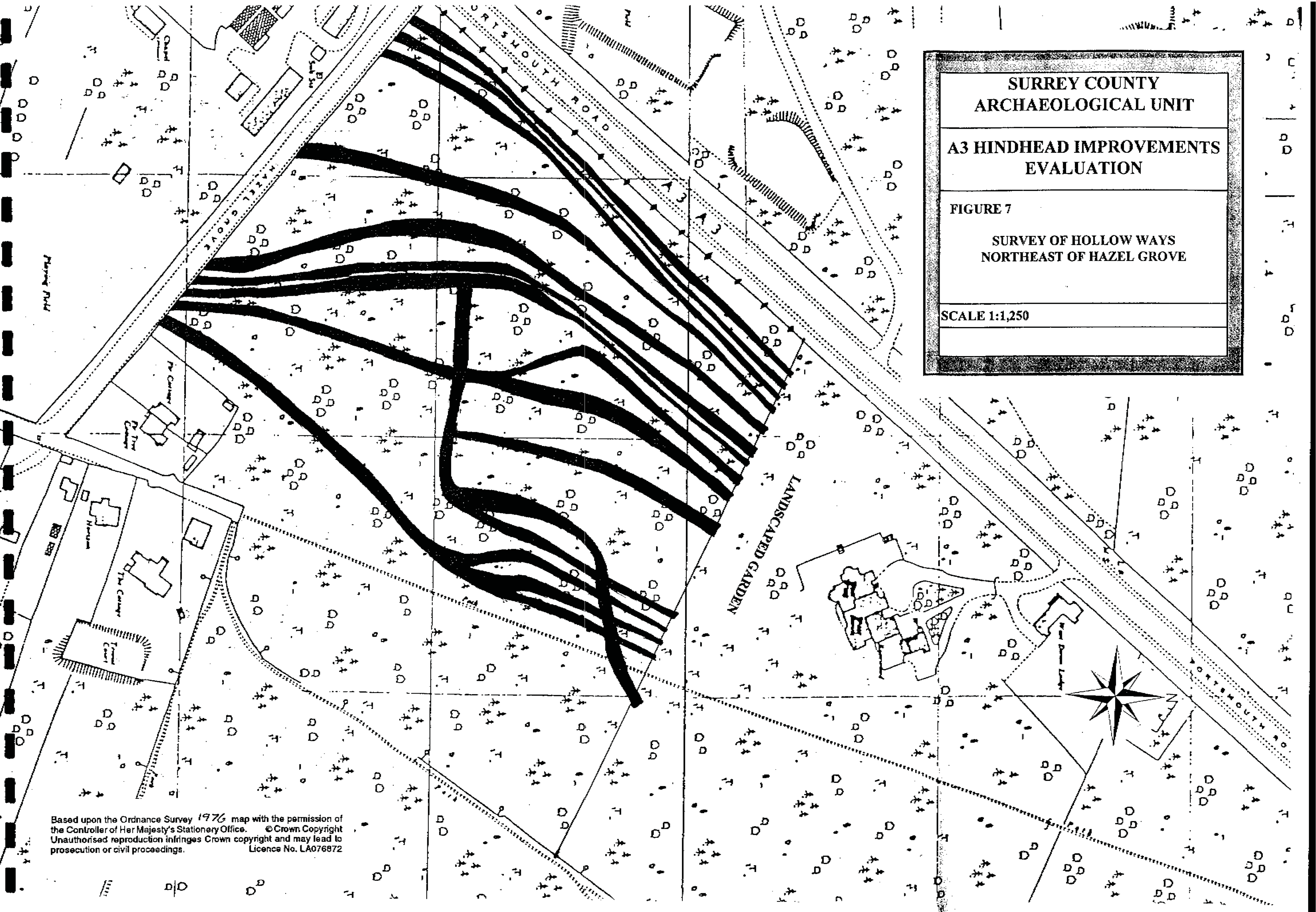
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 6

AREA OF WALKOVER SURVEY NORTHEAST OF HAZEL GROVE

SCALE 1:2,500



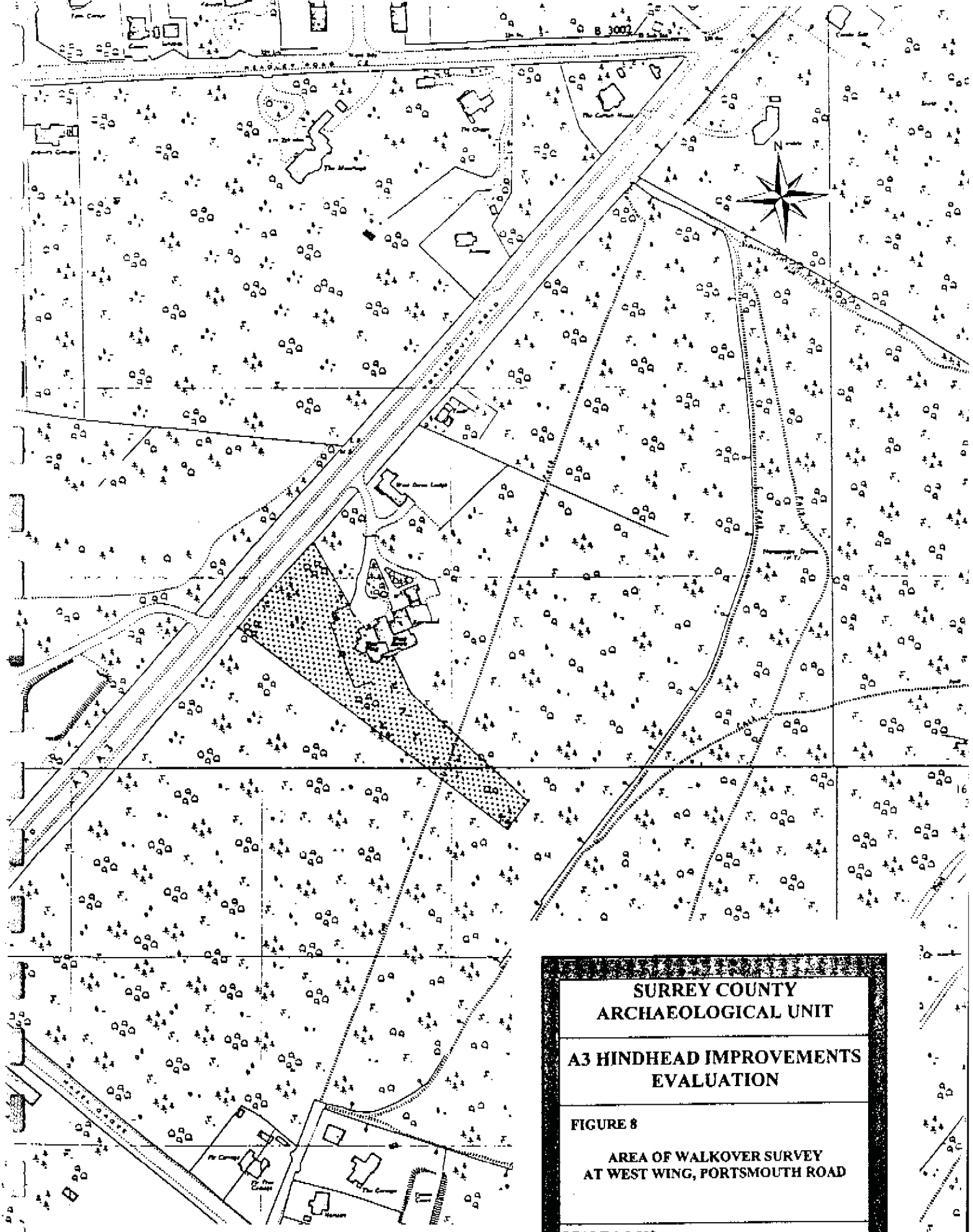
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 7

SURVEY OF HOLLOW WAYS NORTHEAST OF HAZEL GROVE

SCALE 1:1,250



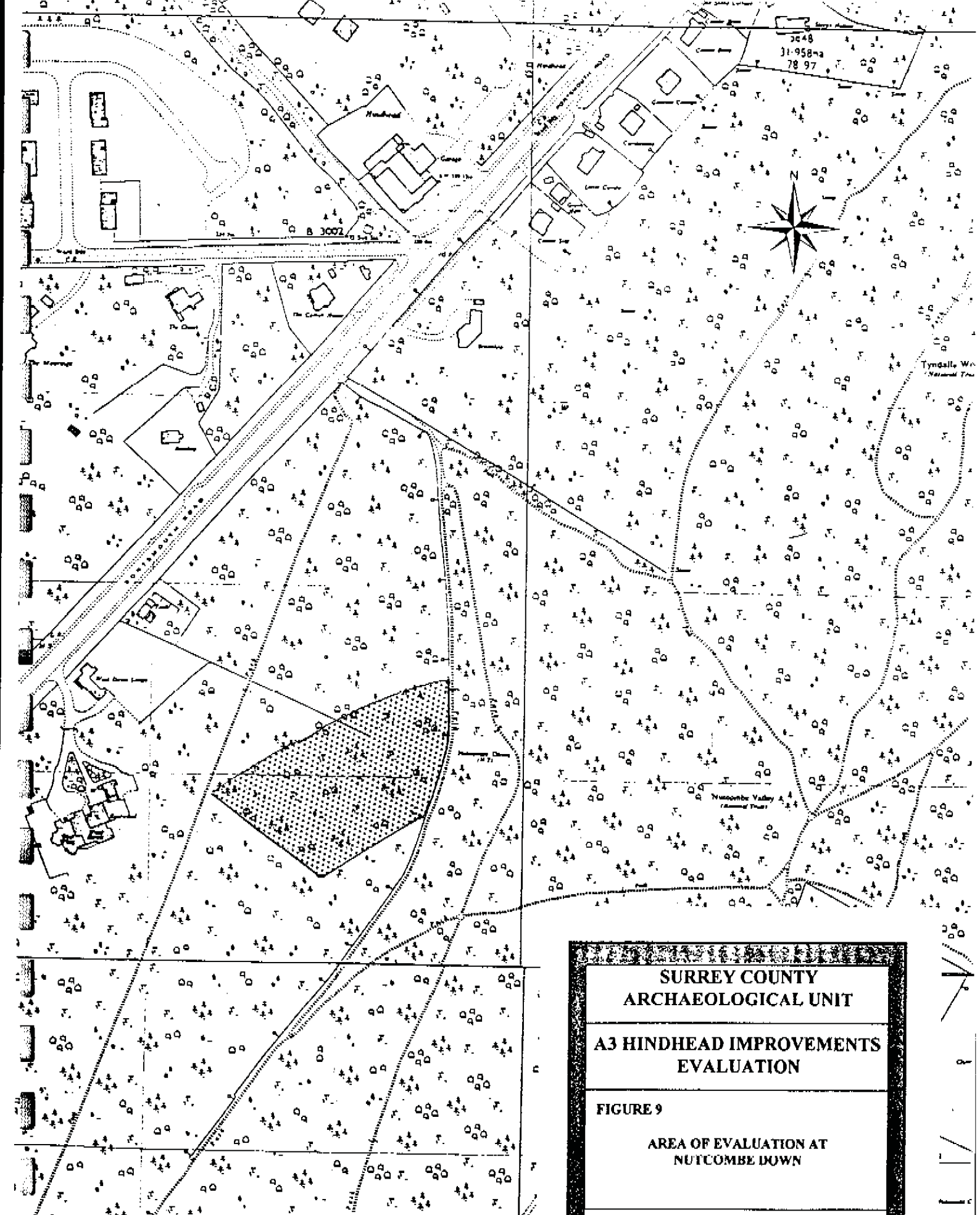
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 8

AREA OF WALKOVER SURVEY AT WEST WING, PORTSMOUTH ROAD

SCALE 1:2,500



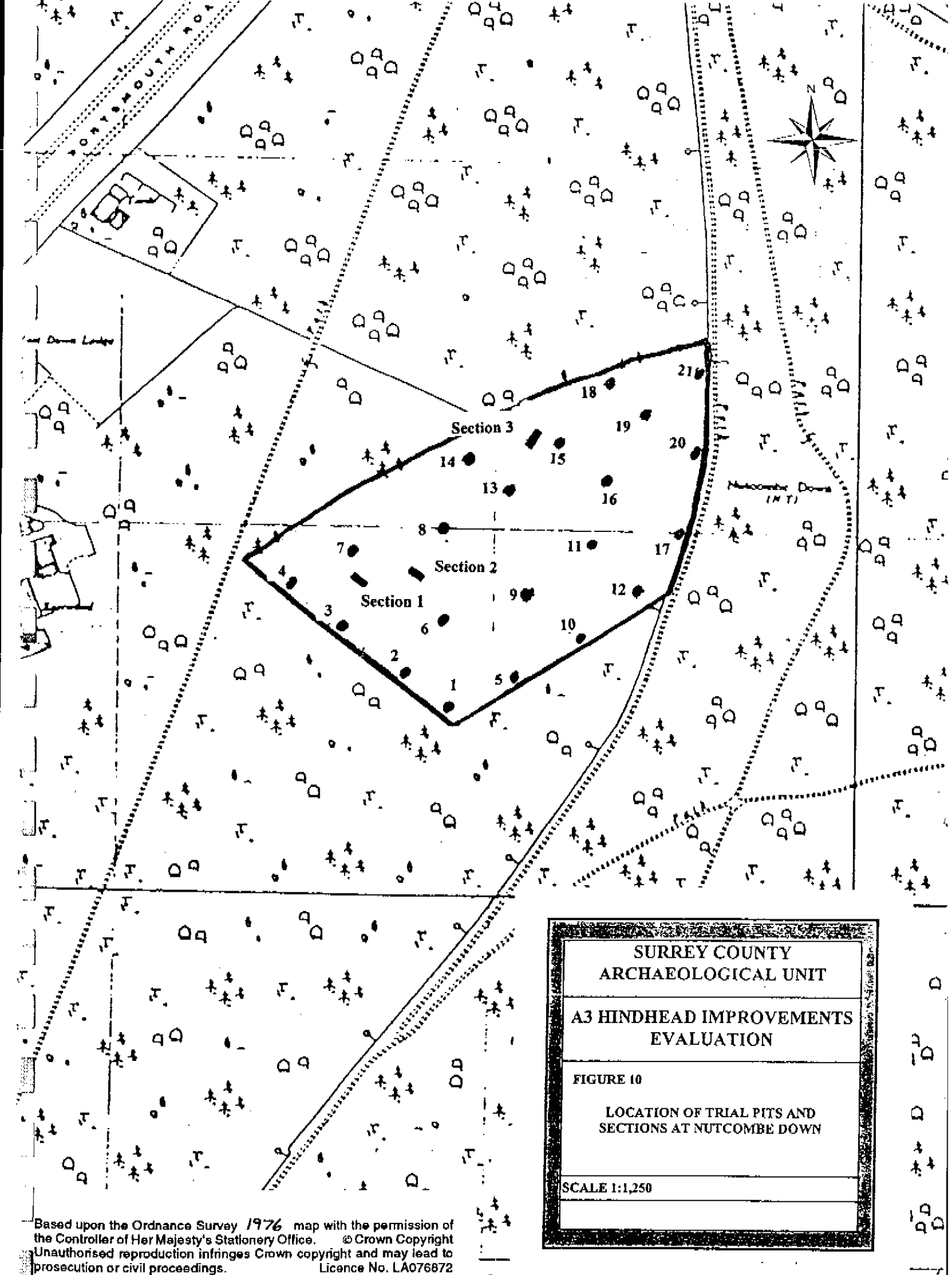
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 9

AREA OF EVALUATION AT NUTCOMBE DOWN

SCALE 1:2,500



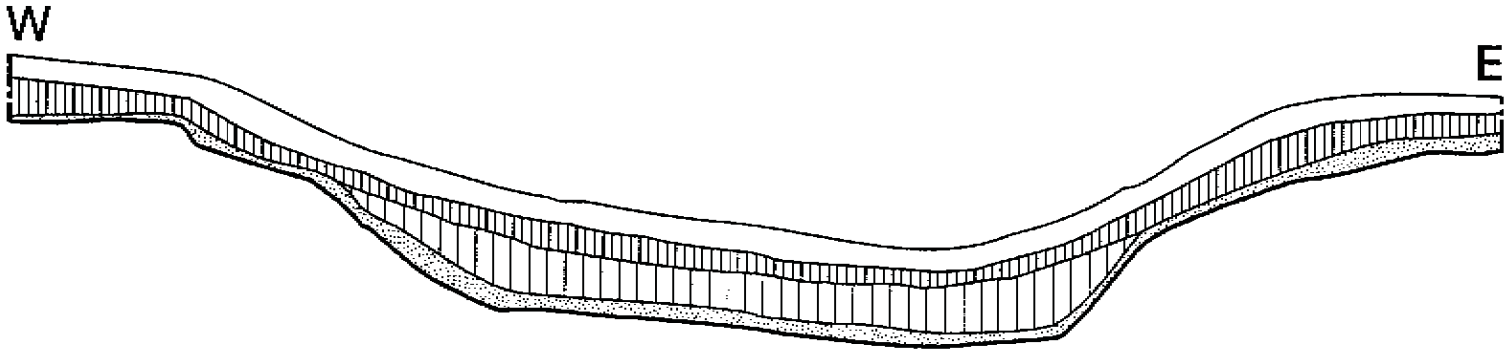
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 10

LOCATION OF TRIAL PITS AND SECTIONS AT NUTCOMBE DOWN

SCALE 1:1,250



Leaf Litter

Humic Sandy Soil

Grey Sandy Soil

Light Grey Sand

SURREY COUNTY
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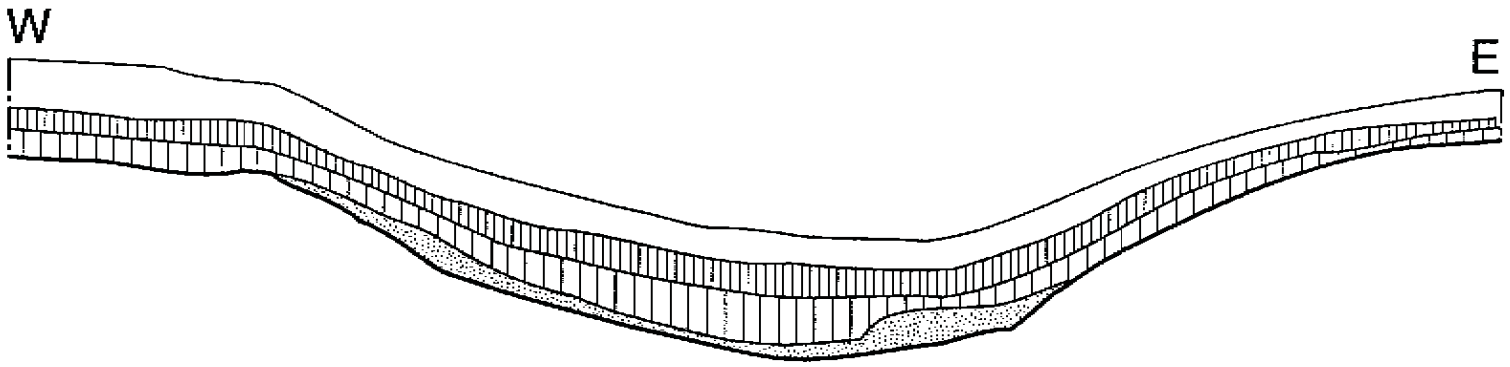
A3 HINDHEAD IMPROVEMENTS
EVALUATION

