HOLNE MOOR, DARTMOOR, DEVONSHIRE

A Landscape Survey by the Royal Commission on the Historical Monuments of England

Request Survey

May 1997

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Holne Moor, Dartmoor, Devon: A landscape survey by the Royal Commission on the Historical Monuments of England

By S Probert & P Newman

Summary

Holne Moor is a well-preserved multi-period landscape illustrative of the development of the upland fringes of south-eastern Dartmoor from early prehistory to the present day. The survey of the upstanding remains portrays the varying perspectives in which these areas were viewed; as providers of pasture, a resource exploitation that continues to this day; as a supply of arable land at times of population or other social pressure; the source of attractive mineral deposits; a valued water catchment; a potential invasion ground and a military training area.

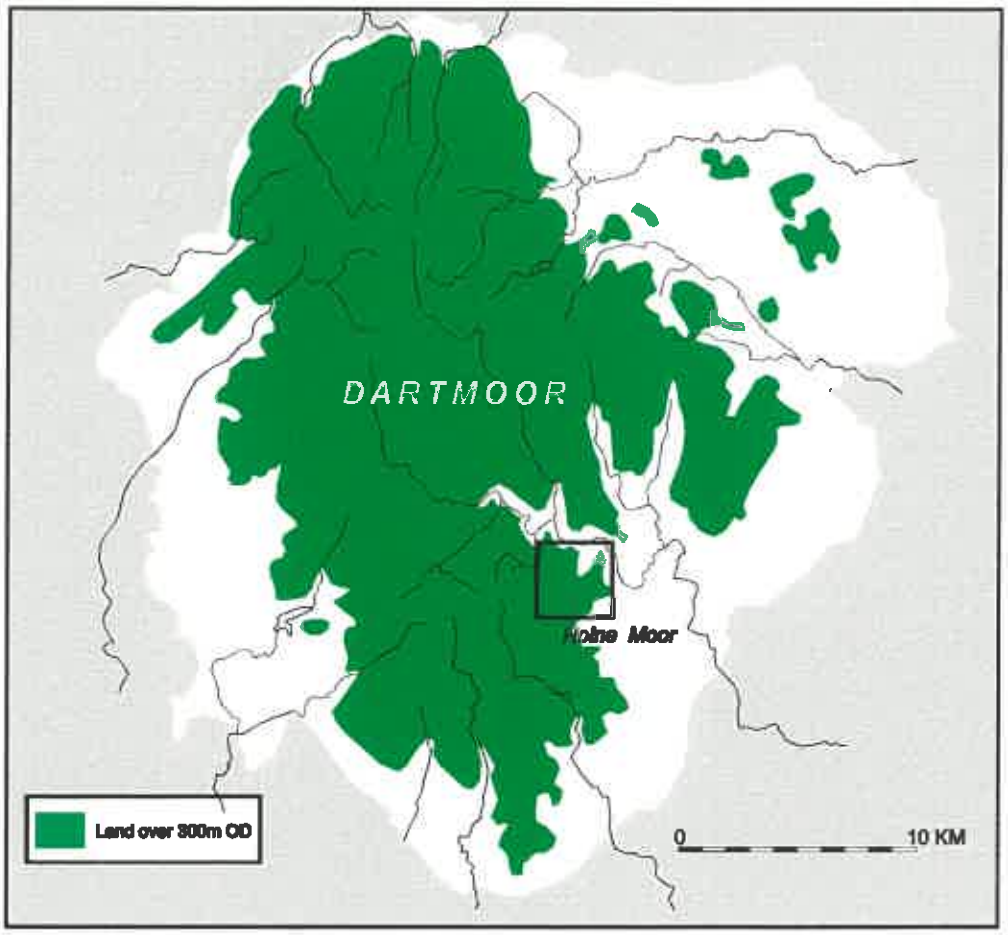

Fig. 1. Holne Moor. Location

LOCATION, GEOLOGY AND VEGETATION

Holne Moor lies on the south-eastern edge of the Dartmoor granite massif. It forms the western extremity of Holne Parish and lies entirely within the area administered by the Dartmoor National Park Authority (DNPA)(Fig 1). Covering an area of approximately 10.5 sq kms it occupies the highest and most remote parts of the parish. The western edge of the moor lies along the O Brook, the historic boundary of the former Royal Forest of Dartmoor, latterly part of Lydford Parish and now Dartmoor Forest Parish. From the O Brook the northern boundary of Holne Moor and parish follows the River Dart to Sharrah Pool Marsh, east of Bench Tor. Turning south at this point the moor edge follows the undulations of the enclosed land returning to the parish boundary at the head of the Holy Brook, west of Michelcombe. The Holne/Buckfastleigh parish boundary then follows the River Mardle

upstream to its source and continues west to Ryder's Hill. North of Ryder's a series of inscribed stones and rocks marks the Holne/Dartmoor Forest boundary across Holne Ridge to the head of Dry Lake before returning to the middle reaches of the O Brook. With the exception of the steep wooded slopes above the right bank of the Dart, Holne Moor is open country covered by a variety of heathland and moorland species. Though the slopes above the Dart are occupied by large boulder fields, surface stone is rarely to be seen over much of the moor. The topography is relatively simple, the largest part is occupied by a plateau above the Dart with the Mardle Valley and outlying ridges of the southern moors of Dartmoor to the south and south-west.

The ground rises sharply in the south-western part of Holne Moor as it ascends Ryder's Hill with another, smaller, plateau west of Holne Ridge. The north-western and southern boundaries of Holne Moor lie along watercourses while two other brooks, the Venford and the shorter Aller Brook, both tributaries of the Dart, run roughly south to north across the moor. The three branches of the Venford Brook now feed Venford Reservoir. South West Water own the watershed of the Venford Brook, which occupies approximately 2.75sq kms of Holne Moor and the reservoir, completed in 1907, serves Paignton. The remainder of the moor has been in the hands of the DNPA since 1969.

INTRODUCTION

Holne Moor has received international recognition as a result of Andrew Fleming's work on its middle Bronze Age field system, the Dartmeet Parallel Reave System, which has been described at length (Fleming 1988, 57-70). The vestiges of this feature, part of a much larger system covering 30 sq kms, occupy approximately 3.5 sq kms on the northern and eastern parts of Holne Moor. The reaves are however, only one element of the landscape. South of the reave system are a large number of funerary and ritual monuments and several prehistoric settlements.

Two deserted settlements, by inference late medieval in date, one adjacent to the Venford Brook the other on the sheltered flank above the Holy Brook, probably made use of the now abandoned fields and droveways belonging to this period and to later centuries which extend westwards from the current limit of cultivation. On the northern part of Holne Moor, these overlie the reaves. Elements of the medieval field system are described by Fleming and Ralph (1982, 101-137).

Earthworks associated with the tin industry can be seen on all parts of the study area, where every aspect of the extractive process from streamworking to deep shaft operations is represented.

Wartime activity is witnessed by the remains of a searchlight battery near the entrance to Middle Stoke Farm. A single, upright anti-glider post remains *in situ* on the eastern flank of the moor overlooking Gibby Combe and clusters of craters, probably caused by mortar shells, are visible chiefly on the western sector above the O Brook.

SURVEY AND METHODOLOGY

Holne Moor was surveyed during the spring and autumn of 1996 and the late winter of 1996/7 by the Exeter Office of The Royal Commission on the Historical Monuments of England (RCHME) (Figs 3-13). The survey was undertaken to provide management information for the majority landowner, the DNPA. The archaeological landscape was recorded at 1:2500 scale using a single frequency Leica GPS system. Survey and graphics information is held within a digital environment (AutoCAD).

