

FIELDWORK IN AND AROUND MICHELDEVER WOOD, HAMPSHIRE 1973–1980

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ABSTRACT

Fossilized prehistoric and Roman landscapes have been discovered and recorded in Micheldever Wood. Several earthworks have been excavated in advance of their destruction by construction of the M3 motorway.

INTRODUCTION

In 1973 the M3 Archaeological Rescue Committee (MARC3) initiated a full-time programme of survey and excavation on the line of the M3 extension through central Hampshire from Popham to Compton. Much of the route of the motorway lay across arable farmland but for 2.5 kilometres the road was planned to cut through the 200 plus hectares of Micheldever Wood, Fig 1. In 1973 five sites were known – two round barrows, two Roman sites and one Iron Age enclosure. As this report reveals

twenty-one sites or features of interest and forty-one linear features totalling 7.1 km have been recorded.

The MARC3 project in Micheldever Wood aimed to locate, record and interpret – often by excavation – those earthworks to be destroyed by the motorway and to place them in a wider context. Thus twenty excavations took place within the wood and one outside. The work has been referred to in the annual reports of the M3 Archaeological Rescue Committee (Fasham 1975, 1976 and 1978) and reports of two larger sites have been published; the oval barrow (Fasham 1979, Fasham and Ross 1978) and a ring-ditch (Fasham 1982) while a third, the ‘banjo’ enclosure, is in preparation. Aspects of other sites have been discussed elsewhere (Bowen 1975a, Fasham and Monk 1978, Taylor 1979, Monk and Fasham 1980).

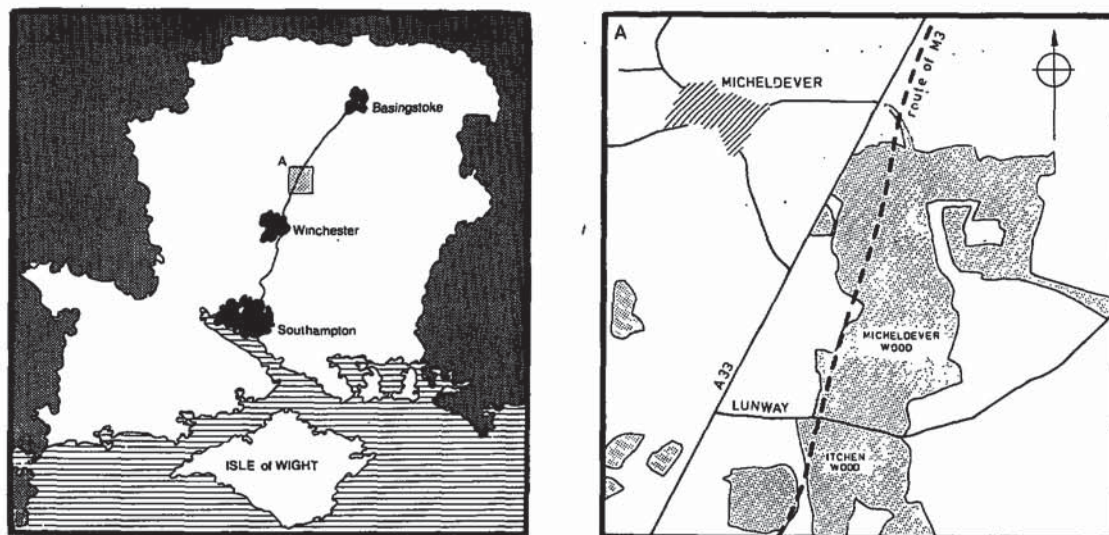


Fig 1. Micheldever Wood. Location plan.

The earthworks and excavations are described in chronological sequence. An earthwork or an earthwork complex forming an entity, such as a barrow or a settlement site, is referred to numerically with the letter R as a prefix; linear earthworks are prefixed E. Where linear earthworks have been excavated the excavation cutting is prefixed by the letter R. The numbers prefixed R correspond to the sites and monuments record created by MARC3. Many of the earthworks are dated by morphology, association or implication rather than by stratified artefacts.

It is necessary to compress the published data and to place considerable emphasis on the archive (DoE 1975) and thus there will not be detailed descriptions and full illustrations of each excavation trench. Supervisor's reports, finds lists and field drawings are in the archive which is housed by the Hampshire County Museum Service. In addition a copy of the archive, except the computer print-out, has been deposited in microform with the National Monuments Record.

APPROACHES

The initial archaeological exercise in Michel-dever Wood occurred in the autumn of 1973 with the observation of bore-holes and test pits of the geological survey commissioned by the South-Eastern Road Construction Unit. This provided general background experience to the wood and its underlying geology and also revealed the site of the oval Bronze Age barrow, Site R4 (Fasham 1979, Fasham and Ross 1978) and the first indication of the 'banjo' enclosure, Site R27 (Fasham in preparation).

In the Spring of 1974 the immediate route of the motorway was walked. Sketches of all earthworks were plotted on 6" Ordnance Survey maps, and a fluxgate gradiometer scan was completed (Clark 1975). This preliminary work indicated that a considerable body of archaeological data was preserved in the form of earthworks and that a detailed survey was required. Before such a survey could be undertaken it was necessary to develop suitable techniques and a pilot survey was carried out in the spring of

1975. The pilot survey was of a relatively well-known Romano-British building, Site R43. All ground litter was removed and building platforms were readily discernable and recordable. It was quite obvious that the main survey could not be conducted in such a labour-intensive manner and it was decided for the main survey that only junctions of earthworks could be cleared.

The main survey comprised a 300m-wide strip with the motorway at its centre, forming a circuit of about 6 km with 56 hectares to be surveyed, Fig 2. It was felt that this approach would enable most features on the motorway route to be interpreted in a broader context and be related to the numerous soil and crop marks around the edge of the wood. A more detailed geophysical survey of the 'banjo' enclosure was included in this stage of the project. The mechanics of the survey have been discussed elsewhere (Butler and Fasham 1976) but a few points need to be made. The surveyed area has been located within centimetres to the National Grid by making use of the South-Eastern Road Construction Units photographically located control points and, within the survey perimeter, the location of individual earthworks was facilitated by the regular arrangement of the stands. Survey activity was restricted to a few winter months when there was minimal ground cover. The survey was necessarily slow because of the tree cover; in some stands it is physically impossible to penetrate more than a few metres. The survey was carried out in close liaison with the Royal Commission on Historic Monuments (England) who have extended the survey beyond its self-imposed limits. Stands which have not been examined will need to be surveyed as the silviculture cycle develops.

About 130 hectares (320 acres) have been surveyed in detail and a further 30–40 hectares have been examined leaving about 90 hectares for future study. As the survey developed it was apparent that two major sites needed excavation, the barrow, Site R4, and the 'banjo' enclosure, R27. The latter was known only as an area of Iron Age occupation represented by pits and ditches until it had been clear-felled. The excavation of the 'key' sites was started before

MICHELDEVER WOOD earthwork survey

Area of numerous scarps and hollows

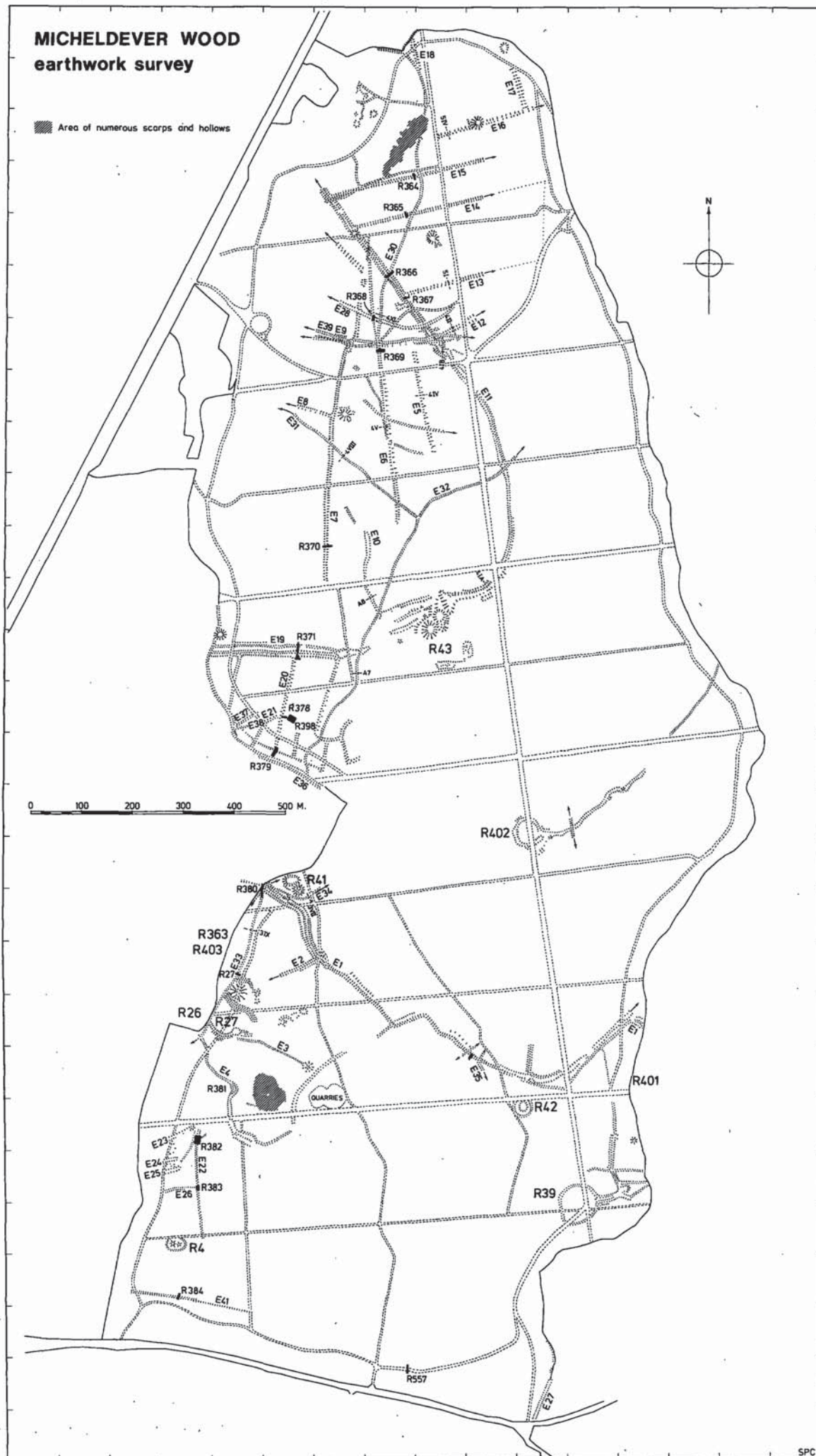


Fig. 2. Micheldever Wood. Earthworks in Micheldever Wood showing all earthworks that have been surveyed.

the survey was completed. The survey enabled precise decisions to be made concerning which other earthworks should be examined and where the trenches should be located.

In the small excavations, except R26, R382, R383 and R557, finds were plotted three-dimensionally in order to record possible details of ancient ploughing. All the sites produced, to varying degrees, worked flint. Presumably the bulk was residual and formed a 'background noise' to the later activities and thus an attempt was made to quantify the background distribution and isolate potentially significant variations. The data used were from fifteen trenches with a total surface area of 537m², a very small sample in terms of the Wood as a whole. There were 2,084 flints. The density of flints within each of the fifteen excavations ranges from 0.05 to 9.1 per m² with an average of 3.88. The best estimate of the true mean of flints per m² excavated with a 95% probability is 2.37-5.39. It was further possible to sample an area of 180m² adjacent to, but not, unlike the other fifteen trenches, immediately affected by man's past activities. Within that area, Site R398, eighteen randomly selected 1m squares were excavated to natural producing 176 flints with an average of 9.7 flints per m², standard deviation of 4.63, the best estimate of the standard deviation of 4.76. The best estimate of the true mean with a 95% probability is 7.5-11.9 flints per m². It is interesting that the true mean at 95% probability is greater in the sample area than in any of the earthwork excavations. If the data from the earthwork excavations, excluding R398, are considered, then two sites, R366 and R369, produced concentrations greater than one standard deviation above the upper limit of the estimated true mean. Amongst the flint debris were two scrapers and a leaf-shaped arrowhead at R366 and a scraper at R369.

MESOLITHIC

There is little evidence of Mesolithic activity. A radiocarbon date of 6900±170BP (HAR 1043) was obtained from charcoal in a pit underneath the oval barrow, Site R4, but the determination is doubtful. There were one or

two pieces of possible Mesolithic flint from the barrow (Fasham 1979). Elsewhere in the Wood there were six blades and one core (Fig 3 No 1) from five different locations.

NEOLITHIC

Pottery and flint implements suggested the existence of a late Neolithic site near the oval barrow, Site R4 (Fasham 1979). Elsewhere in the Wood there were nine occurrences of Neolithic material including two concentrations. At the south of the 'banjo' enclosure, Site R27, was a collection of artefacts including a handaxe (Fig 3, 5) and two scrapers (Fig 3, 6 and 7). There were also two scrapers, one on a previously patinated flake from the north of that site (Fig 3, 8 and 9). The second concentration was at the east end of R366 and in the adjacent cutting R367. Amongst the artifacts were a leaf-shaped arrowhead in the former excavation, (Fig 3, 2) and a scraper/knife (Fig 3, 10) and a scraper (Fig 3, 11) from the latter. Features possibly associated with this activity included the circular pit 42 in R366, 750mm diameter, 240mm deep, with sloping sides; and the irregular, elongated scoop 44 in R367 (Fig 4). A Neolithic borer from R365 and a scraper from R368 are illustrated (Fig 3, 3 and 12). At R368 a short length of an enigmatic, pre-Roman ditch, F26, was discovered. The ditch was irregular with the bottom being more like a series of pits joined together, a digging technique employed in the Neolithic (Fasham 1981). Post-hole 18 and shallow depression 28 in the same site might be associated (Fig 4).

A surface scatter of worked flints was recorded as site R401.

BRONZE AGE

There are three barrows in the wood. Site R4 was a multi-tumped barrow of Early Bronze Age date with three cremations (Fasham 1979), R42 is a bell barrow of 23m diameter and 1.8m height, with evidence of antiquarian digging on the top. The north side has been damaged by a Forestry Commission ride. R41, a bowl barrow of 25m diameter and 2m height, lies immedi-

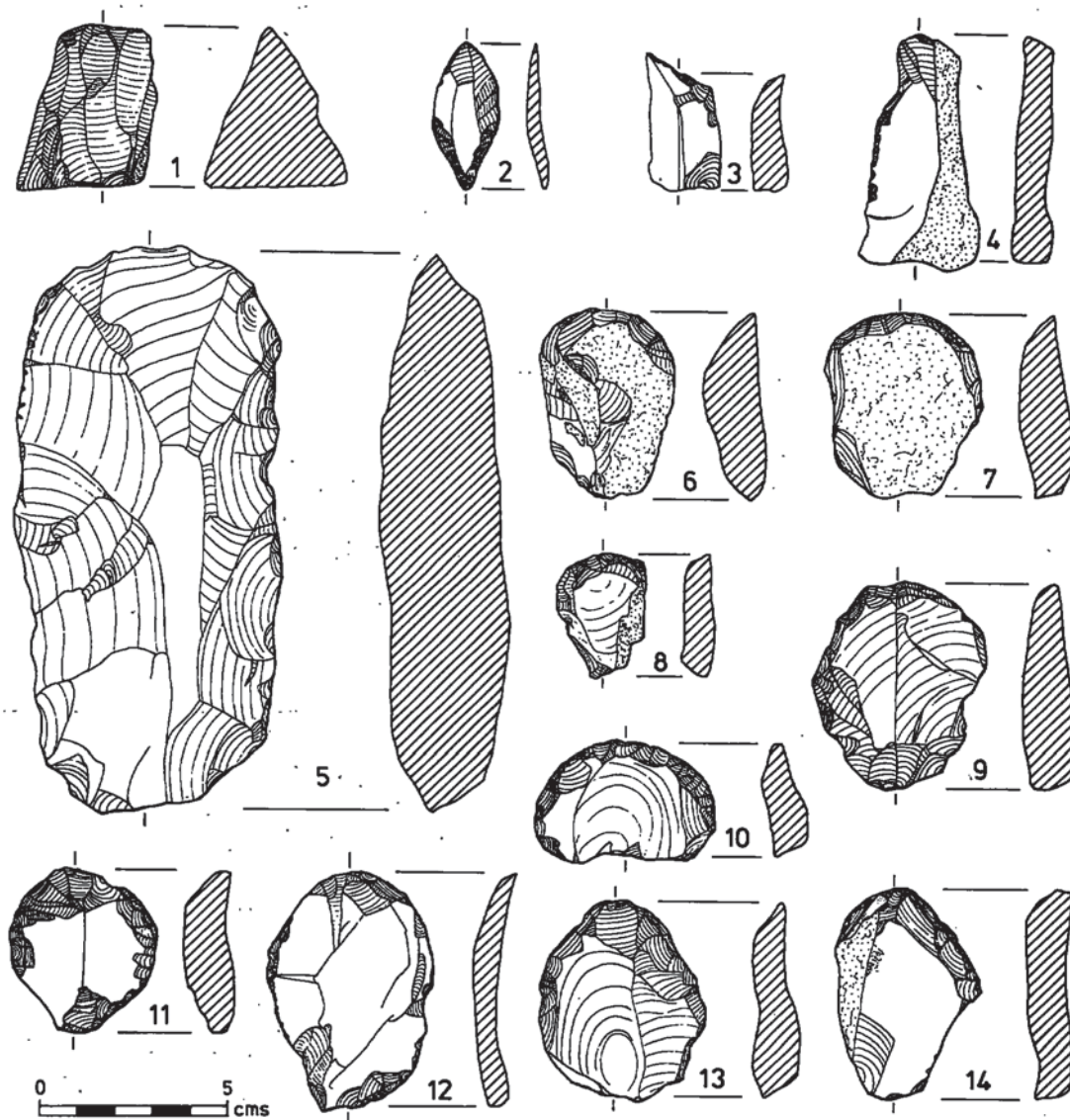


Fig 3. Micheldever Wood. Flint artefacts from various sites in Micheldever Wood.

