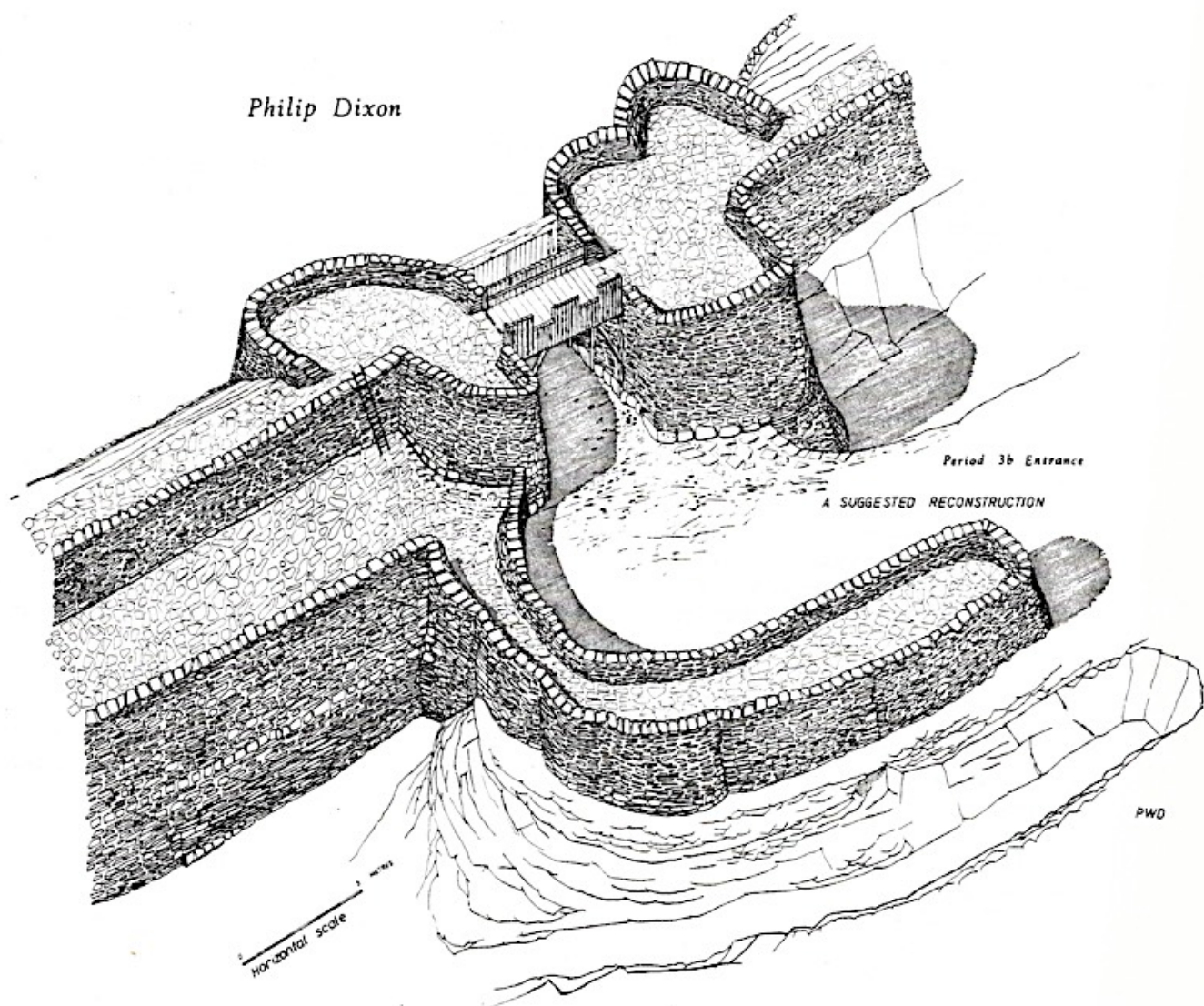


CRICKLEY HILL, GLOS.

EXCAVATIONS 1969-70

Philip Dixon



CRICKLEY HILL 1970.

The second season of excavations at the hillfort of Crickley Hill continued the uncovering of the entrance begun in 1969. The work was again made possible by the generous support of the Gloucestershire College of Art in Cheltenham, and we owe our thanks to County Councillor Tom Morris, the owner of the land, for permission to excavate. Muir-Hill, Ltd., of Gloucester, lessees of the Crickley quarry, kindly allowed us access through it to the fort. Nearly one hundred volunteers helped with the digging and I am particularly grateful to them and to the site supervisors without whom the season of excavation could not have been completed.

Without the help in various ways of many local and national firms the work would not have been possible: we are glad to thank them here. They are listed immediately following the main text.

The present report, in advance of formal publication, briefly summarizes the results of two years digging; discoveries made in 1969 are included in this account, but the 1969 report should be consulted for further details. A report on 9 soil samples has been made by J. Warner Haldane: figure 2 should be consulted for the location of the cuttings and soil samples, and for other features not shown on the period plans.

The fort stands at about 800' above sea level at the edge of the Cotswold Scarp (SO 927161; see fig. 1). Two ramparts about 120 metres apart run almost from North to South between cliff edges, which in their present form at least are due to relatively modern quarrying. The inner rampart is difficult to follow on the ground, although it shows up well on air photographs, but the outer rampart stands to about 3 metres above ground level, and is at the moment assumed to be an extension to an earlier fort. Excavation in 1969 and 1970 was confined to the area of the ancient entrance at the North end of the outer rampart, where the structures uncovered fall into four main periods of construction.

Period 1. Pre-rampart occupation

Definite structures of this period were found only in Cutting IV (for plan see 1969 Report, fig. 4). The evidence suggests that they were divided into three building phases. Period 1a was represented by 4 shallow postholes (30-2, 39) apparently forming an angle; they were partially filled with unburnt wood, and were sealed by a thin layer of silt. In Period 1b a layer of flat stones was laid, perhaps as a wall footing, to form a similar angle 1m further West. The stones, and the bedrock inside the angle, were burnt bright red. After the burning a layer of stones (Period 1c) was laid across p.h.31 up to the burnt wall of Period 1b. A drain (29) to the South of the Period 1 structures, was sealed by the thin layer of silt which ran below the 1b walls, and so was connected with the Period 1a postholes.

Six other postholes may belong to the first period. Stratigraphically they antedate the hornwork and the 'counterscarp' of Period 3b, and may belong either to Period 1 or to Period 2: they are shown on the Period 2 plan (see fig. 3 p.h.s 1,8,38,40,50 and 68). 50 and 68 could be survivors from a fence on the outer lip of the Period 2 ditch - in other parts of the excavated area this lip was removed in Period 3b. The other four postholes were well beyond the ditch edge in Period 2 and predated the Period 3b bank which lay above them (see fig. 7, Cutting I, East end). They may thus belong to a prerampart structure. The function of all these Period 1 structures is uncertain, but it is plausible to see those in Cutting IV as the remains of three successive huts, the last of which was demolished in order to build the rampart, and the debris spread across the cutting. Although Period 1 has been characterized as 'Pre-rampart' it is, of course, possible that it corresponds to the occupation of the inner rampart, and its structures represent a suburb to the older fort.