This report provides an overview of the area; level 2 descriptions for each site are deposited in the National Monuments Record Centre, Kemble Drive, Swindon and are reproduced in Appendix I of this report.

PAST ARCHAEOLOGICAL WORK ON HOLNE MOOR

The work of Andrew Fleming in the late 1970's and 1980's highlighted the spectacular middle Bronze Age and medieval remains on Holne Moor. The entire parallel reave system was surveyed as were the medieval settlement and fields clustered around the Venford Reservoir. Several small excavations were also undertaken by Fleming (1988, 71-93).

A small booklet describing the archaeology of that part of Holne Moor within the field systems was produced jointly by Fleming and the DNPA.

In 1985 Holne Moor along with the rest of the Dartmoor National Park was the subject of a 1:10560 scale aerial sketch transcription by the RCHME APU. This serves as a level 1 rapid assessment document to assist fieldwork.

A further small scale aerial photographic transcription has recently been published (Butler 1993, map 60).

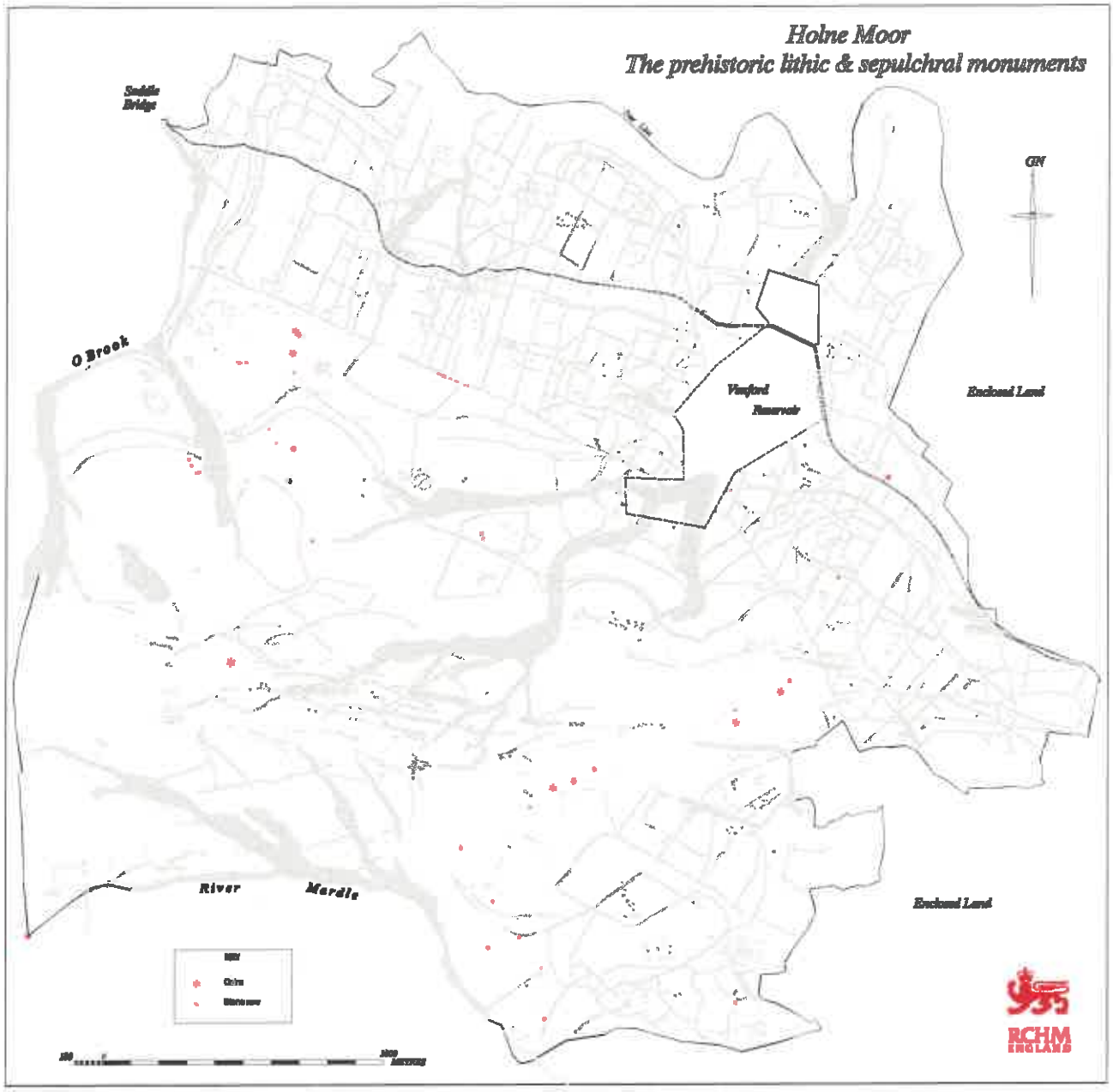

Fig. 2. Interpretation diagram highlighting elements of the prehistoric sepulchral and lithic monuments on Holne Moor.

Although Holne Moor has been subjected to an unusually high degree of archaeological activity many monument types, especially those relating to the tin industry, and some of the more remote corners of the area have been ignored by recent fieldworkers. A detailed large scale survey depicting all archaeological features remains necessary for management and as a basis for further research.

THE ARCHAEOLOGICAL LANDSCAPE

Prehistoric

In broad chronological and morphological terms the prehistoric landscape can be divided into four main elements:

The lithic monuments
The sepulchral monuments
The reave system and associated settlement
Non-reave settlement

The Lithic Monuments (Fig. 2)

The two features in this category represent one of the earliest monument types represented on Dartmoor. Fleming(1988, 95) dates the origin of this type of monument to around 2500BC with construction possibly continuing into the middle Bronze Age. The largest and most developed of these lies some 600m east of Horn's Cross. Here 59 stones at intervals of about 1.0m lie in three parallel lines set 1.0m apart oriented west to east above the head of the Aller Brook. The entire feature is approximately 150m long. The western

end of the rows was formerly marked by two upright stones, respectively 3.4m and 2.0m long, which now lie recumbent. Few of the others stand more than 0.2m above the present ground level. This is now one of the most insubstantial of approximately 70 stone rows on Dartmoor. However, despite its form it appears to have had a significant affect on the development of the prehistoric landscape on Holne Moor.

The second stone alignment lies 300m west-north-west of Horn's cross overlooking Horse Ford. The poor state of the ground remains preclude definitive identification but its location and current layout suggests that it is probably a stone row of sorts, allied to a cairn but seemingly unfinished: only four stones remain upright and one recumbent. There is no evidence of stone holes or partially buried stones to suggest the continuation of this feature and no trace of later stone gathering in the immediate area to account for its insubstantial nature.