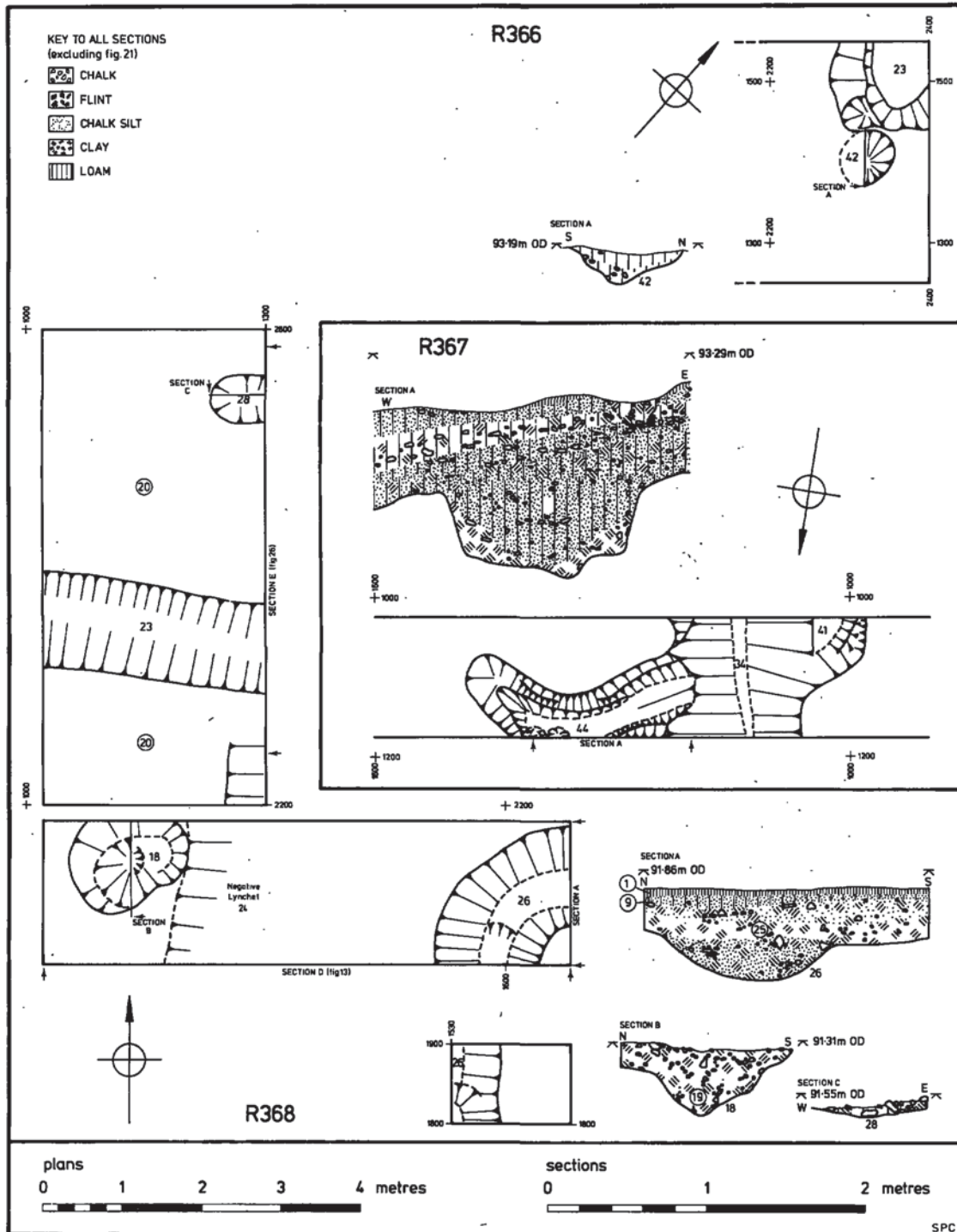


Fig 4. Micheldever Wood. Plans and sections of possible prehistoric (? Neolithic) features from various sites in the north of the wood.

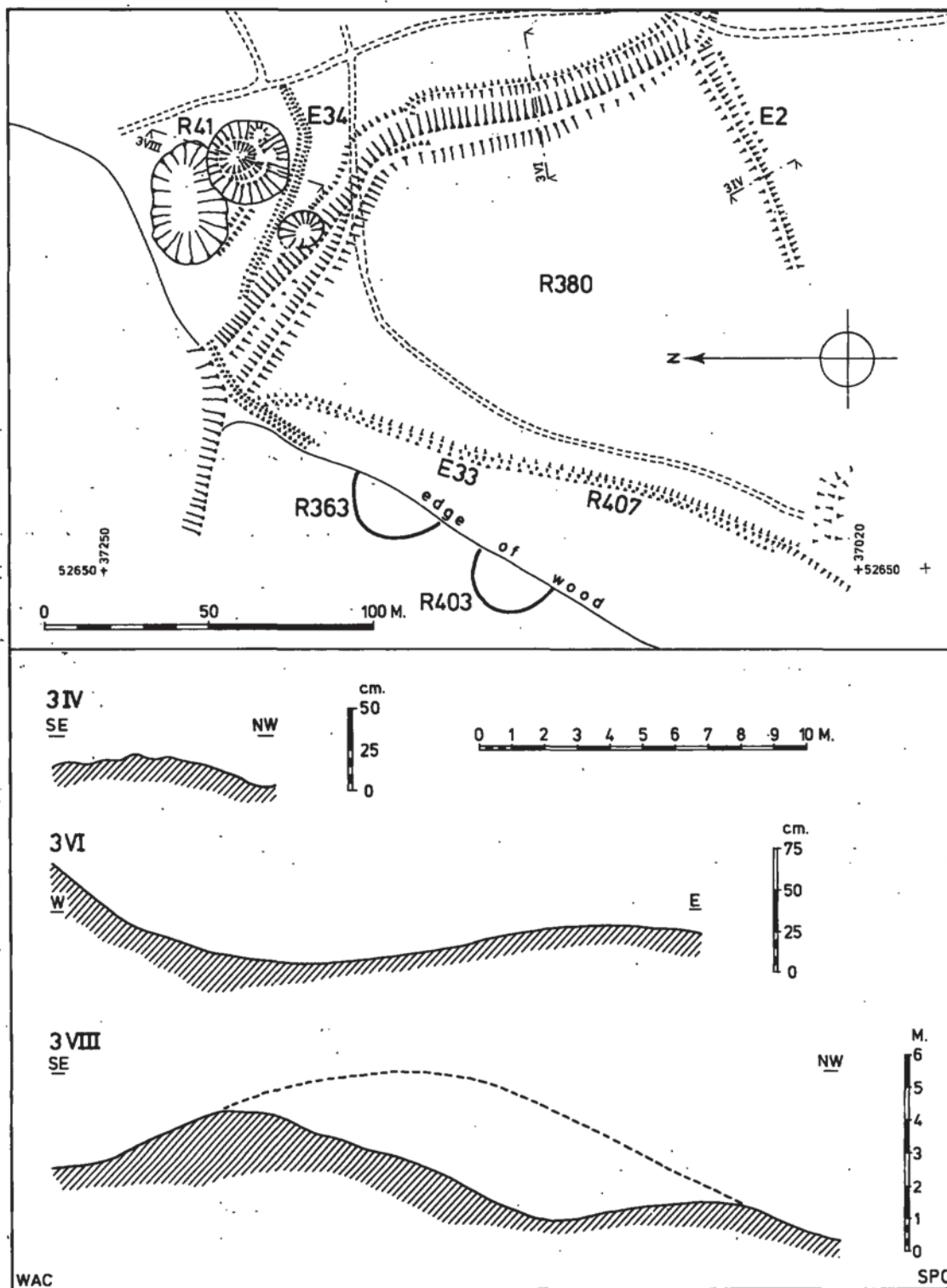


Fig 5. Micheldever Wood. Plan of barrow, ring-ditches and other earthworks, including an unfinished enclosure, on the west edge of Micheldever Wood.

ately south-east of a large quarry. The centre of the barrow has been severely damaged by antiquarian excavation the spoil from which can be clearly identified on the side of the quarry (Fig 5). Immediately south of R41 is a small mound which may be another barrow or, equally, may be more spoil from the excavations. 100 m south-west of R41 are two ring-ditches. The northern one, R363, has been excavated and produced some evidence for a Bronze Age date but not for a funerary function (Fasham 1982) and the southern one, R403, has a diameter of about 25m. Starting north-east of barrow R42 and then running north-west to barrow R41 is a major linear feature, E1. It is composed variously of banks and ditches, is of more than one phase, has a series of acute bends and is related to other linear features. It extends into the arable on the east side of the Wood as a soil mark and on the west side as a lynchet sur-

mounted by a hedge between two modern fields. It is apparently aligned on both barrows R41 and 42 and would therefore seem to be of Bronze Age date and form part of Bowen's (1978) linear ditch system. The eastern end of E1 appears to be of two phases and the right-angled bend at SU 530 369 may have been caused by the existence of a 'Celtic' field system, now vanished. Bowen (1975b) has demonstrated that the linear ditch system on Knoll Down has two phases and cuts across 'Celtic' fields. A Bronze Age origin for E1 seems reasonable. At the west side of the Wood an unfinished enclosure has been constructed on E1 where a substantial ditch has been dug along E1 to form the north side of the enclosure. The south-east side of the enclosure had been started by the careful preparation of a levelled terrace along E2 through which the ditch would have been dug (Fig 5). This western stretch of E1 has been damaged not only by the

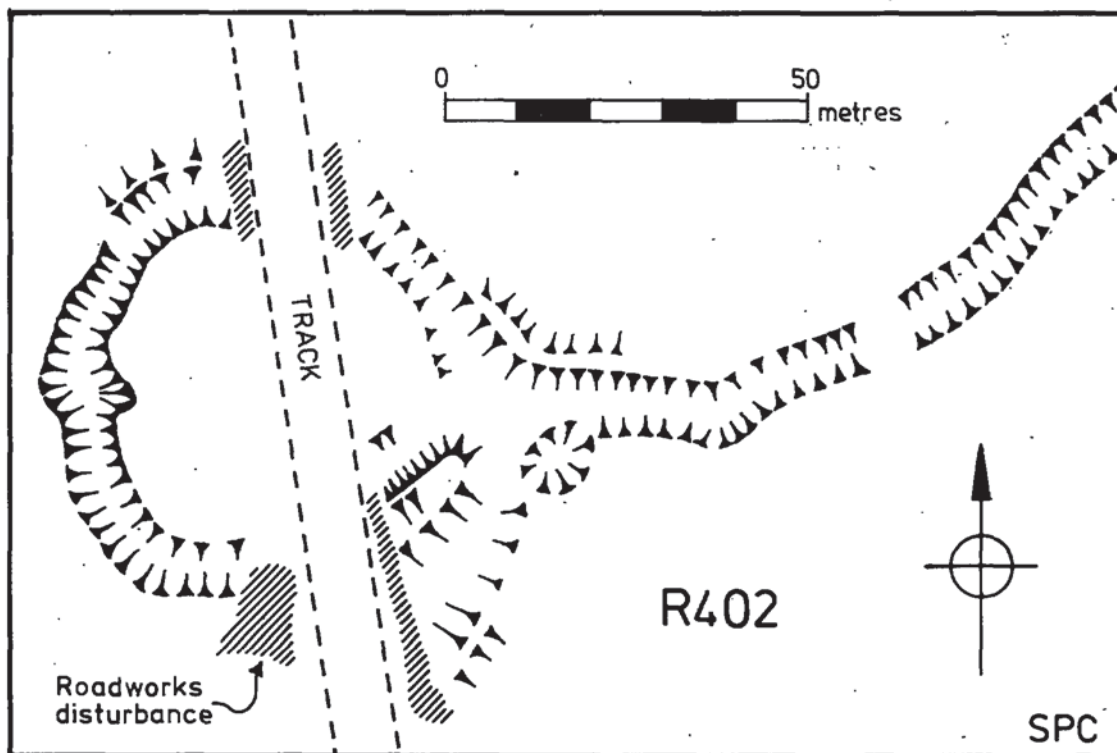


Fig 6. Micheldever Wood. Plan of the presumed Iron Age enclosure, Site R402.

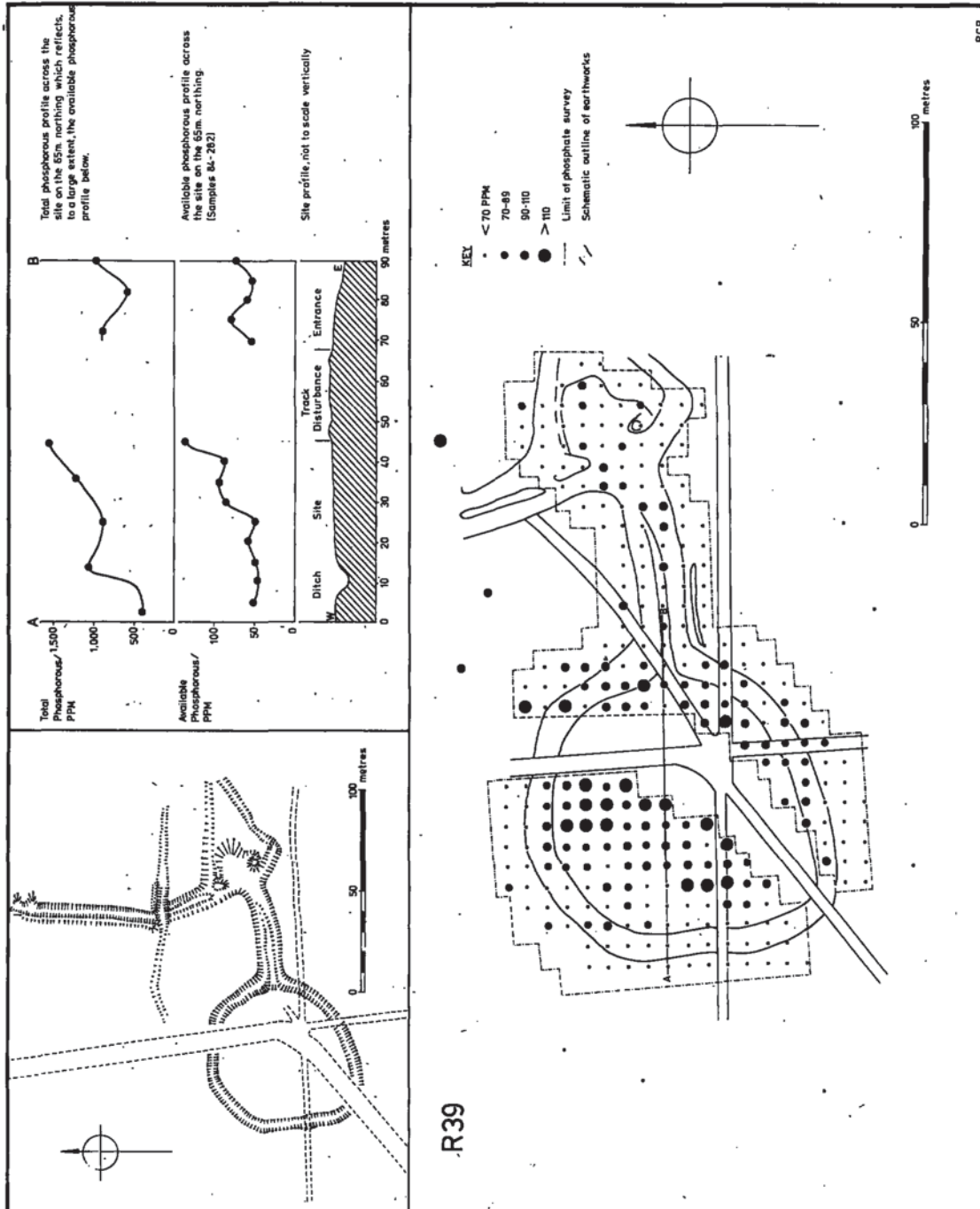


Fig 7. Micheldever Wood. Plan of the 'banjo' enclosure, Site R39, at the south-east corner of Micheldever Wood. The analysis of the soil phosphorus is discussed in Appendix 1.

unfinished enclosure but also by Roman activity and later woodland banks and ditches. One trench, R380, was excavated where the motorway traversed this disturbed area. It was located across the substantial scarp which represented E1, but there was no evidence for the Bronze Age linear feature other than the scarp itself. The first datable feature in the cutting was Roman (see below p 000).

At the south-east corner of Micheldever Wood a continuation of the large and well-known cross-valley dike system in Itchen Wood (Williams-Freeman 1915) is represented by a bank, 3m wide and 0.5m high, E27. Presumed to be of Bronze Age origin, it now forms the boundary of Micheldever Wood and between the parishes of Micheldever and Northington.

The only flint implements demonstrably belonging to the Bronze Age, apart from those found on the oval barrow, were a borer from R371 (Fig 3, 4) and two scrapers from R27 (Fig 3, 13 and 14). A sherd of Bronze Age pottery was found at R366.

IRON AGE

Three probable Iron Age sites occur in Micheldever Wood: the excavated 'banjo' enclosure R27, a second 'banjo' enclosure at the south-east end of the Wood, R39, and, 750m north of the latter, a smaller earthwork enclosure, R402. One kilometre south of R39 lies another exceedingly well-preserved 'banjo' enclosure in Itchen Wood.

R402 is an irregularly circular enclosure of 50m diameter enclosing about 0.2ha ($\frac{1}{2}$ an acre, Fig 6). The ditch is 6 to 8m wide, 0.6m deep, with traces of an external bank to the north. The east-facing entrance is about 7m wide. South of the entrance a slight ditch and bank runs south-west, but this only survives for 15m. The ditch and external bank which form the north side of the enclosure swing east to define the north side of the entrance. They are on an easterly alignment for 30m, at which point the bank disappears. The ditch continues north-east for 450m before reaching the edge of the Wood. The northern ditch is typical of 'antenna' ditches found on many Iron Age sites. R402 resembles a

'banjo' enclosure in terms of size, external bank and elongated entranceway and there seems little doubt that it is an Iron Age site even if not a classic 'banjo' enclosure. A Forestry Commission track crosses the centre of the enclosure.

Part of R39 had been surveyed in 1965 by the Ordnance Survey but, crucially, not the entrance area, which was recorded in the summer of 1975 when the site was demonstrated to be a 'banjo' enclosure (Fig 7). The enclosure is defined by a ditch of about 7m width enclosing a sub-circular area of c 65m diameter, 0.3ha ($\frac{3}{4}$ acre). The entrance faces east and is defined by ditches on both north and south, with an external bank on the south. The entrance-way is 3-4m wide and sunk about 1m. Augering for soil phosphorus samples revealed cobbling in the entrance-way. The entrance is 50m long and emerges into an open, but still sunken, area. The triangular open area is confined by ditches. A ditch runs north for 260m to intersect the linear earthwork E1. Near the 'banjo' enclosure it is steep-sided with a bank on the west but abruptly changes 90m to the north into a shallow round-bottomed ditch without a bank. This may indicate recent back-filling. Its relationship with the 'banjo' enclosure is uncertain. It is crossed 25m north of the open space by a shallow east-west ditch or hollow-way which, for 10m east of this junction, is in fact a deep, steep-sided ditch of similar form.

Geophysical scanning with a fluxgate gradiometer by Dr A J Clarke of the Ancient Monuments Laboratory indicated several anomalies, possibly pits, just inside the western perimeter of the enclosure. Soil phosphorus analysis showed concentrations in the enclosure ditch, in the entrance-way and higher concentrations towards the middle and entrance of the enclosure with lower concentrations just inside the ditch (Appendix 1). This suggests that the central part of the enclosure and the entrance-way were activity areas and that pits were located towards the periphery of the enclosure.