FIGURE 11

SECTION 1: HOLLOW WAY
AT NUTCOMBE DOWN

SCALE 1:20 0 cms 50



Leaf Litter

Humic Sandy Soil

Grey Sandy Soil

Light Grey Sand

SURREY COUNTY
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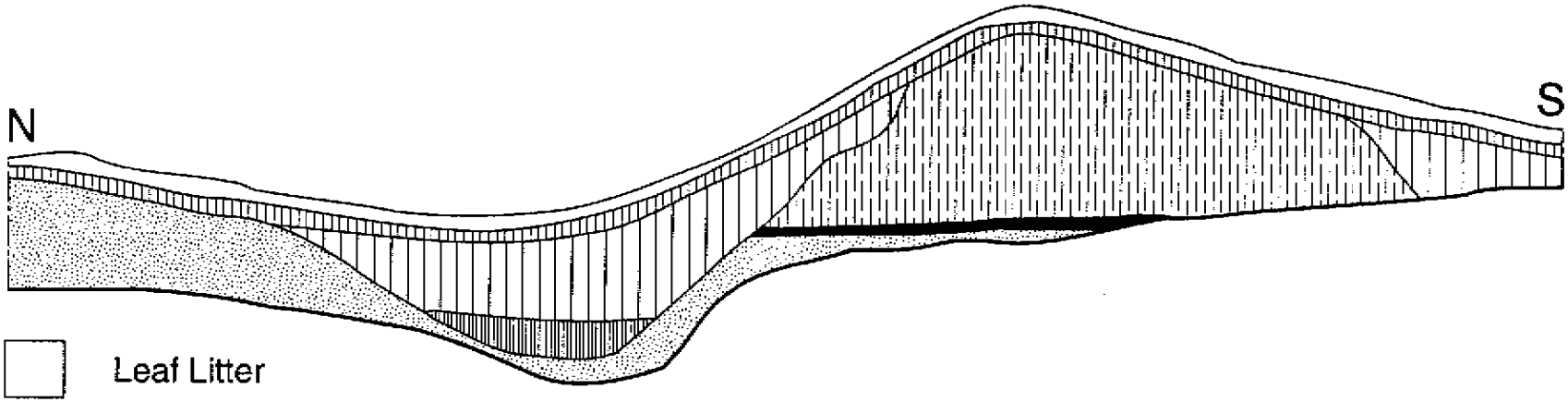
A3 HINDHEAD IMPROVEMENTS
EVALUATION

FIGURE 12

SECTION 2: HOLLOW WAY
AT NUTCOMBE DOWN

SCALE 1:20 0 cms 50



Leaf Litter

Humic Sandy Soil

Grey Sandy Soil

Light Grey Sand

Redeposited Grey Sand

Grey Soily Sand

Buried Soil Horizon

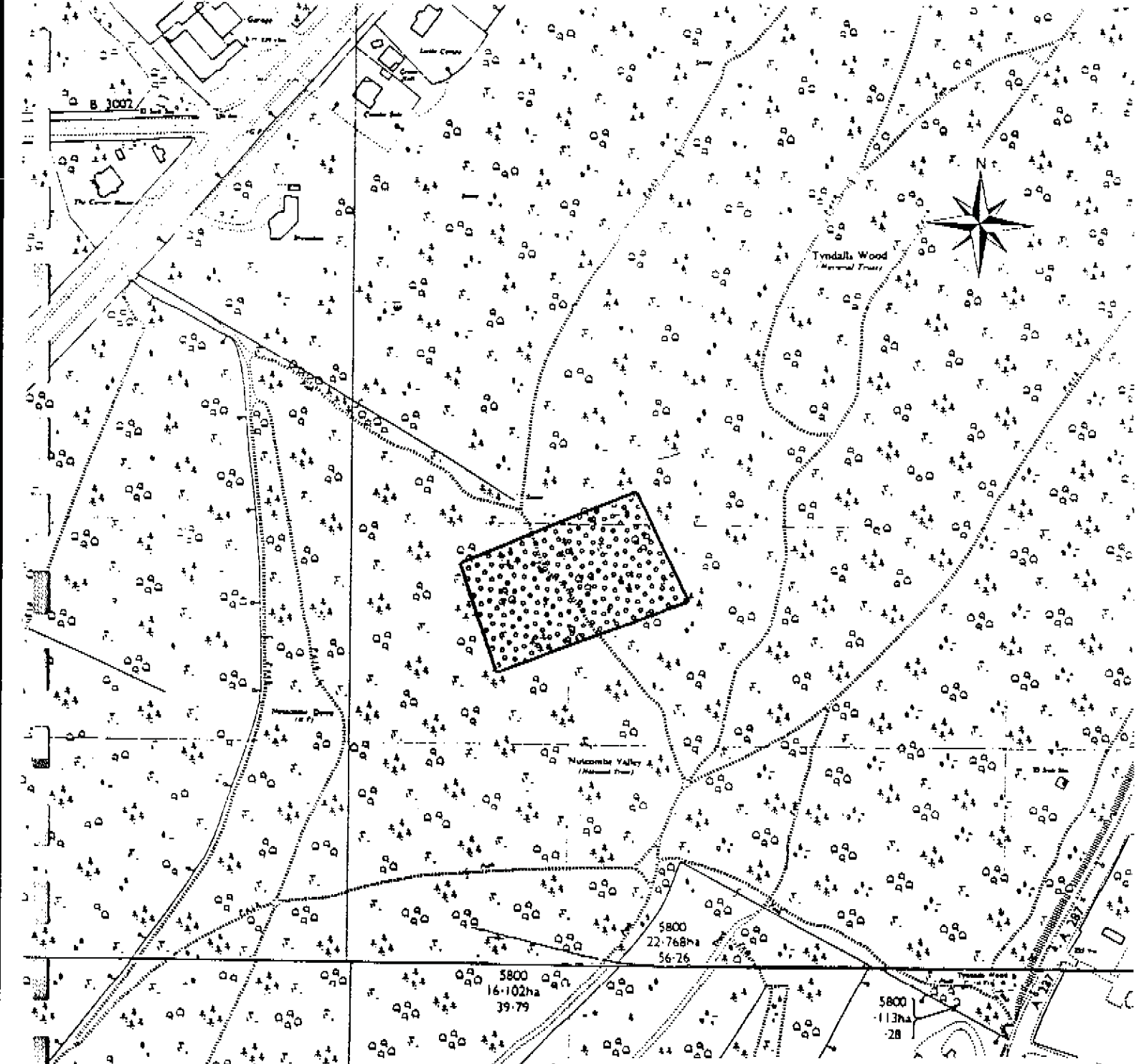
SURREY COUNTY
ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS
EVALUATION

FIGURE 13

SECTION 3: BANK & DITCH
AT NUTCOMBE DOWN

SCALE 1:20 0 cms 50



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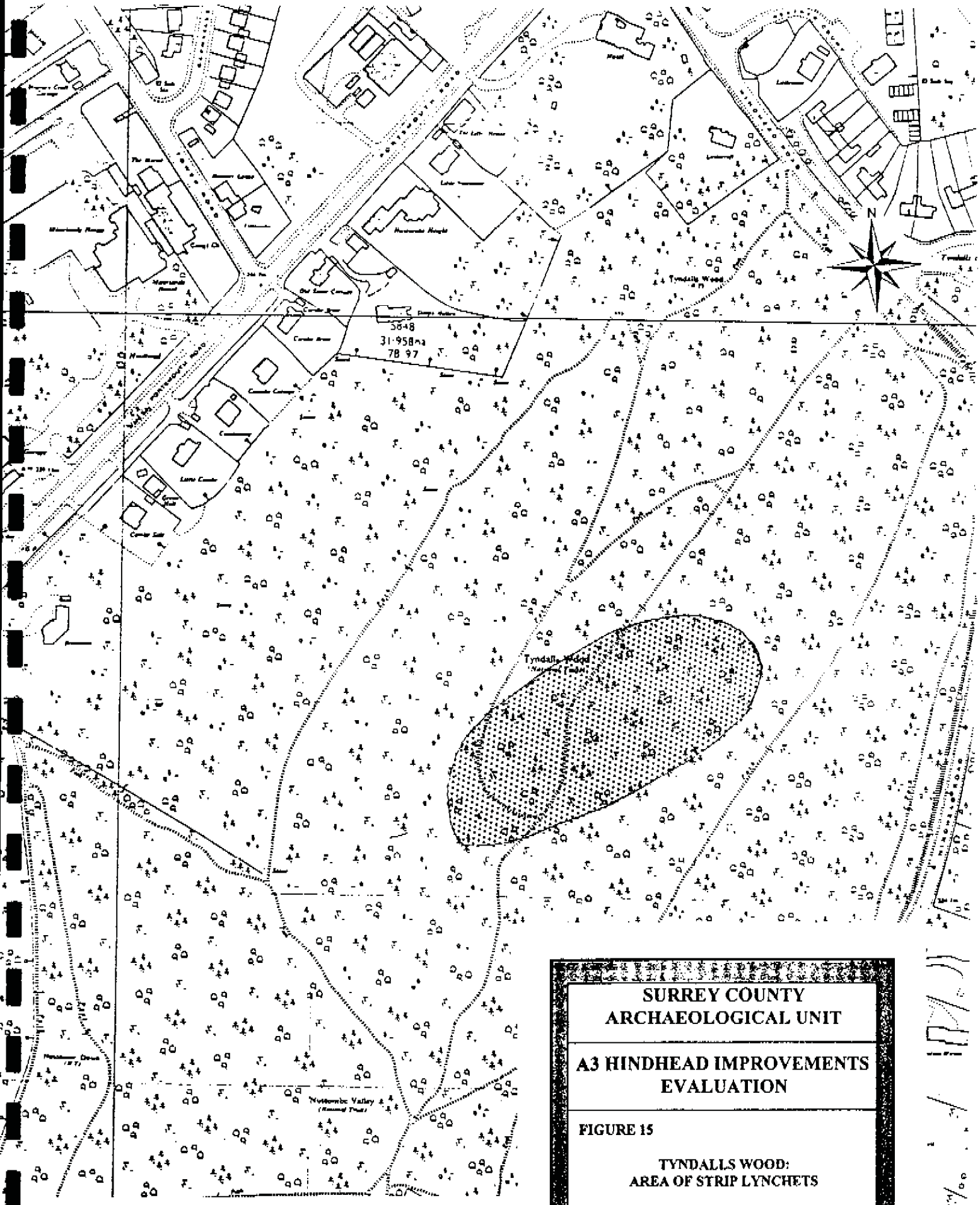
A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 14

NUTCOMBE VALLEY: SUGGESTED AREA OF POLLEN ANALYSIS

SCALE 1:2,500



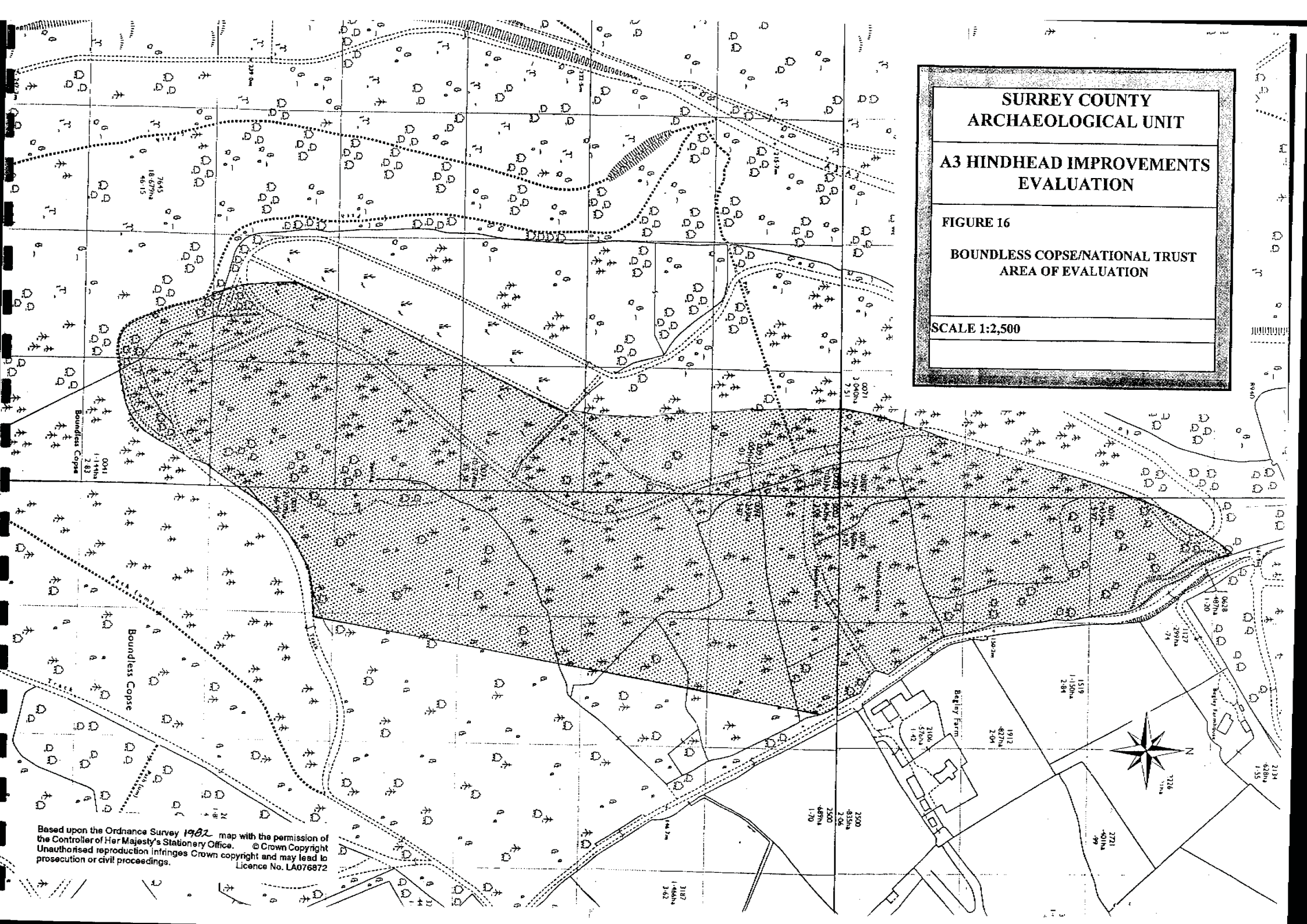
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 15

TYNDALLS WOOD: AREA OF STRIP LYNCHETS

SCALE 1:2,500


SURREY COUNTY ARCHAEOLOGICAL UNIT
A3 HINDHEAD IMPROVEMENTS EVALUATION
FIGURE 16
BOUNDLESS COPSE/NATIONAL TRUST AREA OF EVALUATION
SCALE 1:2,500
Boundless Copse
Begley Farm
N
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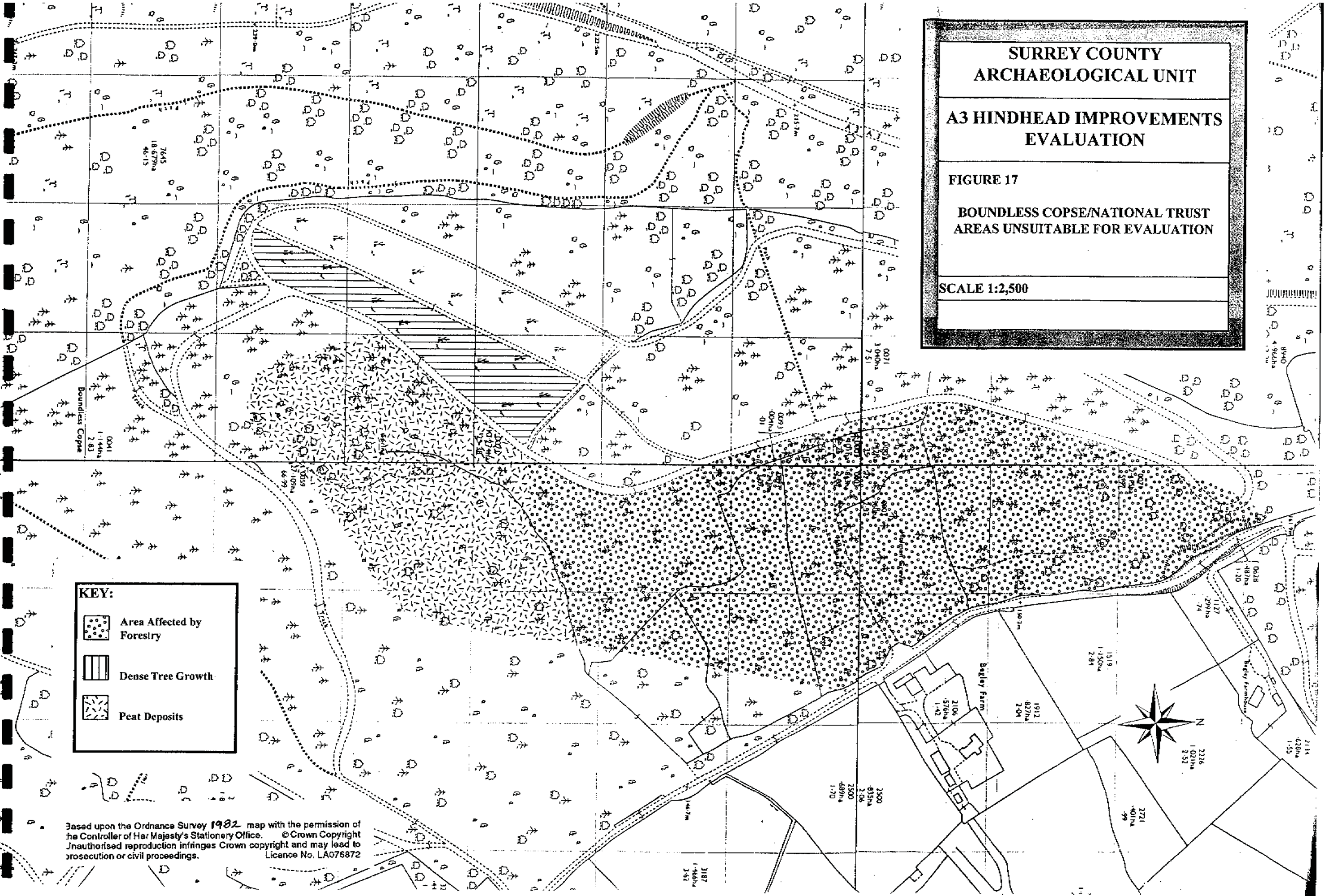
SURREY COUNTY ARCHAEOLOGICAL UNIT
A3 HINDHEAD IMPROVEMENTS EVALUATION
FIGURE 17
BOUNDLESS COPSE/NATIONAL TRUST AREAS UNSUITABLE FOR EVALUATION
SCALE 1:2,500
KEY:
Area Affected by Forestry
Dense Tree Growth
Peat Deposits
Boundless Copse
Bagley Farm
N
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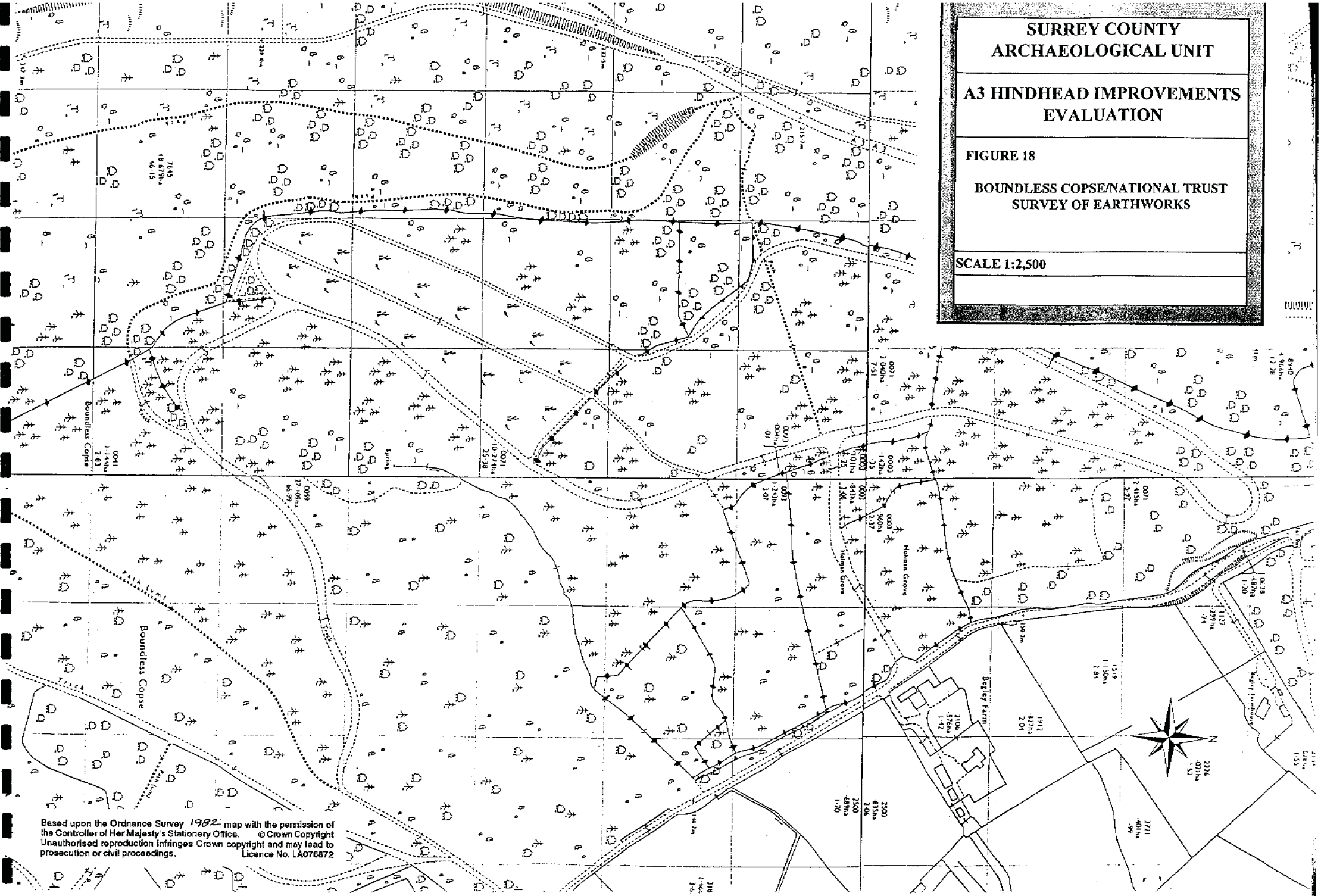