Period 2. The First Rampart

The plan of the features of this period is shown in fig. 3. The rampart consisted of a front and rear wall from 550 to 750 cms apart; the intervening space was filled with limestone rubble whose highest point is now about 2m. above bedrock. The structure was strengthened by a lacing of timbers which tied into the rear wall but which could not be traced within 50 cms of the front wall; this may, therefore, not have been tied into the timber strapping. In cuttings I, III, and IV the lacing was chiefly of timber of c. 10 cms scantling; in Cutting IX the timbers formed a raft of small branches and brushwood. The lacing was supported by vertical timbers resting in post-holes. These formed two parallel rows of posts averaging 230 cms between centres; in fig. 3 the rear line is represented by p.h.s 33, 9, 59, 34, and 36, and the front line by p.h.s 71, 22, 21, 35, and 37. Beyond a berm which varied in width from 50 to 175 cms lay a ditch which was about 2m. deep and measured 750 cms from lip to lip in its preserved section: in other areas its outer edge had been quarried away for building material in Period 3b (see fig. 5). A causeway between the ends of the ditch led to the entrance.

The entrance lay between two large postholes (6b and 10) separated by a shallow slot which may have been a sill beam. Troughs cut c. 40 cms deep in the bedrock and recessed for postholes (73, 72; 20, 11; 74; and 16,17,23,24) were interpreted as palisade trenches for a revetment to the entrance passage. The trenches themselves presumably held sleeper beams tied to the feet of vertical timbers in the postholes; the approximate shape of the posts is hatched on the plan (fig. 5). P.h.s 6b and 10 have been shown as triple postholes: the evidence for this is the trefoil shape of the bottom of the holes; perhaps the centre pair of posts supported the gate and the outer pairs held up a gallery above the gate. A surviving portion of the front wall to the north of the entrance aligned with p.h.72; on the South side all traces of the wall had been removed by the 3b structures, but it may be assumed that it aligned with p.h.74. The outer end of the South

East palisade trench lay below a 3b structure which was not removed, but perhaps contained a posthole corresponding to p.h.73 in the North East palisade trench. The rear walls of the rampart had been removed in the immediate vicinity of the entrance passage during Period 3b, but the surviving lengths aligned with the West end of the inner palisade trenches, leaving p.h.s 25 and 27 behind the entrance passage. These two post-holes were backed by shallow p.h.s 26 and 28, and may be regarded as supports for a rear gate held up by diagonal braces, and presumably joined to the palisades by a fence. It is interesting to note that in the four postholes (6b, 10, 25, and 27) which are interpreted as gate posts, and in these alone, skulls of animals had been deposited.

The entrance would therefore be reconstructed as a short open passage as far as the bridge and first gate (p.h.s 6b and 10), and beyond these a box, closed by the rear gate and over-looked by the ends of the rampart, sealed off any who penetrated the first line of defence.

In all the excavated areas the first rampart had been burnt; the limestone rubble core had been reduced to quicklime and slaked to a pale yellow concretion. Only the lowest horizontal timbers survived the burning, as charcoal. The uprights were preserved as unburnt timber in the postholes; above this they had been turned to charcoal to a height of c.50 cms, and higher still were represented by hard white limestone streaks in the burnt core (shown in fig. 7 Cutting I, and in detail in 1969 Report, fig. 2). Horizontal streaks in the core were presumably traces of upper layers of timber-lacing.

A low bank of unburnt material was uncovered on each side of the entrance passage, parallel to the inner palisade trenches. These banks were sealed by burnt limestone and interrupted the pattern of timber-lacing; they may have formed marking-out banks of turf and ragstone erected during the first stage of construction of the rampart. The timber-lacing was subsequently built around and above them, and thus they were unaffected by the burning.

Tests were carried out in 1970 on a model length of reconstructed rampart. A brushwood fire of considerable size was lit behind this rampart, but it proved impossible to reduce to quicklime more than a small fraction of the rampart core. A stronger wind would have proved useful, but the experiment suggested that the Crickley rampart was unlikely to have been burned so thoroughly by an accidental brushfire or during an assault; a deliberate slighting of the defences appears the most plausible solution.

Period 3a. Rebuilding

After a period in which silt from the burnt limestone built up over the ruins of the front and rear walls (see Soil Sample 4, below), the rampart was reconstructed (see fig. 4). The front wall was rebuilt upon the old footings, and incorporated many re-used stones,

burnt during the destruction at the end of Period 2. This wall survived to a maximum height of 2.7 m, and the space between its upper parts and the eroded lens of the old rampart core was filled with a packing of small stones. The rear wall of the rampart was rebuilt, either in this period or in the subsequent 3b: in fig. 4 the rear of the rampart is shown unrebuilt, on the hypothesis that in Period 3a the front wall alone was erected, and that the rampart was allowed to slope towards the interior of the fort.

Only two postholes, 6c and 10a, probably gateposts, may certainly be attributed to Period 3a. They were cut into the debris of Period 2 and were overlain by Period 3b structures. In the 1969 Report, p.3, p.h. 14 was interpreted as belonging to Period 3a; further work on this area in 1970 has shown that the Period 3b wall did not extend across the top of this posthole, but was recessed around it. Similarly p.h.s 62-6 were cut into the debris infill of the outer palisade trenches and the posts were held in slots in the 3b wall (see fig. 5). It remains an open question, however, whether these postholes were first cut in Period 3b or in Period 3a: it seems likely that Period 3a was quickly followed by Period 3b (the front wall was unweathered before its replacement in 3b) and it is possible that the structures of 3a were temporary measures whose replacement was planned from the first. In strict sequence the Period 3b walls were built around the posts in p.h.s 14, 62-6, and the posts may therefore have survived from Period 3a. A comparison with fig. 4 indicates that the awkwardness of their siting in the 3b walls may thus be explained, and they align more readily with the gateposts of Period 3a.

Period 3b. The Second Rampart

The entrance was rebuilt in three stages.

1. Immediately to the South of the entrance passage the Period 3a wall was partially demolished, and a roughly semi-circular solid bastion was built partially standing over the end of the Period 2 ditch. A similarly irregular bastion was built over the ruins of the Period 2 front wall on the North side of the entrance passage. Both bastions rested upon huge weathered boulders, which, to judge from the erosion, had been re-used; their purpose was to carry the bastion walls across the unstable ditch infill. At the inner end of the entrance passage the bastion walls ran in a series of curves to the line of the rear wall of the rampart. The gate probably hung on a post in p.h.6a, swinging against a post in p.h.12. The posts in p.h.s 14,62-6, whether or not survivors from the previous period, formed a sort of half-timbering against the bastions, and perhaps served to carry a bridge across the entrance passage. Such a bridge would usefully extend the wallwalk from the ramparts across the entrance but would perhaps shield any attacker who managed to get close to the gate. Against p.h.65 in the North bastion a large, shaped stone 35 cms high stood in a slight recess. The exposed edges of this

stone had been polished by abrasion; its purpose, mounting-block, seat, or even basis for a ladder, is quite uncertain.