The 'banjo' enclosure in Itchen Wood was reported to the author by a member of the Forestry Commission staff. The site was surveyed by C W Butler of the Royal Commission on Historic Monuments (England). This sub-

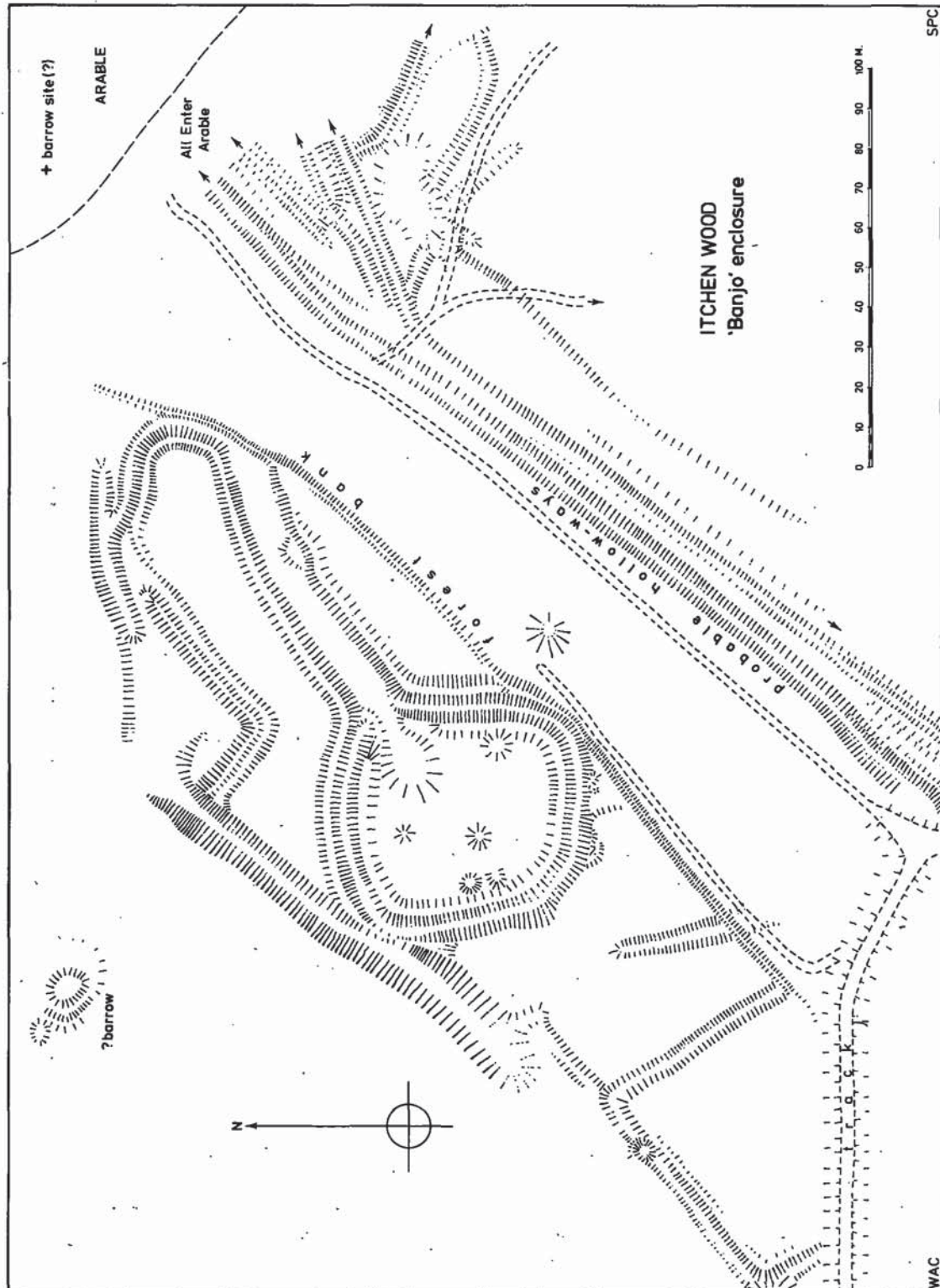


Fig 8. Micheldever Wood. Plan of the 'banjo' enclosure and adjacent earthworks in Itchen Wood. Surveyed by Royal Commission on Historic Monuments (England) and reproduced with permission.

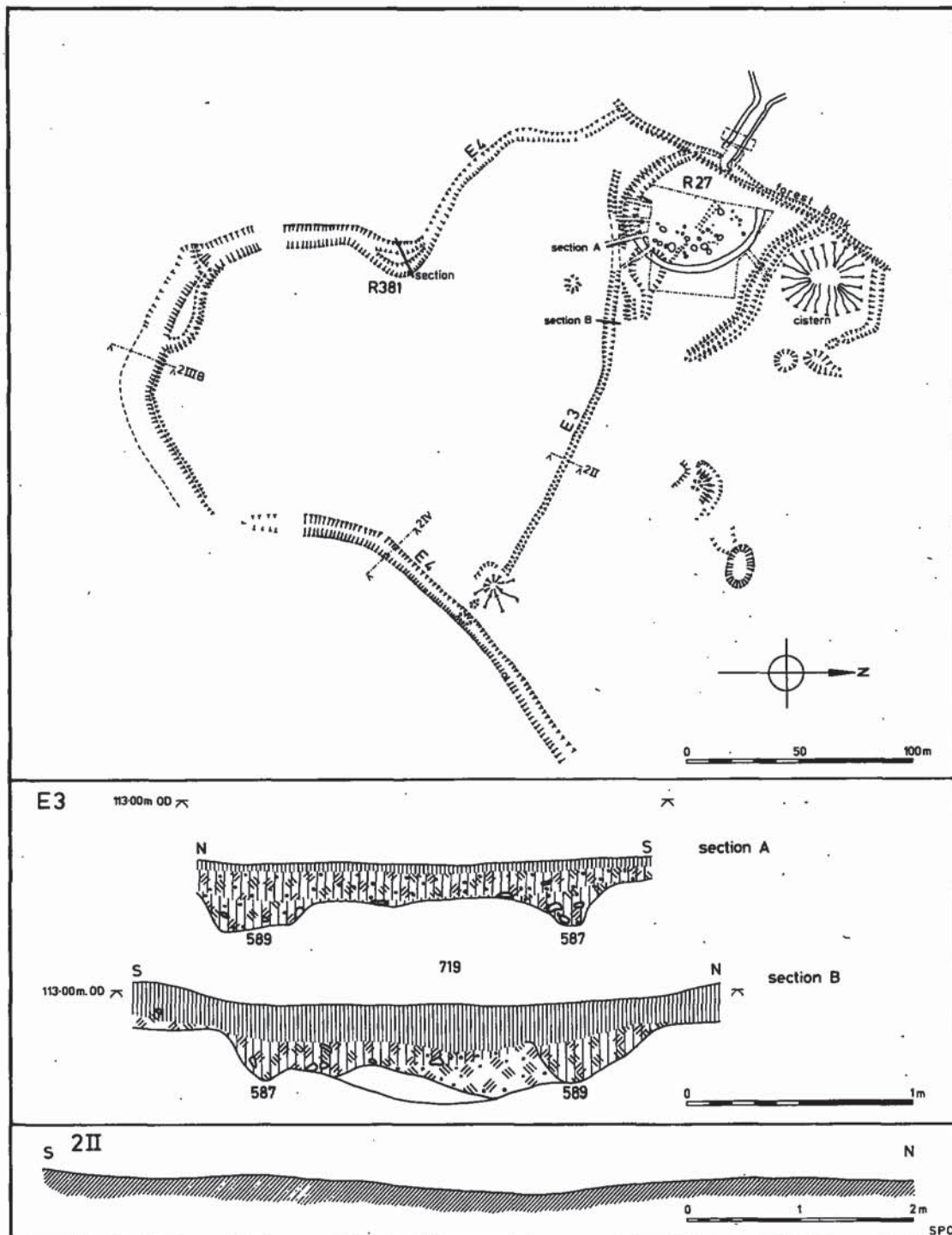


Fig 9. Micheldever Wood. Plan of the 'banjo' enclosure, R27, based on earthwork survey, excavation and aerial photographs. Adjacent earthworks are also shown. Sections of hollow-way E3 are shown.

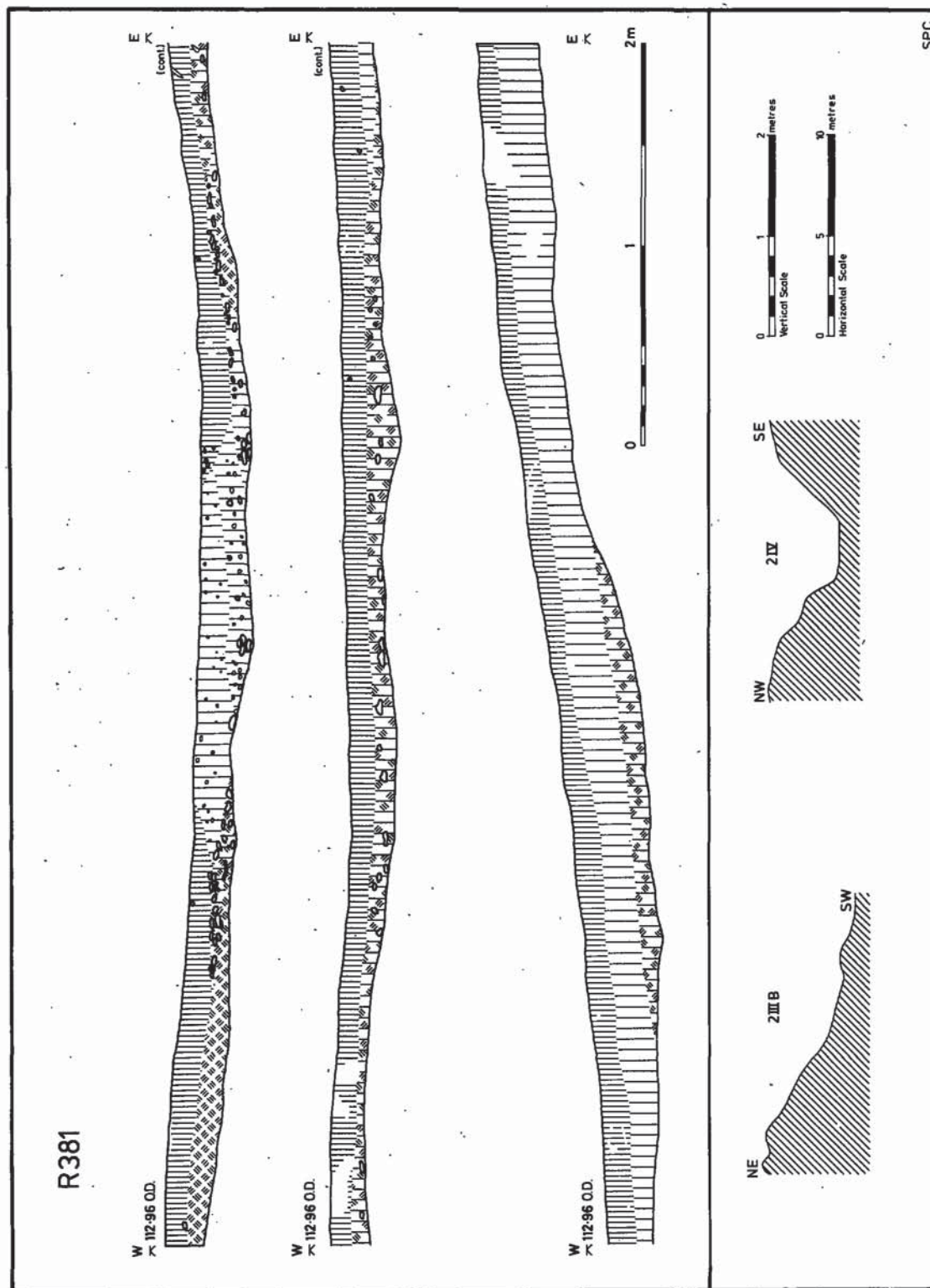


Fig 10. Micheldever Wood. Section and profiles of linear feature E4. For location of section and profiles see Fig 9.

rectangular site with an internal area of a little under 0.2 ha (just less than $\frac{1}{2}$ acre) is defined by a bank with external ditch (Fig 8). The width of the bank and ditch is up to 1.1 m and the maximum depth from the top of the ditch to the bottom of the bank is about 1 m. There are many small pieces of burnt flint on the surface of the interior. The entrance lies at the north-east corner where the interior is considerably worn and the sunken entrance-way is 80 m long and defined on both sides by banks about 7 m wide. These banks continue around the east and north sides of the enclosure. The northern bank of the entrance-way loops back towards the enclosure but reveals a complex, and not readily discernible, sequence of earthworks. Eventually it is cut by a ditch, 10 m wide, which also cuts the north-west corner of the enclosure but which terminates 45 m south-west of that intersection. Details of the end of the southern bank of the entrance-way are not clear. Running approximately parallel to the entrance-way but 60 m to the east are a pair of ditches which survive for lengths of almost 300 m. This pair of ditches intersects with five ditches and two banks some of which may relate to the 'entrance' ditch of the 'banjo' enclosure. The sites of two possible barrows are north-east and north-west of the enclosure. Part of a rectangular ditched enclosure exists south-west of the 'banjo' enclosure. This rectangular enclosure may relate to the cottage which stood just 50 m away to the west.

The excavated 'banjo' enclosure, Site R27, on the west side of Micheldever Wood was a sub-circular enclosure of 0.2 ha surrounded by a ditch with an external bank and west-facing entrance-way. Pits were located towards the rear of the site and there were a few scattered post-holes. Immediately north a large depression may have functioned as a cistern. The details of the excavation will be reported elsewhere (Fasham in prep).

Starting south of the R27 'banjo' enclosure, linear earthwork E3 ran just south of east for 90 m before turning further south and continuing for 100 m to an oval depression, 25 m by 20 m and 0.5 m deep. The depression was filled with fine dark brown/black soil, not usually present in the Wood and which may indicate that the oval

depression was a pond. E3 was 3 m wide and up to 200 mm deep and looked more like a hollow-way than a ditch. This was confirmed when it was excavated on site R27 where it was recorded as having substantial ruts, 587 and 589 (Fig 9). No diagnostic finds were recovered. E3 is not necessarily contemporary with the original 'banjo' enclosure but there seems little doubt that the enclosure was still extant and functioning when E3 was in use.

A second linear feature is probably associated with the 'banjo' enclosure. E4 starts 25 m south-west of the enclosure at the old forest boundary; presumably it continues into the adjacent arable. It is up to 4 m wide with gently sloping sides giving a depth of c. 0.5 m and runs in a horseshoe-shaped loop around the south of the 'banjo' enclosure. Excavations (Site R381) on the 'western' area of the horseshoe, where briefly it divided into two, revealed that the depression was caused by the passage of man or animals and was not a ditch (Fig 10). It was not clear why it bifurcated and no dateable finds were recovered. On the southern end of the horseshoe it was preserved more as a platform or terrace (Fig 10). Along the east side of the horseshoe it was of consistent profile (Fig 10) and dimensions, 10 m wide and 0.75 m deep. A length of 180 m of the east side was extant. It passed immediately east of the pond to which hollow-way E3 ran. The latter earthwork crossed the neck of the horseshoe to enclose an area of 2.75 ha.

ROMANO-BRITISH

There is one principal Romano-British settlement in Micheldever Wood and another just to the east, R38 (SU 5372 3729). The site to the east was discovered in 1967. Remains of a tessellated pavement and flint walls were recorded. Plain red tesserae and ceramic and stone roofing tiles were noted. No useful dating material has been seen by the author but the site has been recorded by people using metal detectors. The site was presumably one of considerable pretensions during the Roman period.

In the middle of the wood is Site R43 (Fig 11). On present evidence it is a corridor-type build-

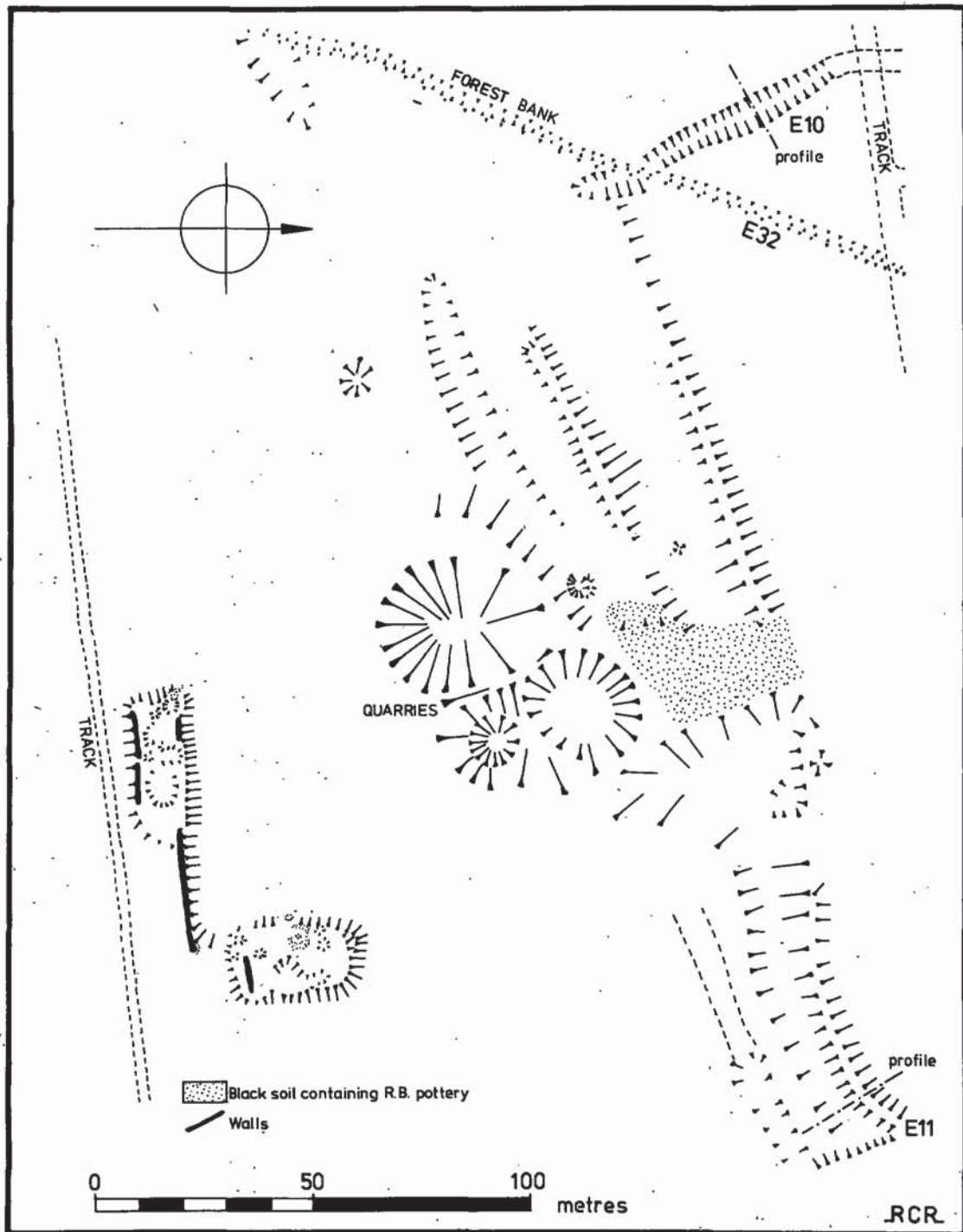


Fig 11. Micheldever Wood. Plan of the earthworks forming the central complex of the major Roman settlement in Micheldever Wood.

ing aligned east-west, about 60m long and 10m wide with flint-footed walls. A wing springs north from the east end and measures about 30m by 15m. The structure probably extends to the south but the dense nature of the wood to the south has not enabled that area to be surveyed. Sixty metres to the north-west are three large depressions whose shape and the presence of some upcast suggest that they are chalk pits rather than swallow holes. Their greatest depth is 1.5m. North of the depressions, and apparently cut by one of them, a well-defined area of black soil contained a quantity of Romano-British pottery. There is a slight suggestion on the west that the black soil rests on a platform. The area of black soil may represent an extension of the occupation area or an industrial complex within the overall settlement. Two parallel banks run west from the dark soil and south of them are two slight parallel depressions.

The area west of the principal building and south of the parallel banks and depressions is disturbed and was probably full of other buildings. The area of occupational activity is about 2.85 ha.

