

# PITSTONE HILL — A STUDY IN FIELD ARCHAEOLOGY

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TRAVELLERS between Tring and Dunstable are invariably impressed by the great mass of Ivinghoe Beacon, but seldom notice the range of hills that sweep south-westwards from the Beacon in a great curve towards the Hertfordshire village of Aldbury. At the focus of this curve lies Pitstone Hill, with Aldbury Nowers beyond, an isolated boomerang-shaped range, two miles long and in places over 700 feet high.

Geologically, Pitstone Hill is composed of the middle and lower chalk with a thin clay-with-flint capping, which at the southern end of the hill supports beech woods. On its northern side the hill is open downland, dotted with patches of scrub on the steeper slopes, and providing useful pasturage for cattle. The Hill is the property of the Snowcem Cement Company, who are at present quarrying on the north-west side of it. The public have free access to the unploughed area. Situated half in Buckinghamshire and half in Hertfordshire, Pitstone Hill lies two and a half miles north-east of Tring and eight miles due east of Aylesbury. (Nat. Grid Ref. SP/950142.) (Fig. 2.)

In August, 1958, during the course of fieldwork along the Romanized Icknield Way (Roman Road 168a<sup>1</sup>), Mr R. W. Bagshawe investigated the statement of R. Hippisley Cox<sup>2</sup>: "... near a group of pit dwellings, Pitstone Hill is crossed by a transverse ditch deep enough to hide a horse and his rider." This ditch is marked on all modern large, medium and 1-inch scale Ordnance Survey maps (SP/952147). To his surprise he found many other earthworks which were clearly non-Roman and which he could only suppose were prehistoric in origin. In particular, the depressions at SP/949140 near Aldbury Nowers bore a resemblance to the flint mines which he had seen on Cissbury Hill in Sussex, an opinion confirmed by a friend, D. E. Johnston, who suggested that, in view of the complexity of the site, he should invite the writers to visit the earthworks. Having decided which features probably represented the roadway that he sought, Mr. Bagshawe left the further investigation of the earthworks to the authors.

So complex was the assortment of banks and ditches that a survey was immediately called for, and during the summers of 1959 and 1961 this was carried out both on the ground and from the air. It seemed inconceivable that no one had described the earthworks before. The only references that could be found

<sup>1</sup> *Roman Roads in the South-East Midlands*, forthcoming.

<sup>2</sup> *The Green Roads of England* (third edition, 1927), p. 162.



PLATE 5. Aerial photograph of Pitstone Hill from the north. The "Citadel" is in the left foreground and Aldbury Nowers Wood in the left background. Lynchets Y and Z run across the centre of the picture.



PLATE 6. Aerial photograph of Pitstone Hill from the south. Dyke I — the Grim's Ditch — crosses the hill in the foreground and its deflection to avoid the flint-mines can be clearly seen.



PLATE 7. Dyke Ib (centre) cut across by the main hollow-way (TI). Ivinghoe Beacon can be seen in the far distance.

*R. W. Bagshawe*



PLATE 8. The flint-mines, looking south-west into Pit 2.

*R. W. Bagshaw*

were in a plan published by James Wyatt in the *Associated Architectural Societies Report for 1871* and in *Everyday Life in the New Stone, Bronze and Iron Ages* by M. and C. H. B. Quennell (1922), in which a reconstruction drawing of some of the earthworks as a Bronze Age village was shown as Fig. 5. In neither work was any written description of the earthworks given.

The survey of the hill showed that the antiquities could be divided into six groups: the flint mines, the boundary dykes, the shorter ditches, the lynchets, the trackways and the cropmarks. Often these groups are linked together, but it will be convenient at first to consider them individually.

#### THE FLINT MINES (Fig. 4)

At the western angle of the hill, at 700 feet O.D., are the small group of flint mines. Two mines were discovered by Dr. A. E. Peake on Peppard Common in South Oxfordshire some years ago, and the *Museums Journal* for 1902 recorded what may have been a mine at High Wycombe. The Pitstone mines are the first to have been found on the Chiltern escarpment and are splendidly situated, overlooking Tring and the western Chilterns.