2. In the second stage of rebuilding the entrance was defended by a curving hornwork with its own ditch. Like the walls of the bastions the outer wall of the hornwork ran in a series of curves. Where the hornwork crossed the Period 2 ditch it was preserved to a height of 3.5 metres, and in its lowest courses it incorporated burnt material from the Period 2 rampart, which was presumably salvaged from the bottom of the ditch. The hornwork joined the South bastion with an unbonded joint.

The outer end of the hornwork passage has not yet been investigated. Surface indications suggest that the re-used Period 2 ditch ran up to the North side of the North bastion, a little to the South of the end of the hornwork: thus the approach road to the entrance passed between the wall of the hornwork and the edge of the ditch; the space within the hornwork would be commanded in front by the bastions and the presumed breastwork across the gate, and from the rear by the inner side of the hornwork.

3. In the third stage of rebuilding a wall which still survived to a height of 3.3 metres was built torevet the inner edge of the Period 2 ditch. The space between this wall and the Period 3a wall was filled with a packing of unburnt stones, quarried from the outer edge of the old ditch, now extended to a width of 12 metres. Whether the revetment wall entirely replaced the 3a wall as a breastwork or not is uncertain; it is possible that the rampart was stepped, with the 3a wall rising above the 3b revetment to form a second and impressive tier to the defences. At any rate the revetment wall in the ditch, even in its ruined state, was a formidable obstacle. The presence of this revetment wall has given a characteristically flattened profile to the rampart in the entrance area. About 60 metres to the South of the entrance the profile of the rampart steepens considerably, and it is therefore possible that the revetment was a localized arrangement in the region of the entrance.

In Cutting I a second revetment wall was uncovered against the first (1969 Report p.2, walls 2 and 2a; wall visible *ibid.* fig. 2). In 1970 the face of the 3b wall was not demolished and so no conclusive evidence was obtained about the method of building. Much of the filling, however, was excavated, and this suggested that the revetment wall was built, in the first instance, about 1 metre closer to the inner lip of the ditch: after a wall 1 metre high had been built and packed with stones and earth, a second line of walling was begun outside the footings of the first, resting on a packing of earth and small stones that may have been spillage from the infill of the first wall, which in Cutting I rested upon the rock of the ditch. Above a height of about 1 metre the two walls were bonded and built as one, and it is plausible that the revetment wall in Cuttings VIII and V

was the continuation not of Cutting I wall 2 but of wall 2a. Whatever the reason for this apparent change of plan the thickened revetment wall served to buttress the hornwork at an unstable point where it crossed the centre of the old ditch.

A low bank lay outside the recut ditch, and can be traced intermittently across the hill. A short length in Cutting I was available for excavation, and proved to be made up of earth and small stones (see fig. 7, Cutting I). Postholes in this area antedated the counterscarp bank, which had no traces of any structure and may perhaps represent merely the topsoil and small ragstone removed by the workers quarrying the ditch extension in Period 3b.

Both the hornwork and the revetment had been constructed in short lengths. Three main joints were uncovered, two in the hornwork, and one in the revetment in Cutting I. These breaks were clearly distinguishable in the differing materials and methods used on either side of them, but were roughly bonded together, and were presumably the limits of units of work of the construction gangs.

Period 3b lasted long enough for traffic to wear smooth two layers of cobbling in the entrance. The period was ended by a burning of the entrance area: a thick layer of charcoal overlay the roadway, and the walls of the bastions had been reddened by fire. Little structural timber had been used in 3b, but localized burning and charcoal in the hornwork showed that this part too of the defences had been fired.

Period 4.

The entrance was never rebuilt, and the fort was abandoned. The Period 4 occupation was intermittent and may have amounted to no more than the use of the site for shelter. It is clear that some of the walls were standing during the Roman period, for sandal nails and a sherd of Samian were stratified by the collapse of the South bastion and the hornwork, and the rear wall of the rampart in Cutting IX was rebuilt, perhaps as a shelter, sealing another sherd of Samian below its foundations, (see fig. 6). Indeed, one part of the hornwork may have stood considerably longer, for it sealed a glazed sherd which appears to be late medieval. Two areas of Period 4 occupation debris are of interest.

1. In the entrance passage and around the South bastion a thick area of domestic refuse overlay the charcoal from the burnt entrance (see 1969 Report, pp.3, 5, and below, Soil Sample 6). The West face of the South bastion was heavily burnt, and the discovery of two clay crucibles standing in cracks in the bastion wall suggests that working of some copper alloy was carried out in the entrance.
2. The sediment in the recut Period 3b ditch preserved a stratified deposit of potsherds (Cutting VII, layers 9a-f). The sediment was light brown in colour, but the soil analysis suggests that it represented a series of occupation levels (Soil Samples 2 and 3)

in the protection of the re-entrant angle of the hornwork. Feature 66a, a small patch of heavy burning, was probably a hearth associated with Cutting VII layer 9f (Soil Sample 3). The layers 9a-d were deposited after the collapse of the walls.

On the summit of the rampart two courses of stones formed a structure of uncertain purpose which stood above the ruins of the walls and sealed a Roman sherd in their footings.

Finds

The pottery uncovered in 1969 consisted largely of coarse body sherds; among the finds from levels deposited in Period 3b a rim with slightly carinated shoulders and thumbled decoration and a similar body sherd suggested a date early in the Iron Age. This view has been confirmed by the 1970 excavations. The pottery now includes hatched and zoned sherds and sherds with white inlay in the hatching; three pots with T-rim are represented, and the whole body of pottery may be placed at the beginning of the Iron Age. Most of the sherds come from the infill of the hornwork and of the revetment wall, and from the layers deposited in the recut ditch - all, that is, from the 3b Period. Most of them, however, are small and may represent earlier midden material used in the construction of the 3b defences. But it should be noted that no demonstrably later sherds have yet been discovered.

Future Work

The first two seasons have established the plan and phasing of the entrance. In 1971 we plan to move into the interior of the fort, and to examine a portion of the eroded inner rampart, in order to see whether it formed the defence for an earlier fort.

The success of the excavation depends on adequate financing. We should be most grateful for any contributions to supplement the generous help from the Gloucestershire College of Art and Design. Any donations should be made out to the Crickley Hill Excavation Fund, and sent to the Secretary of the Excavations, Mr. R. D. A. Savage, Gloucestershire College of Art and Design, Pittville, CHELTENHAM, GL52 3JG, from whom may be obtained further copies of these notes, price 25p (5/-), and copies of the preliminary notes on the 1969 season, price 15p (3/-).

Persons interested in taking part in future seasons of excavation in this series should get in touch with Mr. Savage at the address given (telephone Cheltenham 21612).