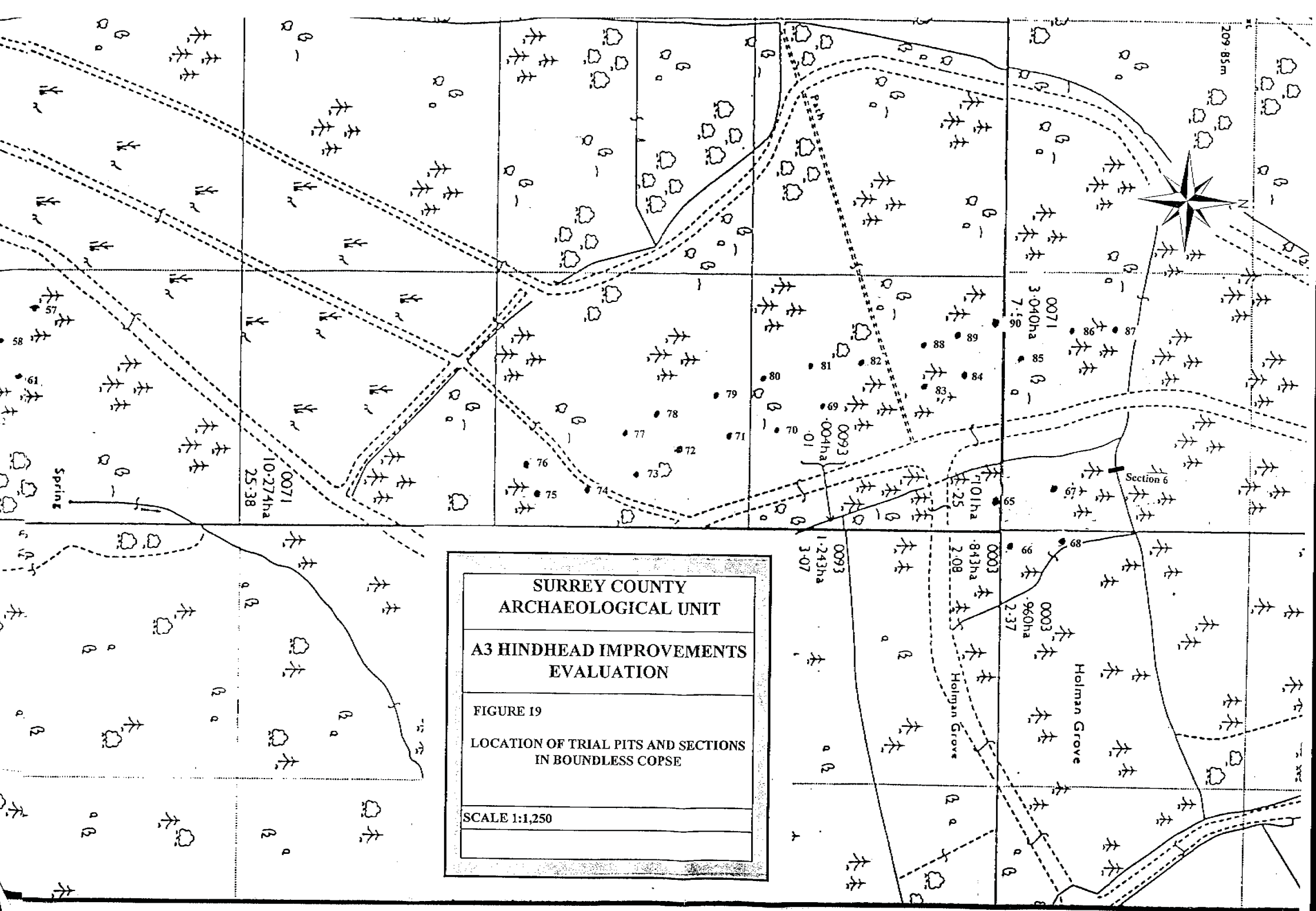
SURREY COUNTY ARCHAEOLOGICAL UNIT

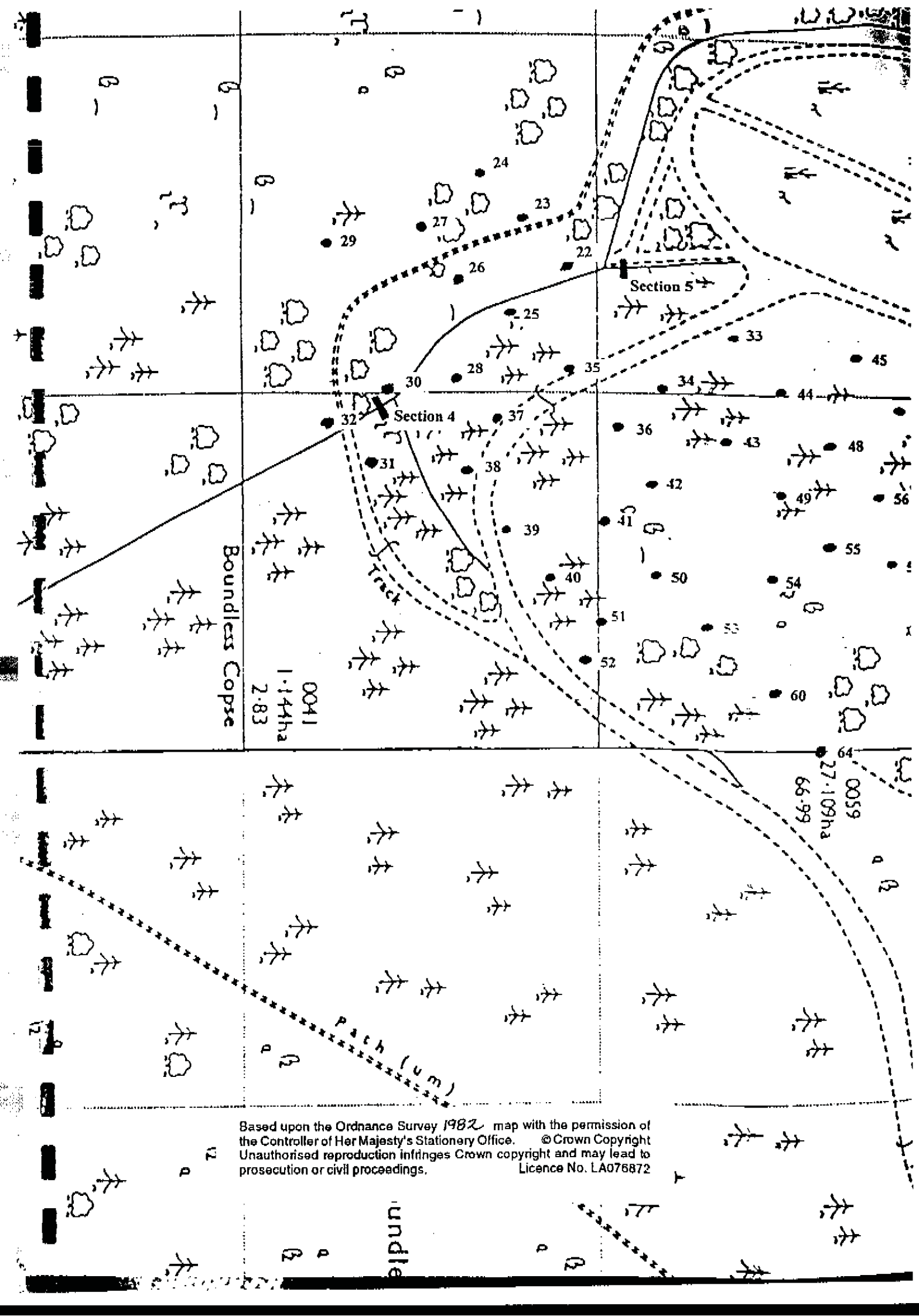
A3 HINDHEAD IMPROVEMENTS EVALUATION

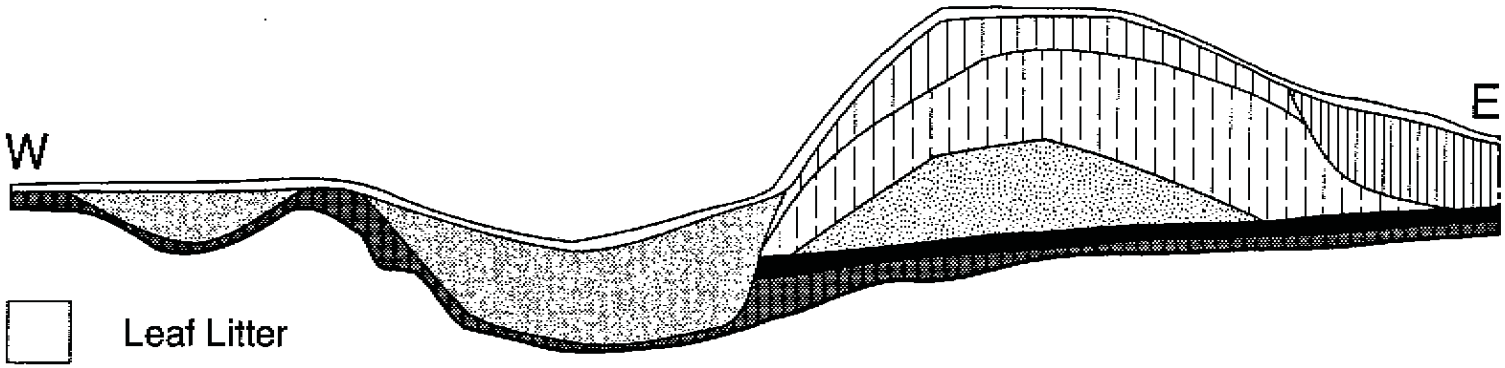
FIGURE 18

BOUNDLESS COPSE/NATIONAL TRUST SURVEY OF EARTHWORKS

SCALE 1:2,500


SURREY COUNTY
ARCHAEOLOGICAL UNIT
A3 HINDHEAD IMPROVEMENTS
EVALUATION
FIGURE 19
LOCATION OF TRIAL PITS AND SECTIONS
IN BOUNDLESS COPSE
SCALE 1:1,250
Holman Grove
Holman Grove
Section 6
Path
Sprint
0071
10·274ha
25·38
0093
·004ha
·01
0093
·101ha
·25
0093
1·243ha
3·07
0003
·843ha
2·08
0003
·960ha
2·37
0071
3·040ha
7·90
209·85m
N





Leaf Litter

Humic Sandy Soil

Grey Sandy Soil

Light Grey Sand

Dark Brown Humic Soil

Redeposited Yellow Sand

Mid Grey Sand

Buried Soil Horizon

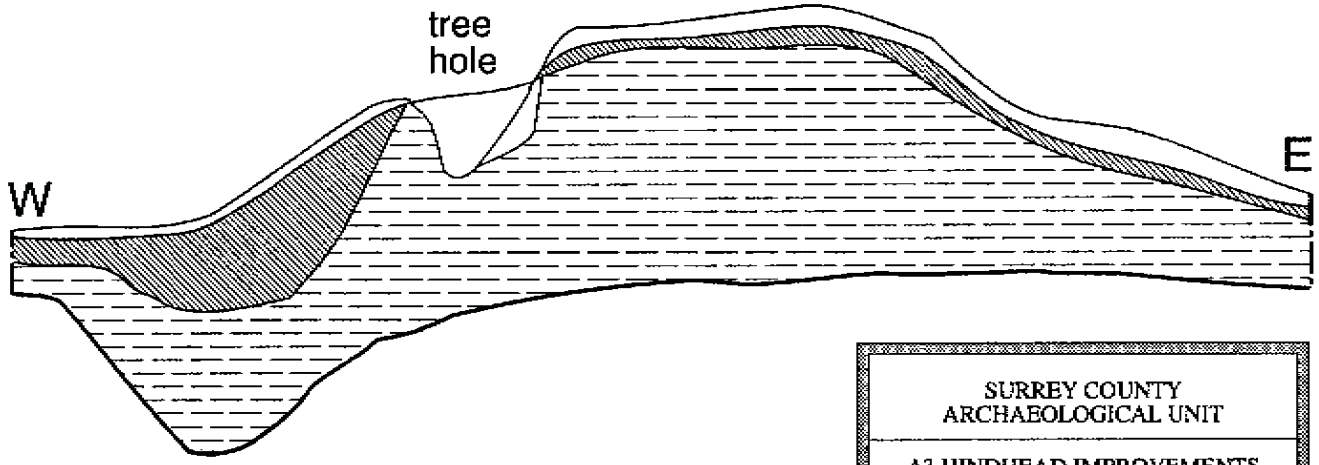
SURREY COUNTY
ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS
EVALUATION

FIGURE 20

SECTION 4: BOUNDARY BANK AT
BOUNDLESS COPSE/NATIONAL TRUST

SCALE 1:20 0 cms 50



Leaf Litter

Brown Humic Soil

Grey/Yellow Sandy Clay

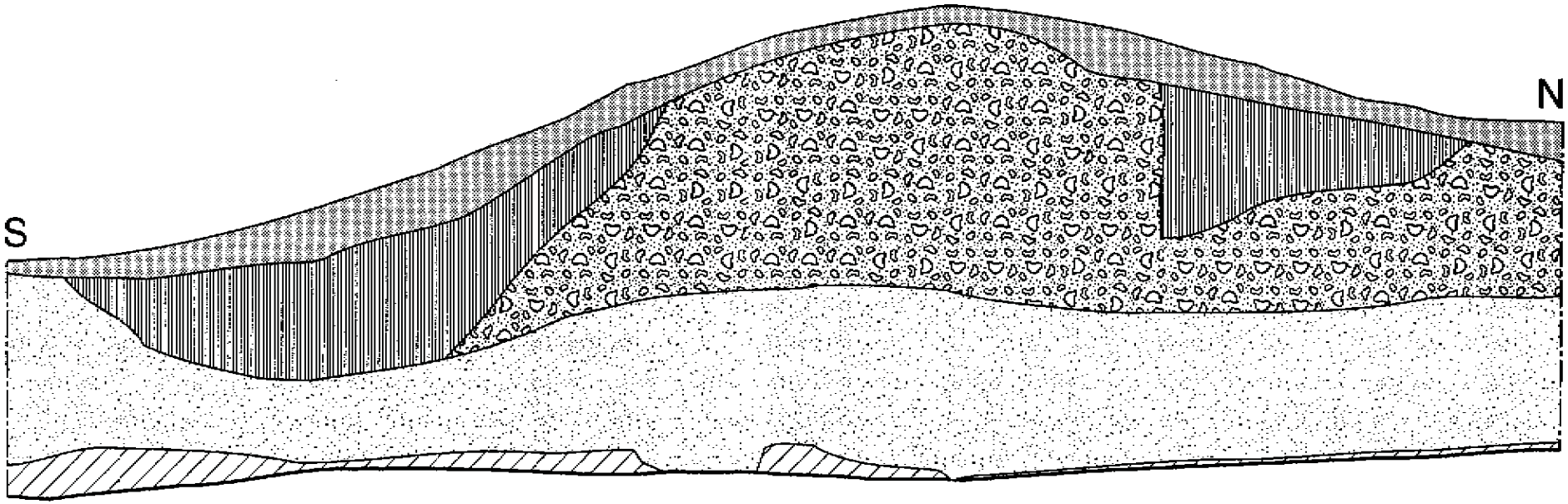
SURREY COUNTY
ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS
EVALUATION

FIGURE 21

SECTION 5: BOUNDARY BANK AT
BOUNDLESS COPSE

SCALE 1:20 0 cms 50



Humic Topsoil

Grey Soily Sand

Orange/Brown Colluvial Sand

Brown/Yellow Colluvial Sand

Yellow Colluvial Sand

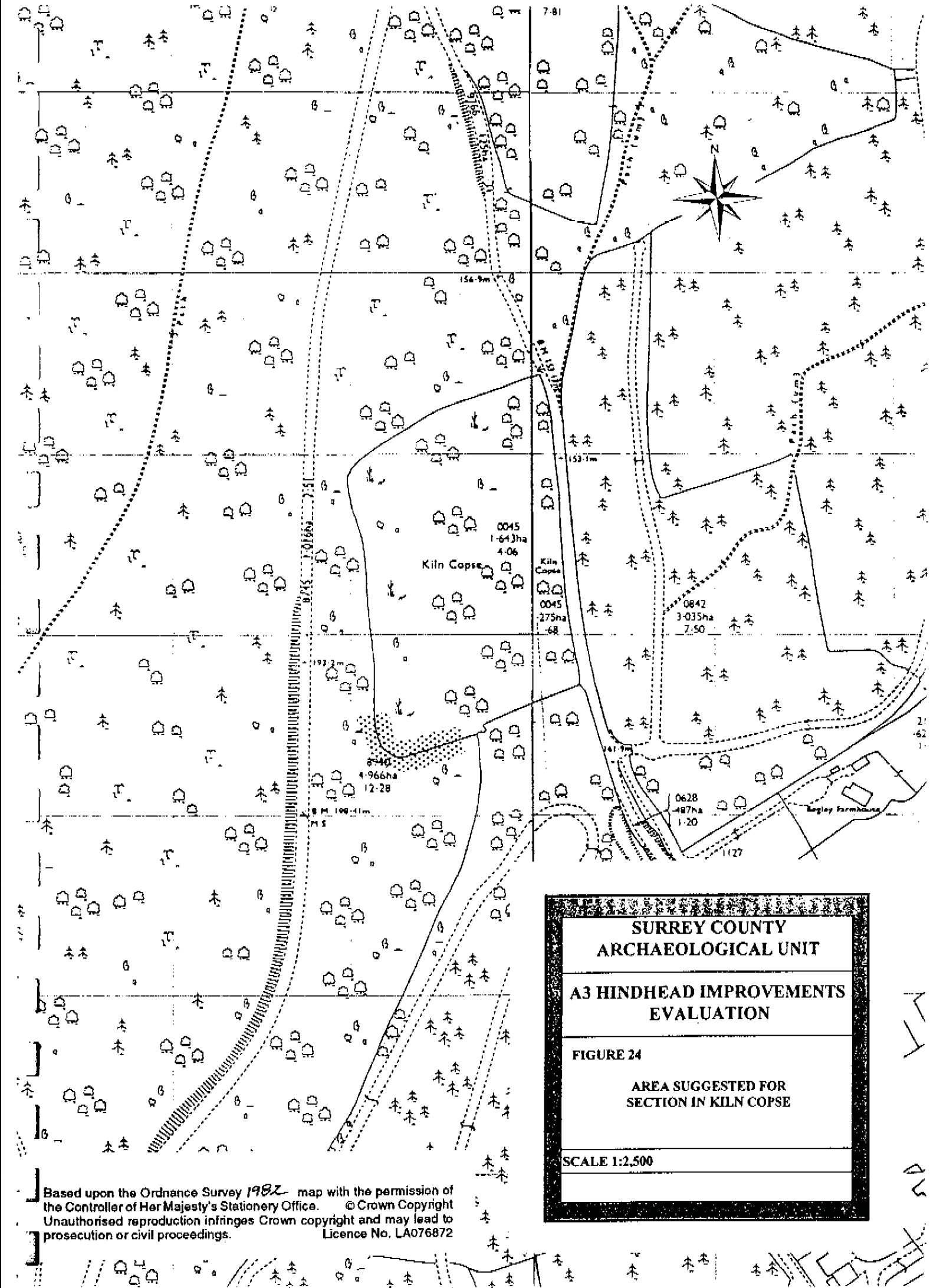
SURREY COUNTY
ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS
EVALUATION