The sepulchral monuments (Fig. 2)

Traditionally burial cairns on Dartmoor have been divided into two main categories summarised by Fleming (1988, 98) as:

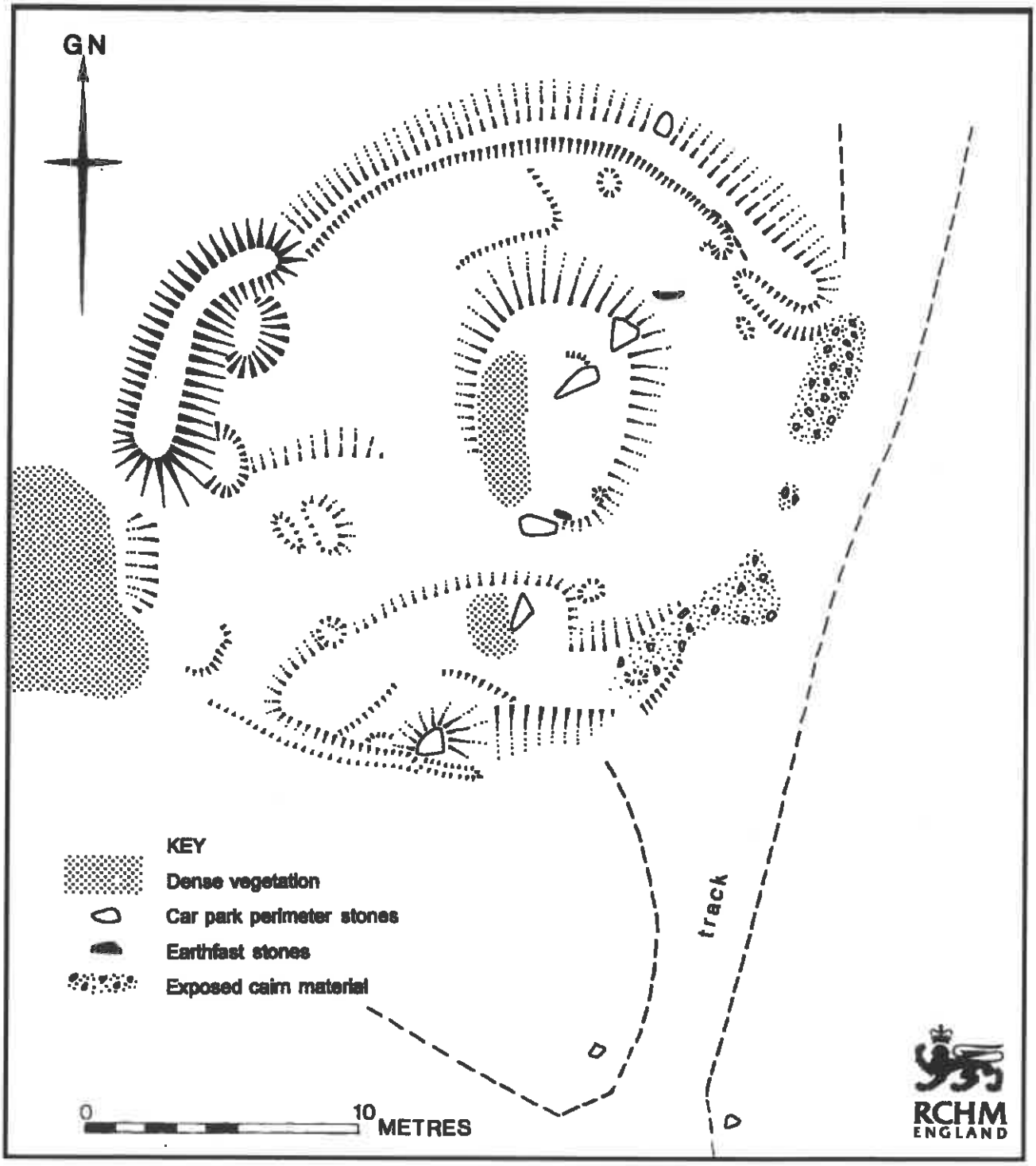

Fig. 3. A previously unrecorded ring-cairn, sited adjacent to the modern road at SX 69037067.

- Small elaborate cairns dating to around 2500BC and,
- Medium and large cairns dating broadly to 2000BC.

The evidence on Dartmoor suggest a third type which has long been recognised though apparently ignored by recent researchers, namely small, unembellished stoney mounds. The landscape evidence from Holne Moor suggests that they are roughly contemporary with or later than the medium and large cairns.

Small elaborate cairns

There are no true examples of this type on Holne Moor though a solitary cist with no trace of cairn material lies above the right bank of the Aller Brook. Another possible cist lies 70m west of Horn's Cross.

Medium and large cairns

This category contains several differing sub-categories, including ring cairns, large flat-topped mounds, the more traditional inverted bowl-shaped stoney mounds and at least one embanked cairn. Diameters of these features vary from 11m to 30m with some of the larger cairns standing 1.6m high. Without exception all these examples lie in three linear progressions, two along the major ridge crests descending north and north-east from Ryder's Hill and the third on the moderate west facing slope above the River Mardle. A total of seven monuments run roughly south to north across Holne Ridge in the direction of Combestone Tor, now terminating north of Horn's Cross.

Eight similar sites are aligned south-west to north-east across Holne Lee towards Bench Tor and six cairns form the Mardle alignment though one is slightly offset. There is no ground evidence to suggest that the line of cairns descending from Ryder's Hill to Horn's Cross formerly extended into the area occupied by the reave system though Crossing (referred to by Butler 1993, 194) recorded the destruction of a cairn in the vicinity of Combestone Tor car park. In contrast the two northernmost burial monuments of the Holne Lee alignment were enclosed by the reaves. It may be relevant that the reaves surrounding these monuments appear to have remained relatively undeveloped. The Mardle alignment follows a north-west to south-east course on a hillslope and does not come directly into contact with a parallel reave system. Most of these monuments possess a discreteness of form inconsistent with major topographical features. The ring cairns and flat-topped cairns are relatively low and are not visible from any great distance, even allowing for their ridge crest positions. Two of the larger bowl-shaped cairns, however, remain significant features in a landscape which is now almost completely devoid of trees and are identifiable from distances of several kilometres.

Small unembellished cairns

The dozen or so monuments in this category are small stoney mounds, often with a turf covering. The vast majority are found on the gently sloping north-facing hillsides south of the parallel reave system. They possess diameters in the range of 3.5 to 6.5m with an average height of around 0.7m. Many display signs of unsystematic excavations for which no record survives. It is possible, if not probable, that at least some of these cairns contain cists and kerbs though without ground evidence they must be included in this group. There is insufficient evidence to date these features but their rather random hillside locations and, more importantly, their tendency to avoid immediate juxtaposition with the larger cairns suggests they may be at least contemporary with or, perhaps more likely, later than these monuments.

The reave systems and associated settlement (Fig. 4)

The anatomy and social organisation of the Dartmeet parallel reave system has been discussed at length by Fleming (1988, 57-70) who has suggested a date of between 1700/1600BC for its inception and 1300/1200BC for its abandonment. The lithic element of the parallel reave system on Holne Moor is particularly well-developed and largely intact, though medieval and later agrarian activity has erased most traces of it from the extreme eastern edge of the surveyed area. There is no surface evidence to betray the presence of timber structures similar to those discovered during Fleming's excavations. Settlement is widespread and is characterised by dispersed clusters of huts and small fields, best preserved to the south-east and west of the reservoir. The terminal reave forming the southern edge of the Dartmeet system, the Venford Reave, runs south-east to north-west across Holne Lee on the eastern edge of the moor d turns sharply towards the west at the Venford