We would like to take this opportunity of expressing our gratitude to the local and other firms who have helped us in various ways, including Chelhire Ltd., its proprietor, Mr. E. E. Jasper, and Mr. John Kear, whose special skill as a JCB operator has relieved us of many worries; Office Overflow (Cheltenham) Ltd., printers of the illustrations to this and other papers issued by us; BP Chemicals (UK) Ltd., for their interest and advice in the problems of preserving calcified wood, and their provision of Epok V 750 PVA latex for the purpose; Sharpe and Fisher (Builders Merchants) Ltd.; Middleton Plastics Ltd.; J. Jones and Son (Cheltenham) Ltd.; Central Motors, Gloucester; H. K. Groves; A. C. Hands Ltd.; G. A. Willetts Ltd. All these have made our work considerably easier.

REPORT ON SOIL SAMPLES

by J. W. Haldane, B.Sc., M.Phil.

(Sample 1 came from the burnt limestone core of the Period 2 rampart; Samples 2 and 3 from the deposits in the recut ditch of period 3b - see above, Period 4, section 2. - Sample 4 came from material deposited between Periods 2 and 3a. Sample 5 came from deposits in a fault in the bedrock to the South of the entrance passage. Sample 6 came from the post-destruction occupation - see above, Period 4, section 1. P.W.D.)

All the samples, except numbers 4 and 5, were collected by the author during the course of the 1970 season of excavations at Crickley Hill, near Cheltenham, Gloucestershire.

A portion of each sample was subjected to the following tests:

Ignition in oxidising atmosphere - to determine iron.
Ignition in reducing atmosphere to determine organic matter.
Treatment with concentrated nitric acid, ammonium molybdate and ascorbic acid - to determine phosphates.
Treatment with dilute hydrochloric acid - to determine carbonates.
The above tests are only semi-quantitative.

A portion of each sample was moistened with distilled water and then tested with Universal Indicator paper to determine the acidity (pH).

Weighed amounts of samples 1 and 11 were dissolved in hydrochloric acid and then filtered. The acid insoluble residue, so obtained, was weighed and expressed as a percentage of the initial amount.

A further portion of each sample was washed in a fine meshed sieve (72 mesh/inch) and the dried residue was then examined under a microscope.

The results of the chemical tests and the microscopic examination are given in the accompanying table.

Sample 1 Cutting III layer 3

This very light yellow friable material had a chemical composition broadly similar to that of the Oolitic Limestone (Sample 11) which forms the local bedrock, except that it has a much higher phosphate concentration. It was also found that the rock had a lower concentration of acid insolubles. Like the natural rock, however, it was totally uncontaminated by evidence of habitation.

It would appear therefore that the material of Sample 1 is almost entirely derived from the local limestone. As the material is principally found in the immediate neighbourhood of charred beams within the limestone rubble of the rampart, it seems probable that the heat produced by the burning wood was sufficient to calcine the limestone. Thereafter, the action of rain and atmospheric carbon dioxide have produced the calcium carbonate of which sample 1 is almost exclusively composed.

Sample 2 Cutting VII layer 9d

This sample is similar in general content to the modern subsoil (Sample 9), except that it has a much higher phosphate content; a higher iron content and contains fragments of charcoal and bone.

The high phosphate content and the presence of charcoal and bone would suggest that this sample comes from an occupation layer. The high iron content, approaching that of the modern topsoil (Sample 10), and the presence of snail shells would suggest that layer 9d had been exposed to weathering for some time.

Sample 3 Cutting VII layer 9f

This sample is very similar to Sample 2. It has, however, a lower concentration of iron and organic matter and lacks snail shells. Unlike Sample 2, this sample contains fragments of burnt clay.

As in the case of Sample 2, this would appear to come from an occupation layer. However, unlike layer 9d, layer 9f would not appear to have been subjected to weathering for any appreciable period.

Sample 4 Cutting VIII layer 10

The sample would appear to contain too little iron to have been appreciably weathered. Layer 10 would therefore appear not to be a fossil land-surface. The iron is unlikely to have migrated under the alkaline conditions prevailing (pH 8.5).

Comparison with Sample 1 shows many similarities, which would suggest that sample 4 is a heavily contaminated variety of the calcium carbonate material previously encountered.

The contaminants are organic matter, charcoal, phosphates, bone and burnt clay fragments, which were no doubt included with the 'slaked lime' wash during its transport to its place of secondary deposition in layer 10.

Sample 5 Cutting II feature F70

Comparison between this sample and Sample 11, shows that they are chemically very similar, though the former contains much more organic matter; slightly more phosphate and more fragments of charcoal and bone. This material in F70 may be best described as a limestone breccia mixed with organic matter. The comparatively low phosphate content would seem to exclude the site of F70 from being an area of prolonged occupation.

Sample 6 Cutting III layer 12

This sample was taken from material which immediately overlays the most recent of the buried road surfaces, which pass through the entrance.

Unlike the modern topsoil (Sample 10), this material has a low iron content; a higher phosphate content; a higher alkalinity (pH 8.5); 'slaked lime' aggregates and fragments of bone and charcoal - the charcoal being very abundant. Like the modern topsoil, sample 6 has a high concentration of organic matter and contains snail shells.

These facts would suggest that layer 12 was a land surface upon which a considerable amount of domestic refuse was thrown, but which did not have the opportunity to weather. This would be consistent with layer 12 being part of the road surface, but not with it being a soil developed on the road surface after abandonment.

The high alkalinity (pH 8.5) appears to be anomalous when considered in comparison with the amount of carbonate. It is possible that the alkalinity is due to finely divided calcium carbonate deposited from descending solutions from the overlying limestone rubble, not readily detected by the method employed.

Sample 9 Quarry to NE of excavation

This sample of modern subsoil was taken for comparative purposes from a point where the subsoil was readily accessible and well developed. The topsoil sample was not taken from the same place as it was poorly developed and showed signs of interference.

Sample 10 Enclosure within inner rampart

This topsoil sample was taken from an area where the topsoil was well developed and where there was no sign of recent interference.

Sample 11 Quarry to NE of excavation

This is a sample of the bedrock upon which the site is situated. The rock is an oolitic limestone belonging to the Lower Inferior Colite of the Middle Jurassic and is of a type termed Pea Grit (Kellaway et al., 1948, 65). The sample was taken for comparison, principally with Sample 1.