Two large pits were dug, with a smaller one which was apparently never completed. Lower down the hill-slope to the west of the pits are two hollows, dug into the hillside. These suggest that some attempt was made to tunnel into the hill to remove outcrops of flint before shafts were sunk from above. A third hollow lies to the south of the main pits. These compare favourably with the primitive pits encountered at Grimes Graves and Spiennes. At this point on the hill there is only a thin covering of loam and gravel before the chalk is reached. The exact nature of the flint is uncertain, but it is thought to be fragmentary, rather than tabular as in Norfolk.

Pit 1 is oval in shape, its average diameter at ground surface is 50 feet, and it is at present 12 feet deep. The sides are fairly steep, and the pit seems to have been entered from the south-western side. A second shaft was sunk, adjoining it, but lower down the hill slope to the west. This is still some 10 feet deep and was again entered from the south-west where tips of waste material have formed a simple hornwork. More waste material has been dumped in small heaps outside the mines, and it must not be overlooked that some material from Pit 2 could have been back-filled into Pit 1. Surface examination of the tip heaps show them to be composed of gravel from the tops of the shafts and numerous flint flakes. Pit 3 is only 10 feet in diameter and 6 feet deep. Hawthorn bushes in the tops of all the shafts testify to a considerable depth of soil in each of the three pits.

Access to the mines seems likely to have been from the ridge of the hill above them, the gradient up the hill from the east being quite gentle in comparison with the steep escarpment face into which the mines are cut.

#### THE BOUNDARY DYKES (Fig. 3)

At first sight Pitstone Hill is covered by linear or boundary dykes. After careful study it becomes clear that numerous fragments of apparently disconnected dyke are all part of the same system. Running along the western and northern escarpments of the hill from Aldbury Nowers and the Hertfordshire