FIGURE 22

SECTION 6: FIELD BOUNDARY BANK
IN BOUNDLESS COPSE

SCALE 1:20 0 cms 50



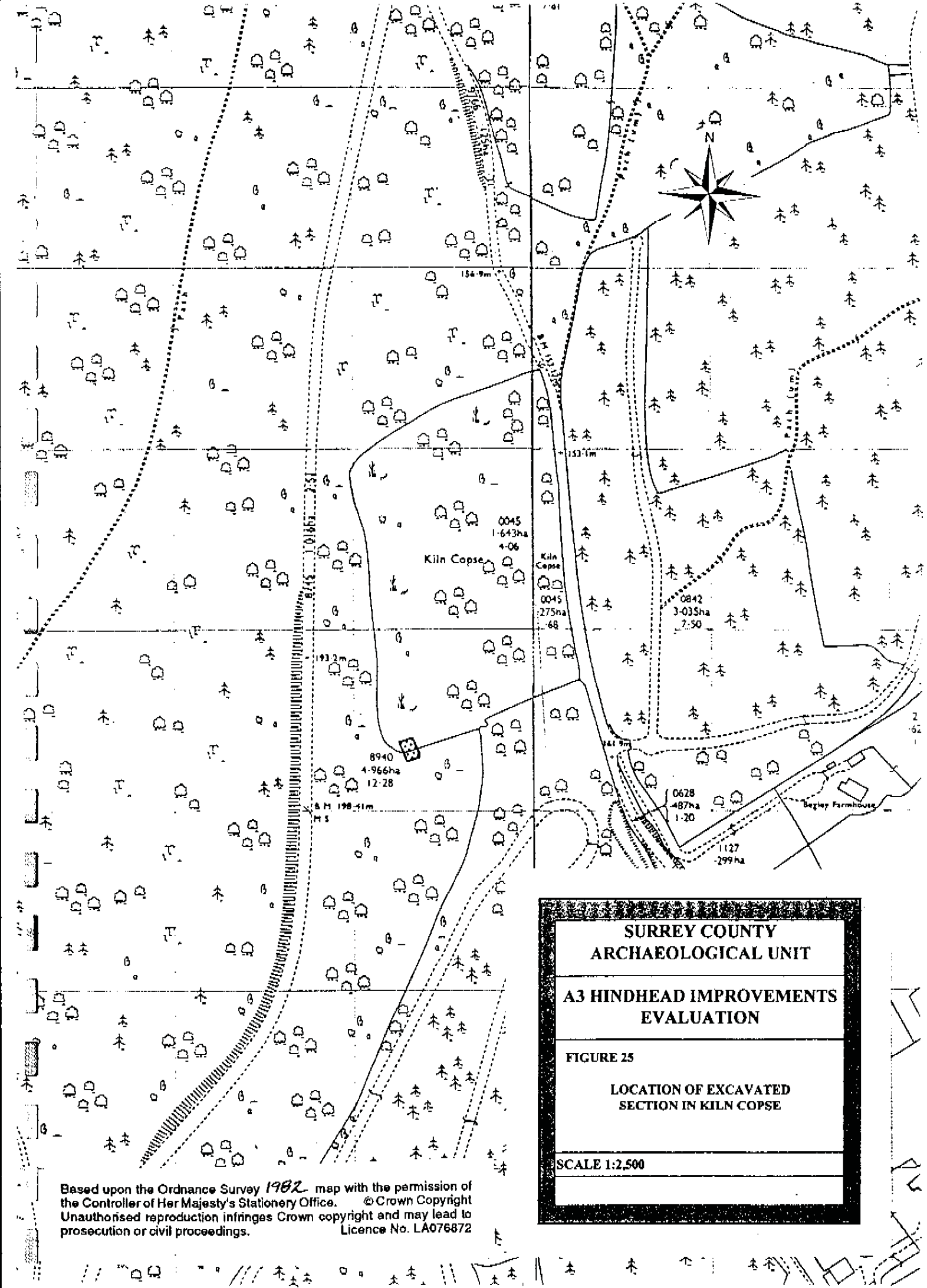
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 24

AREA SUGGESTED FOR SECTION IN KILN COPSE

SCALE 1:2,500



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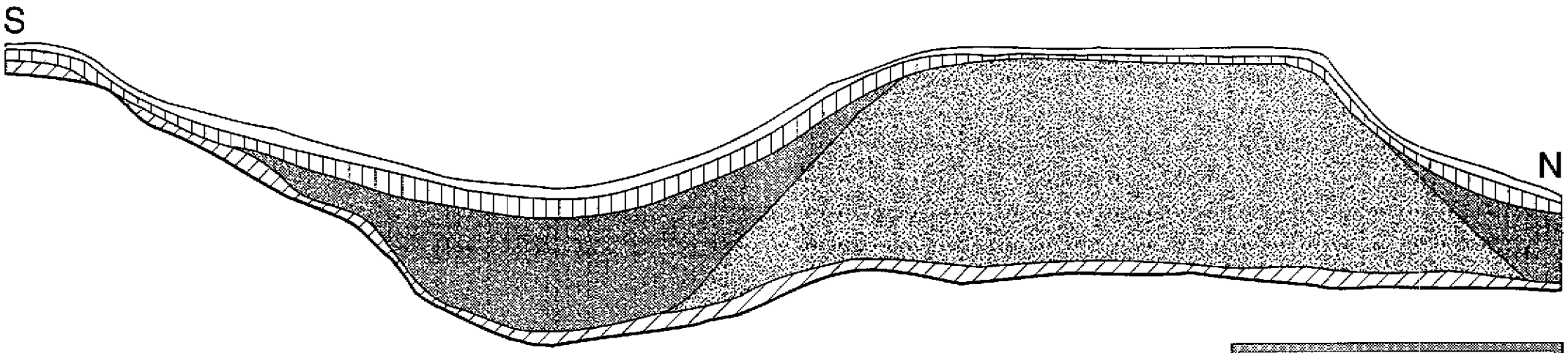
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 25

LOCATION OF EXCAVATED SECTION IN KILN COPSE

SCALE 1:2,500



Leaf Litter

Grey Sandy Soil

Yellow Colluvial Sand

Grey Silty Soil

Grey/Yellow Colluvial Sand

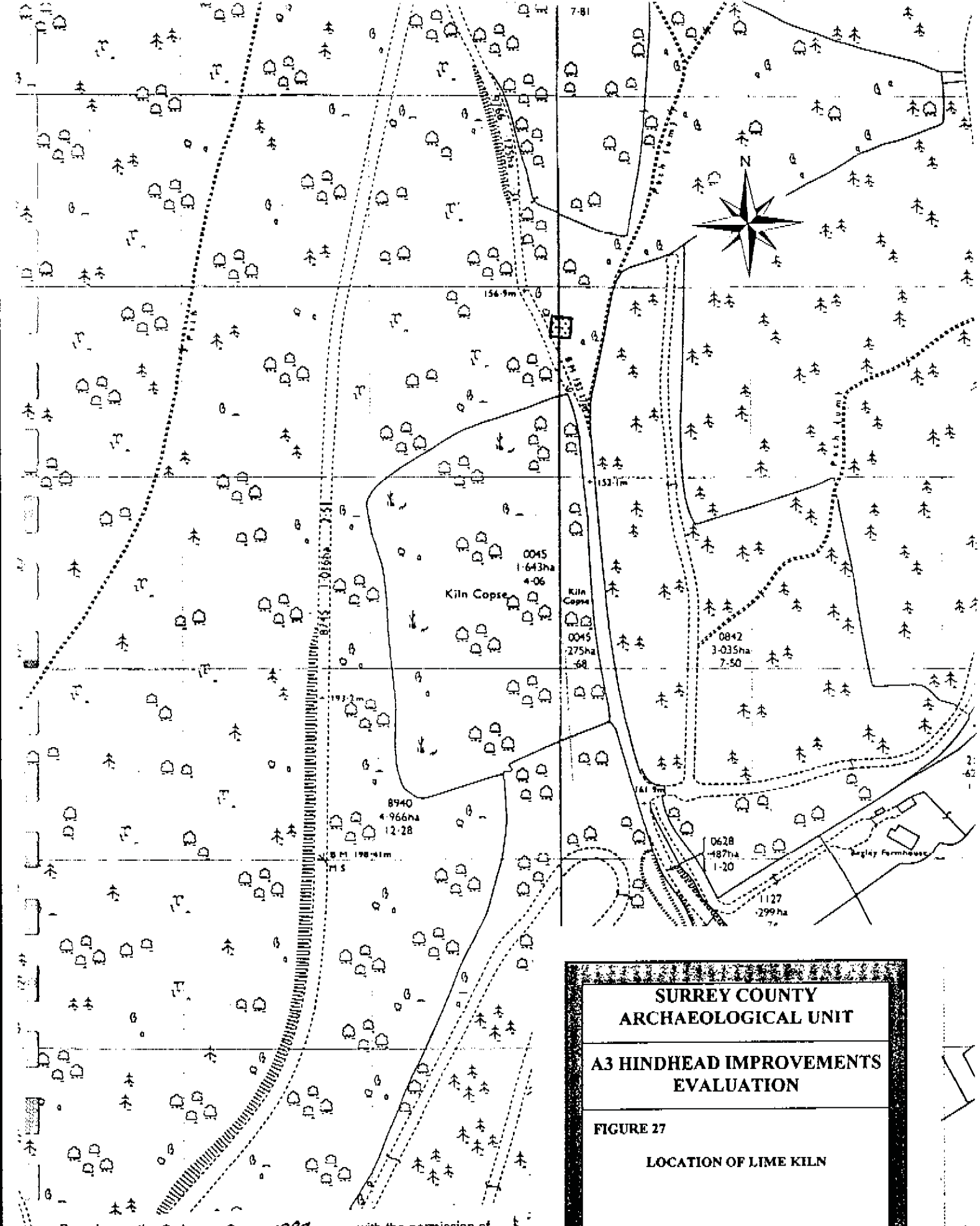
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 26

SECTION 7: BANK & DITCH SECTION IN KILN COPSE

SCALE 1:20 0 cms 50



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SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 27

LOCATION OF LIME KILN

SCALE 1:2,500

APPENDIX A
HEIGHT VALUES FOR TRIAL PITS AT NUTCOMBE DOWN

Trial Pit Number	Top AOD	Bottom AOD
1	229.50	228.64
2	230.31	229.85
3	230.82	230.59
4	231.28	231.03
5	230.03	229.79
6	232.59	232.46
7	233.33	233.13
8	233.08	232.90
9	231.85	231.61
10	229.68	229.45
11	231.69	231.03
12	229.41	229.32
13	234.36	233.95
14	234.74	234.56
15	234.53	234.20
16	233.16	232.92
17	230.76	230.38
18	230.91	230.59
19	232.55	232.40
20	233.90	233.60
21	231.38	231.17

APPENDIX B
HEIGHT VALUES FOR TRIAL PITS AT BOUNDLESS COPSE

Trial Pit Number	Top AOD	Bottom AOD
22	186.20	185.99
23	188.06	187.93
24	190.27	190.16
25	184.46	184.32
26	186.25	186.12
27	187.98	187.89
28	182.96	182.74
29	186.40	186.32
30	183.04	182.91
31	182.93	182.80
32	186.87	186.82
33	180.67	180.57
34	181.67	181.51
35	181.96	181.88
36	179.88	179.75
37	179.40	179.22
38	182.48	182.32
39	181.00	180.87
40	179.60	179.42
41	177.13	176.58
42	176.32	176.19

43	179.13	178.97
44	178.43	178.34
45	176.51	176.40
46	174.61	174.42
47	175.23	175.05
48	175.96	175.84
49	177.00	176.89
50	173.81	173.62
51	178.41	178.30
52	181.05	180.97
53	175.23	175.05
54	173.85	173.52
55	174.21	174.02
56	173.52	173.38
57	168.76	168.69
58	171.49	171.33
59	172.15	172.04
60	175.05	174.60
61	169.69	169.51
62	169.09	168.87
63	168.85	168.67
64	174.34	174.08
65	161.78	161.65
66	160.36	160.20

67	161.26	161.00
68	159.10	159.00
69	168.90	168.84
70	169.76	169.74
71	171.88	171.80
72	173.77	173.69
73	175.08	174.92
74	176.20	176.14
75	176.71	176.58
76	179.73	179.66
77	179.81	179.76
78	178.06	177.98
79	175.14	175.10
80	173.32	173.19
81	171.88	171.80
82	170.15	170.09
83	167.35	167.26
84	167.27	167.17
85	167.22	167.11
86	167.91	167.85
87	168.35	168.29
88	168.94	168.83
89	168.87	168.72
90	168.91	168.82

APPENDIX C

THE PALAEO-ENVIRONMENTAL ASSESSMENT

POLLEN ASSESSMENT OF THE VALLEY MIRE AT BOUNDLESS COPSE AND BURIED MEDIEVAL SOIL AT KILN COPSE, HINDHEAD

Rob Scaife

PALAEOPOL

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POLLEN ASSESSMENT OF THE VALLEY MIRE AT BOUNDLESS COPSE AND BURIED MEDIEVAL SOIL AT KILN COPSE, HINDHEAD.

Rob Scaife

Summary

Field survey and sampling of the peat deposits in Boundless Copse have been undertaken. Pollen analysis has been carried out on one of the most representative peat stratigraphical sequences and from a buried Medieval soil at Kiln Copse. Both of these sites have produced well preserved pollen and spores which provide an insight into the changing vegetational environment of the valley. These pollen data are presented in pollen diagram form. Absolute/radiocarbon dating has not yet been carried and thus there is no firm conclusion as to the age of the lowest peats at Kiln Copse. However, very tentative postulations have been made on the basis of known regional palaeovegetation characteristics. From this it is suggested that the base of the peat started to accumulate during the late Bronze Age/Iron Age period. It is clear from the pollen record that the alder carr community of the valley has remained almost unchanged from its inception. The surrounding interfluves comprised mixed deciduous woodland dominated by oak, hazel and holly but with evidence of lime/lindens, ash and beech. This woodland /open aspect woodland community may have been managed for coppice over a long time-

span. There is, however, evidence of a progressive reduction in the area of woodland from the base of the pollen profile upwards. Agricultural activity is suggested from cereal pollen and some associated herb taxa. Pollen of Medieval date has been obtained from under the bank of Kiln Copse. This illustrates that heathland was at least locally important.

1) Introduction

Samples taken from one of three borehole cores were examined for sub-fossil pollen and spores. This assessment has been undertaken with the following aspects taken into consideration:

1.a.) To ascertain if pollen and spores are present in these sediments and if so, their state of preservation and the feasibility of obtaining 'full' pollen counts enabling construction of a pollen diagram (s).

1.b.) To provide preliminary information on the pollen taxonomic content and the possibility of correlating this sequence with other biostratigraphical assemblages existing for south east England.

1.c.) Although pollen analysis is no longer a dating technique for the Holocene, in certain cases crude age estimates can be given by virtue of radio-carbon dated chronologies existing for other southern English sites. This was considered as a useful

aspect of the analysis prior to the possibility of obtaining absolute/radio-carbon dates.

1.d.) Are there any indications of human activity in the pollen record?

1.e.) What is the overall potential of the site(s) for reconstructing the local and regional vegetation and environmental history?

Consequently a total of eleven samples from borehole 13 and 4 samples from the Medieval soil of Kiln Copse have been examined for their sub-fossil pollen and spore content.

2) Methodology

A field survey was carried out to assess the depths and character of peat in the Boundless Copse valley and to locate the most satisfactory sequence for pollen analysis. Surveys were made using a 100 cm long chamber x 4 cm diameter gouge corer with extension rods. Because of the linear but very narrow topography of the mire, a long profile transect was carried out from the top of the peat mire at NGR *** to the bottom of the copse at NGR****. Where deeper and/or more interesting deposits were encountered, the cross valley profiles were examined. However, in all cases, the maximum peat/organic depths occurred along the bottom/centre of the valley. The crude stratigraphy and maximum depths of sediments recorded in the main boreholes are given in

Appendix 1. Three peat cores suitable for pollen analysis were taken from boreholes BH:3, BH:8 and BH:13 using a Russian/Jowsey peat corer with a 50 cm chamber. Extracted cores were removed in plastic half tubes and examined in the laboratory (Department of Geography, University of Southampton). Core BH:13 was the most representative profile and because of its predominantly homogeneous humified peat it was considered most likely to have the longest temporal span and thus vegetational record.

The Medieval bank and ditch structure of Kiln Copse was excavated by hand (see Dyer) and the old land surface and bank was sampled directly from the excavated section using plastic monolith sections (10x10x50 cm). These were also removed and sampled in the laboratory prior to pollen extraction.

Extraction procedures followed those outlined by Moore *et al.* (1991). Samples were deflocculated with 8% KOH. Coarse debris was removed through sieving at 150u and fine inorganics by micro-mesh (10u). Remaining silica was digested with 40% hydrofluoric acid. Erdtman's acetolysis was carried out for removal of cellulose. The concentrated pollen and spores were stained with safranin and mounted in glycerol jelly. Pollen was identified and counted with an Olympus biological research microscope with phase contrast facility at magnifications of x400 and x1000. These extraction techniques were successful and a preliminary pollen diagram has been constructed using *Tilia* graph and *Tilia* Plot in the Quaternary Environmental Change Research Centre of the Department of Geography, University of Southampton. The pollen diagram is based on a dry-land pollen sum of c.100 grains

for each level (10 cm intervals). More taxa (including *Alnus*) and spores were counted outside of the pollen sum. Pollen is calculated as a percentage of total dry-land pollen. *Alnus* (with counts of up to 314 grains at 100 cm) is calculated as a percentage of the dry-land pollen sum plus *Alnus*. Spores are similarly calculated as a percentage of the pollen sum plus spores. Because of the assessment nature of this study, pollen zonation has not been undertaken on this site since to be valid pollen counts should be based on quantities of 300-600 grains of dryland taxa. Taxonomy follows that of Clapham, Tutin and Moore (1987) and Moore *et al.* (1991).