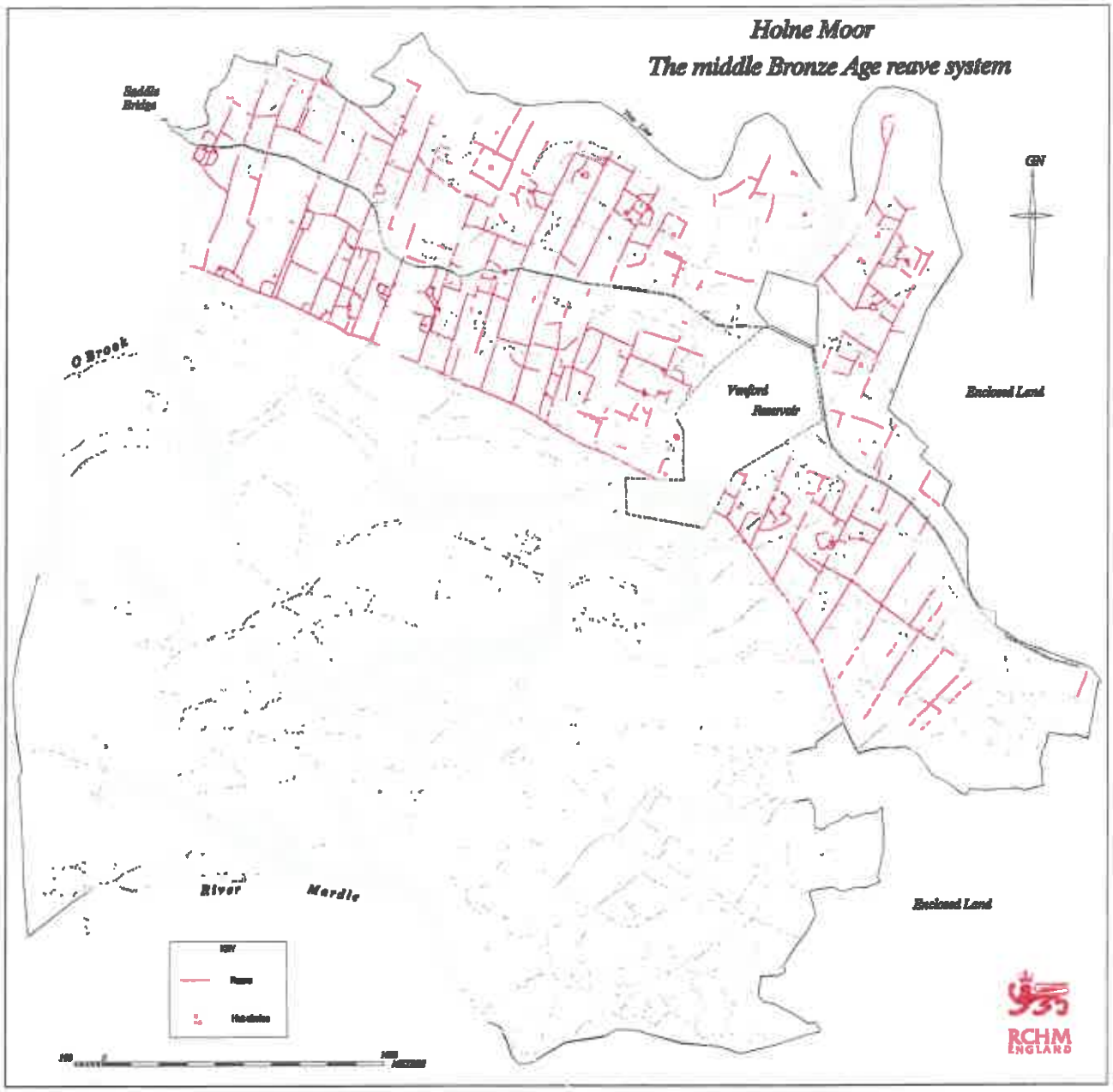

Fig. 4. Interpretation diagram highlighting elements of the MBA reave system on Holne Moor.

Brook. It pursues a straight line to the O Brook from where its course is assimilated into the head wall of Slade Newtake. The axial reaves leave the Venford Reave in a uniformly north-easterly direction at intervals of between 70m and 100m. The long rectangular enclosures so formed are broken down into smaller blocks by short cross or transverse reaves. Occasionally a transverse reave may break the course of the overall pattern with one or more of the axial reaves kinking or being staggered either side of it. The reaves themselves measure on average 1.2m wide and 0.5m high, with one exception, the Venford Reave, which is generally wider, at around 1.8m, and slightly higher. In several places, especially above the Aller Brook, cultivation has resulted in small negative lynchets immediately downslope from the reaves. There is no other ground evidence alluding to prehistoric ploughing as demonstrated by Fleming's excavations. The settlement clusters do not appear to adopt a uniform plan but are quite regularly positioned in the undisturbed part of the field system while the individual structures are characterised by several general features. The majority of the hut circles are large, with internal diameters in the range of 6.0m to 10.0m, they are well-built, often with double orthostatic walls and rubble infill. Entrances are usually well-defined by upright slabs or blocks, the interiors have been levelled either by terracing or cutting into the slope and measurements at right angles across the interiors suggests that they are very nearly circular. It is tempting to view the reave system as a static monument but what survives represents only the final lithic element of a dynamic landscape probably several hundred years in the making. As