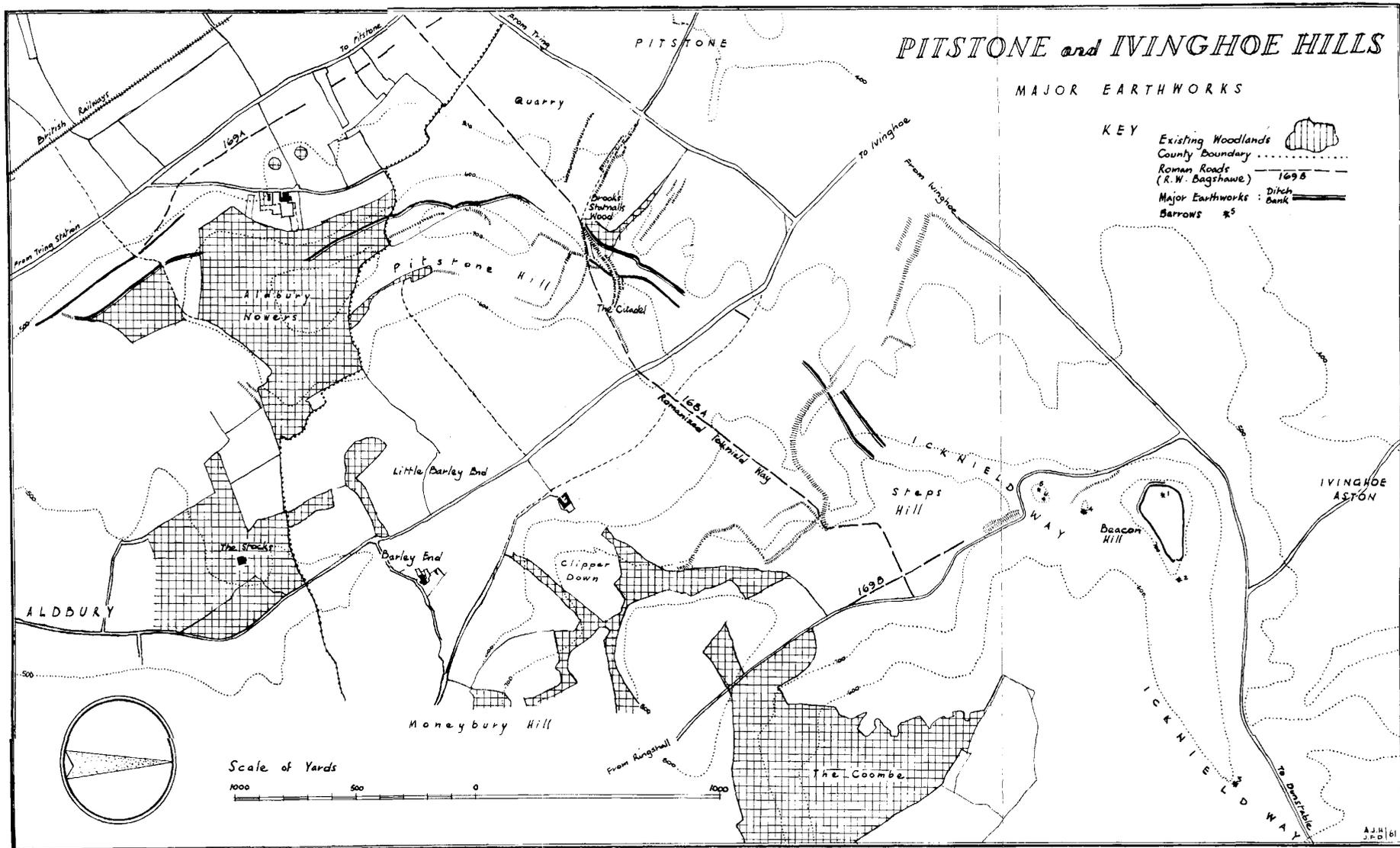


FIG. 2. General plan showing the distribution of earthworks between Pitstone Hill and Ivinghoe Beacon.

border is a boundary dyke (No. I) of no mean proportion. Averaging 20 feet in width, it consists of a ditch from which the excavated material has been thrown down the hill slope to form a counterscarp bank. Today the ditch is between 3 and 4 feet in depth and the counterscarp tends to make it look even deeper. (See sections A-E.) It is clear from the way that this earthwork runs up and down hill that it was never a defensive earthwork. Had it ever been intended for such a purpose, the bank would have been placed on the upper side. Instead, it is thrown down hill—the most convenient place for the people constructing it. It would also have stayed on the hill crest. As it is, it sweeps up the hill from Aldbury Nowers until it reaches the 700-foot contour, and then makes a right-angle bend and plunges steeply down to the foot of the hill on the northern face, close to Brook's Stainalls Wood. At this point the dyke splits into two sections, and one rapidly ascends the hill for 70 feet (No. Ib) before turning north-eastwards along the escarpment in the direction of the "Citadel"<sup>3</sup> and Steps Hill. After a short break apparently caused by ploughing the main dyke continues (as Ia) along a contour at approximately 560 feet and runs parallel to the upper ditch. Both ditches curve round the re-entrant valley between the Wood and the "Citadel" and then pass north-westwards along the hill slope, 120 feet apart, fading-out before they reach the Ivinghoe-Aldbury road. Both ditches have been ploughed-out for about half a mile before they reappear on Steps Hill to the north-east. Here, after climbing the hill, they stop abruptly as they run into clay-with-flints, which one must assume originally supported thick woodland.

Recognition of this boundary dyke has been made difficult by its partial mutilation at later periods, especially where the hollow-ways have made great gashes through it. These will be described later.

#### THE SHORTER DITCHES (Fig. 3)

On top of Pitstone Hill, between the angle of the boundary dyke (No. I) and the flint mines, is a short length of causewayed ditch (No. II). The ditch segments are less well defined than the other earthworks on the hill, containing more silt and having an appearance of greater antiquity. There are three lengths of ditch stretching for 70 yards from the dyke angle to the fence around the ploughed hilltop. The material from the ditch has been dumped on the outer, downhill side. The resultant bank is about a foot above present ground level, and the ditch about a foot below. Between each segment of ditch is a narrow indistinct causeway marked by a slight rise in the ground and a break in the luxuriant grass which grows over the ditches. Aerial photographs have so far failed to trace the ditch into the ploughed land on the north-east of Pitstone Hill, and it is clear that its western end has been destroyed by boundary dyke I which utilized its course before it turned at right angles back down the hill.

Within the 700-foot contour on the hilltop is a curving bank (No. III) some 150 yards long and 1 foot high. There are no apparent signs of a ditch. Both ends of the bank are in the ploughed land; the northern end curves round as

<sup>3</sup> This name has been used by the writers to distinguish it from the main Pitstone Hill (see Fig. 2). The local quarrymen call it "Piccadilly".

a cropmark, but there is no sign of a continuation of the southern end.