The site was first noted around 1844 by gamekeeper Fifield who discovered coins which had been brought to the surface by burrowing rabbits. Fifield's small excavations revealed wall foundations of flint nodules laid on the chalk with a mortar capping. Set into the mortar were 'slates'. The excavations were continued by the bailiff of the estate of Sir Thomas Baring and the area of dark soil was noted (Anon 1846). By 1924 Reverend Milner had undertaken some work on the site - 'pottering at intervals and without doing any systematic digging' (Milner 1924, 4). The location of the finds from both excavations is not known, even though the first excavations revealed some 1400 bronze coins from the matrix of the wall. These coins included issues of Gratian, Theodosius I and Arcadius. Milner found a mid-first-century brooch. The site seems therefore to have been occupied for the whole of the Romano-British period and maybe beyond. Milner believed that the area of black soil to the north and, presumably, the east-west parallel banks (though he does not mention them) were possible kiln

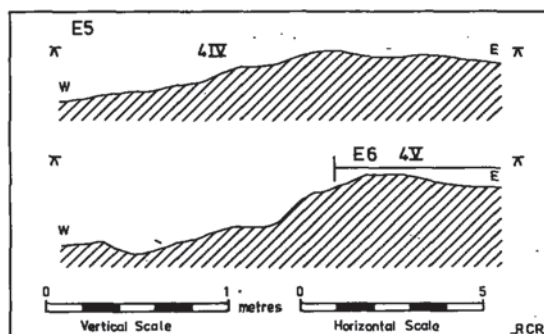


Fig 12. Micheldever Wood. profiles of north-south 'lynchets' of probable early Roman date. For location of profiles see Fig 2.

sites. There is no evidence from the surface pottery to substantiate this claim. The pottery on the surface is of the second to fourth centuries AD and contains both New Forest and Alice Holt products.

Earlier workers did not however recognise the well-preserved remains of fields and tracks to the north and west. These features were sectioned during 1976 and 1977.

Three north-south lynchets, E5-7, formed the earliest part of the field complex. The eastern one, E5, survived for 200m and had slight traces of both positive and negative elements (Fig 12). E6, parallel to E5, was extant for 520m. It was truncated at the north by the later field system. Two sections were excavated, R368 and R369.

The trench at R368 was 130m south from the point at which E6 ended. The lynchet sealed an earlier feature (above p 000). The negative lynchet, 2.2m wide and 120mm deep, was filled with red/yellow clay containing several small and medium flints (layer 24, Fig 13). The positive element of the lynchet was a spread of yellow, slightly sandy clay with a few small flints (layer 25). One sherd of late Roman pottery was found in layer 25, but does not necessarily date the lynchet. There was a gap of 300mm between the negative and positive aspects of the lynchet. Sealing the lynchet a deposit of yellow sandy clay with numerous flints represented a post-field period of relative soil stability and arable inactivity.

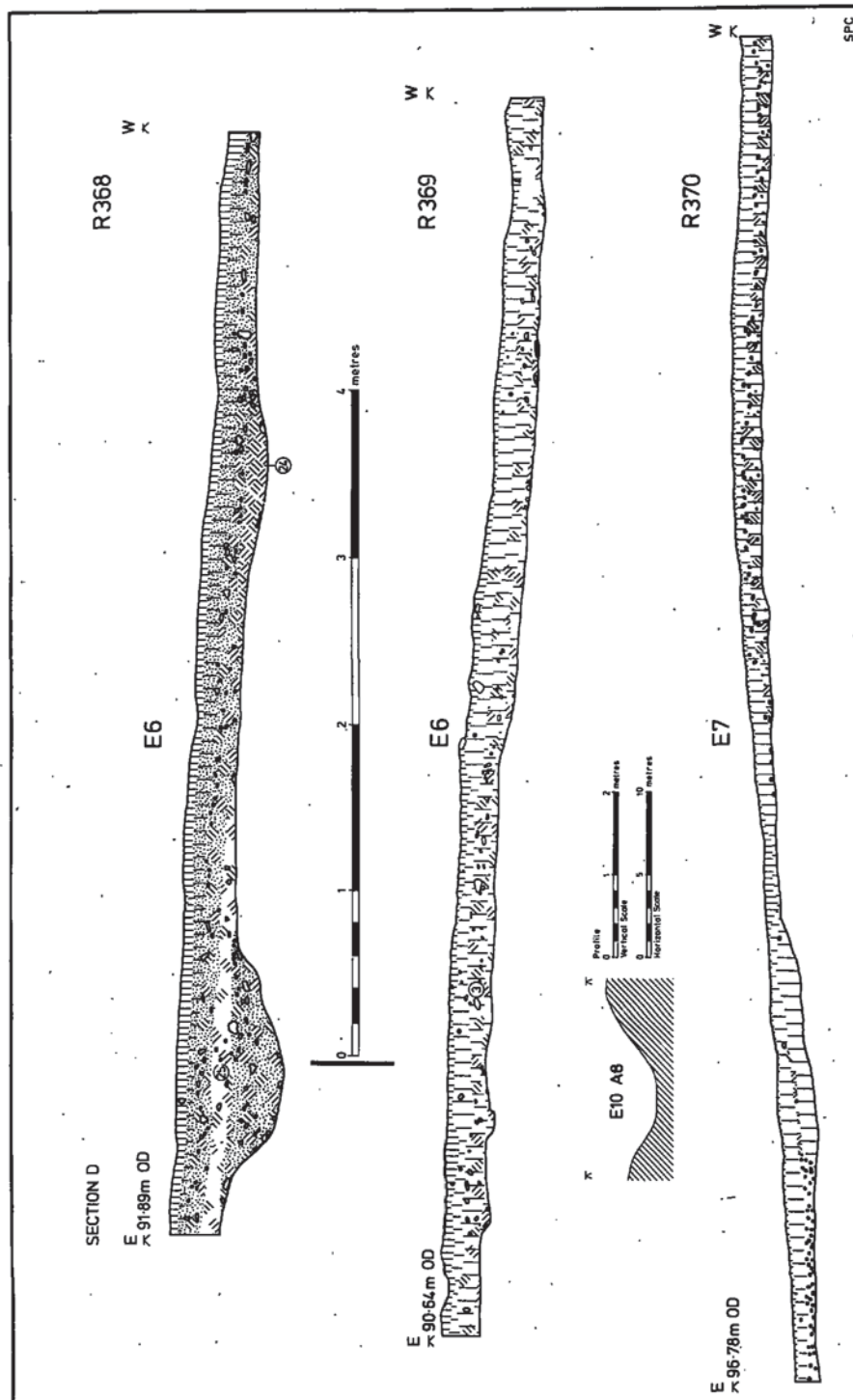


Fig 13. Micheldever Wood. Sections of field boundaries and profile of hollow-way associated with the major Roman settlement. For location of R368 section D see Fig 4 and for R369, R370 and profile A8 see Fig 2.

The second cutting at R369 was 65m further south. The scarp of the negative lynchet was scored into the natural clay-with-flints to a depth of about 90mm while the positive lynchet was identified at the top of the scarp as a small accumulation of flints (layer 3).

In both trenches lynchet E6 was shown to be slight.

The western lynchet, E7, diverged from E5 and E6 running slightly west of south. It was visible as an earthwork for 570m with a gap of 40m towards the north where it had been disturbed. Two lynchets ran west from it, more or less at right angles. E8, surveyed for 60m, occurred where there was a slight change of alignment in E7 and E9 of which about 30m survived ran from a point where there was a marked kink in E7.

One trench, R370, was excavated across E7 (Fig 13). The negative lynchet was 3.6m wide and dropped 420mm. It was filled with light orange-brown clay loam with some small flints. The positive lynchet was recorded as a slight rise of 100mm spread over a distance of 3m at the west of the trench. A 4m gap between the positive and negative elements indicated the field edge. Seventeen sherds of Roman pottery were found, scattered throughout the profile.

Leading towards these fields from the north-west corner of the settlement area was a hollow-way, E10. Three stretches of this sinuous earthwork survived over a length of 230m. It was crossed by a later woodland bank and ditch at its south-east end. It was 4m to 9m wide, the maximum width being achieved where an 'island' occurred in the middle, and 500mm deep (Fig 13). It was probably a hollow-way providing access to the fields represented by the north-south lynchets, although it may originally have been cut as a ditch.

The three north-south lynchets cannot be securely dated by artefacts found during excavation. An indication of their date is provided by the truncation at the northern end by ditch E11. They do not continue north of E11 and if they had, would presumably have been destroyed by the agricultural activity in that area. They seem to belong early in the Roman period and to have gone out of use during the Roman period. The

few late Roman sherds found may indicate a subsequent re-use of the system.

The early Roman fields and hollow-way were subsequently replaced by a more regular field system. The west edge was defined by a ditch, E11, later probably used as a track.

E11 runs from the north-east corner of the settlement complex where it is a 13m wide depression with a bank on the north side. It curves to the north with a bank on the east side before veering north-west. There is a kink in this new alignment as if the earthwork was avoiding the obstruction of another feature. After the kink it continues heading north-east in a straight line with traces of banks on both sides. North of the kink a series of field banks run to the east. The bow formed by the north-aligned stretch was planned, presumably, to avoid the earlier field system (unless it formed the boundary between the land belonging to the two Roman settlement sites). E11 was about 6m wide, 300-500mm deep and was surveyed for almost 1 km.

This long earthwork was excavated at two places, R366 and R367. At the former excavation a more recent forest bank and ditch, damaged by modern ruts, ran across the Roman earthwork. The Roman ditch was of V-profile, 0.85m deep and 2.8m wide, with no firm evidence in the sections for the constructional method of the slight flanking banks indicated by the earthwork survey (Fig 14).

These banks may have been soil accumulated in a headland position by ploughing.

The lower fill of the ditch was a red-brown clayey loam with varying amounts of different sized flints. The ditch had not been cleaned out and had silted to a depth of 400-500mm when numerous large flints, layers 30 and 37, were thrown in. Layers 30 and 37 might represent two attempts at cobbling the ditch so that it could be used as a hollow-way, although the two deposits were very irregular. The flints also could be derived from field clearance. Seven sherds of Roman pottery (five definitely late Roman) were between the two deposits.

At R367 the ditch was of similar V-profile although only 1.9m wide and 800mm deep (Fig 14). Flints were again irregularly deposited as the ditch silted up.

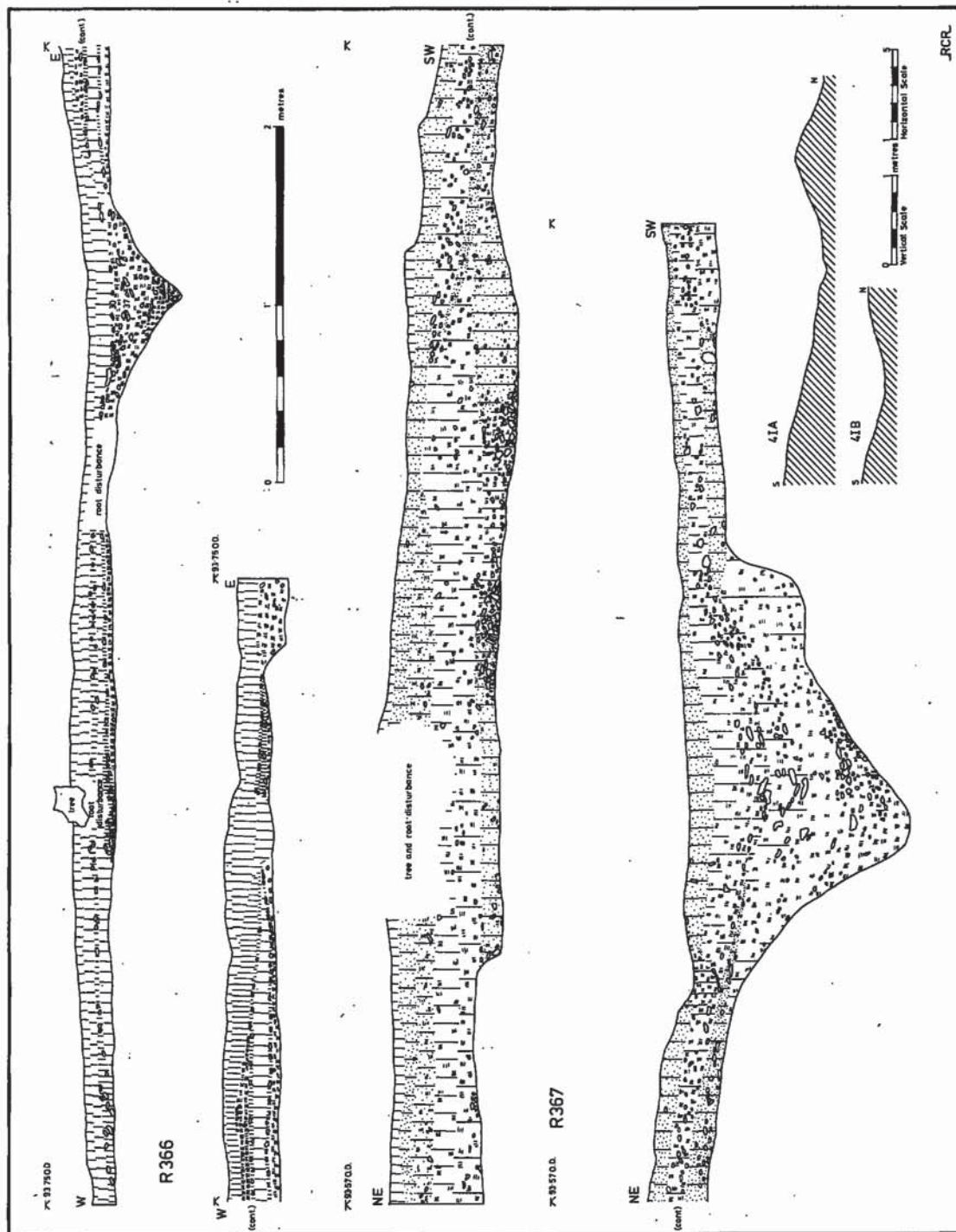


Fig 14. Micheldover Wood. Sections of the Roman ditch/hollow-way, E11, where excavated at sites R366 (top) and R367 (bottom). Two profiles are illustrated. For locations see Fig 2.

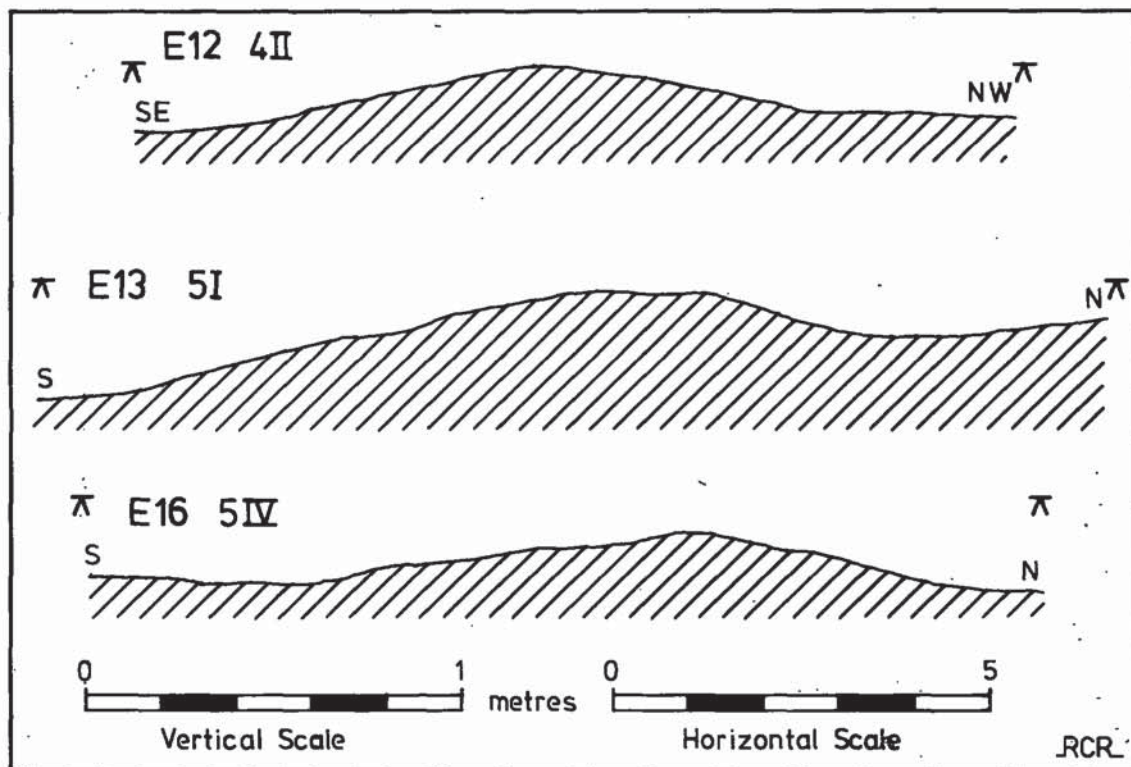


Fig 15. Micheldever Wood. Profiles of Roman field boundaries E12, 13, 14, east of linear earthwork E11. For locations see Fig 2.

East of ditch E11 a series of fields was represented by five slight parallel banks. The banks were spaced regularly either 70m or 140m apart at an angle of 65° from ditch E11, except for the southernmost which was 90m away from its neighbour. Lateral right-angled divisions, E17 and 18, were found north of E16 and may be the remains of fields on a different alignment and not related to E12-16. The banks were low, never more than 200mm high, and spread over about 6m. E14 was recorded for 400m. The banks were excavated at R364, R365 and R367 and a field was partially examined in R366.

Bank E15 at R364 was 6-7m wide and 100-150mm high. The earthwork profile was reflected by the moderately stony layer 5 which was under the topsoil remains of the bank and represented the original bank (Fig 16). Layer 4

to the south contained more flints than layer 5 and alignments were noted among the flints. The alignments were 0.2-1.45m long and averaged 70mm wide. Two were excavated and found to be of U-profile and 50mm deep. Close to the bank the alignments were parallel to the bank but from 1.6m south they ran diagonally. None were observed north of the bank. The alignments through the flints were probably created by ploughing.