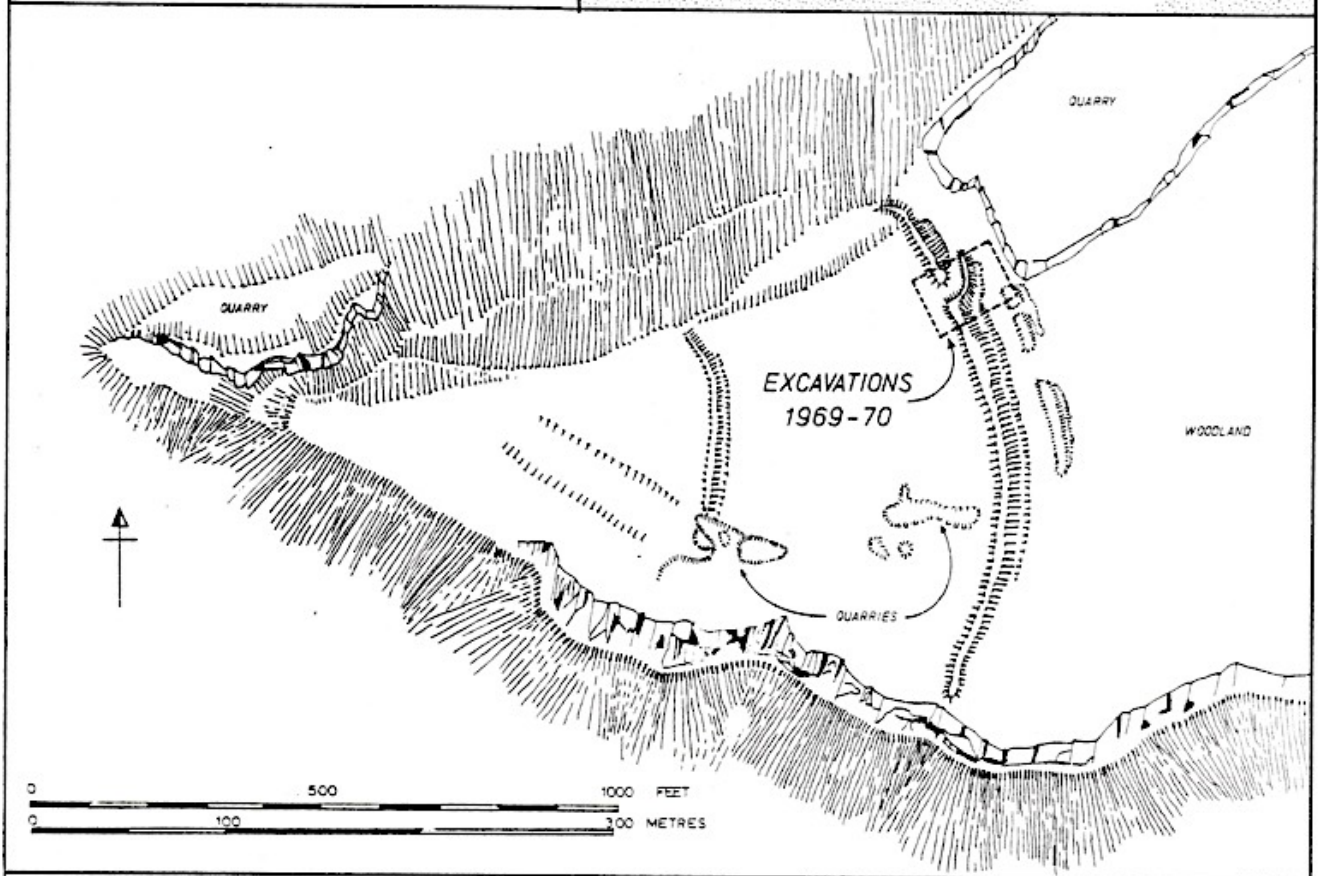
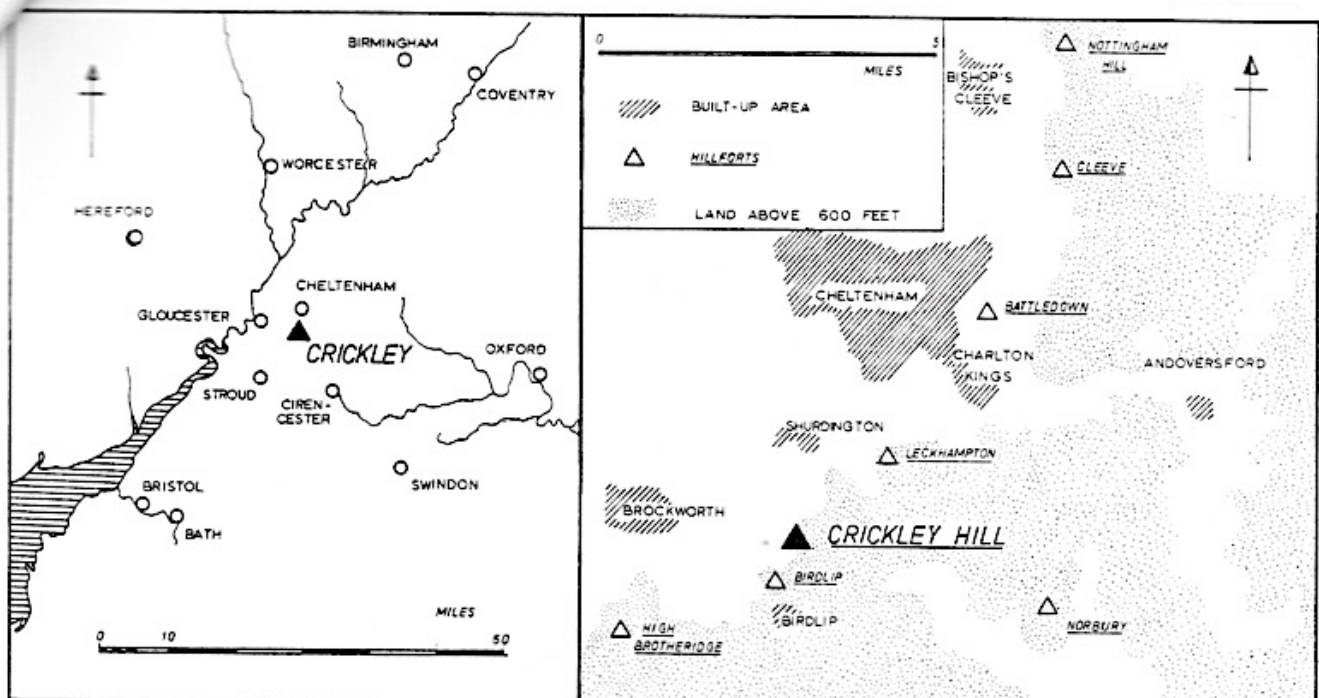
Reference

Kellaway, G.A. (1948) British Regional Geology, Bristol and Gloucester District. H.M.S.O.