Another dyke (No. IV) with a counterscarp bank appears north-east of the flint mines and runs south-east, parallel with the field boundary across the county border, and then, after a few yards, turns at right angles in a north-easterly direction back into Buckinghamshire. At this point the earthwork is ploughed out, but can be clearly traced on aerial photographs running to a lynchet a hundred yards away.

Along the south-western side of the "Citadel" are three oval pits, each some 6 feet in depth and 40 feet long; others may have existed to the south-east, but have been destroyed by the hollow-way (T1). The purpose of these pits is obscure, but it is just possible that they may represent quarry ditches dug in an attempt to fortify the "Citadel" at some time. If so the fortification was never completed, since there are no signs of any pits on the northern side of the hill. It is these pits that the Quennells interpreted as Bronze Age pit dwellings in 1922.<sup>2</sup> That they are later than boundary dyke Ib is shown by waste material from these pits, which partly blocks the dyke at this point.

#### THE TRACKWAYS (Fig. 3)

There are two kinds of trackway on the hill. In one, the track is confined to sunken hollow-ways, and in the other it lies on a low ridge formed by road-surface material.

Of the hollow-ways the most impressive is that which runs along the southern foot of the "Citadel" and curves down to Brook's Statnalls Wood (T1). This trackway is at one place 120 feet wide and 35 feet deep. It is essentially "V" shaped and its restricted bottom suggests that it was used only by foot traffic and cattle. It was not wide enough to take a wheeled vehicle. The hollow-way curves down to the wood, where it cuts across boundary ditch Ib and then runs into dyke Ia and follows the ditch of that dyke until it turns north-westwards towards the spring line and Pitstone village. It is probable that the upper part of the hollow-way utilized the oval pits on the south-west side of the "Citadel" before running into boundary dyke Ib. Extensive use of the track over-deepened the dyke ditches and left both boundary dykes hanging above it.

A second smaller hollow-way (T2) cuts the hill some 200 yards south-west of the "Citadel". Here the trackway follows the foot of a lynchet which can be traced for half a mile on aerial photographs, curving from a triangular-shaped enclosure (S1) on the eastern slope of Pitstone Hill round to the springs below Brook's Statnalls Wood. The first edition Ordnance Survey show that this trackway was still in use for all its length a hundred years ago. As the track descends the escarpment towards the Wood it forms a shallow hollow-way, made to appear deeper by the presence of a bank along its northern edge. It is into this hollow-way that the Romanized Icknield Way (Roman road 168a) passes as it proceeds from Steps Hill towards Tring.

Running along the top of Pitstone Hill is a broad trackway, some 12 yards wide, raised slightly above the surrounding hilltop (T3). It follows the modern field boundary and runs into Aldbury Nowers. This was a medieval greenway

<sup>2</sup> *Everyday Life in the New Stone, Bronze and Iron Ages* (first edition, 1922).