At R365 bank E14 was 6-7m wide and up to 180mm high. To the north of E14 and immediately above natural in layer 9 were irregular patches of clay - possible indications that the soil had been turned over with a spade. Traces of diagonal lines (? furrows) were recorded in the top of layer 9. Layer 7, a yellow brown clay loam which sealed layer 9, was probably a

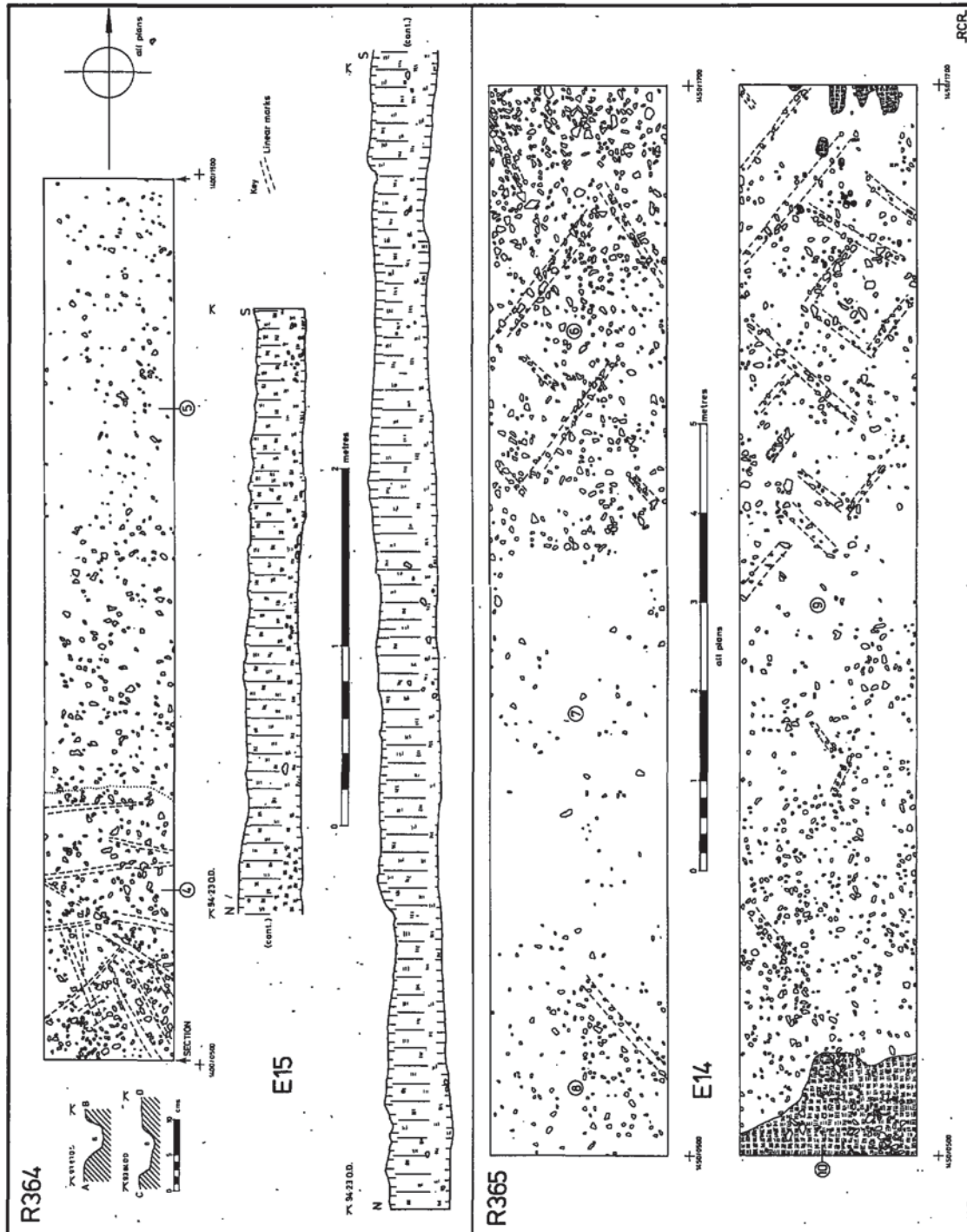


Fig 16. Micheldever Wood. Section and plans of cuttings across Roman field boundaries E14 and 15. Alignments which may have been created by ploughing are shown in dashed outline.

ploughsoil. Layers 6 and 8, both over layer 7, occurred at the north and south ends of the trench respectively. Layer 7 protruded through layers 6 and 8 to form a distinct barrier about 5m wide. This protruding portion of the possible ploughed soil (layer 7) may have been a headland. Traces of criss-crossing lines occurred in layer 8 and, particularly, in layer 6.

At R367 a small trench was excavated to confirm the presence of field bank E13 and to determine its relationship with ditch E11. It proved impossible to elucidate the relationship by excavation but the evidence of the earthwork survey indicates that the two earthworks were broadly contemporary.

Possible field layers were in both sides of boundary ditch E11 at R366 but only on the east, *ie* within the later parallel bank system, were possible bi-axial plough furrows recorded.

A third field system lay west of the area of the Romano-British settlement. The field boundaries were again low, spread banks but were bounded by a double hollow-way, E19. The hollow-ways emerged from a depression in the centre of the west side of the settlement complex and ran due west towards the main Roman road from Winchester to Silchester. They bifurcated almost immediately and ran parallel for 300m to the edge of the Wood. The northern track was generally slighter, about 4m wide and 100mm deep, while the southern one was about 5m wide and 200mm deep with a slight bank on the south. The bank and hollow-ways were excavated at R371 where the latter were revealed to be worn into the natural clay-with-flints (Fig 17). There had been attempts at cobbling both tracks with flints; this was most pronounced in the northern hollow-way. The bank proved at this point to be a north-south field boundary, E20, and not part of the headland bank running parallel with the hollow-ways. The field bank was represented by the yellow-brown sandy clay of layer 11 which was indistinguishable from the fill of the hollow-ways. It would seem that the bank and the hollow-ways were contemporary, the former being created by ploughing.

The principal field boundaries were at an angle of 80° to the hollow-ways and aligned just west of south. Modifications were located at the

south and south-east of the system. One bank, E20, was excavated in two places. At R378, 120m south of the hollow-way, it was hoped to investigate the relationship of E20 and a later ancillary bank, E21. The ancillary feature however had become so slight that it was not possible to excavate it within the felled area. The excavation revealed bank E20 to be a 6m wide and 160mm deep deposit of yellow-brown clay situated 5m east of the centre of the bank as surveyed. To the west of the bank was a deposit of yellow-brown sandy clay-loam, layer 3, and to the east was a mottled layer of dark brown and mid-brown clay loam, layer 4. These deposits may indicate different land use on either side of the bank (Fig 17).

Bank E20 was also excavated 65m further south where it was truncated by a scarp, Site R379. The bank was represented by a mound 3.15m wide and 230mm high of orange-brown sandy-clay loam, layer 7, with deposits of a similar nature, but slightly lighter colour, on either side, layer 6. The bank clearly had been truncated by a later scarp at the south, although the vital junction was masked by tree roots (Fig 18).

In the south of the Wood the extant Roman remains do not form part of a coherent landscape, but rather a series of separate Roman features.

At R380, where the Bronze Age linear feature E1 was sought but not discovered, a series of ditches was located (Fig 19). The first ditch, F39 was 260mm wide and 120mm deep with steeply sloping sides and finished in a butt end half-way across the trench. It was replaced by ditch, F34, which was separated by a berm of 0.5m from a steeply-angled bank, F14, on the southern, uphill, side. Once F34 had silted up it was replaced 1.5m to the north by ditch 41 with an associated bank, F46, which was partly laid over the earlier bank, F14. The final ditch in the sequence, F30, produced a slight scatter of chalk, layer 45, on the top of the existing bank. Twelve Roman sherds were found in bank 14; an early Iron Age sherd was in layer 9 in the body of the second bank, F46; and a Roman sherd was recovered from layer 28, the upper fill of ditch 30. There seems little doubt about the

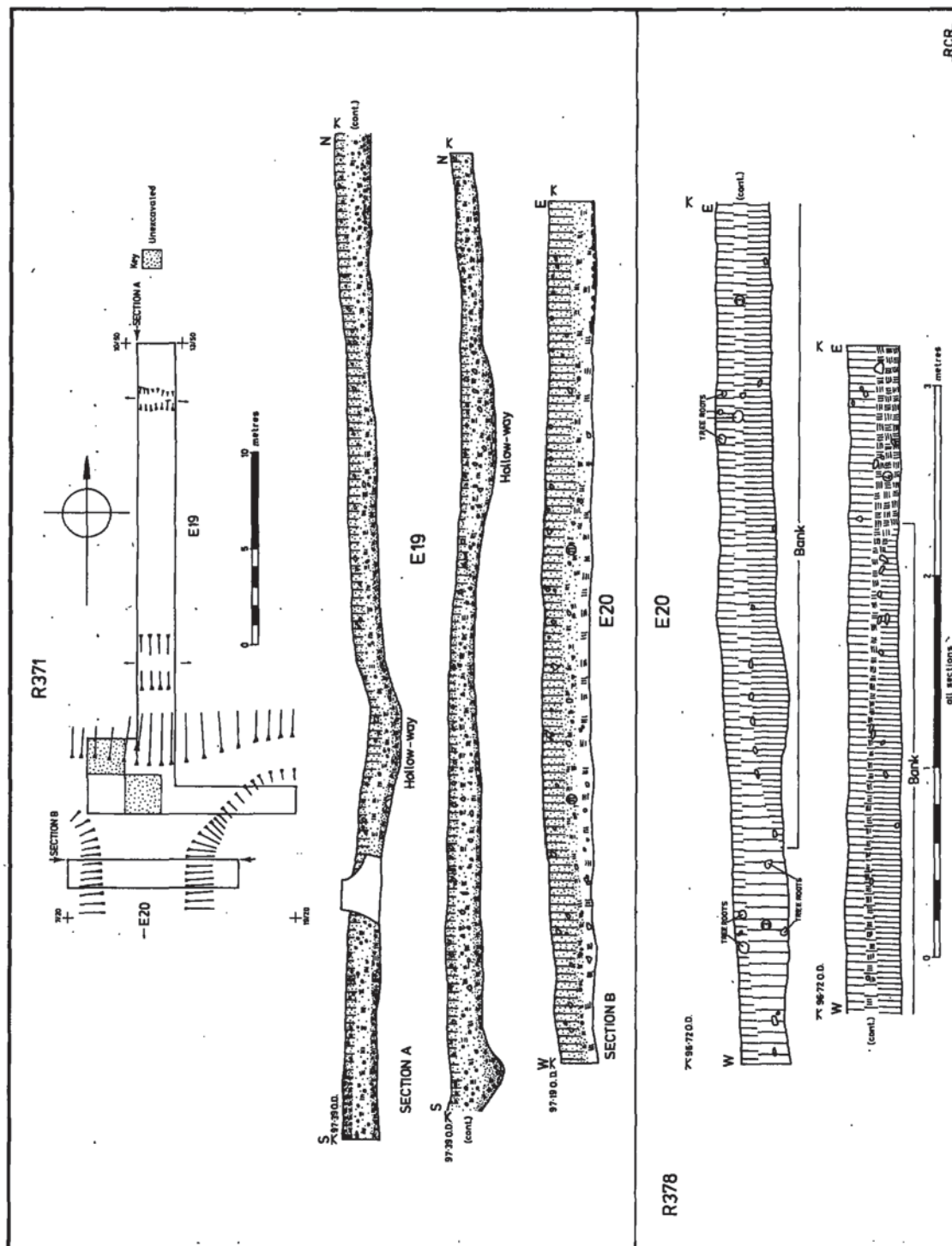


Fig 17. Micheldever Wood. Composite plan of earthworks and excavation of double hollow-way E19 at R371. Sections of E19 and adjacent field boundary E20 are shown. A further section of E20 is illustrated in the bottom of the figure (located in Fig 2).

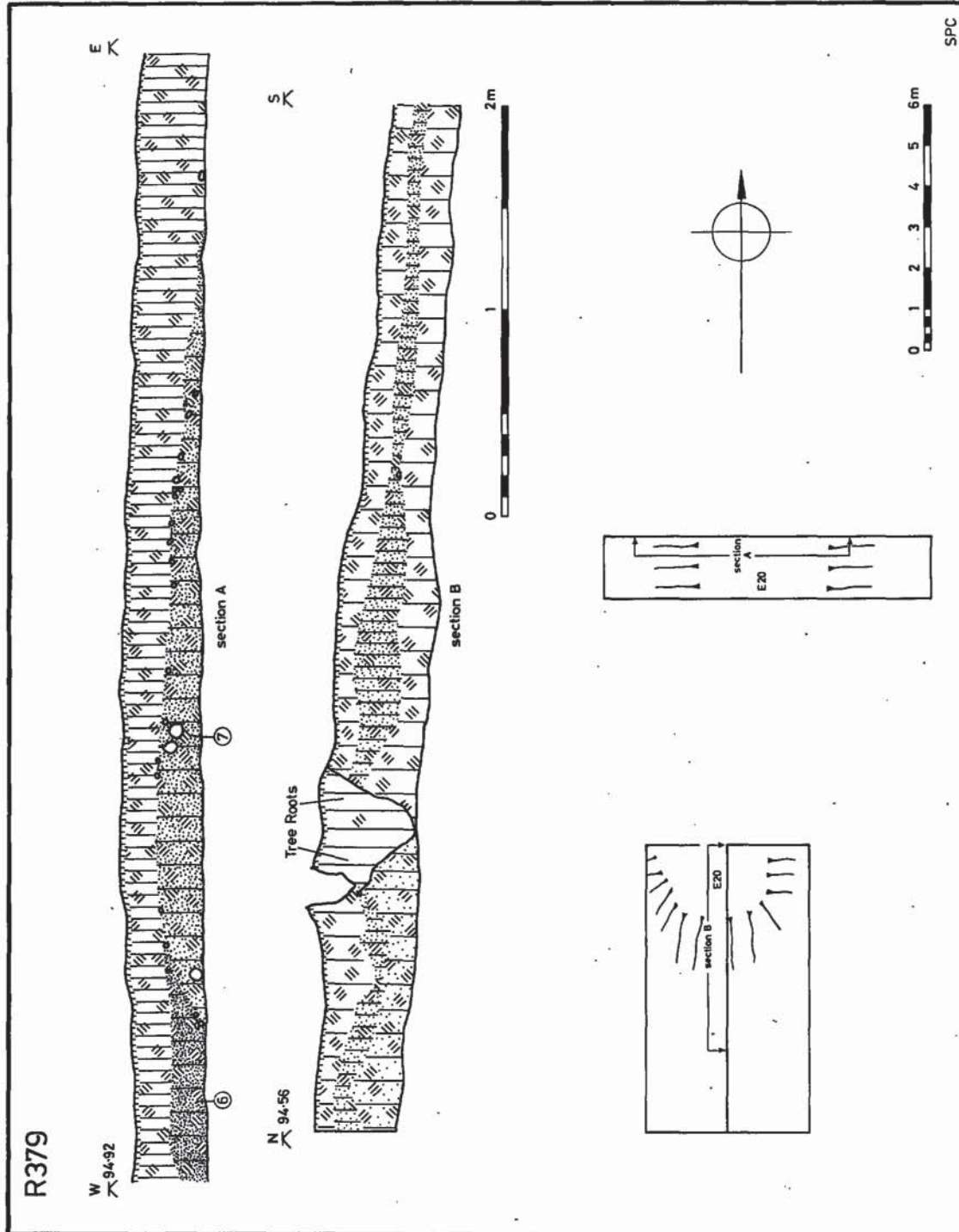


Fig 18: Micheldever Wood. Section and plan of Roman field bank E20 at its southern end where it is truncated by a scarp.

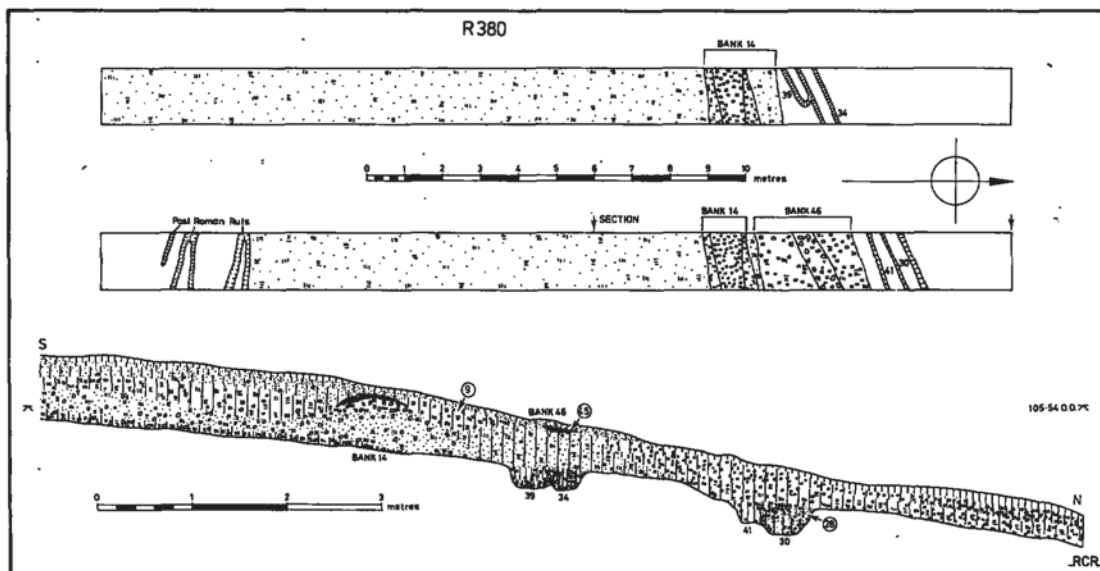


Fig 19. Micheldever Wood. Plan and section of linear earthwork E1.

date of this sequence of four ditches and three banks.

A wide, shallow feature 1.2m wide and 100mm deep was recorded to the south of bank 14. It may have been a hollow-way.

There were various Roman features and evidences for Roman activity relating to the excavated 'banjo', Site R27, which will be described in the report of that site. In the field west of R27 were a series of features discovered on aerial photographs. The relevant marks, recorded as both soil and crop marks, appear as pairs of parallel ditches with the inner ditches of both pairs linked at the south-east end. The inner mark of the south-western pair is a double ditch. To the north the marks run into another ditch (Fig 20). The field has been intensively walked twice, in December 1974 and in the spring of 1978 (Bates 1978, Fasham *et al* 1980 Figs 6 and 7). The majority of the pottery recovered on both occasions was Roman and revealed concentrations at both ends of the four ditches. A series of sections were excavated in order to determine the nature, date and survival of the ditches. Soil samples collected from the

ditches and the topsoil above have been analysed by Taylor (1979).

The four parallel ditches, numbered 1 to 4 from south-west to north-east respectively, were spaced 5m, 17m and 9m apart. Ditch 2 was in fact a double ditch with ditch 9. The sections revealed in the single long cutting across ditches 1-4 are shown in Fig 21 where subsidiary sections of ditches 2 and 9 are also included. Both ends of ditch 4 were also partially excavated and showed that it was contemporary with the ditches into which it ran. The only stratified material was four sherds of late Roman grog-tempered pottery in ditch 5. Ditch 9 was very slight and indeed in places had been ploughed away.

These R26 ditches relate to a much wider aspect of the Roman settlement in the area of Micheldever Wood and will be discussed below.