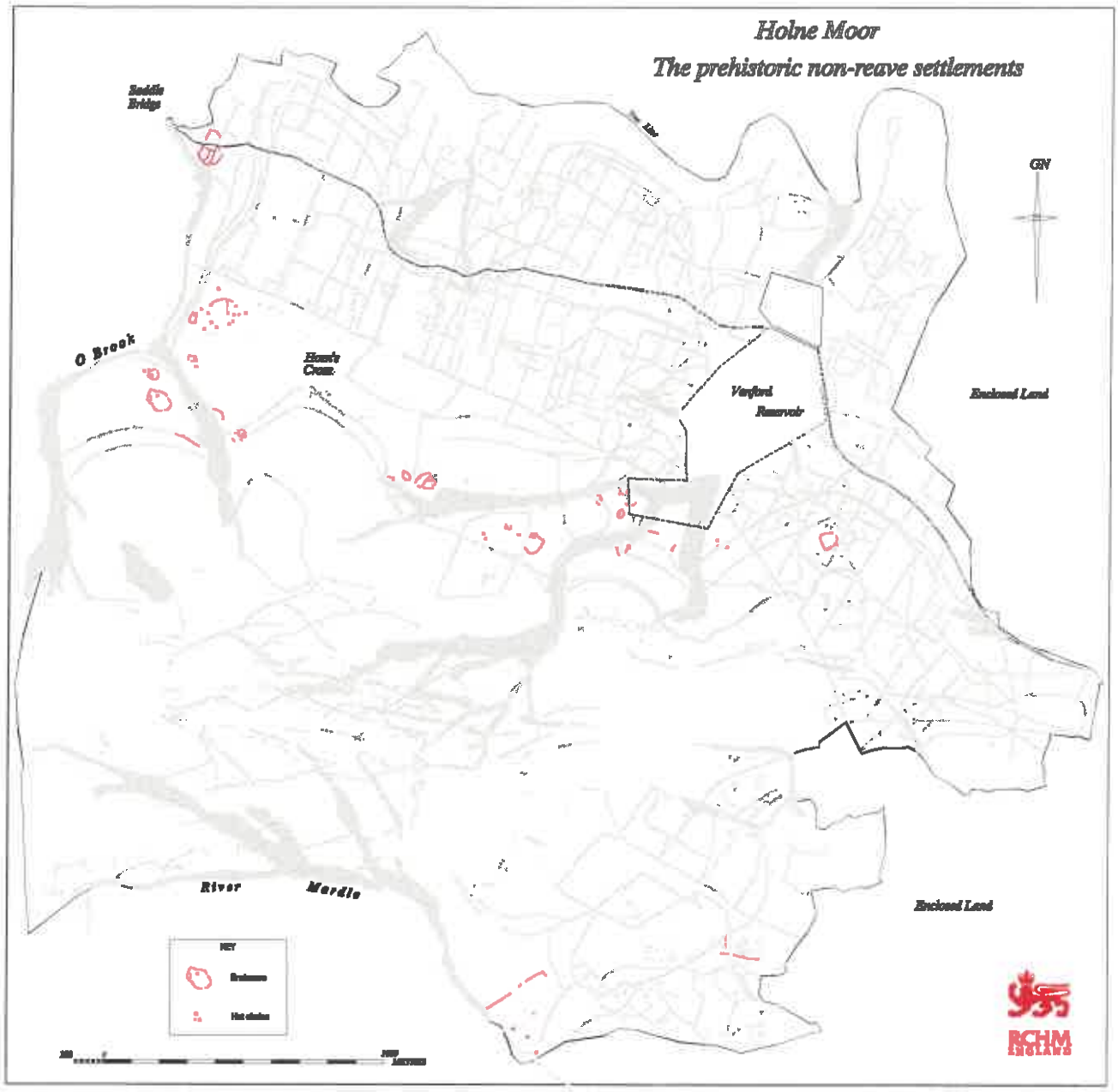

Fig. 5. Interpretation diagram highlighting elements of the prehistoric non-reave settlements on Holne Moor.

stated above that part of the Dartmeet parallel reave system on Holne Moor is particularly well-developed but to the west, across the O Brook, it becomes progressively less well-defined. The Venford Reave remains visible for some 4.5km to the west of Holne Moor but the essence of the system, the axial and transverse reaves, gradually peter out. Their absence does not appear to be the result of post-prehistoric stone removal but more likely represents the spare capacity within the system thus indicating the direction of expansion and underlining the dynamic nature of the remains.

Non-reave settlement (Fig. 5)

The morphology of these settlements is in an almost direct contrast to that within the reave system. The huts are almost without exception small, with internal diameters in the range 2.5m to 6m and poorly constructed with few possessing well-defined entrances. The interiors are not always level and, perhaps most significantly, few are actually circular. Two measurements across the interior of a hut may vary by as much as 30%. Not all the individual and clusters of huts forming this type of settlement possess associated fields; those fields that are present are characterised by a distinct lack of regularity. Huts within or adjacent to single sub-circular enclosures appear to be the most common type followed by unenclosed hut clusters and finally settlements with multiple enclosures. One settlement, technically within the latter category lies in the sheltered O Brook valley 100m upstream from Saddle Bridge.

Consisting of two large hut circles and several associated fields it conforms to elements of the parallel reave system though appears to overlie it. There are few precedents for relationships of this type on Dartmoor, Round Pound, north of Castor Rock perhaps being the closest example. If the analogy is followed then it would seem likely that this site dates to the Iron Age.

By definition sites in this category on Holne Moor should lie outside the reave system but there is evidence that at least one sub-circular enclosure has been incorporated into the reave pattern. Similar relationships have been recorded on the western edge of Riddon Ridge and at Shovel Down. Such correlations tempt the application of an early date for these sites but it would seem more likely that though these apparently unorganised settlements are earlier in origin their use continued until at least the initial setting out of the parallel reave systems. Indeed evidence from Shaugh Moor suggests occupation well into the 1st millennium BC. These site types have been interpreted by Fox (1957) and Fleming (1988) as transhumance sites: 'pastoral enclosures' and 'sheilings' respectively. The evidence of the seasonal occupation at a broadly similar site on Shaugh Moor (Smith, K. *et al,* 1981) tends to reinforce these conclusions.

CONCLUSIONS

The surviving elements of the prehistoric landscape of Holne Moor demonstrate the wide breadth of human activities in the prehistoric period. It is clear that the development of settlement, be it permanent or otherwise, is largely governed by the position of the earliest visible monument, the triple stone row. The implications of its relationship with the later sites and in particular the parallel reave system indicates the pivotal role played, not just by this site but also by many similar examples on Dartmoor. The stone row does not appear to be a significant landscape feature but its location seems to have had a crucial impact on the course of the Venford Reave and the amount of land occupied by the later prehistoric field system. The reave evidently respects the earlier feature; as it does an alleged stone circle on Down Ridge some 2.2km to the west. In both cases the lithic monuments lie immediately outside the reave system and in the case of the stone row its alignment is mirrored by the reave. This type of relationship is also visible at Shovel Down east of Chagford where five stone rows, in and around a slight natural hollow, are so respected by a terminal reave that it follows a sinuous course to avoid undue disturbance. Whatever use was attributed to these features by their late Neolithic/early Bronze Age builders they appear to have been treated with respect and certainly used as reference points up to 1000 years later in the middle Bronze Age. At Holne Moor the boundary would appear to have been between some form of 'claimed land', to the north, and 'common' to the south. The two remaining types of monument, the cairns and non-reave settlements, also largely conform to such a division and field evidence from other parts of Dartmoor confirms this relationship. For example, at Shovel Down there is a distinct lack of any sepulchral monuments or irregular field systems in the developed reave system east of the stone rows while they exist in profusion to the west. This relationship is contradicted by the Holne Moor cairn alignments and on the western fringe of Riddon Ridge where several agglomerated settlements have been incorporated into the later reave pattern. However, these might be explained in terms of the lack or invisibility of a nearby boundary marker, a stone row, thus creating a rather fluid boundary only later defined by the reave systems. At Holne Moor the Holne Lee alignment is never within sight of the stone rows even allowing for the erection of the blocking stones.

The prehistoric landscape of Holne Moor is one of striking formality, a characteristic repeated over much of central and eastern Dartmoor. The visible remains may span more than a millennium but the use and/or ownership of the landscape were defined early in its evolution. In many ways the most spectacular monument on the moor, the parallel reave system, is a mere afterthought in the developmental history of the landscape.

THE MEDIEVAL AND LATER AGRARIAN LANDSCAPE (FIG. 6)

The medieval and later agrarian landscape comprises two settlements and two phases of extensive field system covering approximately 350ha in total. A model describing the relationship between the Venford settlement and the fields to the west of the reservoir has been constructed by Fleming and Ralph (1982, 101-137).

Fig. 6. Interpretation diagram highlighting elements of medieval and later settlement and field systems on Holne Moor.

The Settlements

The settlements are small, the largest, at Holy Brook, possesses four buildings, only two of which can be classified as longhouses while a single longhouse remains at Venford. Excavations of similar sites on and around Dartmoor would suggest that neither settlement was in existence before the 13th century and both would have probably been abandoned by the middle of the 15th century (Henderson and Weddell 1994, 135; Allan 1994, 145). The small number of buildings and their isolated nature reflect the dispersed pattern of agrarian settlement evident over the entirety of Dartmoor throughout the historic period. It is not possible to associate these features with their contemporary enclosures, other than in their immediate locality though it would seem likely that they would have been created at a time of the greatest expansion of the first phase (medieval) field system.