SOIL SAMPLES FROM CRICKLEY HILL (GLOUCS.) 1970

Sample No.	Cutting	Layer	Colour	Matrix particle size	Iron	Organic mat.	Phosphate	Carbonate	Acidity (pH)	Limestone	Slaked lime	Rootlets	Charcoal	Bone	Burnt Clay	Snail Shells	Other
1	III	3	V. light yel/brown	Silt	L	L	IM	H	8.0	-	+	-	-	-	-	-	1.0% insols
2	VII	9d	Dark yel/brown	Silt	HM	H	H	H	7.5	+	-	-	+	+	-	+	
3	VII	9f	Med. yel/brown	Silt	M	M	H	H	7.5	+	-	-	+	+	+	-	
4	VIII	10	light yel/brown	Silt	LM	M	H	H	8.0	+	+	-	+	+	+	-	
5	II	F70	light yel/brown	Clay/Silt	L	M	LM	H	8.0	+	-	-	+	+	-	-	
6	III	12	Medium Grey/Bn	Silt	LM	HM	M	M	8.5	+	+	-	++	+	-	+	
9		Subsoil from quarry	Medium yel/brown	Silt	M	H	M	H	7.0	+	-	+	-	-	-	+	
10		Topsoil from enclosure	Dark brown	Humic silt	H	H	L	L	7.0	+	-	+	-	-	-	+	
11		Oolitic limestone from quarry	V. light yellow	Rock	L	L	L	H	8.0	+	-	-	-	-	-	-	0.4% insols.

H = high; M = medium; L = low; + = present; - = absent.