The last Roman element to be described is E22, a 200m length of bank and ditch running north-south in the south of the wood. West of E22 are a group of earthworks which will be described from north to south (Fig 22). Almost adjacent was a substantial circular depression

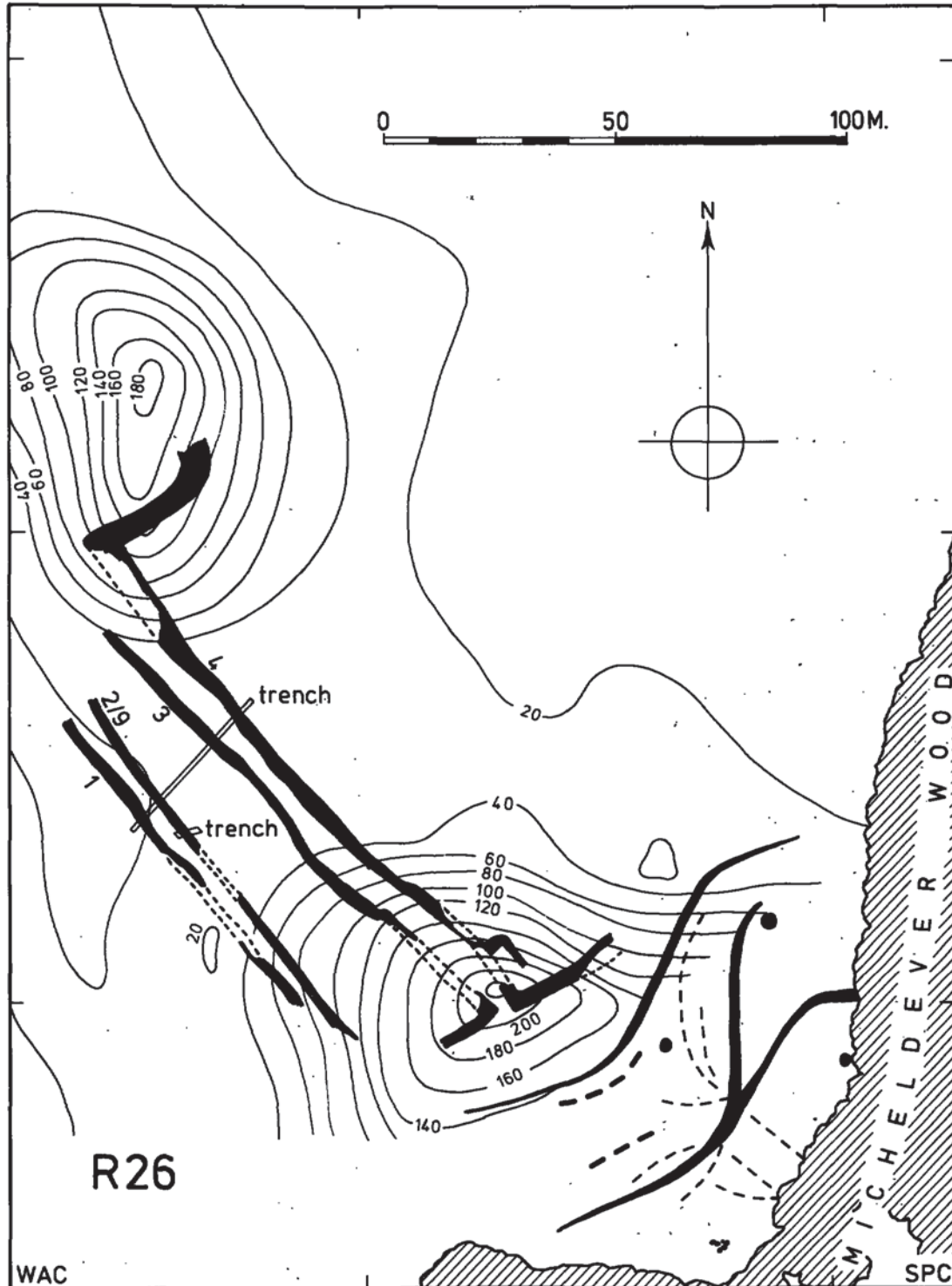


Fig 20. Micheldever Wood. Details of archaeological features plotted from air photographs on the west side of Micheldever Wood. Fieldwalking results for Roman pottery are portrayed in isolines.

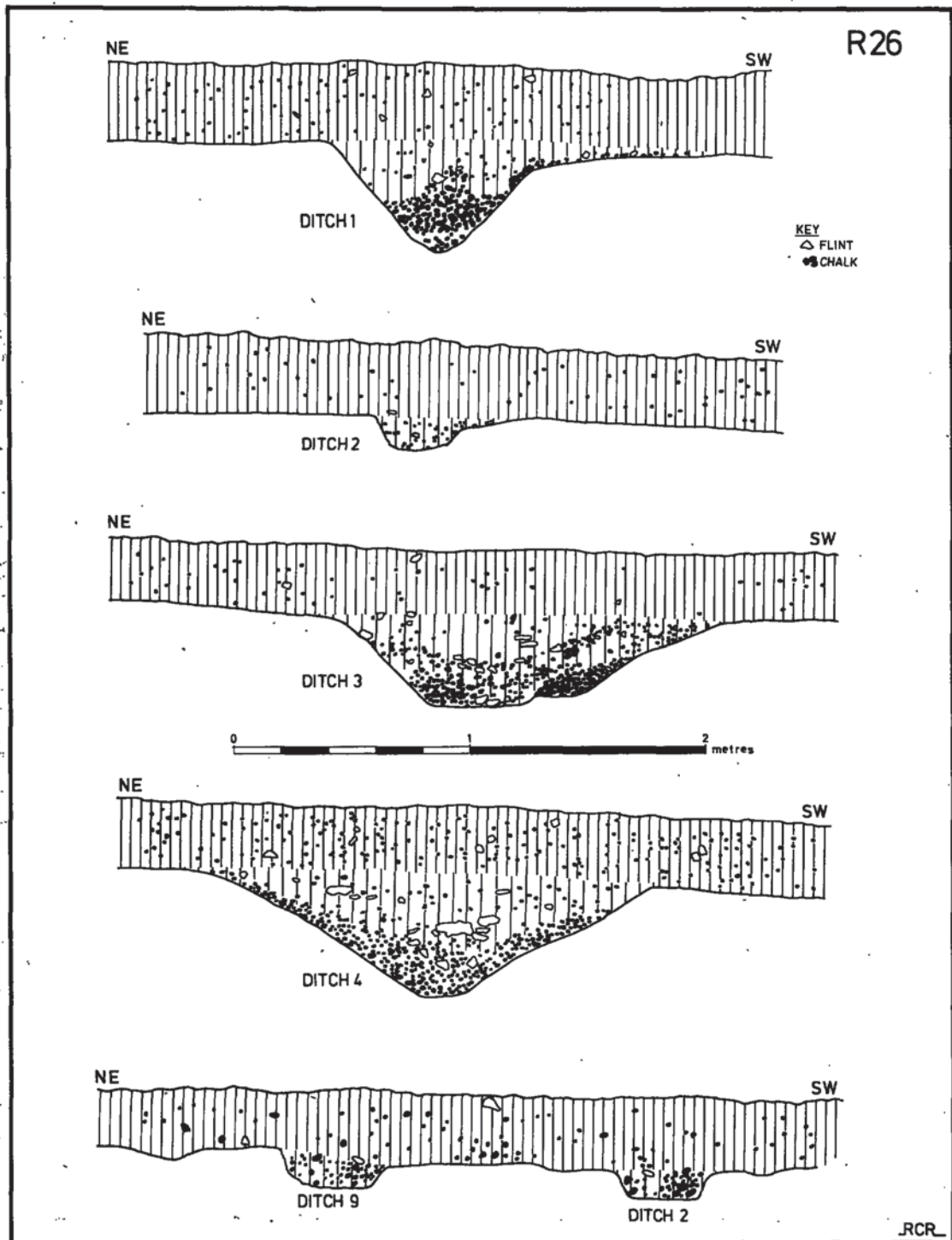


Fig 21. Micheldever Wood. Sections of the pairs of parallel Roman ditches on the west of Micheldever Wood, Site R26.

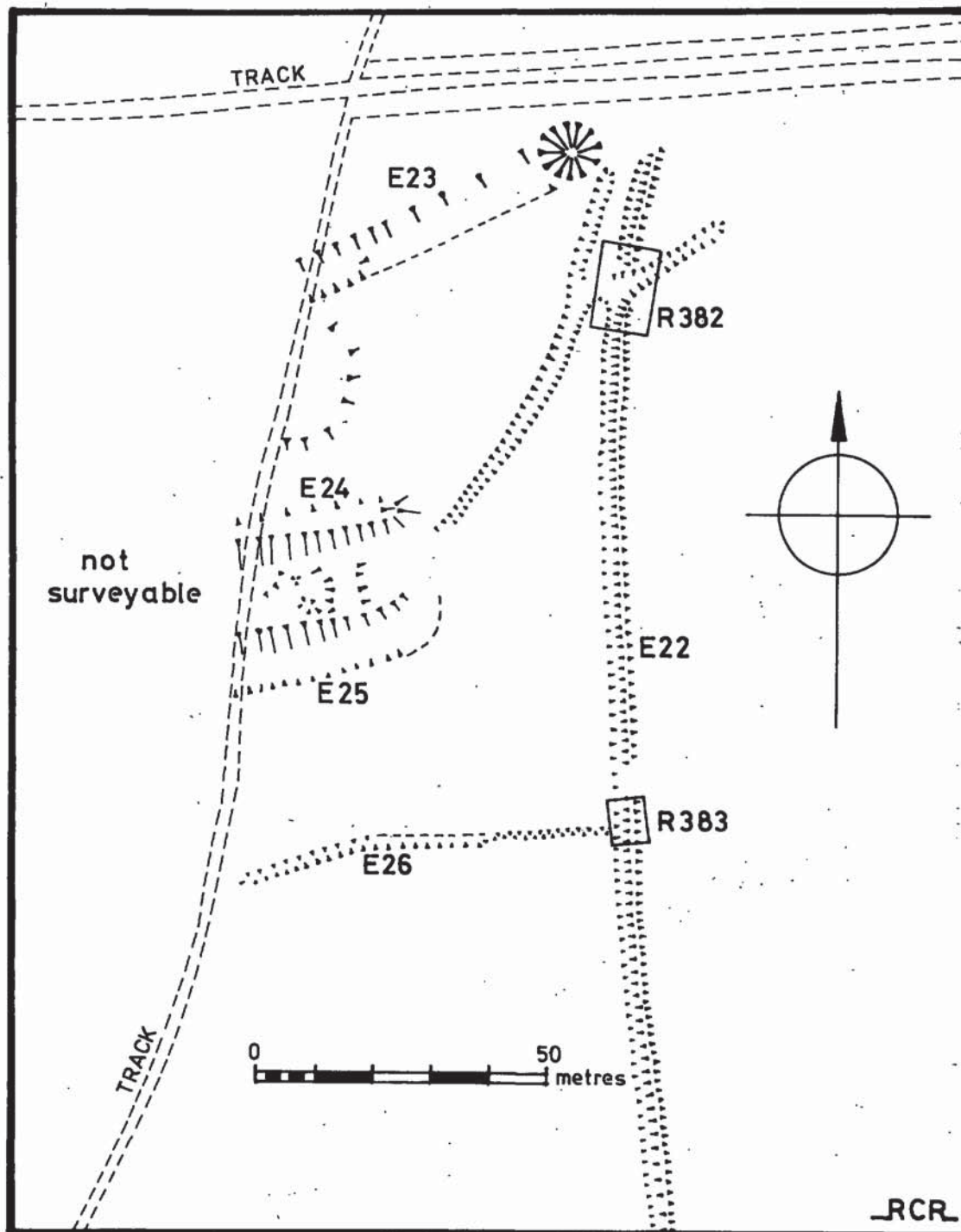


Fig 22. Micheldever Wood, Detail plan of Roman earthwork E22 and adjacent features.

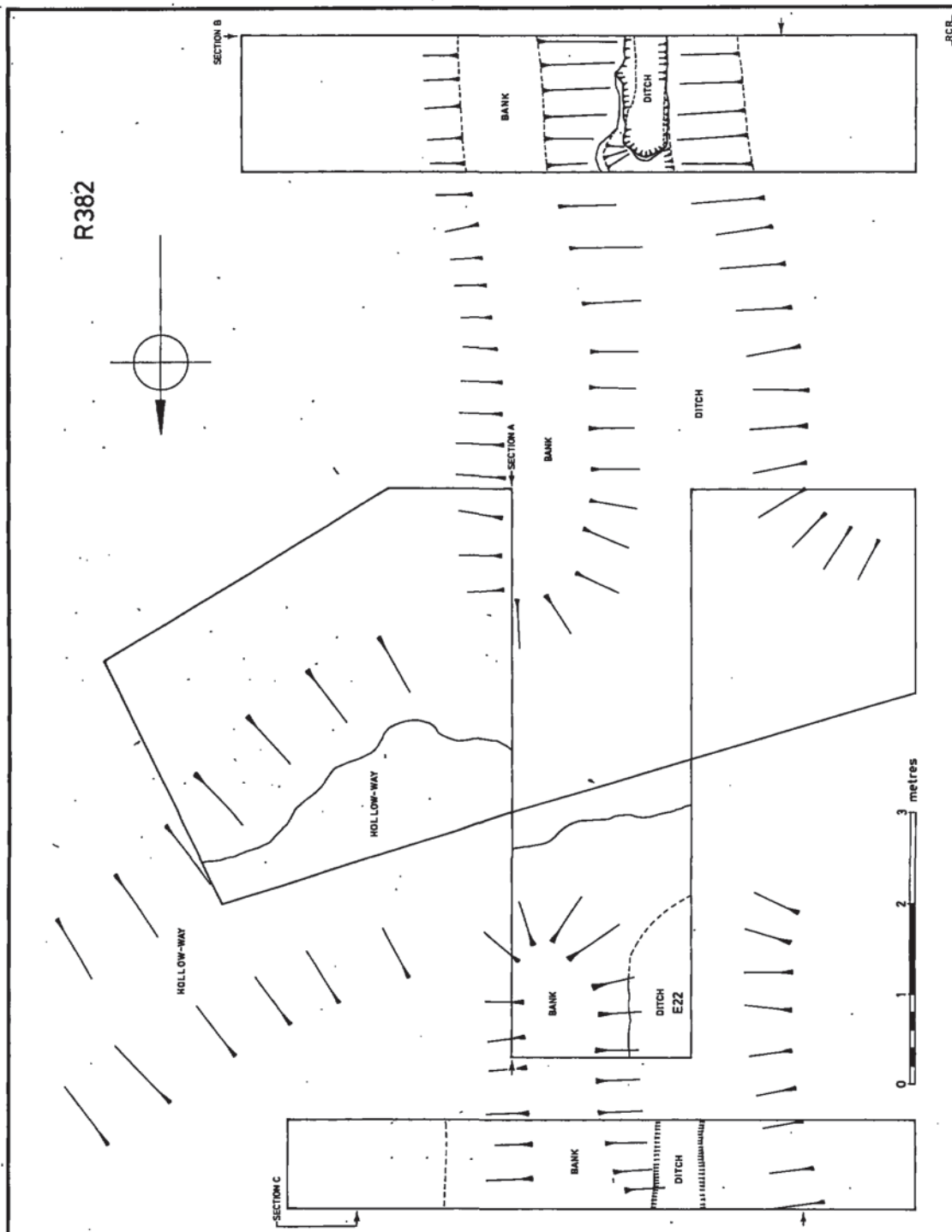


Fig 23. Micheldever Wood. Detail plan of earthwork E22 and hollow-way where excavated at R382.

approached by a linear hollow, E23. South of E23 were two almost parallel banks, E24 and E25, and further south another bank, E26, ran into the north-south bank, E22. E22 was sectioned in two places, R382 and R383.

At R382 the bank and ditch E22 were cut by a hollow-way which ran north-east/south-west (Fig 23). The hollow-way was 3.5m wide at the top, 2m in the bottom and 160mm deep (Fig 24a). The earthworks of E22 were well defined on either side of the hollow-way but, when excavated, proved to be of different character. To the south there were two phases of the ditch. Phase 1 was a square-bottomed ditch, 320mm across in the base, with sides sloping to a top width of 2m (Fig 24b). This ditch ended about 5m south of the centre of the hollow-way. In the second phase the ditch was extended north and was recorded in the north section as a shallow round-bottom feature about 1.4m wide and 200mm deep (Fig 24c). The base of layer 17 in the south section may represent the second phase. The hollow-way had eroded most of it but it was traced in places and can be assumed to have been continuous.

At R383 the east-west ditch E26, with banks on both sides, ran into the north-south E22. E26 was 1.3m wide and 0.67m deep.

Ditches E22 and E26 were contemporary. South of the junction there was a causeway of about 1.5m width in E22. E22 was recut twice and the causeway was then no longer effective (Figs 25 and 26).

The only diagnostic finds from R382 were of Roman date and the only stratified sherd was recovered from the upper fill of E26.

ANGLO-SAXON

There is no clear evidence for events during the post-Roman period. The almost complete absence of earthworks dateable to the Anglo-Saxon period and the fact that even the slightest Roman field banks survived in the north of the wood suggest that the area of Micheldever Wood reverted to woodland once the Roman influence was departed. Certainly by the tenth century the wood appears to have been men-

tioned in the dubious charter of AD 903 (Grundy n.d. B 596 K 332).

One earthwork, E28, may relate to this phase. It was a curving bank and ditch recorded for about 250m which cut the earliest Roman fields, E6 and E7, and the ditch, E11, bordering the second phase of Roman fields. E28 in turn was cut by a typical medieval or post-medieval wood boundary. It was excavated at R368. The bank was 3.15m wide, 370mm high, and its southern aspect was faced by flints. A ditch lay to the south and was 1.14m wide and 300mm deep (Fig 26). There were no diagnostic finds. The bank and ditch were not typical of any other feature of any period in the Wood and their relationship with the Roman fields and later copse bank suggest they were constructed after the Roman period and before the copse banks were made.

MEDIEVAL

Medieval or later forest banks occur throughout the Wood. They were fully recorded within the survey strip on the route of the M3 but elsewhere were recorded only where they intersected other earthworks. They are shown as E29-E40 on Fig 2, with profiles on Fig 27. The varied profiles always comprise a bank and a ditch which are sharply definable. The total width of the banks and ditches ranges from 4.2m to 5m, and the distance between the top of the banks and the bottom of the ditches from 0.22m to 0.45m. The face of the bank at E34 is still revetted with hurdles. A mature oak stands on E32 at SU 52890 37603.

Undoubtedly these earthworks are copse and wood boundary banks but until they have all been surveyed the pattern of the copses cannot be defined in detail. E33 clearly formed the boundary of the Wood at one stage as earthworks extend towards it from the east but do not survive to the west, although there are archaeological features between E33 and the modern boundary of the Wood.

Documentary Evidence by P J Fasham and Eric Klingelhöfer

The documentary evidence for the Wood

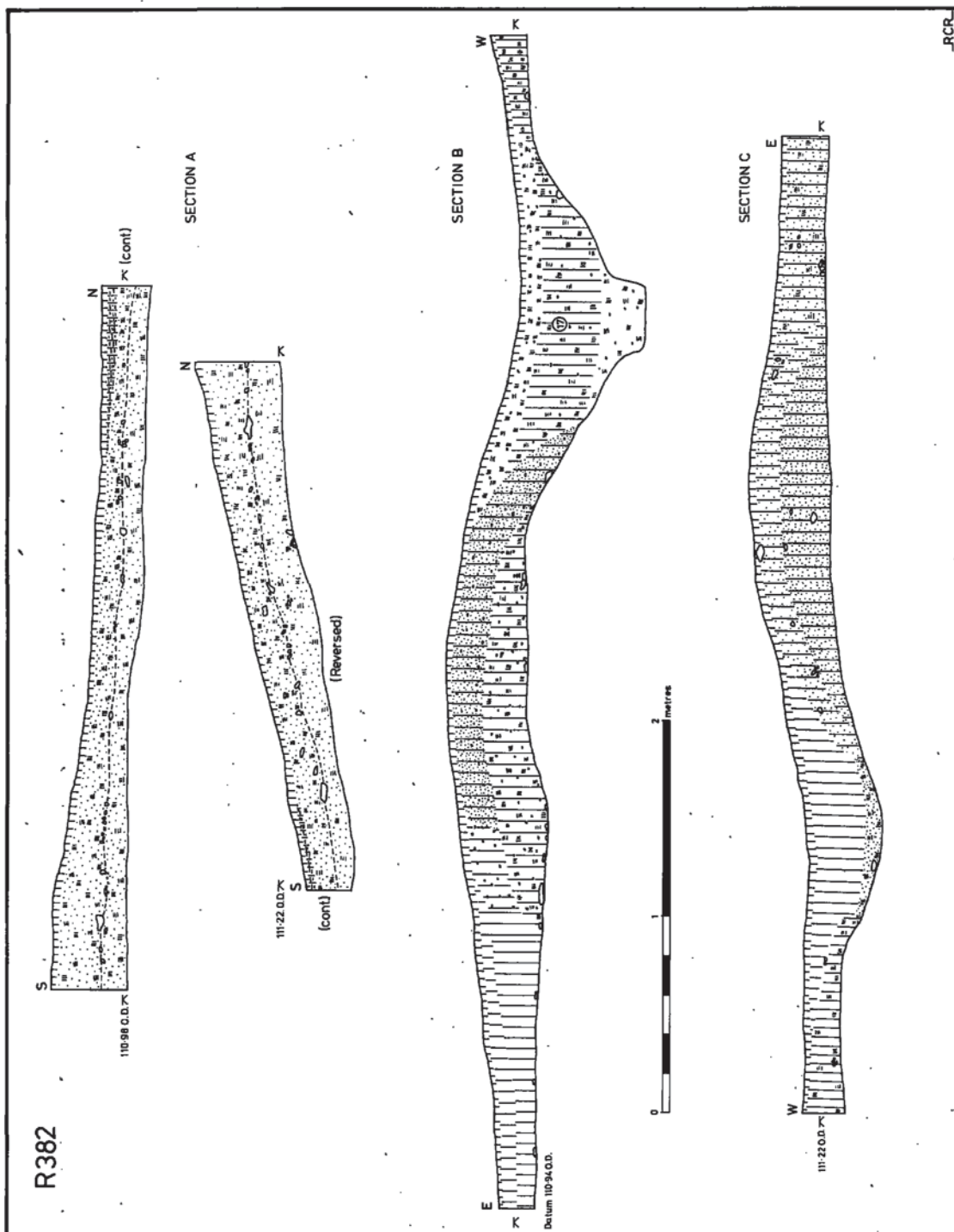


Fig 24. Micheldever Wood. a) Section of hollow-way cutting Roman earthwork E22. b) Section of E22 at south of R382. c) Section of E22 at north of R382.