The Field System

The fields are enclosed by a number of different types of boundaries, the most common being a stoney bank with an external ditch. Several variations in terms of size and embellishment occur and these are described by Fleming and Ralph (1982, 105), the most recognisable being the corndich sometimes possessing a revetted exterior face. During the RCHME survey the narrowness of Fleming's use of this term became apparent and it was extended to include all banks with an external ditch. The size of the banks

varies considerably between 1.2m and 2.3m wide and 0.5 to 1.1m high. There are occasional examples of double-ditched banks but the second most common boundary type, ignored or unrecognised by Fleming, is a broad ditch, generally 3.0 to 6.0m across and up to 2.0m deep. These may or may not possess small amounts of spoil on one or both lips and are similar to ha-has. Few unditched banks, likely to mark subdivisions within the fields, were recognised during the survey, the superseded cornditches probably serving as internal boundaries as the systems expanded and contracted. Several mutilated reaves overlooking the Aller brook on the western fringe of the field system are undoubtedly unfinished cornditches indicating further attempts at expansion.

In some areas, notably on the north flank of Holne Ridge and the eastern side of Holne Lee, it is difficult to differentiate the ditch type boundary from the tinworking channels, indeed they may have taken their form from the smaller tinworks. Perhaps more important is the relationship between the two. In both areas cornditches and the ditch type boundaries extend the lines of or run between, presumably abandoned, tinworkings, integrating the industrial remains into what is therefore a later field pattern. It is also apparent that some of the later field boundaries were used to trap and channel surface water into selected tinworking areas. A recent study of documentary evidence for tinworking on south-west Dartmoor suggests that this type of tinworking was prevalent between 1450 and 1750 (Newman 1987, 223-240) thus placing these fields firmly in the post-medieval period. The field evidence on Holne Ridge and Holne Lee is often confusing but it illustrates the interdependency of the agrarian and industrial economies of the area in the post-medieval period. Considerable traces of medieval and later cultivation lie within the now abandoned fields. These remains occur at the heart of the field system both to the east and west of the reservoir and to the north of the Holy Brook settlement. The various forms taken by these features has been described in detail by Fleming (1994, 101-118).

It is remarkable that the vast majority of these remains are associated with cornditches. With few exceptions there are no cultivation remains associated with the ditch boundaries though there are considerable numbers of clearance cairns which lie in the fields west of the Holy Brook settlement and in the northern field of Fleming's 'North Lobe'. The presence of these cairns may be additional indicator of unfinished expansions. There are few precedents for these features though a late date, possibly Napoleonic, is suggested by their abundance in the fields at Houndtor Down (RCHME 1994 9-10) and in the large newtake attached to Tor Royal Farm near Princetown. There are, therefore, at least two identifiable post-prehistoric field systems on Holne Moor. The remains illustrate dynamic, unrestrained systems, expanding and contracting with time with unfinished elements in both. The earliest system existed as a single unit and is characterised by the almost exclusive use of cornditches. It lies on the relatively flat plateau formerly occupied by the reave system. Fleming and Ralph (1982, 130-132) suggest its origins lie in the pre-conquest period and it had largely been abandoned as arable by the 15th century.

The later fields, perhaps most easily identified by the ditch type boundaries interspersed with cornditches and containing small clearance cairns, lie on the fringes of and as isolated features beyond the earlier system. It would seem unlikely that the later fields were created in preference to the reuse of the earlier system, and it must be at least considered that, as at Houndtor (RCHME 1994, 9), the earlier fields were refurbished in the post-medieval period even if only for a short period of reuse.

Access through the medieval and later field systems to the open moor was apparently more important during this period than it had been in the middle Bronze Age. Several droveways crossing the area east to west bisect the earlier field pattern within Fleming's study area and also in the fields north of the Holy Brook settlement whilst a narrow tongue of open land was also left between the fields on the slopes of Holne Ridge permitting passage to Ryder's Hill and the south moor.

THE INDUSTRIAL LANDSCAPE (FIG 7)

Remains from the tin industry probably spanning several centuries form an important element of the landscape on Holne Moor, with examples of all the major forms of extractive technique currently recognised, together with evidence of prospecting and water management systems. There are also shafts, buildings and infrastructure dating from a 19th century episode of mining.

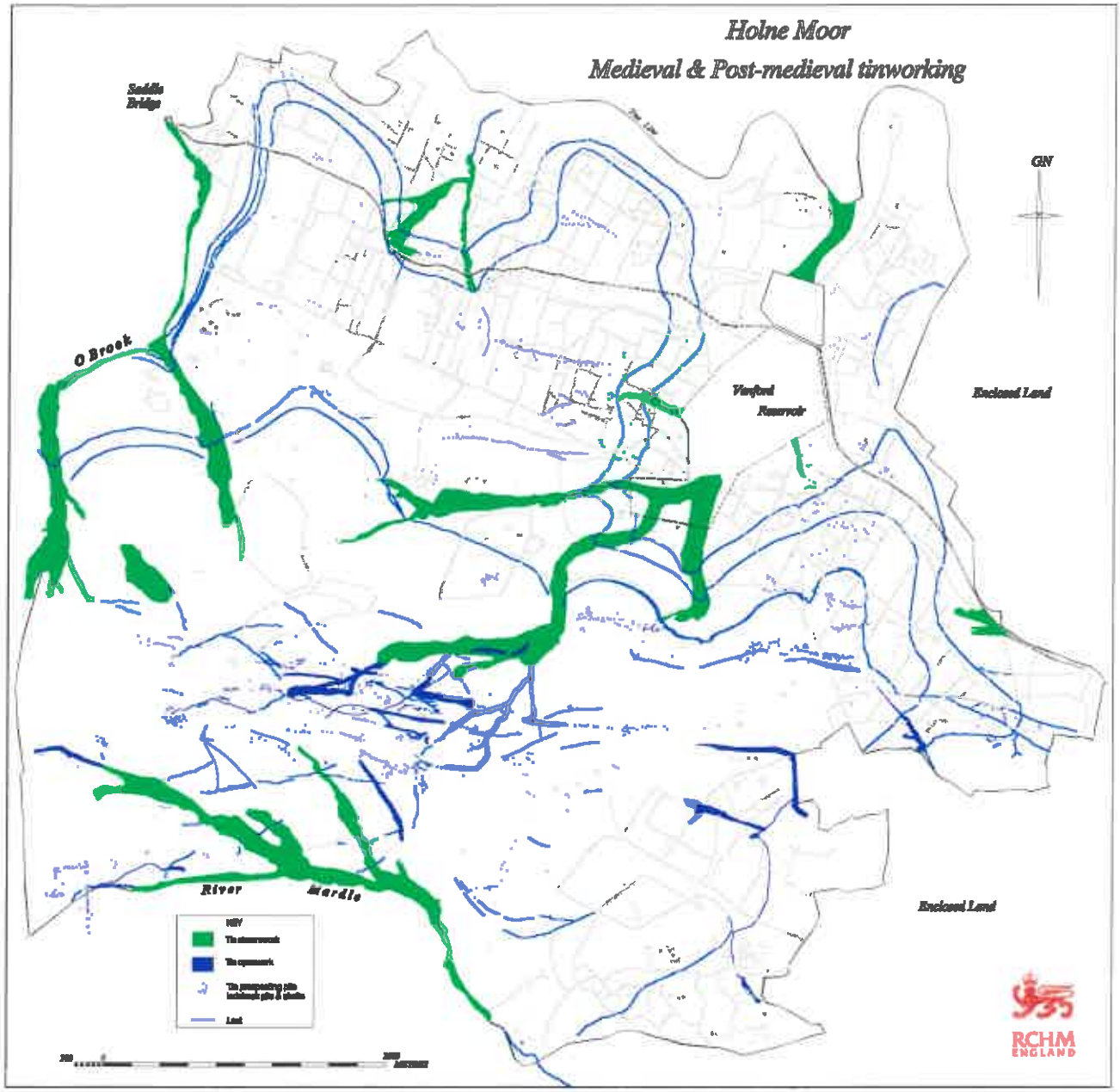

Fig. 7. Interpretation diagram highlighting elements of the tinworking landscape on Holne Moor.