3) Results

All of the samples examined were found to contain sub-fossil pollen and spores. Absolute numbers were high which would allow 'full' pollen counts to be easily made. Pollen preservation was in general good although a substantial proportion of the grains from the peat showed some degree of biological degradation. This is typical of preservation in alder carr habitats where the surface levels of the mire may be relatively dry during the summer months when pollen is being deposited on an upper fermentation layer. This contrasts with typically wetter valley sedge and *Sphagnum* mires where water tables are higher producing anaeorobic conditions more favourable to pollen preservation. Surprisingly, pollen was extracted from the sandy soil/bank profile. Absolute pollen frequencies were highest at one level believed to be the old land surface. Preservation was more

degraded than that of the peat sequence but, however, typical of preservation in such conditions. Pollen counts were also feasible from this profile.

4) Inferred vegetation history

A total of 47 pollen taxa was recorded from the two profiles examined. A preliminary pollen diagram comprising 13 levels at 10 cm intervals has been constructed for the peats of borehole 3 (figure 1). from figure 1 it is apparent that tree pollen is dominant throughout indicating the importance of woodland at least in the proximity of this site during the time-span represented by the peat accumulation. The sequence can be considered in relation to i) development of the mire and ii) the surrounding interfluve zone.

4.A.i.) The mire: This site is at present a typical linear, topographic valley mire dominated by *Alnus* (alder) with some *Salix* (willow) with a varied ground flora comprising largely *Carex* spp.(sedges) and *Sphagnum* (bog moss). Pollen analysis shows substantial percentages of alder pollen throughout of between 55-75% of total pollen plus alder (see section 2 above). The maximum value of 76% occurs in the lower part of the sequence at 100 cm and the lowest (21%) at 20 cm. These high percentages strongly indicate that an alder carr was dominant on the site throughout the time-span represented by the peat accumulation. Ecologically associated taxa also recovered include *Salix* (willow), *Frangula* (alder buckthorn), *Caltha* (marsh marigold), *Hydrocotyle* (marsh

pennywort), Cyperaceae (sedges) and *Sphagnum* moss. A more diverse flora might be indicated within a larger pollen count (sum).

4.A.ii.) The terrestrial flora: Because of the relatively small area/size of the peat accumulating area it is likely that the pollen (pollen rain) represents largely the area local to the mire; that is, perhaps within a hundred metres. This contrasts with large basins such as ombrogenous mires or lakes where the pollen rain can be representative of a large geographical area (cf Edwards 19**; Moore *et al.* 1991). As noted above (section 2) zonation of the diagram has not been carried out. However, changes in the overall floristics of the sequence are apparent.

The pollen assemblages show a strong woodland element throughout the span of the peat sequence. Overall, *Quercus* (oak) with *Ilex* (holly), *Corylus* (hazel) and *Betula* (birch) are the dominant elements. The lowest levels of the column show the highest percentage values of *Quercus* (to 43%) and *Corylus* (to 38%). Alder, as noted above, was dominant in the valley bottom. Also of significance are small numbers of *Fraxinus* (ash), *Tilia* (lime/lindens) and *Fagus* (beech). These taxa along with *Ilex* (10-12%) are all poorly represented in pollen spectra because of poor pollen production and/or dispersal mechanisms (entomophily). Thus, these taxa are likely to have formed important elements in the woodland around the site. This is especially so in the case of *Ilex* which, with values of 10%, must have formed an extremely important component of the woodland. This assemblage is suggestive, therefore, of a mixed woodland possibly dominated by oak but with an understorey of holly (although this can in some

cases be a small tree), and hazel. Furthermore, the substantial presence of holly and hazel implies that the woodland was of an 'open' aspect which allowed flowering and thus pollen production and dispersion. Other indications of this are the presence of *Calluna* (ling), *Lonicera* (honeysuckle) and *Pteridium aquilinum* (bracken). Herb pollen is, however, relatively sparse with sporadic occurrences of *Chenopodium* (goosefoots), *Anemone* type, *Ranunculus* type (buttercups), Compositae (daisy family) and Gramineae (grasses). Woodland herbs and spores may be represented by *Anemone* type, *Polypodium vulgare* (common polypody fern) and *Dryopteris* type spores (various ferns characteristic of woodlands and valley carr). Cereal type pollen is present in small numbers from the base of the pollen diagram.

This essentially woodland environment changes progressively through time until the uppermost level which represents the contemporary vegetation. From the basal levels there is a subsequent decline in the established woodland elements noted above. *Quercus, Corylus* and *Ilex* decline to relatively low values in the upper levels of the profile. Associated with this decline is a progressive increase in *Betula* (birch). This is interpreted as a gradual reduction in the importance of oak/hazel woodland by human interference in areas away from the valley mire. This is to some extent evidenced by increases in Gramineae (non-cultivated, to 15% at 20 cm) and importantly cereal type including *Triticum/Hordeum* type (wheat and barley) and *Secale* (oats at 80 cm). This may indicate some clearance of woodland for arable agriculture. However, it must also be noted that removal of woodland canopy will effectively increase the area of the

pollen catchment allowing pollen input from longer distance sources. This factor is undoubtedly the case with the single record of *Juglans* (walnut) at 20 cm. Pollen from underlying the possible Medieval bank and ditch at Kiln Copse (see below) shows a predomintly heathland community on that site. There is only minor evidence of heathland in the peat profile attesting to the generally very local origin of the bulk of the pollen.

4.A.iii.) Dating: Pollen analysis is not a dating medium but can in certain cases produce a broad idea of the age of peat or sediments. This is particularly the case if pollen assemblages are diagnostic and comparable with other locally dated profiles. In this case dating is rather tentative. Such alder carr communities are telmatic and have a relatively high rate of biological decomposition compared with wetter grass/sedge fens and sedge/*Sphagnum* bogs. Thus, even a relatively shallow peat sequence might be expected to span a considerable time period. In this case, it is difficult to assess from the pollen spectra what this time span is. The more or less absence of *Ulmus* pollen implies that the record starts after c.5000 BP when there is a diagnostic and broadly synchronous decline in its pollen.

In the basal levels *Tilia* has been noted. This is now regarded as being the most important woodland tree over large areas of southern England from the beginning of the mid-Holocene climatic optimum (the Atlantic Flandrian chronozone II/Atlantic period) at *c.*7000 BP until the later prehistoric period and especially the later Bronze Age *circa* 2500 BP. A significant aspect of many pollen spectra in the south of England is the 'lime decline'

where pollen frequencies decline sharply. This is an asynchronous phenomenon which has been variously dated from the later Neolithic to the Saxon period (Baker *et al.* 1978; Scaife 1980, 1987). Although this dating span is broad, the majority of dates are attributable to the late Bronze Age. Turner (1962) showed that this decline was in many cases due to human activity ie. forest clearance and agriculture rather than a climatic cause as previously thought. It is possible that the small numbers of *Tilia* pollen grains in the lowest part of the profile represent the laast vestiges of this *Tilia* dominance and that the peats date to the late Bronze Age to Iron Age at the base. It is noted that cereal pollen and a small peak of *Pteridium aquilinum* are indicative of human activities. This fact also raises the question of the cause of initiation of these valley peats. Two interesting possibilities exist. First, the deforestation may have caused an increase in local groundwater tables and surface run-off causing localised bog formation. This has been evidenced elsewhere in southern England (Moore and Willmott 1976; Scaife 1980). Second, it is possible that locally higher water tables may have resulted from climatic change between the drier sub-Boreal and wetter sub-Atlantic at *c.* 500-1000 BC.

The record of *Secale* (oats) at 80 cm is of significance since this is one of the few types of cereal pollen that can be easily distinguished to genus. Although sporadic records have been found in the pre Romano-British period, the bulk of the records are from this period onwards. In the more recent period, the expansion of *Pinus* produces a 'marker' for the period of planting of exotics from the 17/18th centuries and from 1919 with

extensive Forestry Commission planting. It is not absolutely clear from the pollen record where these periods are represented although it can be noted that pine becomes continuous from 40 cm and rises sharply from a depth of 10cm.

It is emphasised that these ideas are extremely speculative and need to be questioned by more detailed pollen analysis and absolute/radiocarbon dating.

4.B.) Kiln Copse: soil pollen analysis

Three soil samples have been analysed from the sub-bank soil profile. Pollen preservation and pollen frequencies enabled minimal pollen/spore counts to be made. The results are presented in table 1. These samples show a markedly contrasting environment to that of the peat sequence. Tree pollen are few with low values of *Quercus*, *Betula* and *Corylus*. Even *Alnus* is poorly represented and is present only in the lowest level examined (30 cm). In contrast there is strong evidence for heathland growing on the site with *Calluna*, Gramineae and *Pteridium* being the dominant taxa. Sporadic records of Cereal type and *Secale* are indicative of local arable cultivation.

5.) Conclusions

The principal findings are as follows.

-Pollen analysis has proved possible on the peats of Boundless Copse and soils of Kiln Copse. Well preserved pollen has enabled a preliminary pollen diagram to be constructed.

-Pollen analysis has demonstrated that woodland (possibly managed) in Boundless Copse has a long history.

-The area of woodland has been progressively reduced possibly in response to increased agricultural pressure.

-Without radiocarbon dating there remains a major question regarding the date/age of the peat profile-especially its date of initiation.

-Soil pollen analysis of the Medieval bank at Kiln Copse has demonstrated the existence of heathland.

5.b.) Potential for further work

It is emphasised that the analysis presented here is an assessment and based on reduced counts of pollen from dry-land taxa (ie 100 grains plus alder and spores). A full analysis would be based on greater numbers of identified and counted pollen grains (300-400 minimum). This might yield a greater taxonomic

diversity and possibly a statistically more valid pollen diagram. This would be required for full publiction of the pollen diagram.

The analysis presented here has concentrated on one peat profile to provide evidence of environmental changes. Two other columns have been obtained from different areas of the valley carr. Analysis of these could provide greater resolution of changes in the local environment.

The soil profile from under the bank at Kiln Copse has surprisingly produced pollen. This shows a local environment of heathland. If dating of this earthen structure is obtained, further pollen analysis could be carried out to delimit more clearly the vegetation existing prior to construction of the field boundary.

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Table 1: Pollen data from Medieval buried soil at Kiln Copse.

Depth cm	10	20	30
TREES			
Betula	6	3	–
Quercus	9	3	3
Ulmus	–	1	–
Alnus	–	–	15
Fagus	–	–	1
Ilex	1	–	–
SHRUBS			
Corylus type	8	3	2
Calluna	36	20	9
Erica	1	–	3
HERBS			
Potentilla type	1	–	–
Plantago media/major	–	1	–
Plantago lanceolata	1	15	1
Rubiaceae	1	–	–
Anthemis type	–	1	–
Bidens type	1	–	–
Taraxacum type	1	3	1
Gramineae	27	–	14
Cereal type	2	–	–
Secale	–	1	–
Unidentified	4	3	4
Total	99	54	53
SPORES			
Pteridium aquilinum	19	30	9
Dryopteris type	–	1	1
Polypodium vulgare	2	3	3
Total	21	34	13

Appendix 1: Borehole records.

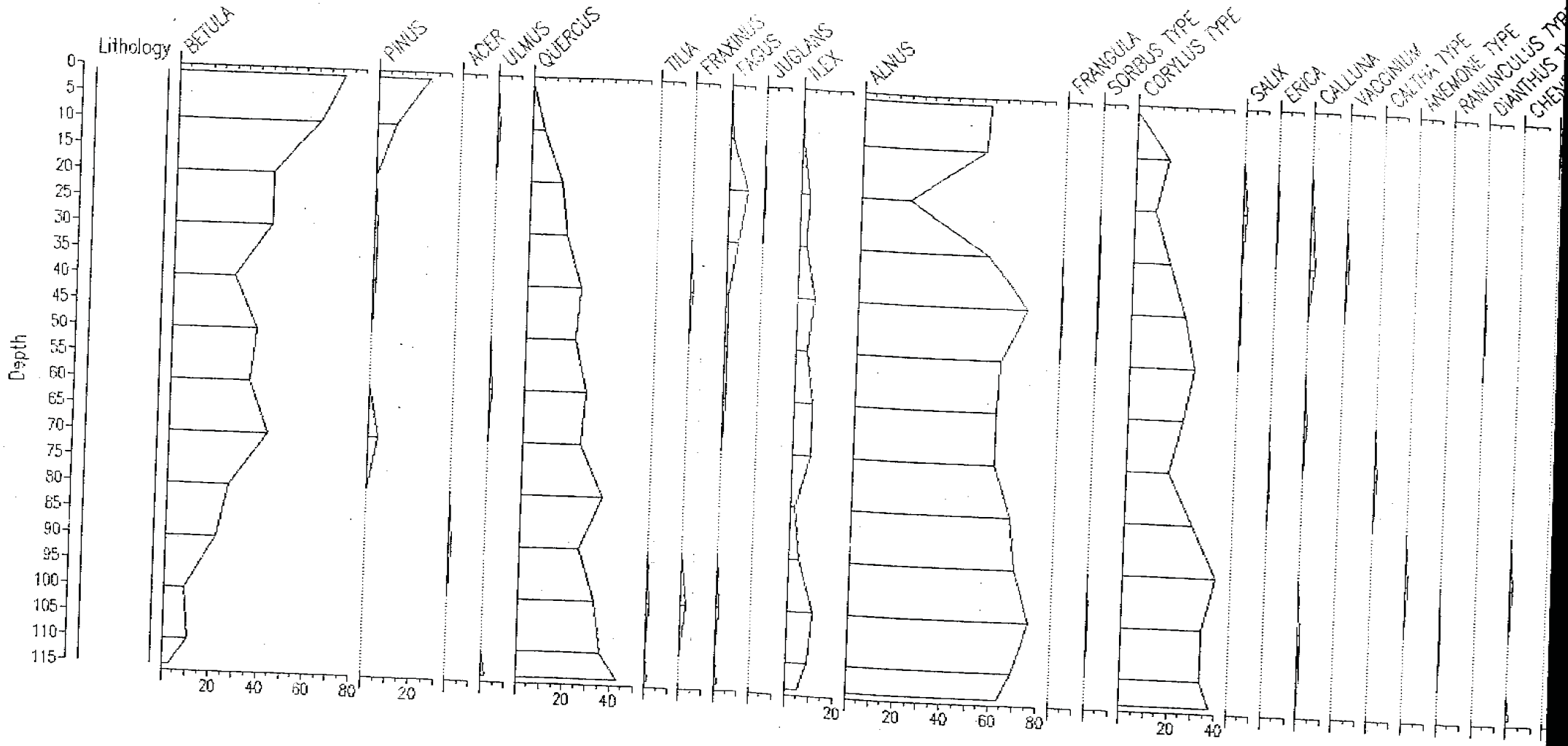
BH:1 Depth 74 cm	0-10	mor humus and wood fragments.
	10-74	brown detrital peat with monocot and wood/twig fragments.
BH:2 Depth 175 cm	0-10	Upper mor humus.
	10-105	Brown detrital fen peat with monocot fragments.
	105-118	Transition between peat and silt.
	118-154	Grey sand and silt.
	154-175	Grey sand.
BH:3 Depth 120 cm	0-30	Fresh Sphagnum peat.
	30-100	Detrital peat with monocot fragments,
CORE No.1		root fibres and fragments.
	100-150	Sand.
BH:4 Depth 102 cm	0-15	Sphagnum peat.
	15-85	Monocot/detrital peat with rootlets.
	85-102	Sand.
BH:5 Depth 150 cm	0-100	Brown detrital and monocot peat.
	100-120	Organic mud-no structure.
	120-150	Sand.
BH:6 Depth 104 cm	0-90	Brown, humified detrital peat.
	90-104	Silt.
BH:7 Depth 109 cm	0-75	Brown detrital peat.
	75-109	Silt.
BH:8 Depth 120 cm	0-120	Brown humified detrital peat.
	67-71	Layer of coarse white sand with
CORE No.2.		charcoal specks noted.
BH:9 Depth 95 cm	0-95	Brown humified detrital peat.
BH:10 Depth 150 cm	0-133	Brown detrital peat.
	133-150	Sand basal deposits.
BH:11 Depth		Peat as above.
BH:12 Depth 90 cm	0-40	Brown detrital peat.
	40-90	Sand with organic material.
BH:13 Depth 120 cm	0-120	Brown detrital peat to base.

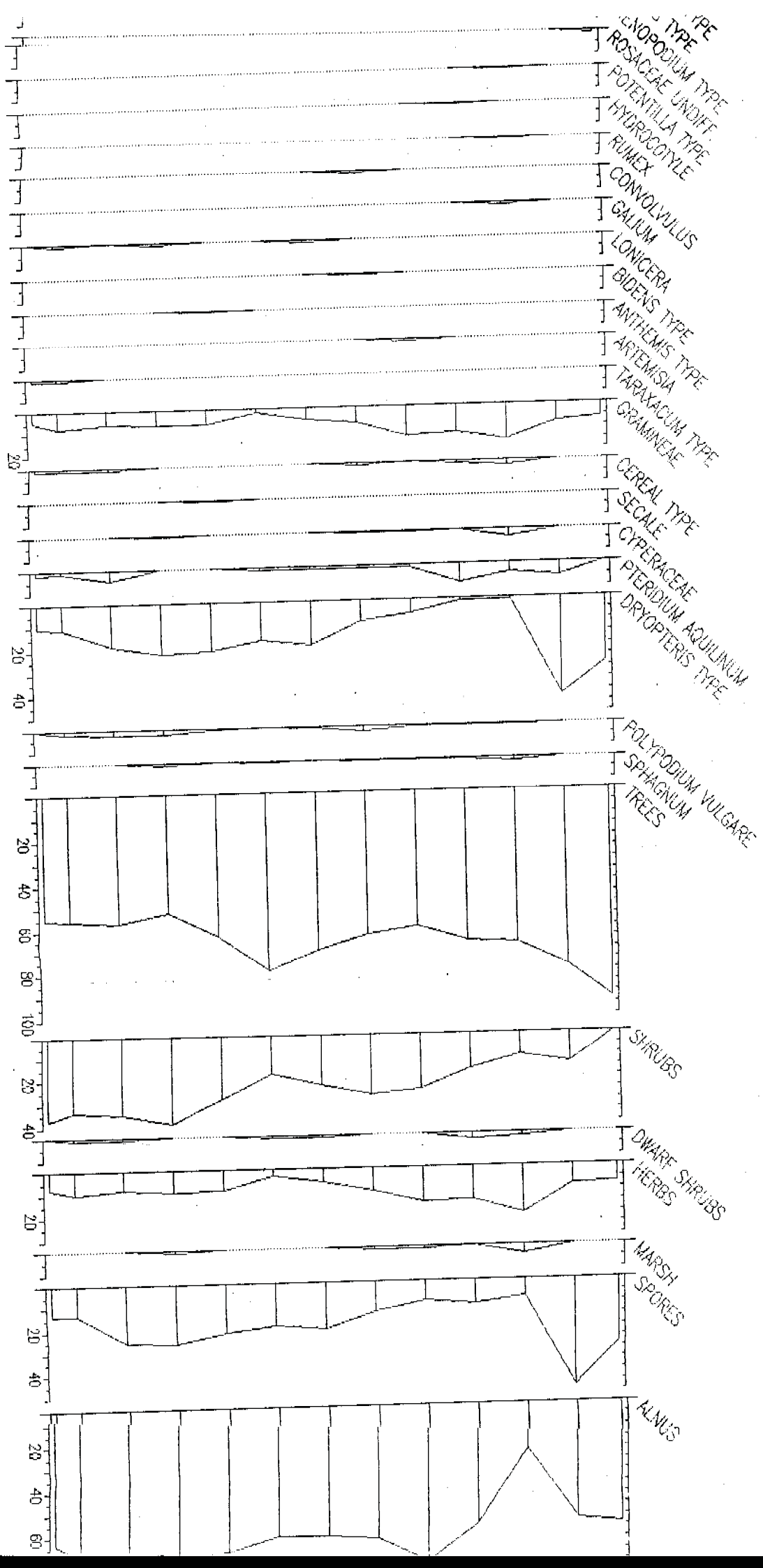
CORE No 3.