# PITSTONE HILL

BUCKINGHAMSHIRE

A SURVEY OF EASTWORE & ASSOCIATED FEATURES

KEY  
Existing Roadwork  
Features Referred  
to in the  
County Gazetteer

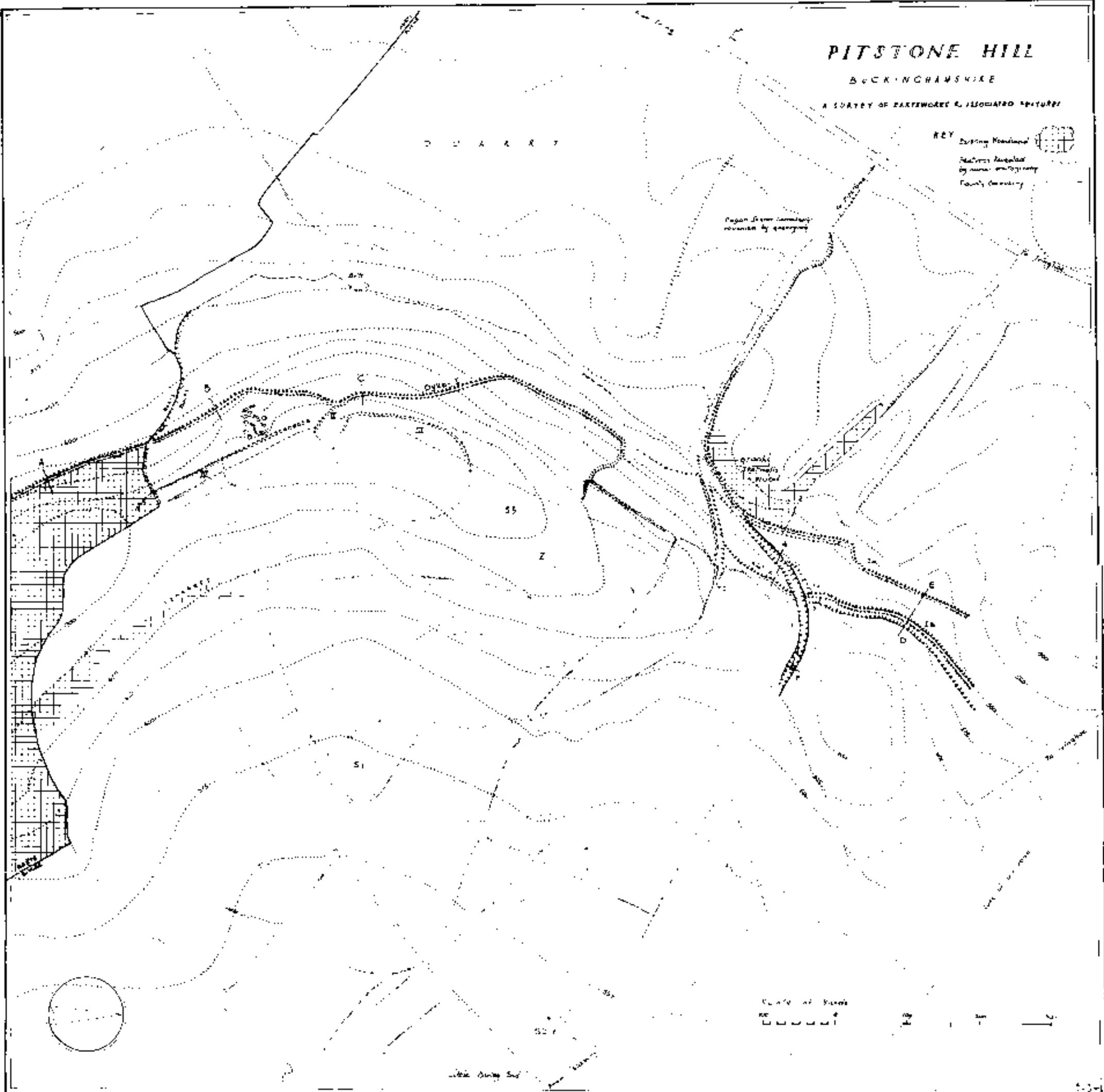


Region shown  
referred to in  
the Gazetteer

Gravel  
Pit

Scale of Feet  
0 100 200 300 400

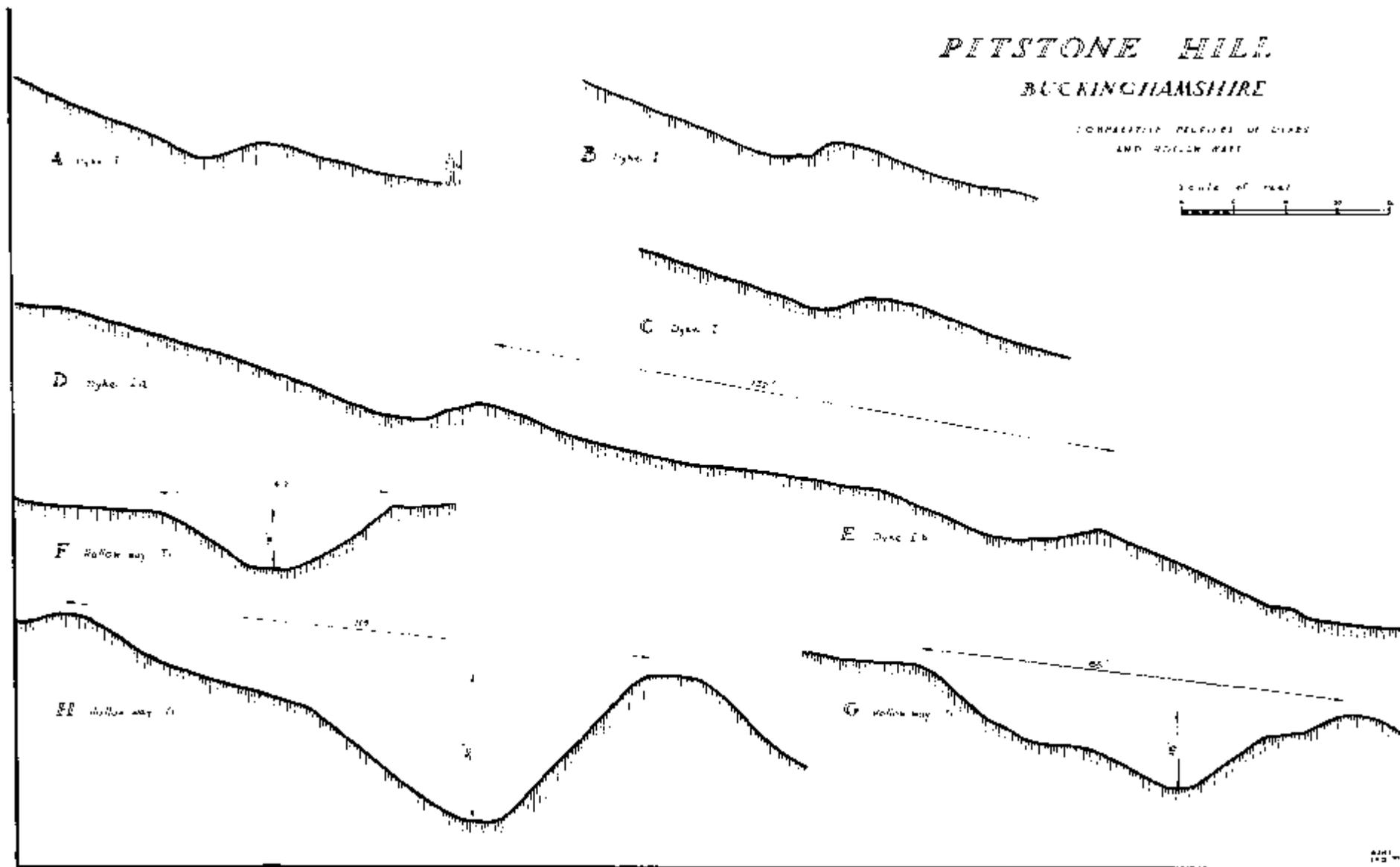
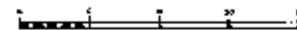
1888 Survey



PITSTONE HILL.  
BUCKINGHAMSHIRE

COMPARATIVE RELIEFS OF DYKES  
AND HOLLOW WAY

SCALE OF FEET



4011  
1897

FIG. 5. Sections of the dykes marked A to H on the general survey (Fig. 2) of Pitstone Hill.

which connected Pitstone village with Aldbury. It is quite clear that it overlies both hollow-ways (T1 and T2) and the lynchets which lie across its path.

#### THE LYNCHETS AND CROPMARKS (Fig. 3 and Plate 5)

Lynchets are most clearly seen on the northern face of Pitstone Hill (Y and Z) where they vary in height from 6 to 10 feet. They bound rectangular fields whose widths range from 50 to 100 yards, and whose length may be as much as 500 yards. Slightly raised banks on their north-western edges are due, no doubt, to upcast soil from the plough. A similar bank is present round the western edge of the field enclosed between the two hollow-ways (T1 and T2). No means of access from one field to another has survived intact. Lynchets 10 feet high exist on the ploughed hillside close to Aldbury Nowers. These are marked on the general plan. Other lynchets exist between the north-west foot of the escarpment and the Ivinghoe-Tring road in the area of the cement quarry. It was beside one of these lynchets—the one running north-west from the southern end of Brook's Statnalls Wood—that a small pagan Saxon cemetery was discovered during quarrying in 1961. Beside this lynchet also ran the trackway (T2) towards Pitstone village.