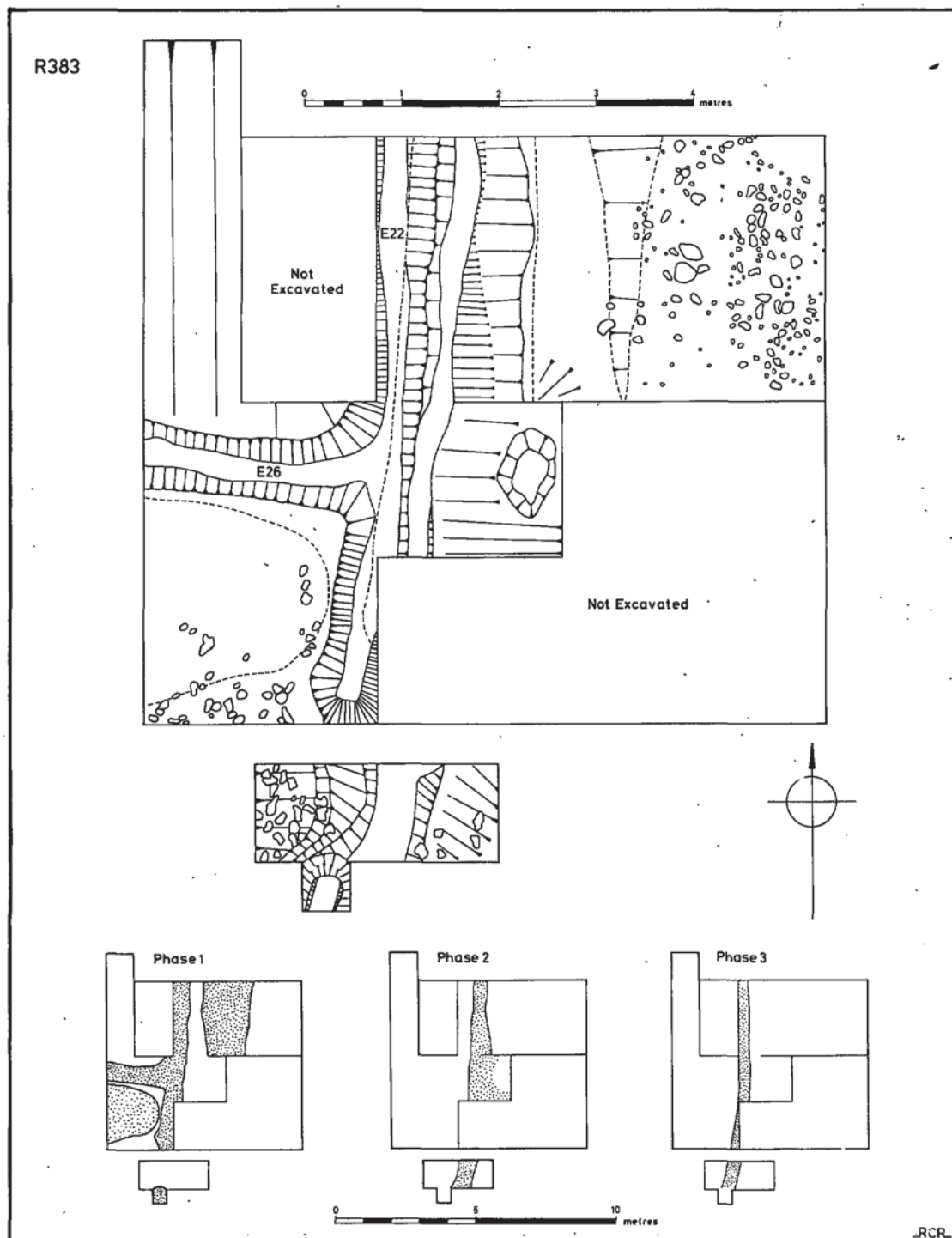


Fig 25. Micheldever Wood. Plan of earthworks E22 and E26 as excavated at site R383.

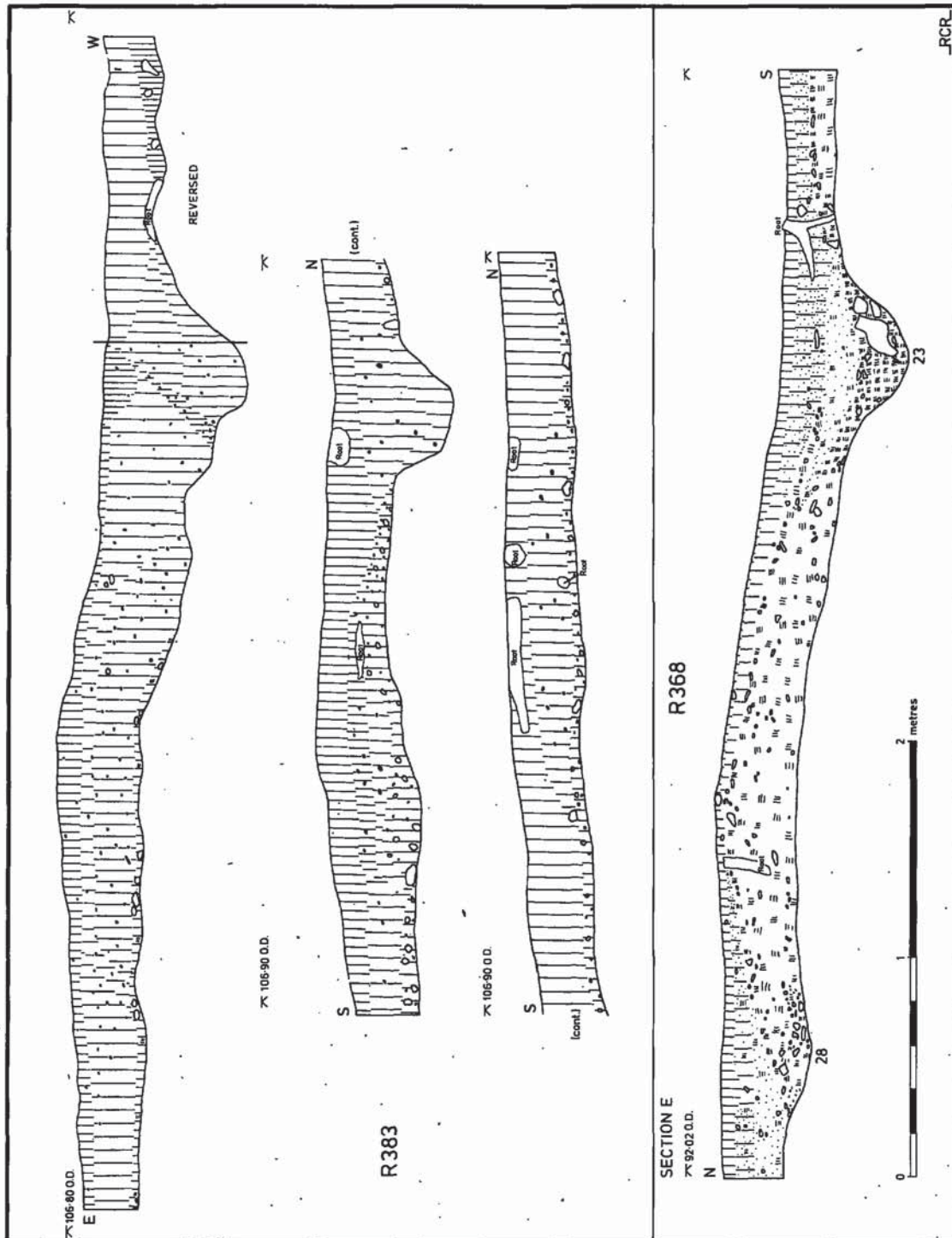


Fig 26. Micheldever Wood. Sections of earthworks at R383 (top). The bottom section is across the possible Anglo-Saxon earthwork E28 at excavation cutting R368. The location of the R383 sections are on Fig 25, and the R368 section on Fig 4.

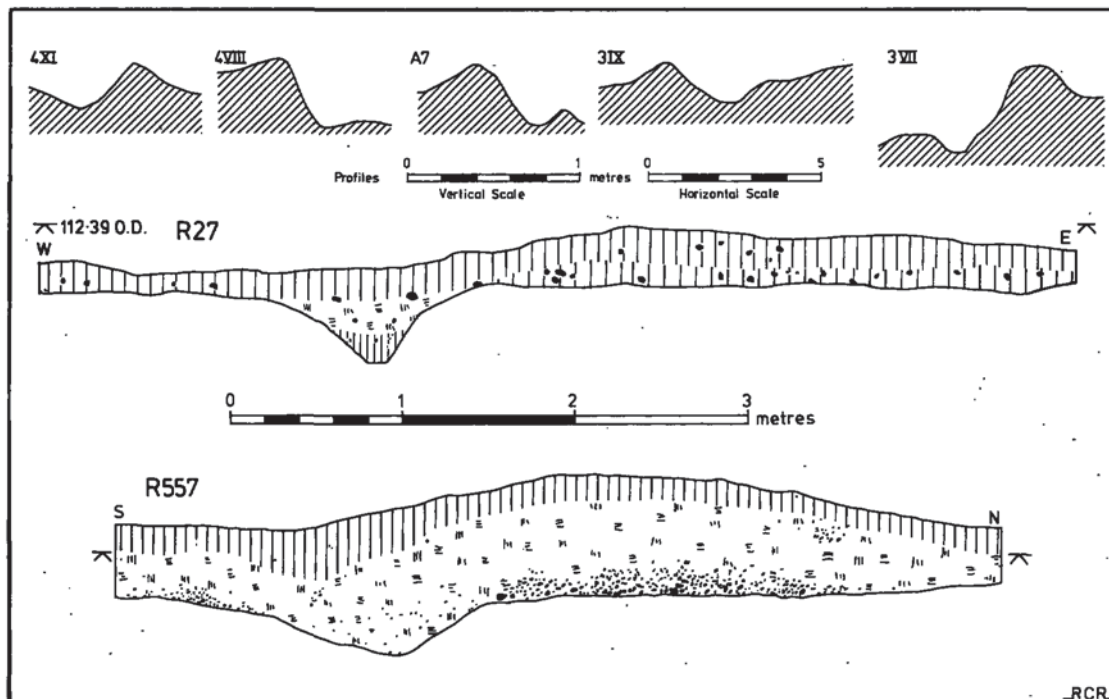


Fig 27. Micheldever Wood. Profiles and sections of various copse and forestry banks of medieval or later date. The location of these are on Fig 2.

reveals that it was originally called *Papanholt* or *Papholt*. It is first referred to in the dubious charter of King Edward in 903 as *Papanholt* (B596 K332) and subsequently in 1166 as *Papeholt* Herbert's (Pipe Rolls), as *Pappenholt* in 1208 and 1228 (Close rolls) and as *Papenholt* in 1253 (Close rolls). Domesday Book is of little information on Micheldever: four pigs were rendered from its woods.

There appear to have been five major divisions of the area represented by the modern Micheldever Wood and the adjoining fields. In the thirteenth century, these were *Parva Papenholt*, *Magna Papenholt*, wood of Galfrid Niger, wood of Peter de Fraximo and Wolvern Croft (Fig 28). The bounds of both *Parva* and *Magna Papenholt* are described in thirteenth-century quit claims and grants from which the approximate location and shape of the other three divisions can be deduced. The quit claim of Richard de Fercles

to the Abbot of Hyde Abbey of pasture in *Parva Papenholt* and the quit claim of Richard de Bedeford to the Abbot of Hyde Abbey of rights in *Parva Papenholt* both have the same bounds (Harl MS 1761, 15 and 16). Both claims probably date to the late 1220's or early 1230's. The bounds are: a) from the wood of Peter de Fraximo; b) to the head of *Wufladecrofte* (Wolvern Croft) to the south; c) thence by the road that leads to Galfrid Niger's wood; d) thence to the Londewaye; e) and by that way to the highway from Winchester to Reading f) and by that road to the said wood of Peter de Fraximo. An agreement of 1232 between Walter (Abbot of Hyde) and Richard de Fercles granted to the latter common of pasture in wood of *Greater Papenholt* in Micheldever Manor omitting that of *Little Papeholt* (Harl MS 1761, 21). The bounds of *Greater Papenholt* were listed: 1) from Lundenswaye which comes from

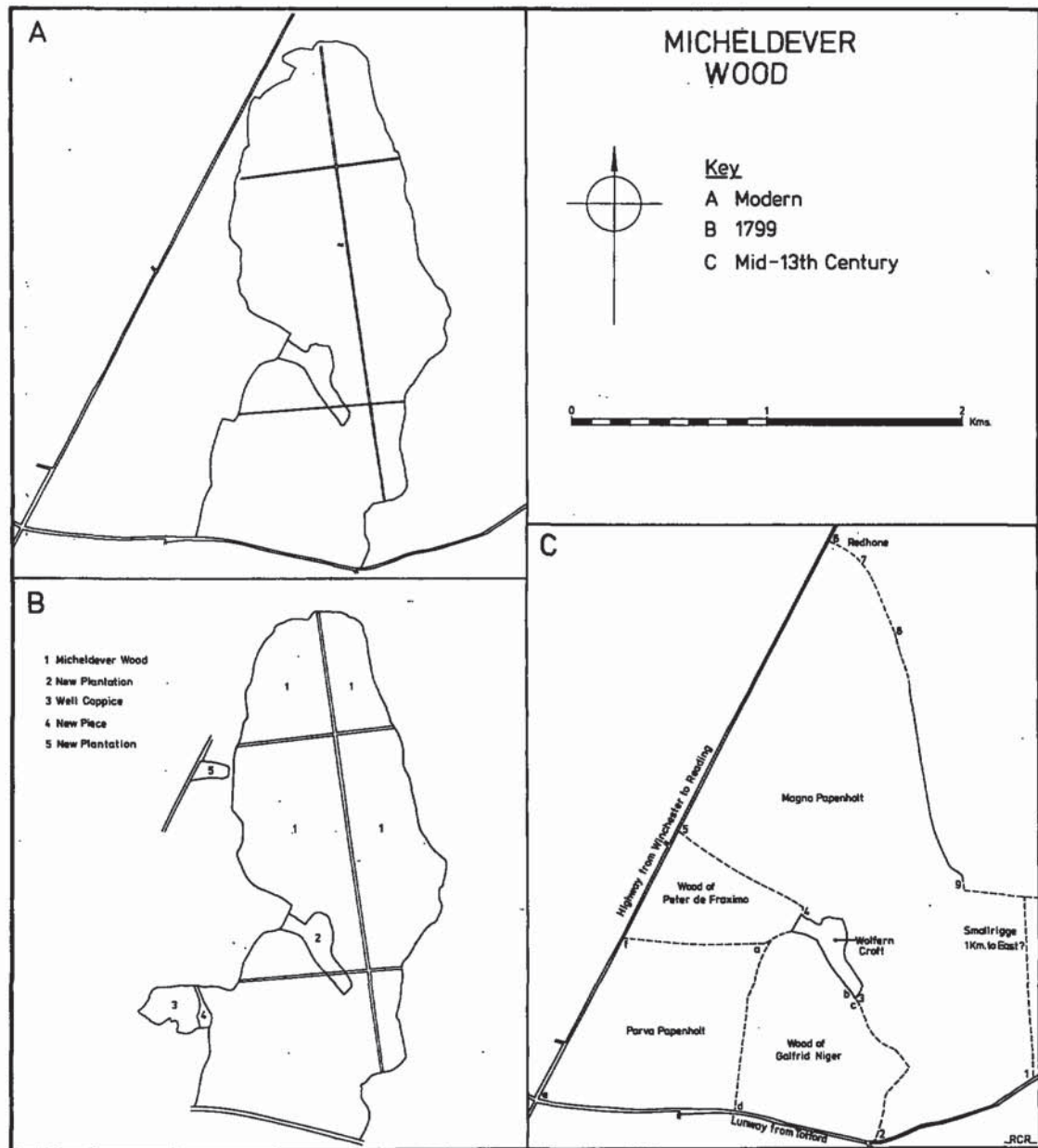


Fig 28. Micheldever Wood. The outline of the wood today, in 1799 and a reconstruction of the possible extent of the Wood in the middle of the thirteenth century.