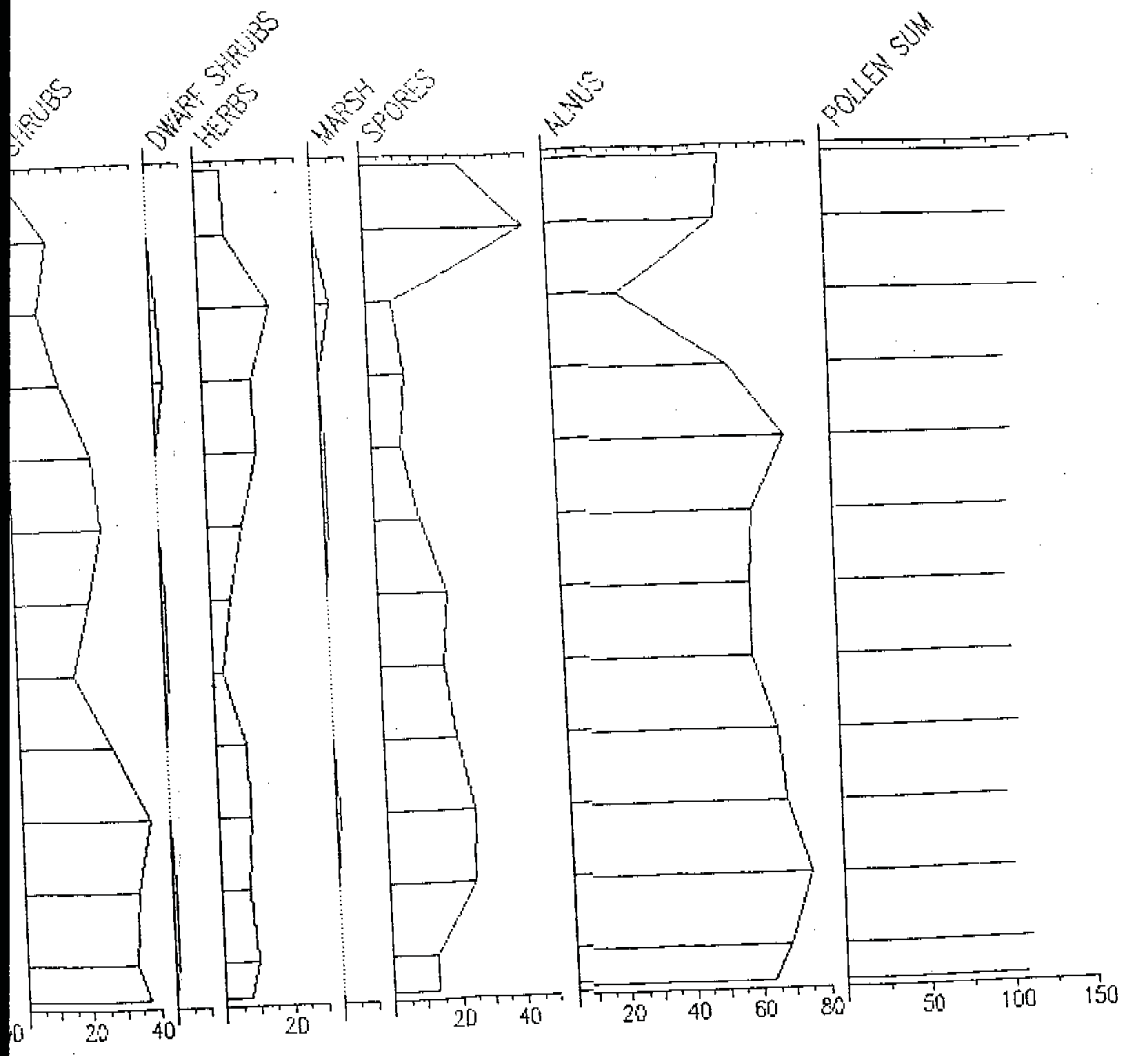
BH:14 Depth 90 cm	0-90	Brown detrital peat.
	90	Basal sand.
BH:15 Depth 85 cm	0-85	Brown detrital peat.
	85	Basal sand.
BH:16 Depth 75 cm	0-75	Brown detrital peat.
	75	Basal sand.
BH:17 Depth 55 cm	0-55	Brown detrital peat.
	55	Basal sand.
BH:18 Depth 30 cm	0-30	Brown detrital peat.
	30	Basal sand.
BH:19 Depth 45 cm	0-45	Brown detrital peat.
	45	Basal sand.
BH:20 Depth 40 cm	0-40	Brown detrital peat.
	40	Basal sand.
BH:21 Depth 85 cm	0-80	Brown detrital peat.
	80-85	Sandy peat.

NB. All sections have an upper 'mor' humus horizon of 2-10 cm thickness.

Crude stratigraphical and sediment depths recorded by field survey. BH:1 located at top of valley and BH:21 at base of valley where peat diminishes in thickness. Points cored are given in figure .


Lithology
Depth
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
105
110
115
BETULA
PINUS
ACER
ULMUS
QUERCUS
TILIA
FRAXINUS
FAGUS
JUGLANS
ILEX
ALNUS
FRANGULA
SORBUS TYPE
CORYLUS TYPE
SALIX
ERICA
CALLUNA
VACCINIUM
CALTHA TYPE
ANEMONE TYPE
RANUNCULUS TYPE
DIANTHUS TYPE
20
40
60
80


TYPE
CHENOPODIUM TYPE
ROSACEAE UNDIFF.
POTENTILLA TYPE
HYDROCOTYLE
RUMEX
CONVOLVULUS
GALIUM
LONICERA
BIDENS TYPE
ANTHEMIS TYPE
ARTEMISIA
TARAXACUM TYPE
GRAMINEAE
20
CEREAL TYPE
SECALE
CYPERACEAE
PTERIDIUM AQUILINUM
DRYOPTERIS TYPE
20
40
POLYPODIUM VULGARE
SPHAGNUM
TREES
20
40
60
80
100
SHRUBS
20
40
DWARF SHRUBS
HERBS
20
MARSH
SPORES
20
40
ALNUS
20
40
60


SHRUBS
DWARF SHRUBS
HERBS
MARSH SPORES
ALNUS
POLLEN SUM
0
20
40
20
20
40
20
40
60
80
50
100
150


Lithology
Depth
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
105
110
115
BETULA
PINUS
ACER
ULMUS
QUERCUS
TILIA
FRAXINUS
FAGUS
JUGLANS
ILEX
ALNUS
FRANGULA
SORBUS TYPE
CORYLUS TYPE
SALIX
ERICA
CALLUNA
VACCINIUM
CALTHA TYPE
ANEMONE TYPE
RANUNCULUS TYPE
DIANTHUS TYPE
20
40
60
80

RANUNCULUS TYPE
GIANTHUS TYPE
CHENOPODIUM TYPE
ROSACEAE UNDIFF.
POTENTILLA TYPE
HYDROCOTYLE
RUMEX
CONVOLVULUS
GALIUM
LONICERA
BIDENS TYPE
ANTHEMIS TYPE
ARTEMISIA
TARAXACUM TYPE
CRASSULACEAE
CEREAL TYPE
SECALE
CYPERACEAE
PTERIDIUM AQUILINUM
DRYOPTERIS TYPE
POLYPODIUM VULGARE
SPHAGNUM
TREES
SHRUBS
DWARF SHRUBS
HERBS
MARSH
SPORES
ALNUS
20
40
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100
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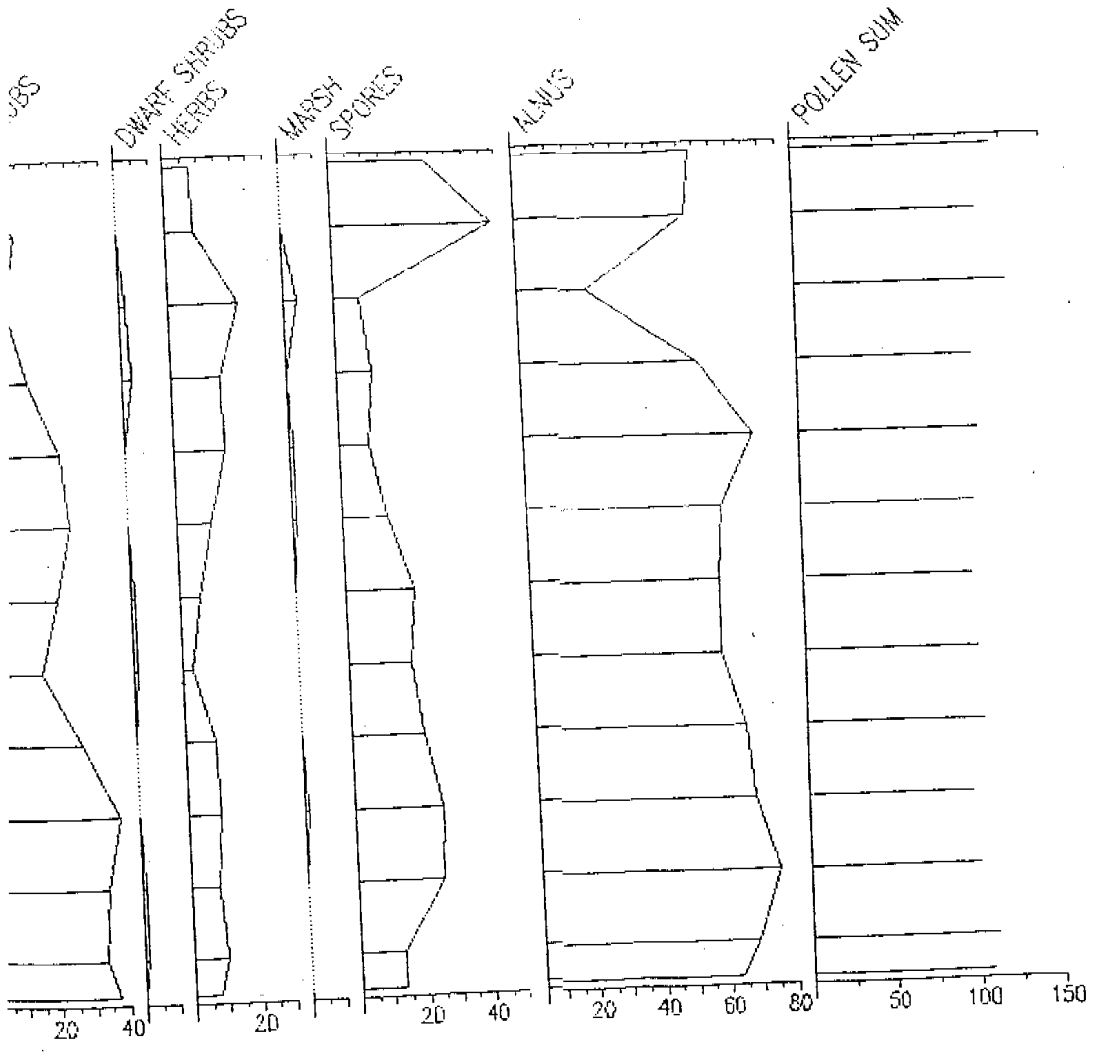
20
20


UBS
DWARF SHRUBS
HERBS
MARSH
SPORES
ALNUS
POLLEN SUM
20
40
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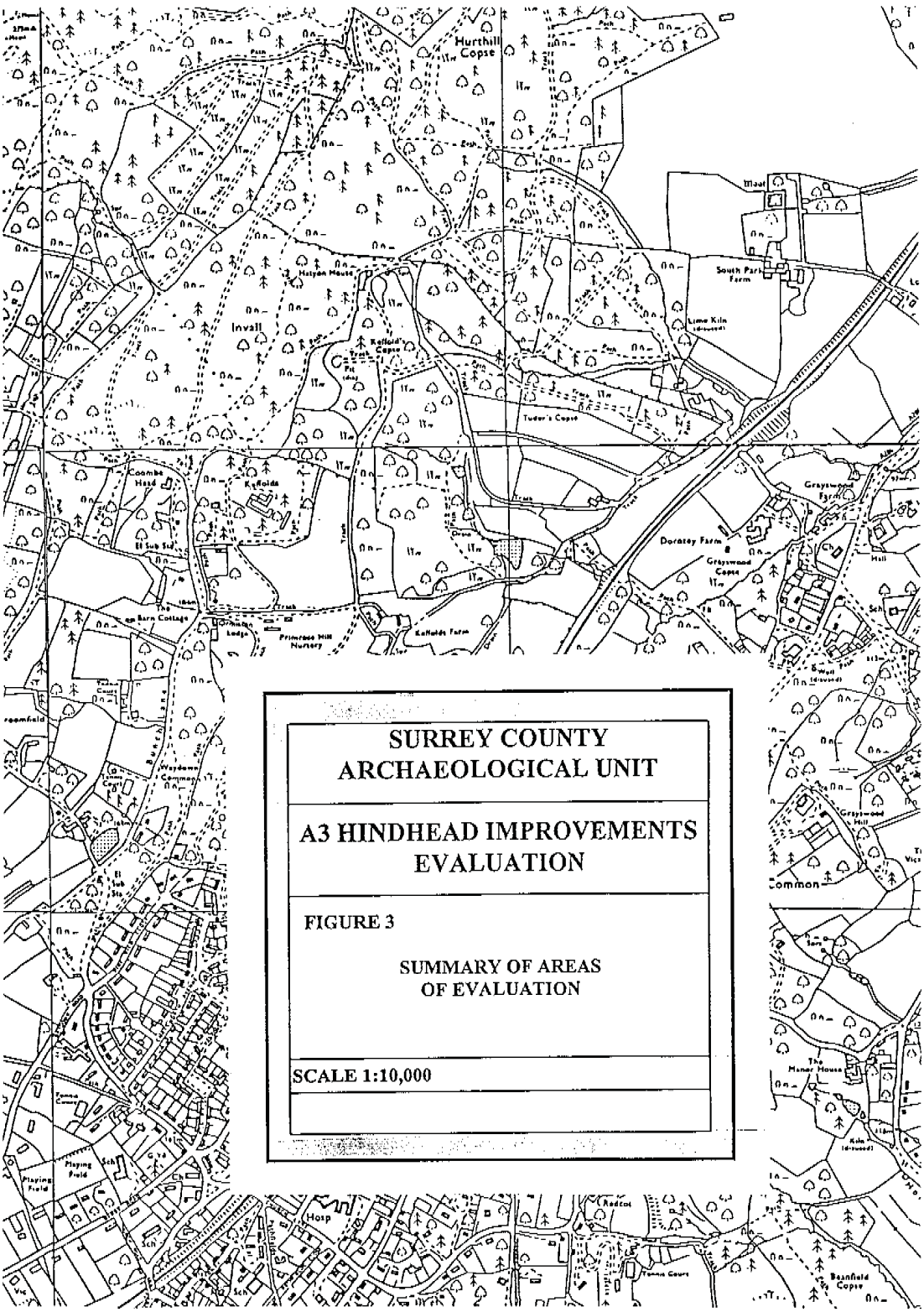
80
50
100
150



SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

FIGURE 3

SUMMARY OF AREAS OF EVALUATION

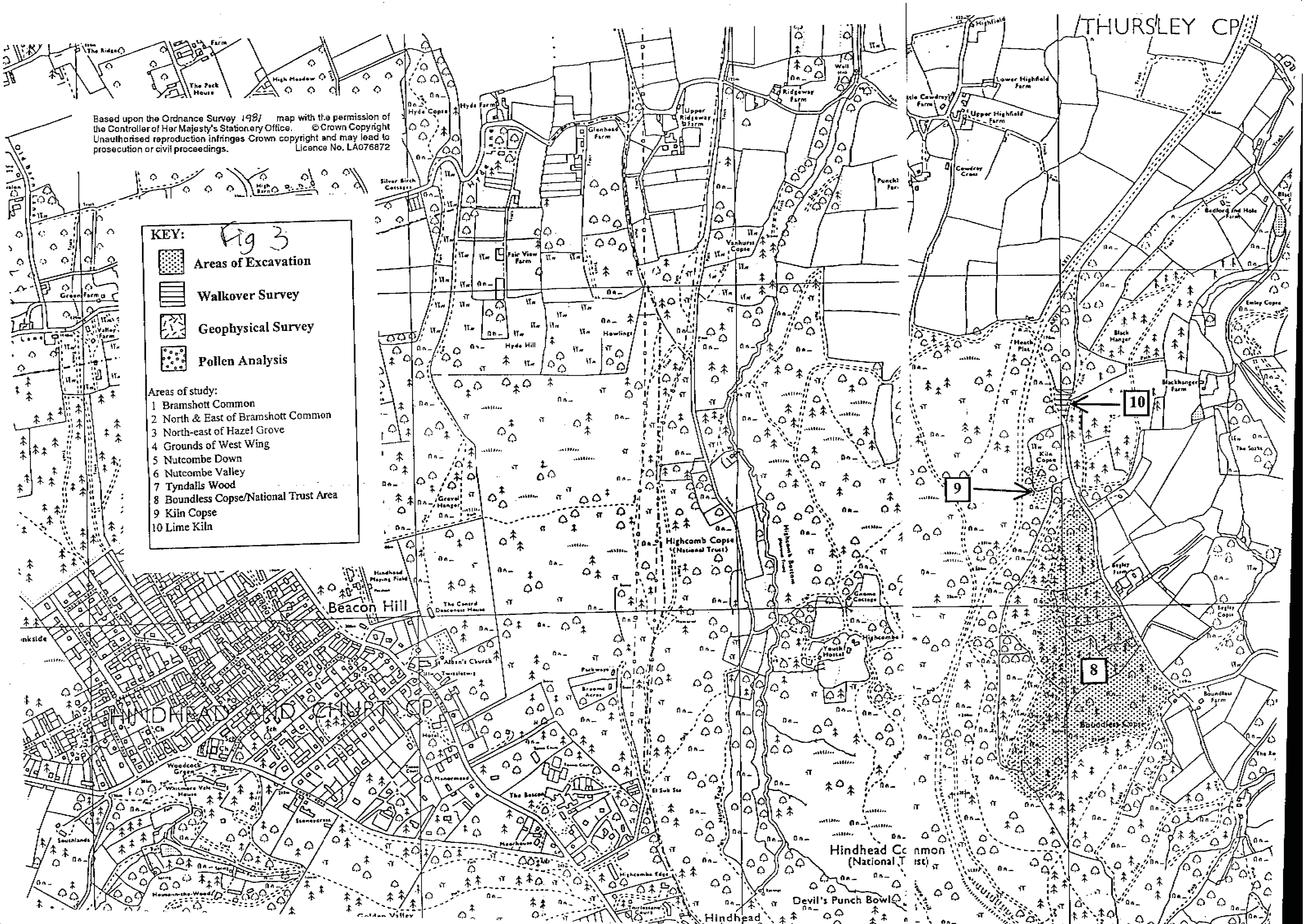
SCALE 1:10,000

Grayshott
1
2
3
4
5
6
7
Kingswood Firs
Nutcombe
Nutcombe Down
Craig's Wood
Polecat
High Pitfold Farm
Chase Farm
Woolmer Hill
Hind Head
Invall
Royal Naval School
Kilmorey
Coombswell Copse
Broomfield
HASLEMERE CP
The Moat
Thursley
Fish Ponds
Playing Field
Branksome Hilders (Schools)
Frensham Hill Farm
Tyndalls Estate
Observation Post
Reservoir (covered)
Hotel
School