A considerable area of the eastern side of Pitstone Hill is under the plough. With the exception of an isolated line of lynchets and trees on the south, the whole area between Aldbury Nowers Wood, Little Barley End and the Ivinghoe-Aldbury road is today one large open field. Aerial photographs taken during 1959 by A. J. Hales show that this field originally consisted of a very large number of rectangular and irregular plots of land, bounded by lynchets or ditches, often with trackways between them. Although strip lynchets predominate, there are slight traces of what appear to be "Celtic" fields, together with a system of open fields of broad rig type. In the centre of this area is a triangular enclosure which in all probability contained farm buildings (S1). It is significant that the smaller hollow-way (T2) runs to this enclosure and still existed a hundred years ago. Traces of an unenclosed settlement (S2) lie beside the Ivinghoe-Aldbury road and again a lynchet connects it with a hollow-way (T1). A third settlement (S3) may have existed on the northern spur of Pitstone Hill between the bank (No. III) and lynchet Z, but the aerial photographs are not too clear on this point. Those lynchets which appear to be early follow the concave contours of the eastern side of the hill and probably represent fields of medieval or earlier date. It should be noted that some of these lynchets were still in existence when the 1843 First Edition Ordnance Survey Map was made.

#### INTERPRETATION

In considering our interpretation of the earthworks, it must be remembered that no excavation has taken place, and that our conclusions are based entirely on surface features.

It seems likely that the earliest structure on the hill is the causewayed ditch (II). On analogy with similar ditches at Butser Hill (Hants) and Hambledon Hill (Dorset), it is probable that this earthwork is of neolithic construction and may well have run transversely across the hill spur in order to isolate the

western end of the hill within the 700-foot contour (the area of possible settlement S3). At this time, too, we would suggest that the flint mines were constructed; and, indeed, the causewayed ditch, mines and settlement S3 might all be contemporary.

The boundary dyke (I) in passing from Aldbury Nowers, over the hill crest to Brook's Statnalls Wood, goes out of its way to avoid crossing over the flint mines. It runs below them on the hill slope and then climbs steeply to the hill crest (between sections B and C) in order to resume what would have been the logical direct line from section A to C on the plan. It is very strange that the dyke builders went to the trouble of digging up to the hill crest, only to descend again once over the spur, when a less laborious route could have been found at the foot of the hill.

Two reasons present themselves as an explanation of why the dyke passes round the mines. One is that the mines may still have been in use when the dyke was constructed; the other that if the mines had long since fallen into decay the land may still have belonged to the settlement on the east of the hill. The heirs of the flint miners may well have lived on the hill for centuries.

That the dyke marked a boundary and was of no defensive value we have already said. Why it was duplicated at the foot of the "Citadel" is uncertain, unless it demarcated an area of "no-man's land", bounding the prehistoric Icknield Way. There are also indications that it may have been duplicated on the southern side of Aldbury Nowers Wood by a line of dyke known as the "Danes Ditches". When it was built is uncertain. Two sherds of Iron Age Southern "A" pottery were found in rabbit scrapes on its surface, but this serves only to show that there had been Iron Age occupation on the hill. The dyke is also clearly cut by the hollow-ways (T1 and T2) and one of these (T2) is in turn utilized by a Roman road, so we may here assume a pre-Roman date. Perhaps it represents one of the early territorial boundaries of the expanding Catuvelauni or some lesser tribe. As we shall show elsewhere there is good reason to believe that this dyke is an extension of the Chiltern Grim's Ditch, especially since it compares favourably in dimensions, structure and situation.

We have seen that one of the hollow-ways is overlaid by a Roman road. This suggests that these trackways began life before the Roman Conquest. The hollow-ways provide direct routes from the settlements (S1 and S2) to the springs on the north-west of the hill.<sup>5</sup> That they were still in use a hundred years ago shows that they were well sited and provided the only route to an available water supply for cattle until modern pipelines were laid. We would hazard a guess that these hollow-ways belong to the late Iron Age.

We have suggested that some of the field boundaries are of very early date; some may belong to the Iron Age, although the traces that we can see today more probably belong to the Middle Ages. Documentary evidence suggests that there was a small hamlet at Little Barley End which had fallen into disuse by the time the first Ordnance Survey Map was made, although tracks still ran up to it. All these features have left their marks alongside the earlier ones, and today only the spade can unravel the palimpsest that is Pitstone Hill.

<sup>5</sup> The springs are now some distance from the foot of the hill due to a fall in the water-table caused by quarrying.