CRICKLEY HILL - Location

PWD

Fig. 1

CH 69-70

I NUMBER OF CUTTING

① NUMBER OF SOIL SAMPLE

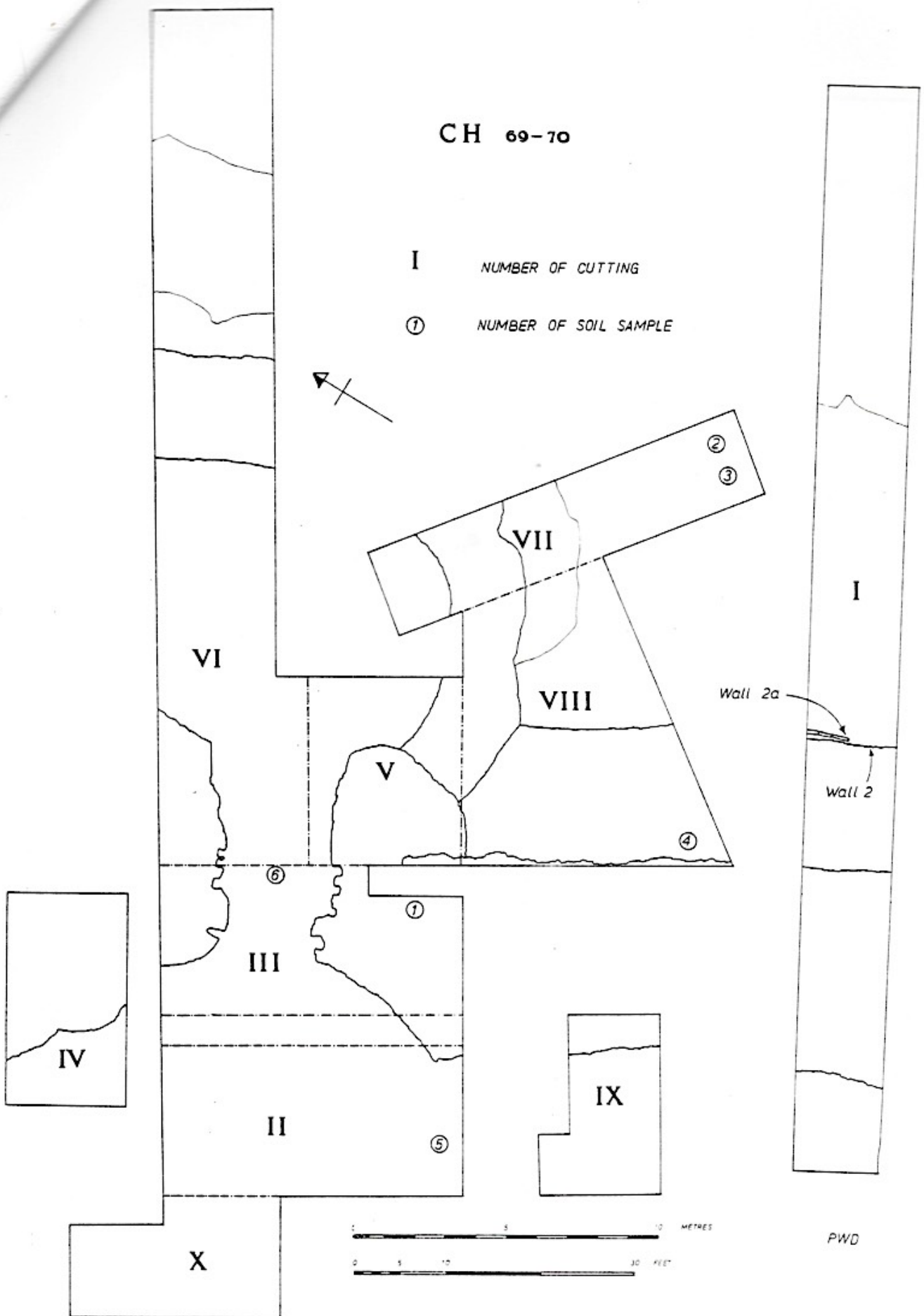


FIG. 2

THE ENTRANCE

Period 2

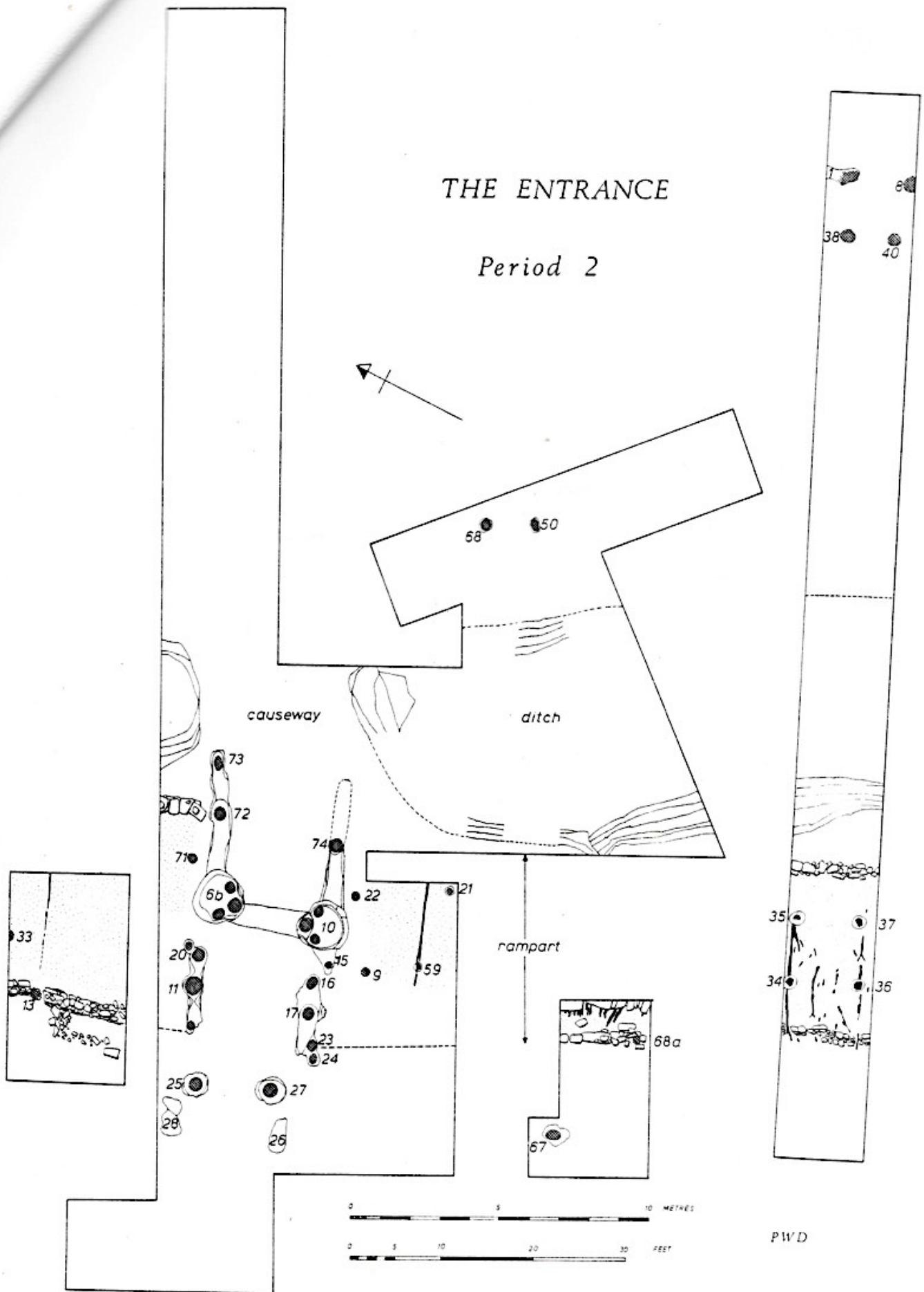


Fig. 3