A3

FIG

SCA


Based upon the Ordnance Survey 1981 map with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright
Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Licence No. LA076872
KEY: Fig 3
Areas of Excavation
Walkover Survey
Geophysical Survey
Pollen Analysis
Areas of study:
1 Bramshott Common
2 North & East of Bramshott Common
3 North-east of Hazel Grove
4 Grounds of West Wing
5 Nutcombe Down
6 Nutcombe Valley
7 Tyndalls Wood
8 Boundless Copse/National Trust Area
9 Kiln Copse
10 Lime Kiln
THURSLEY CP
HINDHEAD AND CHURT CP
Beacon Hill
Highcomb Copse (National Trust)
Hindhead Common (National Trust)
Devil's Punch Bowl
Hindhead
Boundless Copse
Kiln Copse
9
10
8

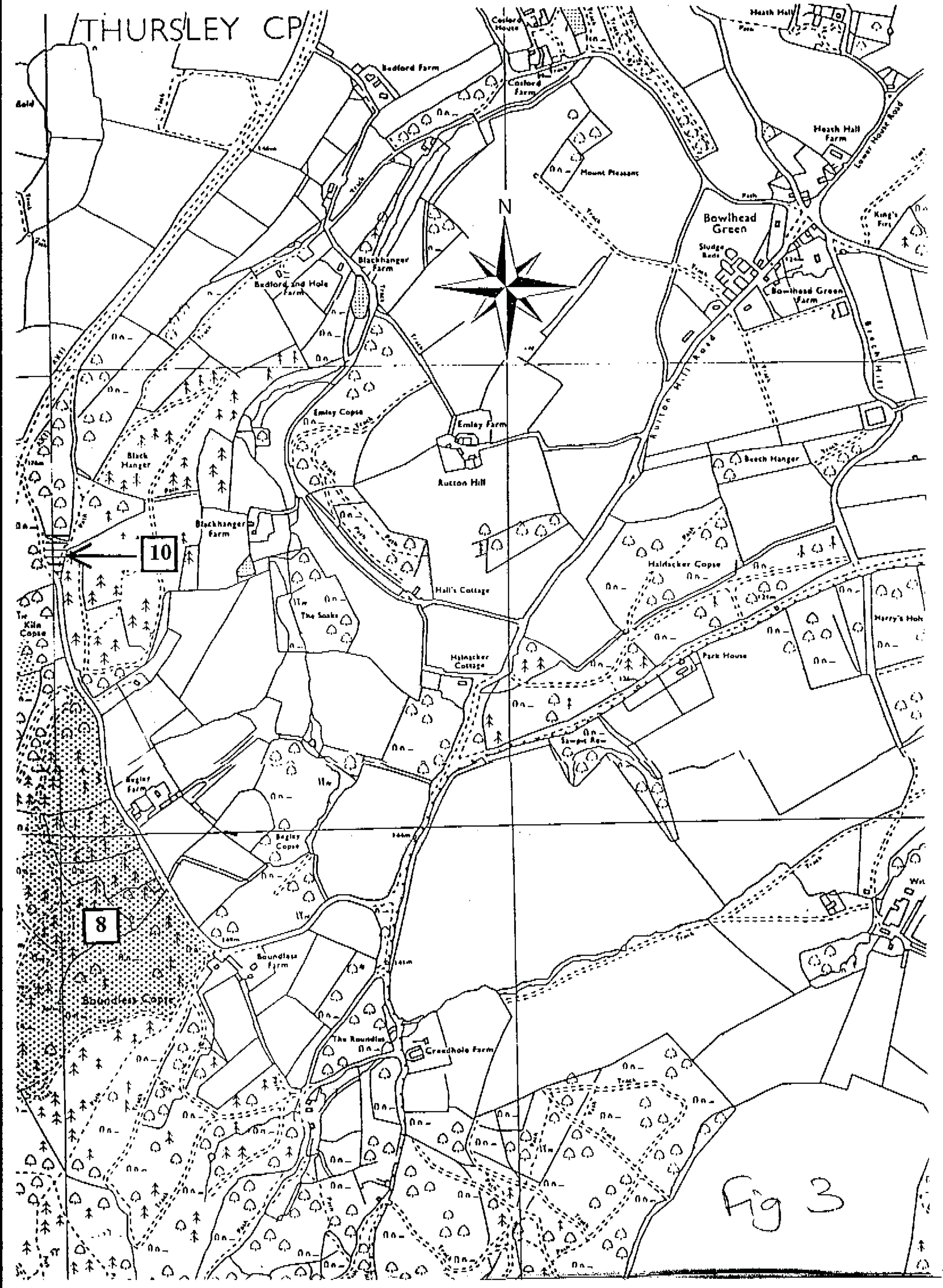
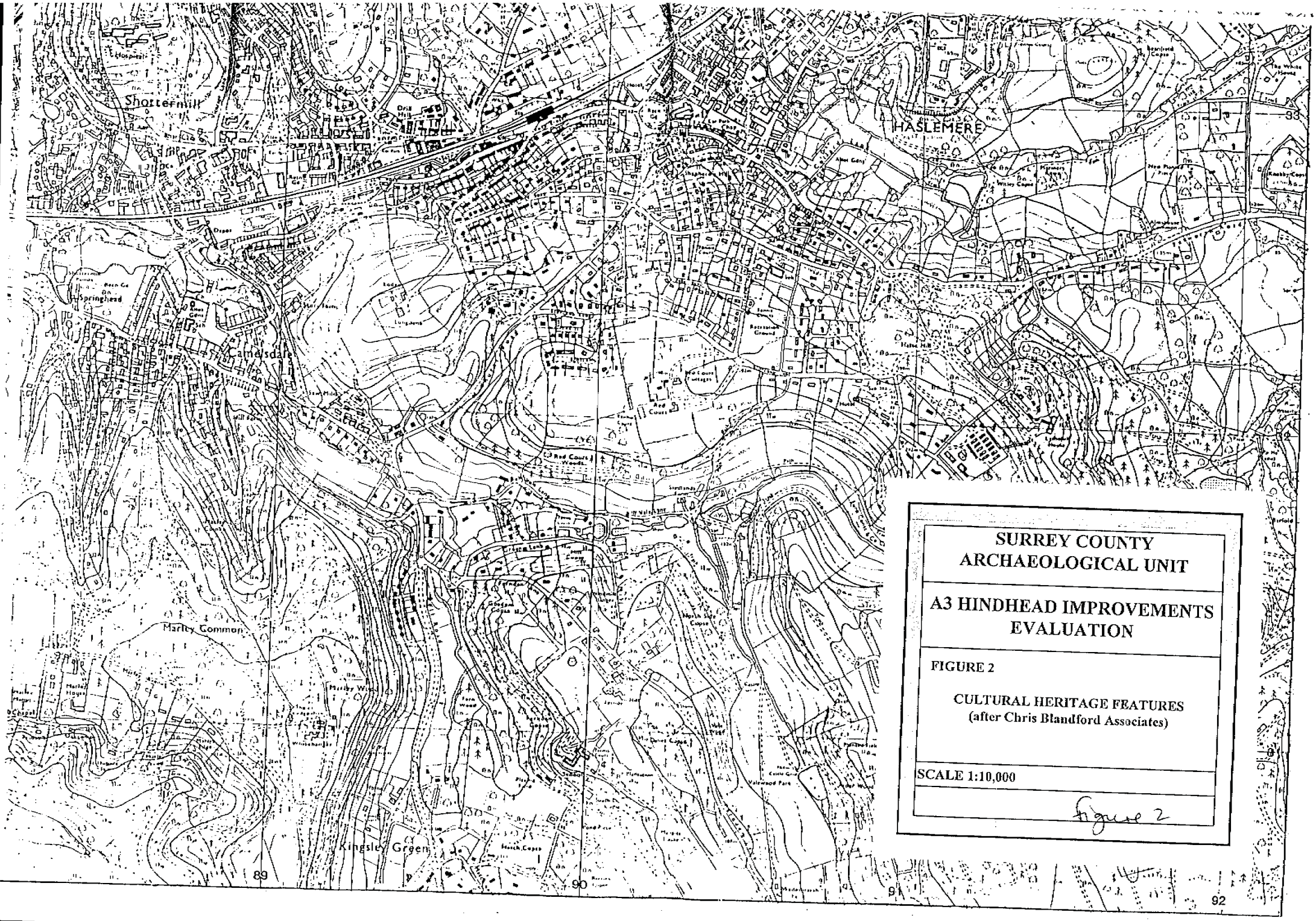

THURSLEY CP
Bedford Farm
Cosford House
Cosford Farm
Heath Hall
Heath Hall Farm
Lower House Road
Mount Pleasant
N
Bowlhead Green
Sludge Beds
Bowlhead Green Farm
Beech Hill
King's Firs
Blackhanger Farm
Bedford and Hole Farm
Emley Copse
Emley Farm
Rutton Hill
Rutton Hill Road
Black Hanger
Beech Hanger
Blackhanger Farm
10
Haldacker Copse
Hall's Cottage
The Soaks
Harry's Hole
Kiln Copse
Park House
Haldacker Cottage
Sawpit Row
Begley Farm
Begley Copse
8
Boundless Farm
Boundless Copse
The Roundles
Creedhole Farm

Fig 3


Shottermill
HASLEMERE
Springhead
Camelsdale
Marley Common
Kingsley Green
89
90
91
92
93
SURREY COUNTY
ARCHAEOLOGICAL UNIT
A3 HINDHEAD IMPROVEMENTS
EVALUATION
FIGURE 2
CULTURAL HERITAGE FEATURES
(after Chris Blandford Associates)
SCALE 1:10,000
figure 2

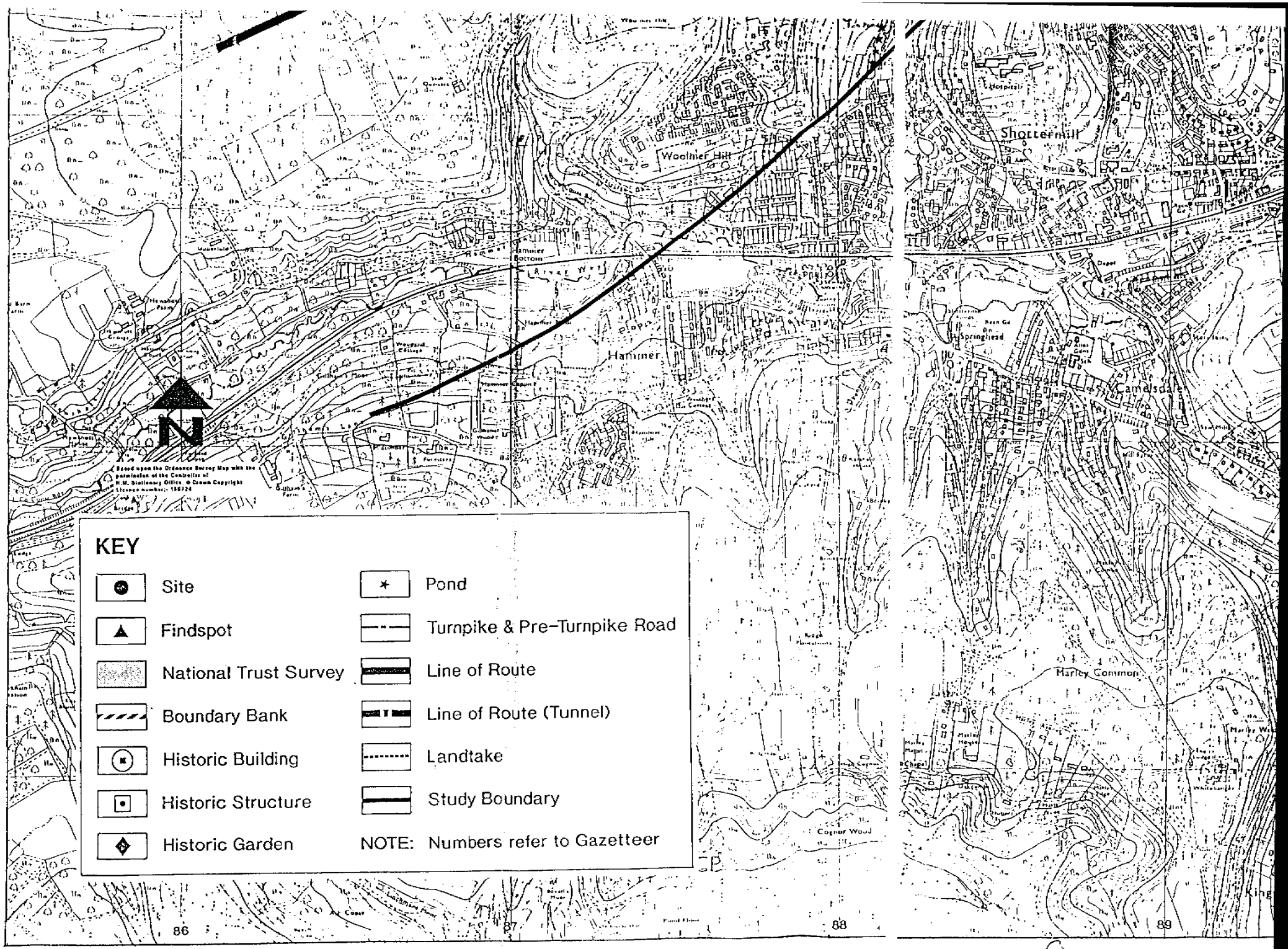
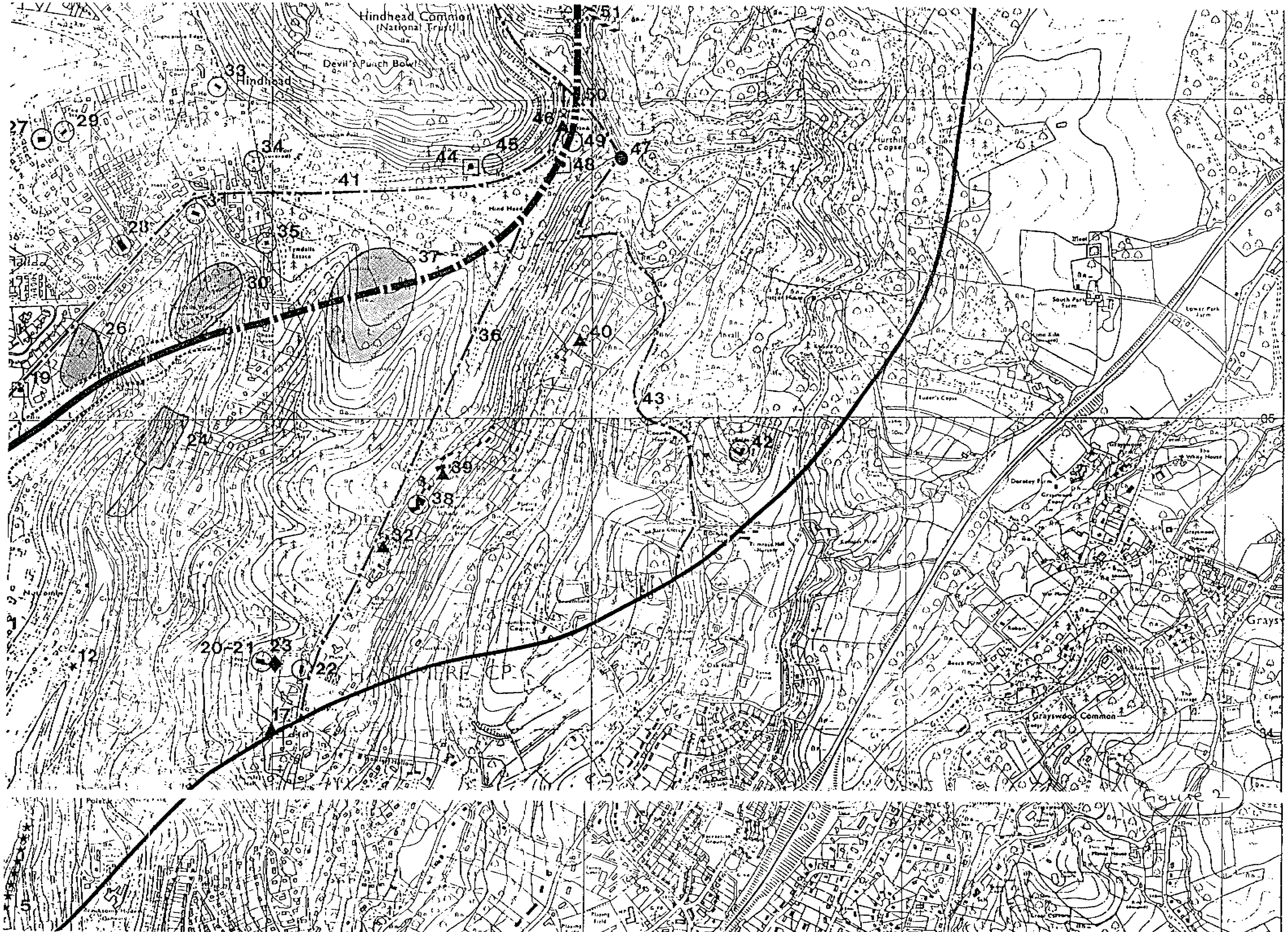

KEY
Site
Findspot
National Trust Survey
Boundary Bank
Historic Building
Historic Structure
Historic Garden
Pond
Turnpike & Pre-Turnpike Road
Line of Route
Line of Route (Tunnel)
Landtake
Study Boundary
NOTE: Numbers refer to Gazetteer
N
Woolmer Hill
Hammer
Shottermill
Springhead
Camelsdale
Marley Common
Cogner Wood
86
87
88
89

figure 2



Hindhead Common
(National Trust)
Devil's Punch Bowl
Hindhead
Hurthill Copse
Grayswood Common
HASLEMERE CP
12
17
19
20-21
22
23
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51

Figure 2


GRAYSHOTT
Grayshott
Golden Valley
Hindhead
Devil's Punch Bowl
(National Tru
Bramshott Chase
Bramshott Common
Wakeners Wells
Crockers Patch
Stoney Bottom
Kingswood Firs
Whitmoor Bottom
1
2
5
6-9
10
11
12
13
14
15
16
17
18
19
20-21
22
23
24
25
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27
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34
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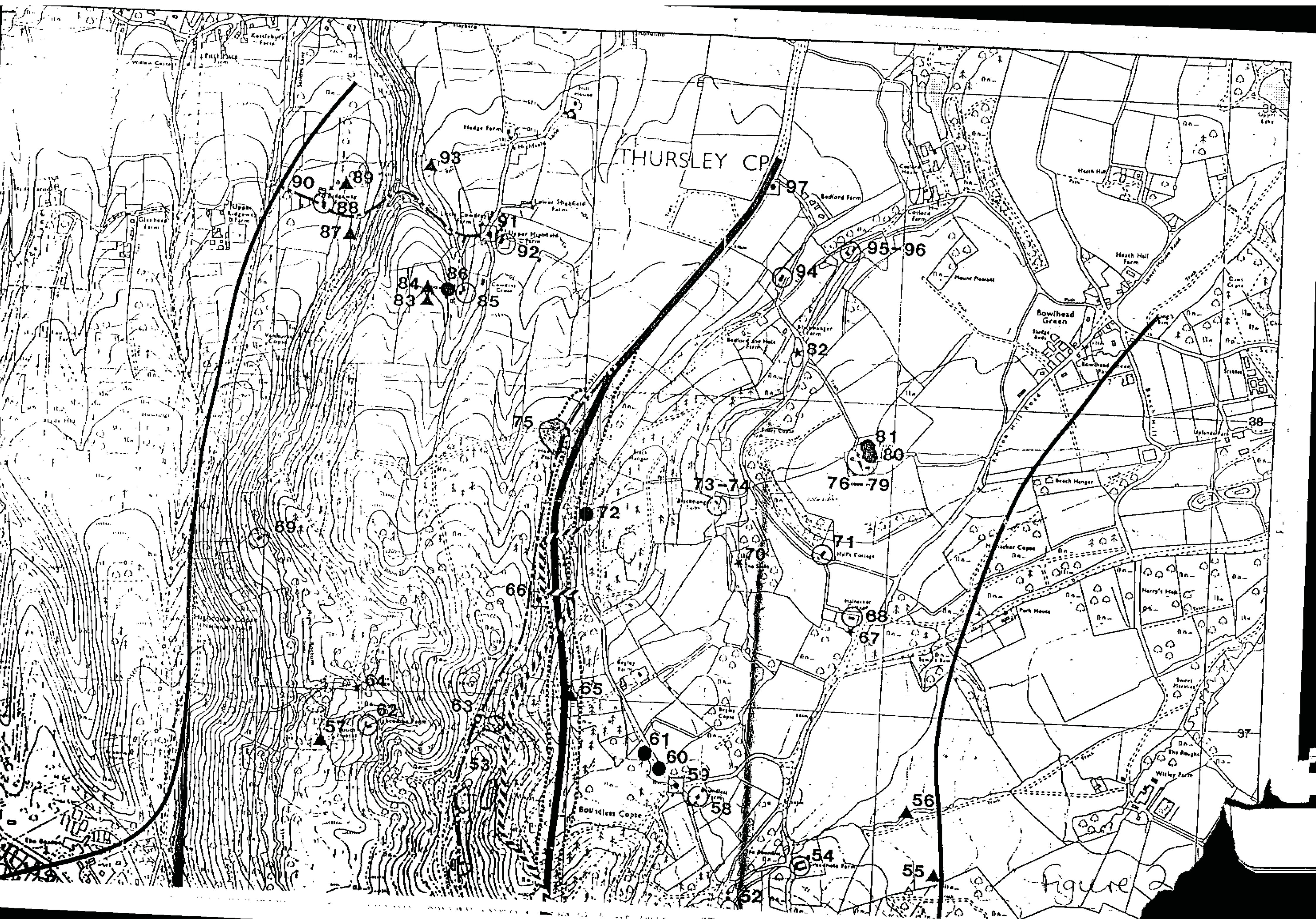
37
41