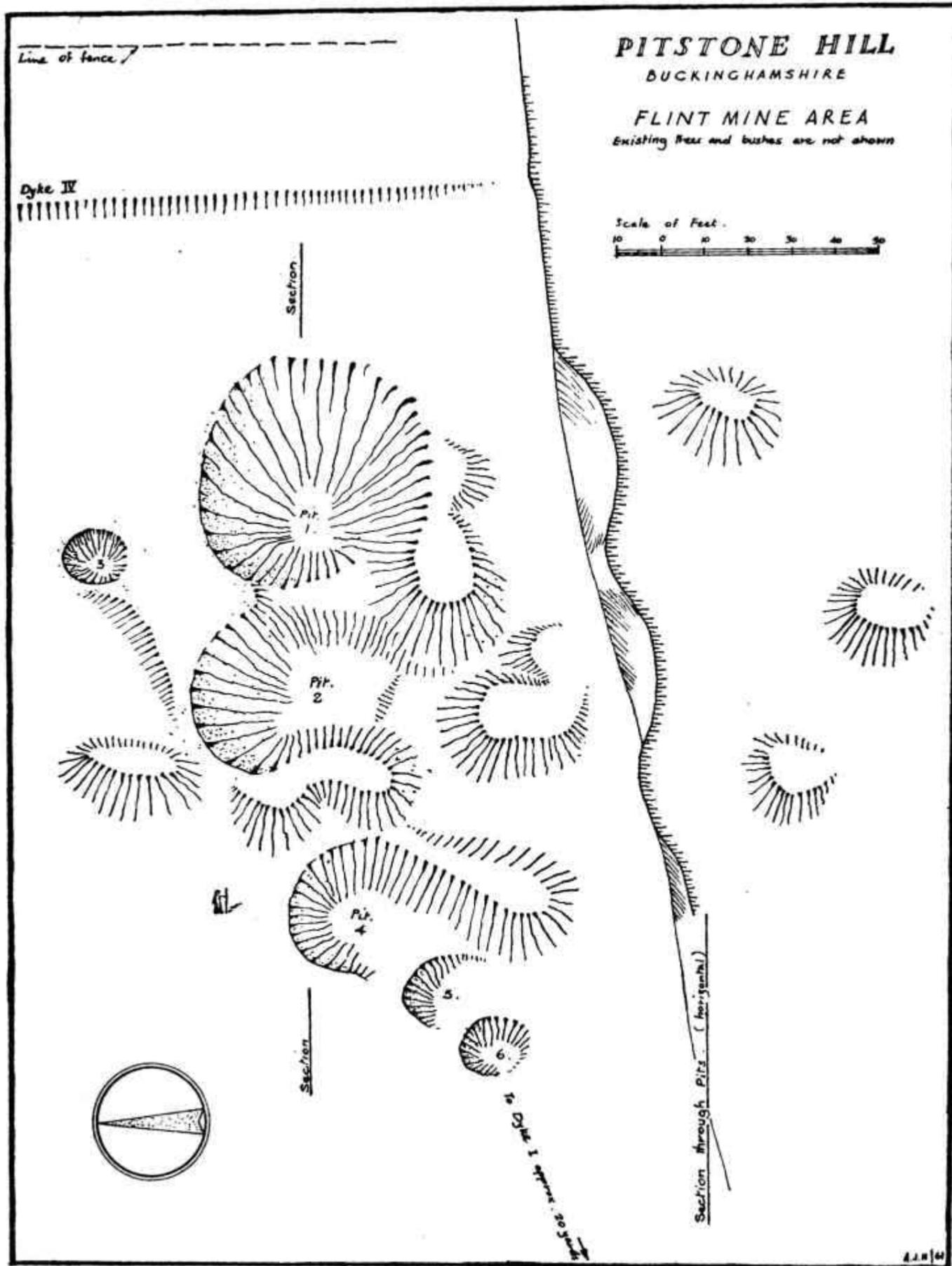


FIG. 4. Plan of the flint-mines on Pitstone Hill.

#### ACKNOWLEDGMENTS

Our greatest debt is to Mr. R. W. Bagshawe for drawing our attention to the sites here described, and for providing the excellent ground photographs of them. Clive Hart, Peter Welburn and Mr. and Mrs. G. Morgan all helped at various times with the survey work. Mrs. M. Aylwin Cotton, F.S.A., has visited and discussed the sites with the writers and has at all times been a constant source of help and advice.