Early tinworking

The early extractive elements of the landscape may be broadly divided into four primary categories for the purpose of description:

- Streamworks which exploited the detached, weathered deposits of cassiterite and including both alluvial and eluvial deposits
- Openworks, a system of exploiting parent lodes by digging down onto them using opencast trenches.
- Lodeback pits, a technique whereby the lode was attacked by digging alignments of small pits to expose the lodes.
- Prospecting pits, small groups of pits dug in the initial search for lodes.

A secondary element of the extractive evidence is the abundant remains of the water supply system associated with the workings. This consists of leats, channels and storage reservoirs.

Streamworks

Alluvial streamworks occupy the valley floors of all the streams and their tributaries in the area and several eluvial workings lie on the steeper slopes south of O Brook. Among the larger, well-developed workings are the O Brook tributaries of Dry Lake and Lower Dry Lake, and the three small streams forming the trident of Venford Brook, which each have impressive streamwork remains. A large area of streamworks associated with the Venford Brook valley floor, now lies submerged beneath the modern reservoir, constructed in the

late 19th century. Several smaller workings, consisting only of a shallow area of disturbance, or a narrow, dry gully are also to be found, probably exploiting lesser deposits, which were quickly worked out. The larger workings consist of areas of low, stoney spoil mounds and shallow water channels. They often demonstrate systematic working techniques, resembling those described by Gerrard, found elsewhere on Dartmoor and in Cornwall(1994, 179; 1996, 64). The working area of each tinwork is delineated by an outer scarp representing the final edge of the working area. The scarps may be between 0.5m and 6m deep, depending on the original depth of the ore. Water supplies to some of the streamworks survive well and, together with those supplying the lode works and the various means of water storage, make up an important and informative element of this industrial landscape. The upper working areas of both Dry Lake and Lower Dry Lake were supplied by rainwater run-off channels, which diverted water from the upper, north slopes of Holne Ridge. Both leats terminate at reservoirs: that which supplied Dry Lake is a particularly fine example, comprising a linear bank with a right-angle blocking bank on the western end. A sluice opening at the join of the two banks released water into a wide channel with a distinct kink which enters the working near its highest point.

There is very little in the way of known documentary evidence for streamworking in this area. However, research by Greeves in the 1970s uncarthed references to three tinworks which may be identified today (Greeves 1981, 347). These are 'Allerbrook', mentioned in 1579, probably the workings in the area known today as Hangman's Pit; 'Wenford', which is likely to have been the streamwork which follows the course of Venford Brook; and 'Malterne Waie' which was one of the small gullies to the north of Venford.

Openworks

The working of tin lodes by openworks on Holne Moor was mainly focused around the eastern slopes of Holne Ridge in the area of the later Ringleshuttes Mine, but there are several outlying examples of this type of working, further to the east at Holne Lee and in the Mardle Valley, near the extremity of the Dartmoor granitic mass. Others are in the Dart valley at Hangman's Pit and a fine example lies on the east side of Ryder's Hill. These workings exploited predominantly east-west tin lodes. In addition to the major openworks, small concentrations of lodeback pits are in evidence, mainly on the higher ground, near the summit of Holne Ridge.

Detailed documentation for the working of lodes in this area has not as yet come to light but research on other areas of Dartmoor, where records have survived, have suggested that the majority of this opencast lodeworking activity took place between the 15th and 18th centuries (Newman 1987).

The openwork complex at Ringleshuttes is by far the most impressive among this type of working with a concentration of eight large openworks and several smaller examples together with remains of extensive water supply and storage systems. Three of the workings, including the two largest, clearly followed different sections of the same lode and form an alignment extending across the centre of the site. The westernmost of these is up to 30m wide and 18m deep and is among the largest examples of its type on Dartmoor.

Holne Moor and Ringleshuttes, are notable for the survival of the associated water systems, in particular the numerous and well-preserved reservoirs and their associated supply leats and distribution channels, of which 14 survive in the the Ringleshuttes area alone. Of these the finest example is located at the western end of the site and has a retaining dam measuring in excess of 60m long. The reservoirs conform to no particular morphological type but tend to have been constructed in such a way to be best suited to their local topography to maximise capacity. The high altitude of the Ringleshuttes complex meant that water was diverted almost exclusively from rainwater run-off and wet areas of the surrounding slopes to north and south. Several feint leat channels may be traced back from the reservoirs to what must have been extremely meagre water sources and the seasonal fluctuation in water availability would have been felt more acutely here than at many other such tinworks. More substantial water channels, often descending hillsides quite sharply, have also been noted around the area. Several of these are relatively deep, in some cases up to 2m, which may be the result of scouring through use over time. Evidence of such channels leading from the large reservoir mentioned, do indeed suggest that it supplied at least five of the major workings at the site, including the two largest. This must have taken

place over a considerable period of time. Several water channels to the north of the main complex appear to have been reused as post-medieval enclosure boundaries. In some cases they form the ditches of cornditch walls, from which leats extend to the working area.

Later Mining

Like most of Dartmoor's more productive tin lodes, the Ringleshuttes area underwent a further phase of exploitation during the 19th century when underground techniques were used to attack the deeper sections of lode. Documentary records for this later episode at Ringleshutes are also scarce, although we know it was probably being worked, alongside Hexworthy Mine, by George Bennetts in 1852 under the name of 'Holm Moor and Hen's Roost United Mines' (Greeves 1986, 4). Although the evidence from this period is now heavily disguised by vegetation, this appears to have been quite a large operation, judging by the extent of the remains. Activity was focused on two sections of lode. One following the main east-west lode, which has an alignment of four blocked shafts along its course, the other follows the north-easterly section of lode which branches from the first and has a further three shafts. Both shaft alignments converge at a single shaft, adjacent to which are the stump remains of a Cornish Engine house, its collapsed chimney, comprising a linear spread of rubble lies on the east side. It is unusual for a Cornish Engine to have been installed at the mines on the high moors and its presence is probably due to the acute lack of a water supply needed for conventional water powered machinery. The engine probably powered below-ground pumping equipment but may also have powered the inclined tramway which runs between the shaft and a series of remains 500m to the north-east which could be a dressing floor. The remains of the tramway to the north of the modern track consists of two parallel earthen banks of approximately 4m apart. South of the track the course of the tramway is elevated on an embankment to a point just below the engine shaft. Also associated with the southern section of tramway are the sites of two possible whims, adjacent to its western edge. The probable dressing floor comprises a much ruined rectangular structure, which has an adjacent water channel part of which is stone-lined and may represent a wheelpit. Also at the site are the vestigial remains of two rectangular buddles. The ruins of a large rectangular granite building associated with the mine may be seen at the bend in the modern track, NNE of the engine shaft. It has four internal divisions though no entrances are currently visible. William Crossing records that this building remained in use as a dwelling after the mine fell into disuse until being destroyed by fire in the 19th century (Crossing 1901, 51).

WARTIME ACTIVITY

Dartmoor's role in the major conflicts of the twentieth century is not just limited to its use as a training resource for military personnel as demonstrated by the shell holes overlooking the O Brook. It is becoming more apparent that Dartmoor also possessed a defensive role. On Holne Moor this is witnessed by the solitary anti-glider pole on the east-facing slope and the searchlight battery remains near the eastern cattle grid. Local tradition claims that the latter were apparently designed not to track enemy planes to their final destruction by anti-aircraft fire but simply to dazzle and disorientate the crews as they flew over the Teignmouth Gap.