Churt
Green Cross
Hindhead Golf Course
Beacon Hill
HINDHEAD AND CHURT CP
Fig 2
90
89
88
87
69
64
57


THURSLEY CP
Bowlhead Green
Bedford Farm
Heath Hall Farm
Mount Pleasant
Hedge Farm
Lower Highfield Farm
Upper Highfield Farm
Witley Farm
Boundless Copse
Park House
Halls Cottage
Beech Hanger
90
89
88
87
93
91
92
86
84
83
85
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95-96
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76-79
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73-74
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37
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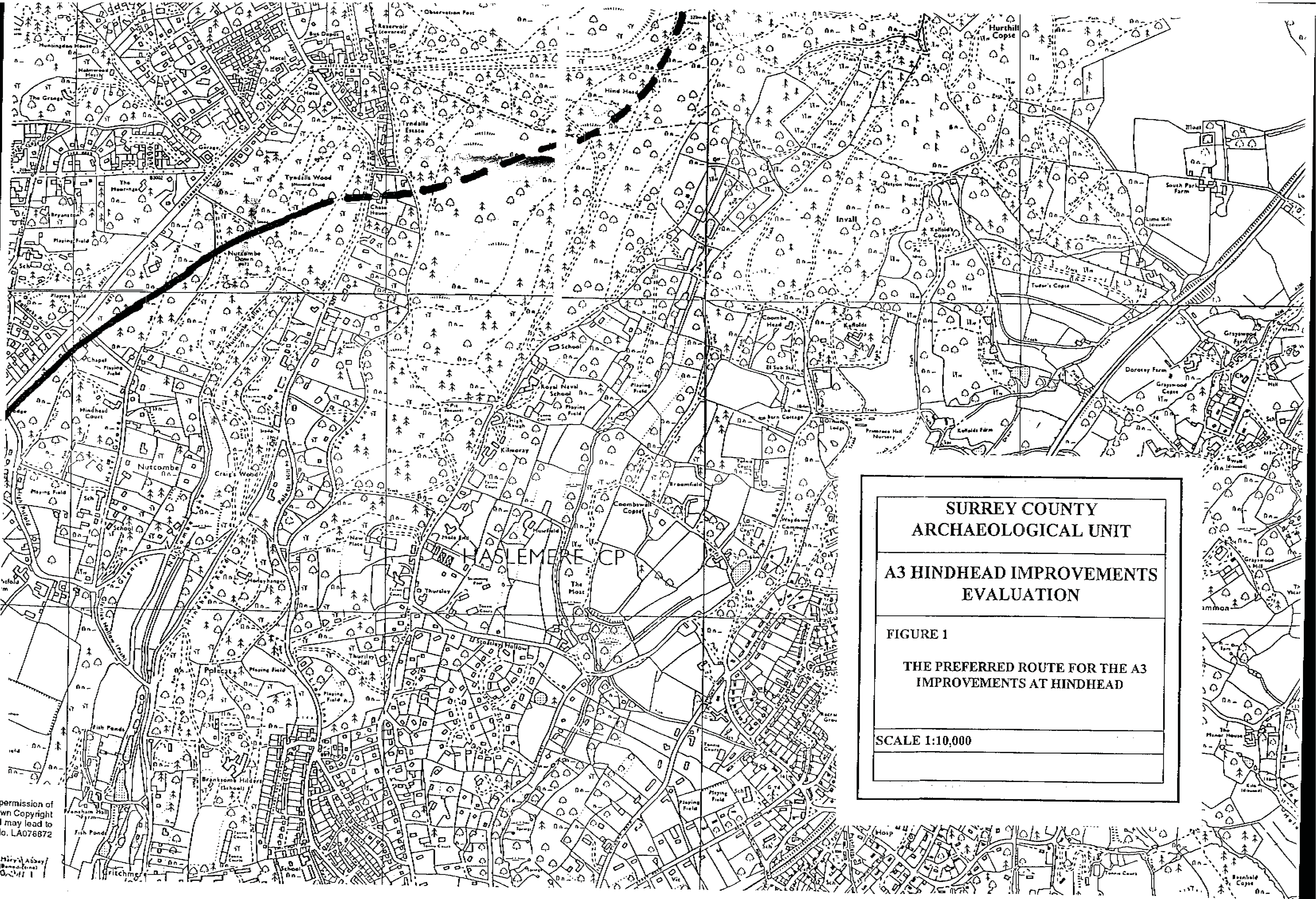
Figure 2



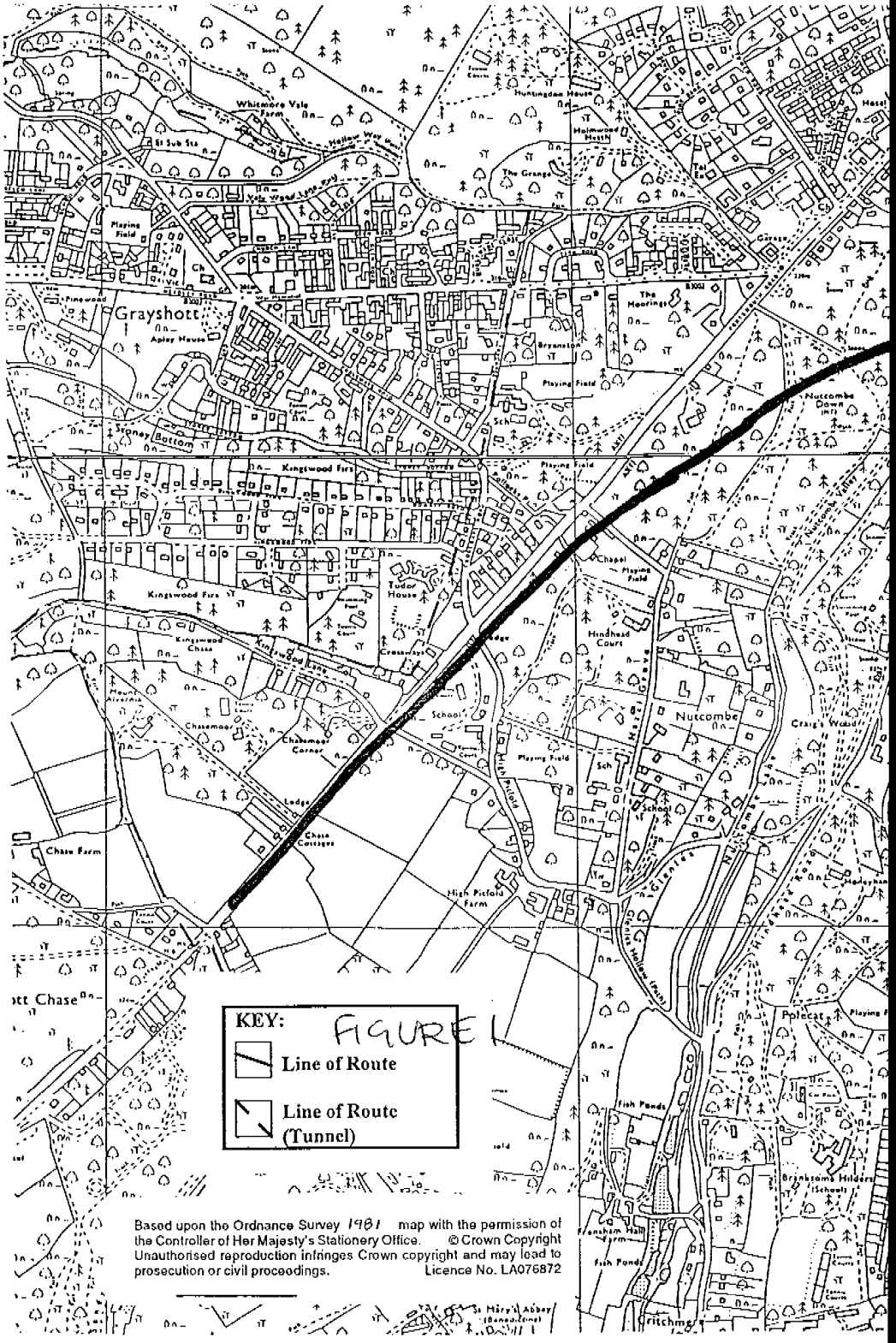
SURREY COUNTY ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS EVALUATION

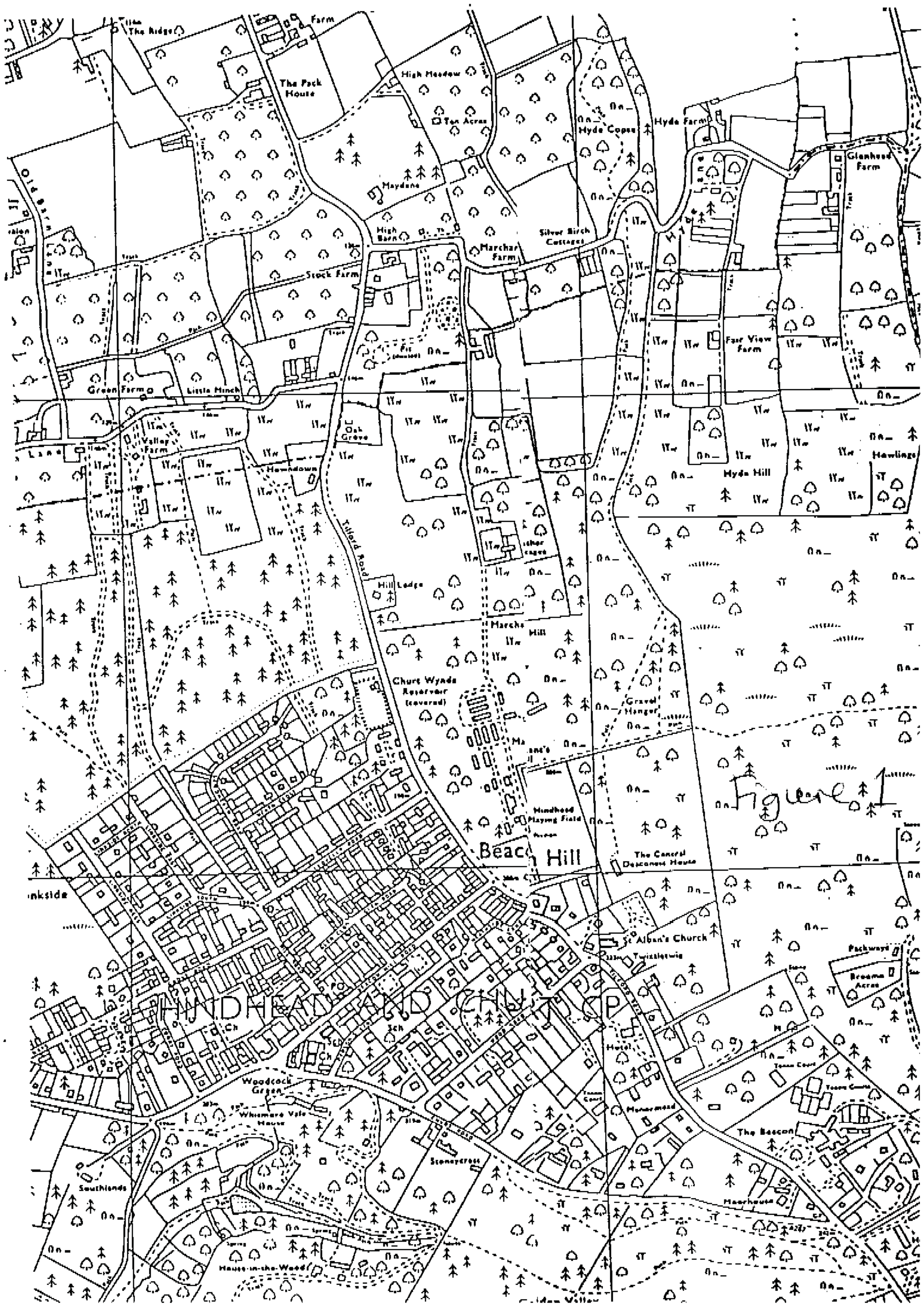
FIGURE 1

THE PREFERRED ROUTE FOR THE A3 IMPROVEMENTS AT HINDHEAD

SCALE 1:10,000



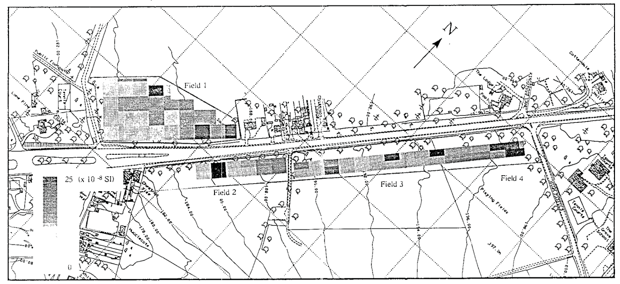

THURSLEY CP
Hindhead Common
(National Trust)
Devil's Punch Bowl
Highcomb Copse
(National Trust)
Boundless Copse
Bowlhead Green
Rutton Hill
Figure 1



The Pack House
High Meadow
Ten Acres
Hyde Copse
Hyde Farm
Glenhead Farm
Maydene
High Barn
Marchant Farm
Silver Birch Cottages
Stock Farm
Fair View Farm
Green Farm
Little Hinch
Valley Farm
Oak Grove
Hawndown
Hyde Hill
Hawlinge
Telford Road
Hill Lodge
Churt Wynde Reservoir (covered)
Gravel Hanger
Hindhead Playing Field
The General Deaconess House
Beacon Hill
St Alban's Church
Twizzletwig
Packways
Broome Acres
HINDHEAD AND CHURT CP
Hotel
Woodcock Green
Whitmore Vale House
Southlands
Stoneycroft
The Beacon
Moorhouse
House-in-the-Wood
Figure 1

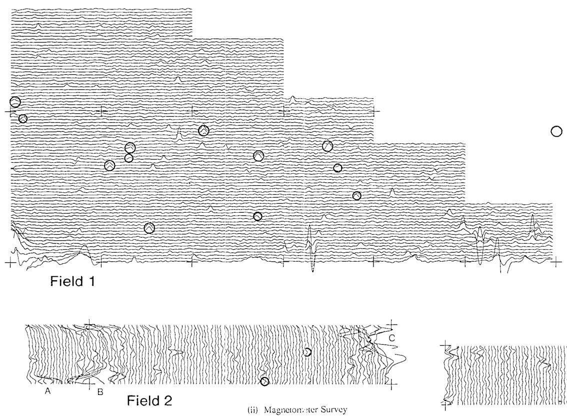
A3 HINDHEAD IMPROVEMENTS

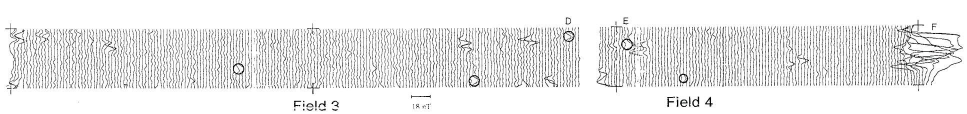
Geophysical Survey 1994



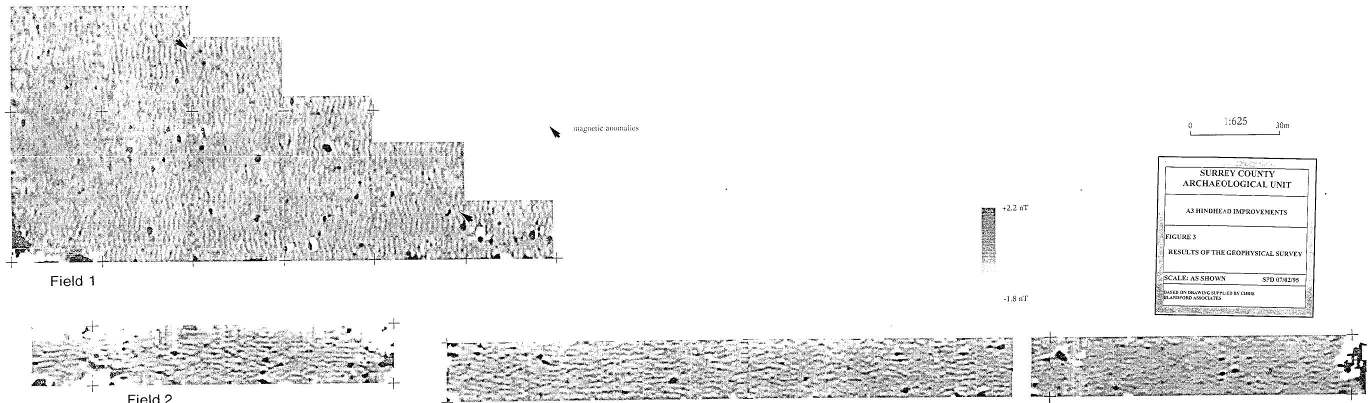
(i) Survey Location (with magnetic susceptibility readings) 1:2500

(Based on plan by L.G. Mouchel & Partners Ltd)





(ii) Magnetometer Survey



(iii) Magnetometer Survey: half tone plot

0 1:625 30m

SURREY COUNTY
ARCHAEOLOGICAL UNIT

A3 HINDHEAD IMPROVEMENTS

FIGURE 3

RESULTS OF THE GEOPHYSICAL SURVEY

SCALE: AS SHOWN SPD 07/02/95

BASED ON DRAWING SUPPLIED BY CHRIS BLANDFORD ASSOCIATES

Bartlett-Clark Consultancy
S.T.E.P. Centre, Osney Mead,
Oxford OX2 0ES
(0865 200864)

Project title / Client	A3 Hindhead Improvements			Drawing Title	Geophysical Survey Results
Scale		Date Aug. 1994	Drawn BLP	CHRIS BLANDFORD ASSOCIATES Landscape Architecture Environmental Planning	
Drawing No	Figure 6	Revision	Approved	Possingworth Craft Workshops, Blackboys, Uckfield, East Sussex TN22 5HE Telephone (0435) 866488 Fax (0435) 864381	