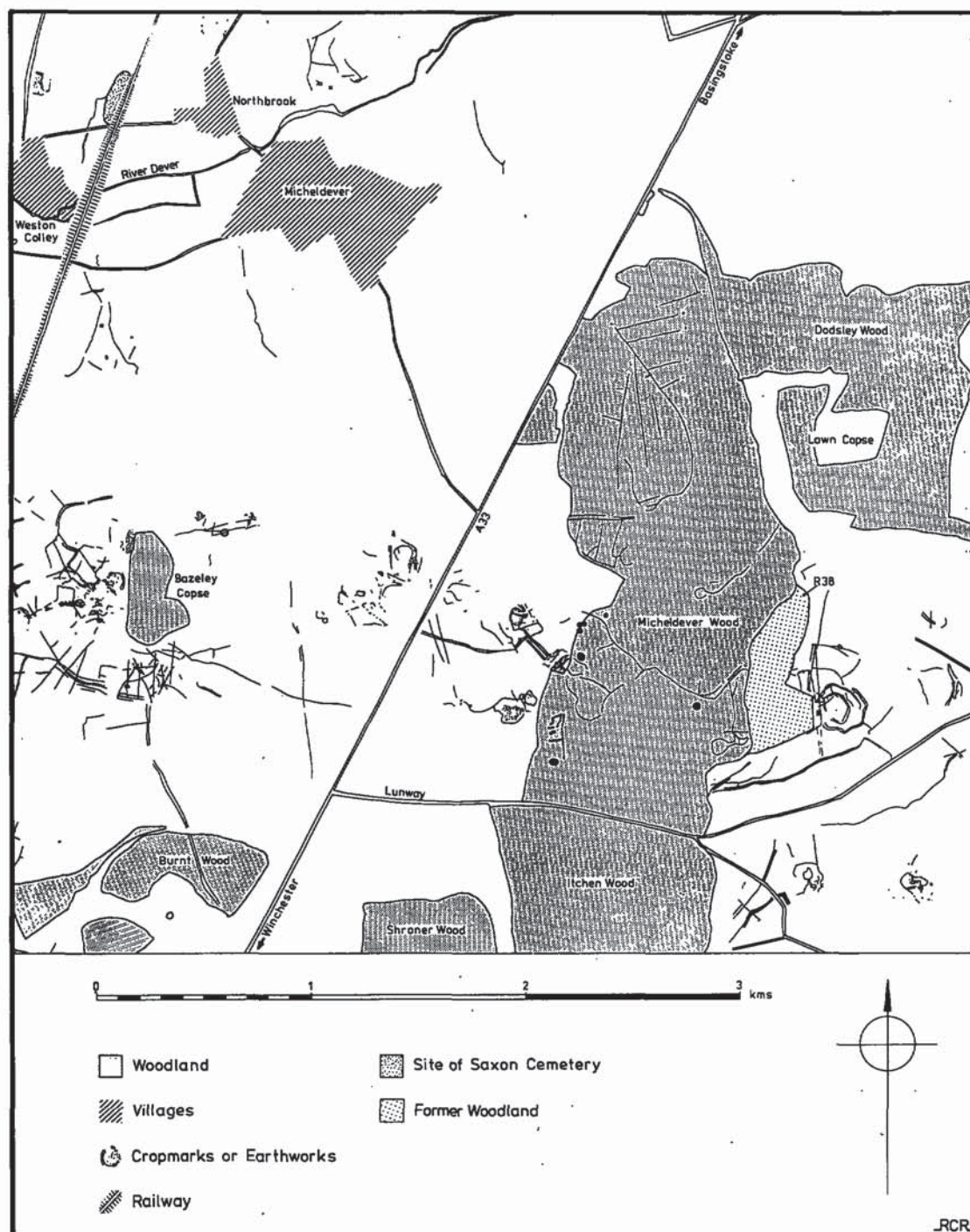


Fig 29. Micheldever Wood. Marks recorded from aerial photographs around Micheldever Wood demonstrating the importance of the woodland as a place where archaeology survives as earthworks.

Totford; 2) by the road passing between the wood of the Abbot's and the wood of Galfrid Niger; 3) by this said road to the head of *Wufladescrofte*; 4) thence by the head of *Little Papeholt* to the wood of Peter de Fraximo; 5) so to the highway from Winchester to Reading; 6) thence by the highway to Redhone; 7) thence by the ditch which runs easterly; 8) into the ditch which runs south into Pink Dene and 9) thence by the bank of Pinkdene to the lands of the Monks of Waverly which is called Smalrigge. An arrangement between Walter, Abbot of Hyde, and Hamo de Basing about pasture and pannage in Great Papeholt has the same bounds as described apart from a reference after *Wufladescrofte* to 'and so outside the enclosure of *Wufladescrofte* and the field of *Little Papeholt* until the wood of Peter de Fraximo' (Harl MS 1761, 33).

Consideration of these bounds in relationship to other documents and field work suggests that the outlines of the five divisions may have been similar to those portrayed in Figure 28c. Certainly the area of woodland was far greater than it is today. Harl MS 1761, 33 implies that the two Papeholts were continuous at one point and that there may have been some clearings within the Wood in the thirteenth century. Wolvern croft can be located from a map of 1775 and was probably approximately the same size, but only the relative position and not the size of the woods of Peter de Fraximo and Galfrid Niger can be postulated. The eastern boundaries of Magna Papeholt are not easily understood, indeed those boundaries shown on Figure 28c may represent too small an area (see archive). The south-east quarter may have extended at least 1km to the east. Equally it is not clear where the Wood joined the Lunway at the south-east nor where the 'Smalrigge' lay.

A survey and valuation of the Hampshire estate of Francis Duke of Bedford was undertaken by Kent, Claridge and Pearce in 1799. This survey was kindly loaned for study by Lord Northbrook. The survey reveals that, at the end of the eighteenth century, Micheldever Wood covered 549 acres with a nett annual value of £193 11s 9d after deductions for land tax (£5 2s 3d) and Poor Rates (£20 18s). The survey des-

cribes the wood as follows: 'These Woods are the best conditioned on the Estate, although a great proportion of them on the Northington side (*ie* the east) consist of very Poor Land. There are about thirty acres of very good Wood next to Whitears-low Down Piece, in which the underwood is extremely healthy (*ie* to the north-east). There is also a Beech Plantation in these Woods of about twelve acres, which wants a careful and judicious thinning. Much pains has lately been taken in planting up the recent fells, which ought never to be neglected.

These Woods are divided into about fourteen Cuts or Fells, and are usually cut at about fourteen years growth, when they produce from 6d to 16d per pole and being for their greatest part Hazle, their return, when felled and worked is from Hurdles and Stakes worth 6s per Dozen, - Faggots £1 1s 0d per Hundred - Bushes about 1d per bundle:- and what is called here the Ride or Hedging Stuff, is worth as it falls, on an average about 10d per pole.

In some parts of these Woods there is a considerable quantity of Oak Timber, chiefly young and in a growing State - nevertheless in every years Fell or Cut, all the unthrifty trees should be omitted being taken down.'

In the same survey of 1799 Susanna Penn, tenant of New Down Farm which was adjacent to the west side of Micheldever Wood, was allowed a deduction of £25 in the value of her tenancy 'For annual damage said to be sustained by this farm from its vicinity to the Woods in Micheldever by the Underwood and Timber being worked all across the lands to the Turnpike Road', the Turnpike road being the road later designated as the A33.

Subsequent to the Forestry Act of 1919 the Forestry Commission became responsible for Micheldever Wood during the 1920's. Today the Wood is a commercially-based concern of mixed coniferous and broadleaved trees including beech, Norway spruce, oak, western red cedar (*Thuja plicata*), western hemlock and European Larch. Oak planted in 1928 comprises the oldest stand.

GENERAL CONSIDERATIONS

Figure 29 demonstrates the importance of

Micheldever Wood as an archaeological resource: a sequence of fossilised landscapes which, unlike the surrounding areas, have not been damaged by subsequent agricultural activities.

The wood stands towards the east end of a gentle chalk ridge which rises and broadens towards the east where it is bounded by the Itchen valley north of Alresford. To the south it is defined by a dry valley along which runs the Lunway; the river Dever forms the north side and to the west the ridge becomes narrower. Along the ridge lie a series of sites, located primarily along the top of the ridge. The earlier prehistoric periods are represented by surface scatters of worked flints, usually waste material but occasionally including implements. Although the area was probably exploited during Mesolithic times there are only a few flint artefacts which might be considered as being of that date.

Micheldever Wood is about ten kilometres east of the concentrations of long barrows in the parishes of Nether Wallop, Barton Stacey/Chilbolton and Wonston and seven kilometres north of the circular Neolithic monument discovered on Winnall Down in 1976 (Fasham 1982). In the north of the Wood there is a concentration of Neolithic implements and parts of features of probable Neolithic date have been recorded. It is possible that a Neolithic site is located in the north of the Wood but there are no practical ways by which such a site would be positively identified in the woodland; experience has shown that the underlying clay-with-flints makes geophysical prospecting of little value.

In the Bronze Age, apart from the barrows in the Wood and the ring-ditches adjacent, there are two possible ring-ditches on the ridge and a cemetery of perhaps thirteen barrows, now largely ploughed, in the bottom of the Dever valley at Weston Colley (Grinsell 1938). The pair of ditches running south-east away from Bazeley Copse may form part of the linear ditch system of the later Bronze Age (Bowen 1978) and earthwork E1 in Micheldever Wood may also belong to the same system. Few Bronze Age settlements have been excavated in Hampshire and none have been positively identified around

Micheldever Wood. The confluence of linear ditches around Bazeley Copse may indicate such a site but no supporting evidence has been recovered from surface collections in that area. The existence of the Weston Colley cemetery and the barrows in Micheldever Wood suggest that there must have been settlement sites in the area.

During the Iron Age the ridge was intensively occupied with concentrations of sites at Bazeley Copse, west of Micheldever Wood, and at the south-east corner of Micheldever Wood. These three concentrations are about 1 km and 800 m apart. The Bazeley Copse concentration includes ditches, tracks, a 'banjo' enclosure, and a double-ditched enclosure (Collis and Fasham 1980); the concentration west of Micheldever Wood can be sub-divided into a western element consisting at least of pits, ditches and a double-ditched enclosure and an eastern part comprising a 'banjo' enclosure (R27), ditches, pits and a circular enclosure. The concentration at the south-east of the Wood comprises a multi-ditched enclosure (Hampton 1975), a 'banjo' enclosure (R39) and other ditches. The concentrations at Bazeley Copse and south-east of Micheldever Wood include substantial enclosures which may indicate that these two areas had a different function or social order to the group adjacent to R27.

The 'banjo' enclosures at the south-east of Micheldever Wood and in Itchen Wood, two of the best preserved examples of their type in central Hampshire, both have sunken entranceways and signs of wear at the junction of the entrance and the enclosure. The excavation of the entrance of 'banjo' enclosure R27 revealed no evidence for wear.

Surface scatters of Roman pottery have been discovered around most of these Iron Age sites. Substantial Roman buildings are known to exist west of Bazeley Copse where Collis excavated part of a three-roomed building (Collis and Fasham 1980), in Micheldever Wood (site R43), east of Micheldever Wood (R38) and immediately south of Shroner Wood. The boundaries of the estate belonging to R43 were not identified as earthworks, unless ditch E11 formed the boundary between R43 and R38; it does seem

unlikely that a property boundary of a rural estate should start from the settlement. Construction of Thiessen polygons around the four sites suggests that the Lunway formed the southern boundary of the estate of R43, the eastern boundary may have been along the east edge of Micheldever Wood but equally it may have run north-east to south-west between the two sites. The Roman road from Winchester to Silchester (the modern A33) probably formed part of the western boundary which may have then run off to the north. The valley of the river Dever could have formed the north side of the estate. Such boundaries enclose an area of over 3000 acres, but this figure purely serves to indicate an order of magnitude. If these suggested boundaries in any way represent the real boundaries the estate would have possessed a range of topographical zones, one stream and a range of soil types.

Anglo-Saxon material is almost non-existent. On the north bank of the Dever at Weston Colley lay a cemetery, there is the possible Anglo-Saxon earthwork (E28) in the Wood and the village of Micheldever itself must have Anglo-Saxon origins.

Micheldever Wood stands as an island of preserved three-dimensional archaeology in a sea of plough-damaged sites and, as such, represents a major archaeological resource in the county of Hampshire. Its importance can be demonstrated by the fact that only one other comparable Romano-British field system is known to the author in southern England and, interestingly, that is preserved in a parkland environment, at Barnsley Park, Gloucestershire (Fowler 1975).

APPENDIX 1: PHOSPHORUS ANALYSIS OF 'BANJO' ENCLOSURE R39

By P F Fisher

The Site (Fig 7)

The site lies on Upper Chalk covered by a superficial deposit of clay-with-flints up to 2m deep. The soil can be described as a paleo-argillic brown earth (Avery 1973). Forty year old beech trees cover most of the site, except at the north-east which was replanted in 1976 with oak. It has been argued that Micheldever Wood regenerated after the Roman period and was not ploughed during Anglo-Saxon times. Forestry Commission tracks have damaged part of the earthworks and excluded some of the enclosure from the sampling programme. The Forestry Commission have not used fertilizers in the recent past, and therefore phosphate-rich fertilizers will not have affected the soil.

Sampling

Samples, collected with a bucket auger, were taken at a depth of about 150mm on a 5m grid. The grid size produced the maximum number of samples it was possible to analyse within the time and financial constraints of the project. The sampling depth was

that which penetrated below the leaf litter and filled the auger.

A total of 96 background samples was collected from outside the enclosure, normally at the end of each traverse (Fig 7). All samples were collected in one week in the summer of 1976, thus avoiding gross seasonal variation. Later, samples were collected on a 10m spaced traverse on the 65m northing to test the assumption made below in the laboratory.

Cook and Heizer (1965) and Proudfoot (1976) have outlined the theory of soil phosphorus as applied to archaeology. Throughout this note all results are given as the concentration of phosphorus rather than the more usual phosphate, as it is only the elemental concentration which is actually measured in the laboratory.

Laboratory Analysis

Because of the pressures of time and finance it was assumed that 2N HCl extractable phosphorus correlated directly to total phosphorus since analysing for the latter is a much longer procedure, although preferable. All samples were analysed by the extraction procedure used by Sieveking *et al* (1973), and the concentration of phosphorus in an aliquot was

measured by the vanadomolybdo-phosphoric yellow colorimetric method (Hesse 1971, 295). 300 measurements were made, including the repetitions of the analysis of one sample.

To test the assumption of correlation of extractable and total phosphorus the samples collected after the main survey were analysed for total phosphorus using the extraction procedure of Piper (1950, 274) and the colorimetric method set out by Murphy and Riley (1962).

Results

The comparison of the results of the analysis of total and 2N HCl extractable phosphorus (Fig 7) shows a fair degree of correlation on the 65m northing traverse, although the sample points are not the same. As a repetition test for 2N HCl extractable phosphorus, one sample was analysed five times which produced a coefficient of variation of 9%. This suggests a degree of accuracy which excluded detailed comments on point concentrations, and only trends are considered below.

The results of the grid survey are shown in Fig 7. The following observations can be made:

1. The forestry tracks show some disturbance; erratic concentrations occur along them all.
2. A relatively low, even phosphorus concentration is suggested by the samples from outside the enclosure, except towards the replanted north-east area where there are higher concentrations.
3. There are some high concentrations of phosphorus in the enclosure ditch.
4. There are relatively high concentrations between the flanking ditches of the entrance-way; indeed, most traverses across the entrance show an increase in phosphorus.
5. On-site samples generally had higher phosphorus concentrations than the off-site samples. Within the enclosure all the higher concentrations lie towards the middle and entrance of the site surrounded towards the back of the site by an arc of lower concentrations.

The final observation would appear to be most important for an interpretation of the site's function. The differences in the concentration of

soil phosphorus within the site suggest that activities were taking place which produced two distinct sample populations. The position of geophysical anomalies discovered by a fluxgate gradiometer scan correspond with the area of low phosphorus concentration (A J Clark pers comm).

Evidence accumulating from the distribution of pits (Fasham 1976 and 1978), animal bone fragmentation (Griffiths 1977), excavation (Perry 1972), geophysical anomalies and phosphorus concentrations suggests an activity area in the centre and towards the entrance of these enclosures.

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REFERENCES

[see also p 4]

Sources from the HRO

Grundy, G B and Hampshire Charters and Place Names
Harley 1761 Hyde Abbey Cartulary, Micheldever
Estate Charters transcribed by Godwin,
W G, HRO 19 M 54/24.

Other References

- Anon 1846 *Arch J* 3 160-1.
Avery, B W 1973 Soil Classification in the Soil Survey of England and Wales, *J Soil Sci* 24 325-38.
Bates, P J 1978 Fieldwalking in Fasham, P J *M3 Arch* 1976-7.
Bowen H C 1975a Air photography and the development of the landscape in central parts of Southern England, in Wilson, D R (ed) *Aerial Reconnaissance for Archaeology* 103-118, CBA 12.
——— 1975b Pattern and Interpretation: a view of the Wessex landscape from Neolithic to Roman times, in Fowler, P J (ed) *Recent Work in Rural Archaeology* 44-56, Moonraker Bradford-on-Avon.
——— 1978 'Celtic' fields and 'ranch' boundaries in Wessex, in Limbrey, S and Evans, J G (eds) *The effect of man on the landscape: the Lowland Zone* 115-123, CBA 21.
Butler, C W and Fasham, P J 1976 Earthworks in Micheldever Wood, in Fasham, P J *M3 Arch* 1975.
Clark, A J 1975 Magnetic Scanning, in Fasham, P J *M3 Arch* 1974.
Collis, J R and Fasham, P J 1980 Excavations and Field Survey at Borough Farm, Micheldever, Hants, *Proc* 36 145-152.
Cook, S F and Heizer, R F 1965 Studies on the chemical analysis of archaeological sites, *U Calif Publ Anthropol* 2 1-102.
DoE, 1975 *Principles of Publication in Rescue Archaeology*, London.
Fasham, P J 1975 *M3 Arch* 1974. Winchester.
——— 1976 An Iron Age Site in Micheldever Wood, in Fasham, P J (ed) *M3 Arch* 1975 10-16, Winchester.
——— 1978 The Archaeology of Micheldever Wood, in Fasham, P J (ed) *M3 Arch* 1976-7 3-7, Winchester.
——— 1979 The excavation of a triple barrow in Micheldever Wood, Hants, *Proc* 35 5-40.
——— 1982 The Excavation of Four Ring-Ditches in Central Hampshire: MARC3 Sites R17 Feature 1972, R7, R30 and R363, *Proc* 37.
——— in preparation The excavation of an Iron Age 'banjo' enclosure in Micheldever Wood.
Fasham, P J and Monk, M A 1978 Sampling for Plant Remains from Iron Age Pits: Some results and Implications, in Cherry, J F, Gamble, C, and Shennan, S J (eds) *Sampling in Contemporary British Archaeology*, BAR 50.
Fasham, P J and Ross, J M 1978 A Bronze Age Flint Industry from a Barrow Site in Micheldever Wood, Hampshire, *Proc P S* 44 47-68.
Fasham, P J, Schadla-Hall, R T, Shennan, S J and Bates, P J 1980 *Fieldwalking for Archaeologists*.
Fowler, P J 1975 Continuity in the Landscape? in Fowler, P J (ed) *Recent Work in Rural Archaeology*, Bradford-on-Avon.
Griffiths, N J L 1977 *Animal bones from R27, M3 motorway excavations*, unpubl archive report.
Grinsell, L V 1938 Hampshire Barrows, Part 1, *Proc* 14 9-40.
Hampton, J N 1975 The organisation of aerial photography in Britain, in Wilson, D R 1975 *Aerial Reconnaissance for Archaeology*, CBA 12.
Hesse, P R 1971 *A Textbook of Soil Chemical Analysis*, London, John Murray.
Milner, A B 1924 *History of Micheldever*, Paris.
Monk, M A and Fasham, P J 1980 Carbonised Plant Remains from Two Iron Age Sites in Central Hampshire *Proc P S* 47 321-44.
Murphy, J and Riley, J P 1962 A modified single solution method for the determination of phosphate in natural waters, *Analytical Chimica Acta* 27 31-6.
Perry, B T 1972 Excavations at Bramdean, Hampshire 1965 and 1966 and a Discussion of Similar Sites in Southern England, *Proc* 29 41-77.
Piper, C S 1950 *Soil and Plant Analysis*, New York Willey.
Proudfoot, B 1976 The analysis and interpretation of soil phosphorus in archaeological contexts, in Davidson, D A and Shackley, M L (eds) *Geoarchaeology*, London, Duckworth.
Sieveking, G de G et al 1973 A New Survey of Grimes Graves - First Report, *Proc P S* 39 182-218.
Taylor, T P 1979 Soil Mark Studies near Winchester, *J Arch Sci* 6 93-100.
Williams Freeman, J P 1915 *Field Archaeology as illustrated by Hampshire*.

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