FINAL CONCLUSION

The relict landscape preserved on Holne Moor provides an excellent illustration of the development and dispersal of settlement, agriculture and industry on Dartmoor from earliest times. The well-preserved prehistoric remains contrast the small irregular settlements and field systems with the massive, planned middle Bronze Age reave system and coupled to the ritual monuments serve to emphasise the relative formality of society and the landscape at such an early point in time. In a similar vein the apparently haphazard nature of the medieval and later agrarian remains argues for a less well structured society perhaps organised within smaller units. The occurrence of the tinworks are obviously the result of geological rather than human influences, the richness of the remains on Holne Moor provided a good example of the breadth of extraction techniques employed by the industry as tin ore became scarcer and harder to extract.

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BIBLIOGRAPHY

Allan, J. 1994. 'Medieval Pottery and the Dating of Deserted settlements on Dartmoor' *Proc. Devon Archaeol. Soc.* **52**, 141-147.

Crossing, W. 1901. *A Hundred Year on Dartmoor* (1967 reprint).

Butler, J. 1993. *Dartmoor Atlas of Antiquities,* Vol 4 - the south east (Devon Books).

Fleming, A. 1988. *The Dartmoor Reaves* (Batsford).

Fleming, A. 1990. *The Archaeology of Holne Moor* Dartmoor National Park Authority leaflet

Fleming, A. 1994. 'Medieval and Post-Medieval Cultivation on Dartmoor: a Landscape archaeologist's View' *Proc. Devon Archaeol. Soc.* **52**, 101-118.

Fleming, A. and Ralph, N. 1982. 'Medieval settlement and land use on Holne Moor, Dartmoor: the landscape evidence' *Medieval Archaeol.* **26**, 101-137.

Fox, A 1957. 'Excavations on Dean Moor, in the Avon Valley, 1954-1956 (The late Bronze Age settlements)' *Rep. Trans Devonshire Assoc*, **89**, 18-77.

Gerrard, S. 1994. 'The Dartmoor Tin Industry: an Archaeological Perspective' *Proc. Devon Archaeol. Soc.* **52**, 173-198.

Gerrard, S. 1996. 'The Early South-Western Tin Industry: An Archaeological View, In Newman, P.(ed) *The Archaeology of Mining and Metallurgy in South-West Britain. Mining History* **13.2**, 67-83.

Greeves, T. A. P. 1981. *The Devon Tin Industry 1450-1750* Unpub. Phd(Uni of Exeter).

Greeves, T. 1996. *Tin Mines and Miners of Dartmoor* (Devon Books).

Henderson, C.G. and Weddell, P.J. 1994. 'Medieval Settlements on Dartmoor and in West Devon: the Evidence from Excavations' *Proc. Devon Archaeol. Soc.* **52**, 141-148

Newman, P 1987. 'The Moorland Meavy - a tinners' landscape' *Rep. Trans Devonshire Assoc.* **119**, 223-240

OS 1886 1:2500 First edition Devonshire sheet CXVIII.4

RCHME 1994. *Houndtor Down, Manaton, Devon - a new survey by the Royal Commission on the Historical Monuments of England* NMRC Swindon

Smith, K. *et al* 1981. 'The Shaugh Moor Project: third report - settlement and environmental investigation' *Proc. Prehistoric Soc.* **47**, 3

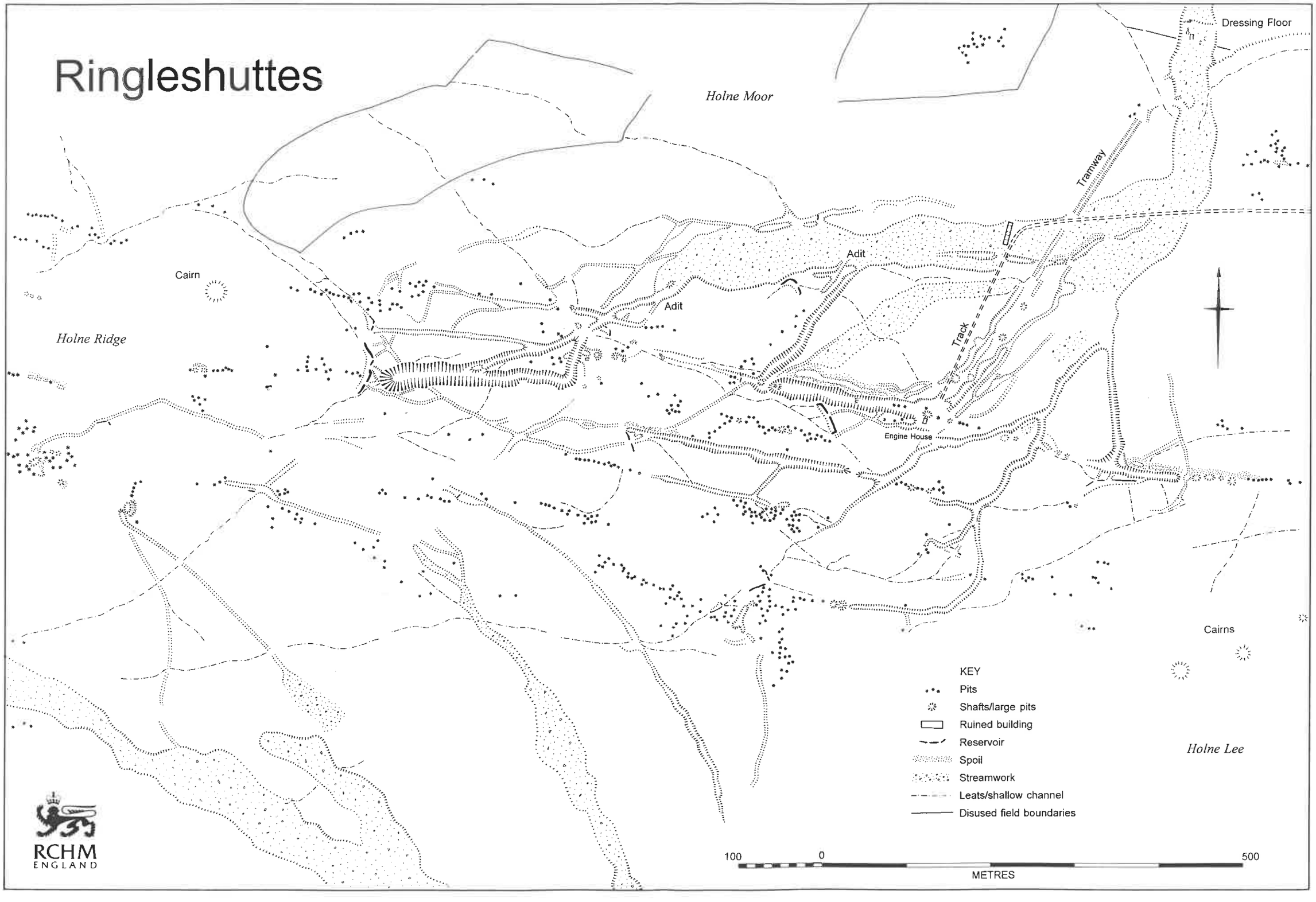

Fig. 8. Ringleshuttes tin mine and openwork complex.