THE ENTRANCE

Period 3a

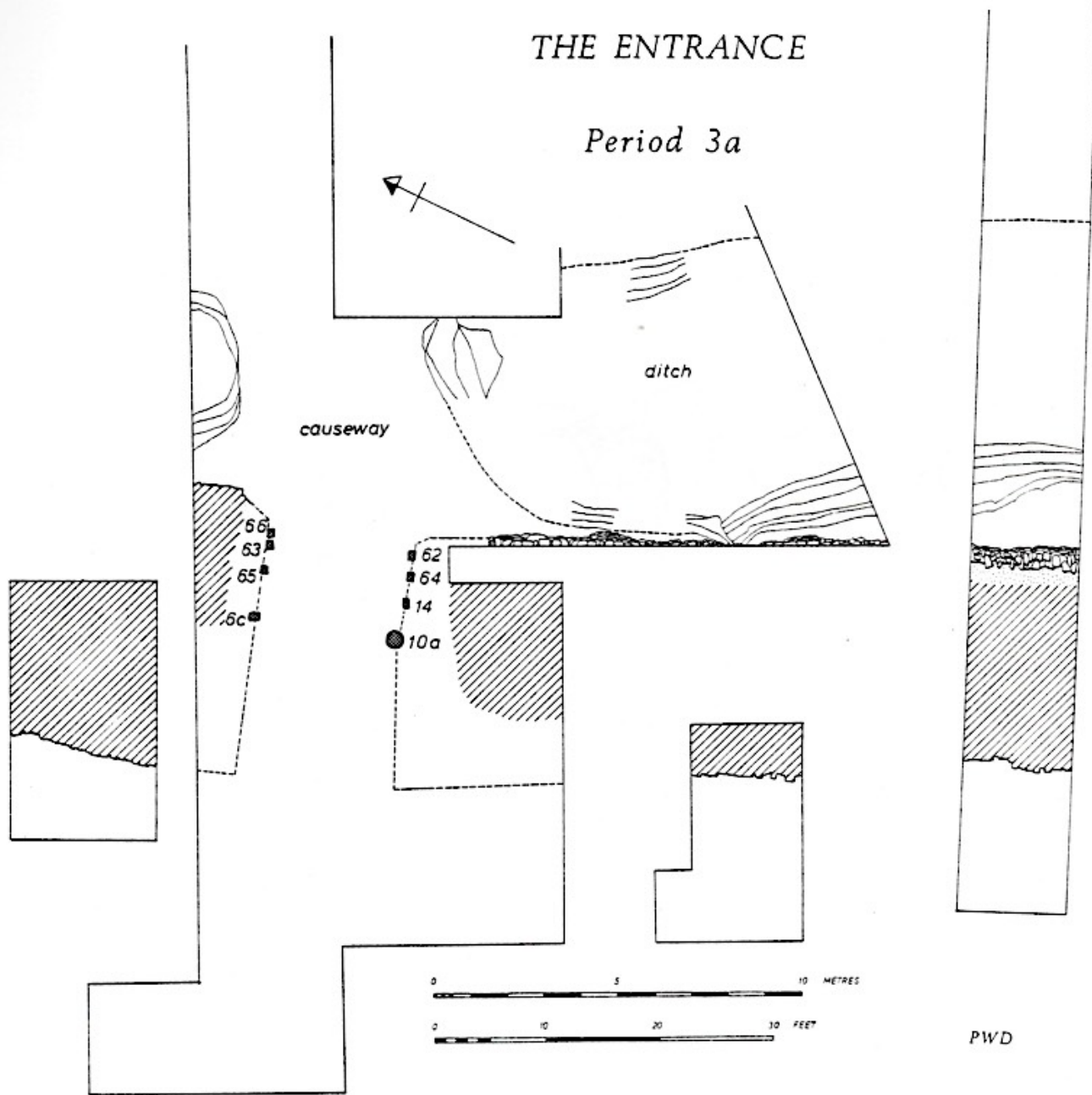


Fig. 4

THE ENTRANCE

Period 3b

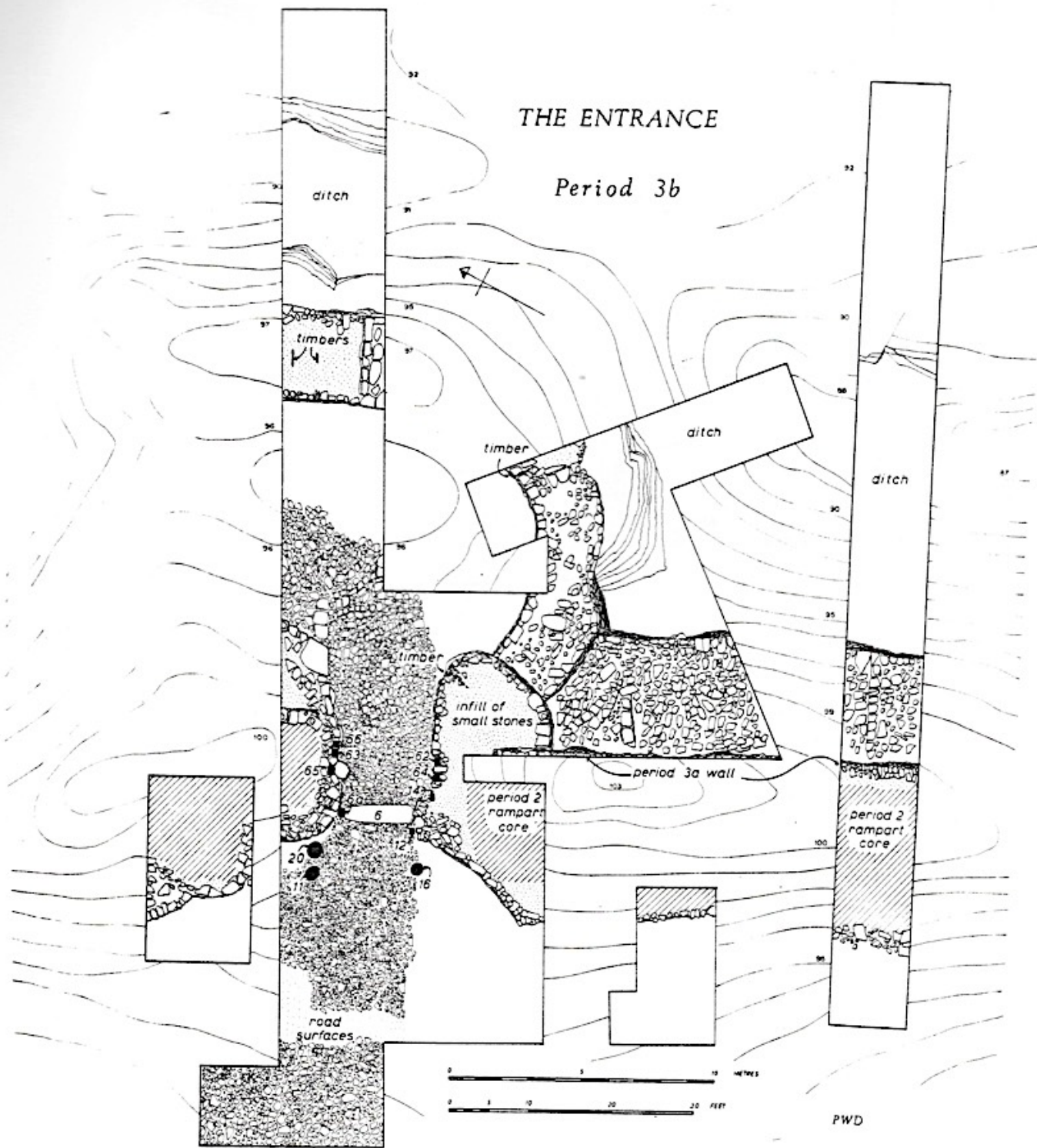


Fig 5

THE ENTRANCE

Period 4

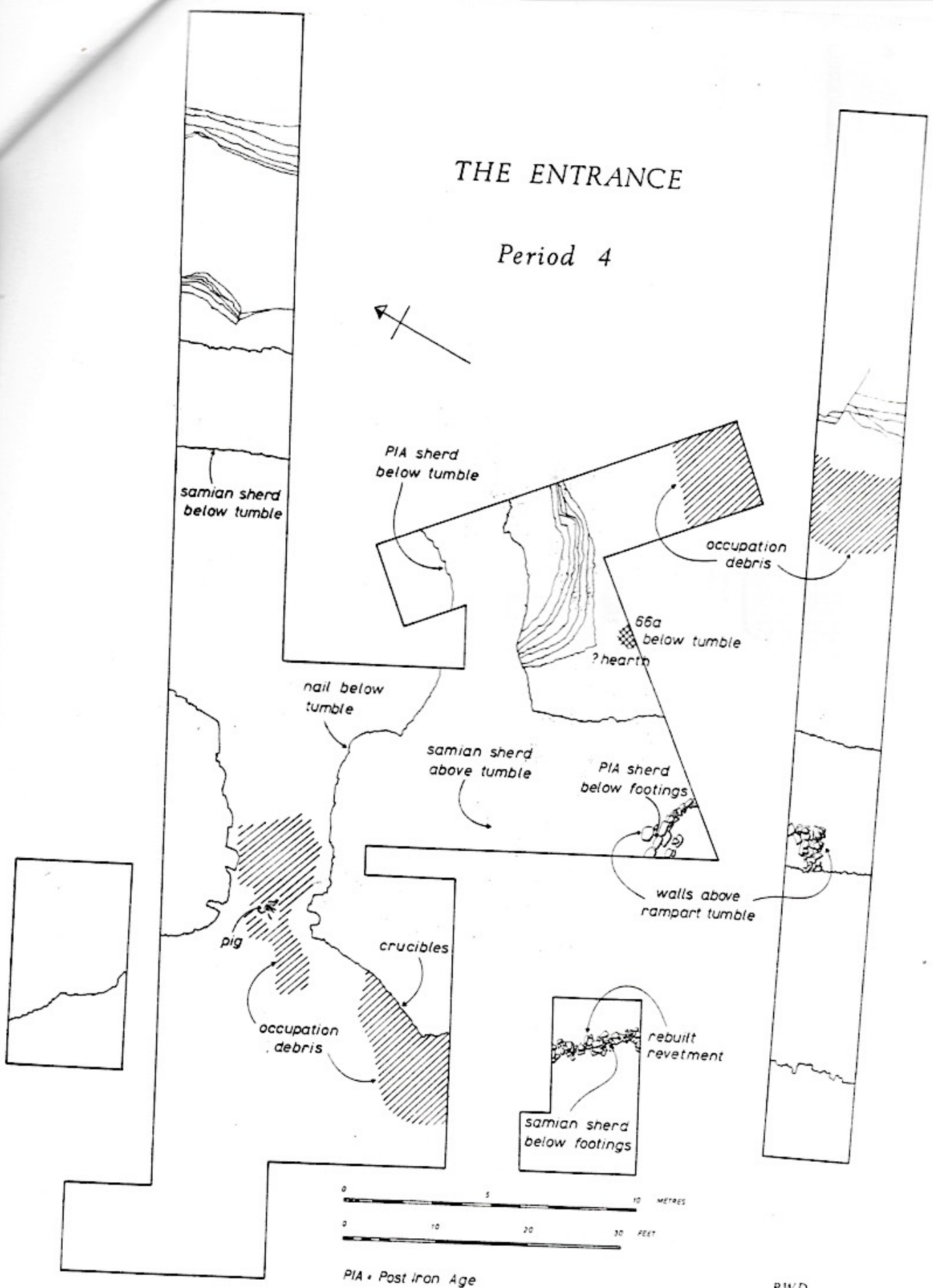


Fig. 6

