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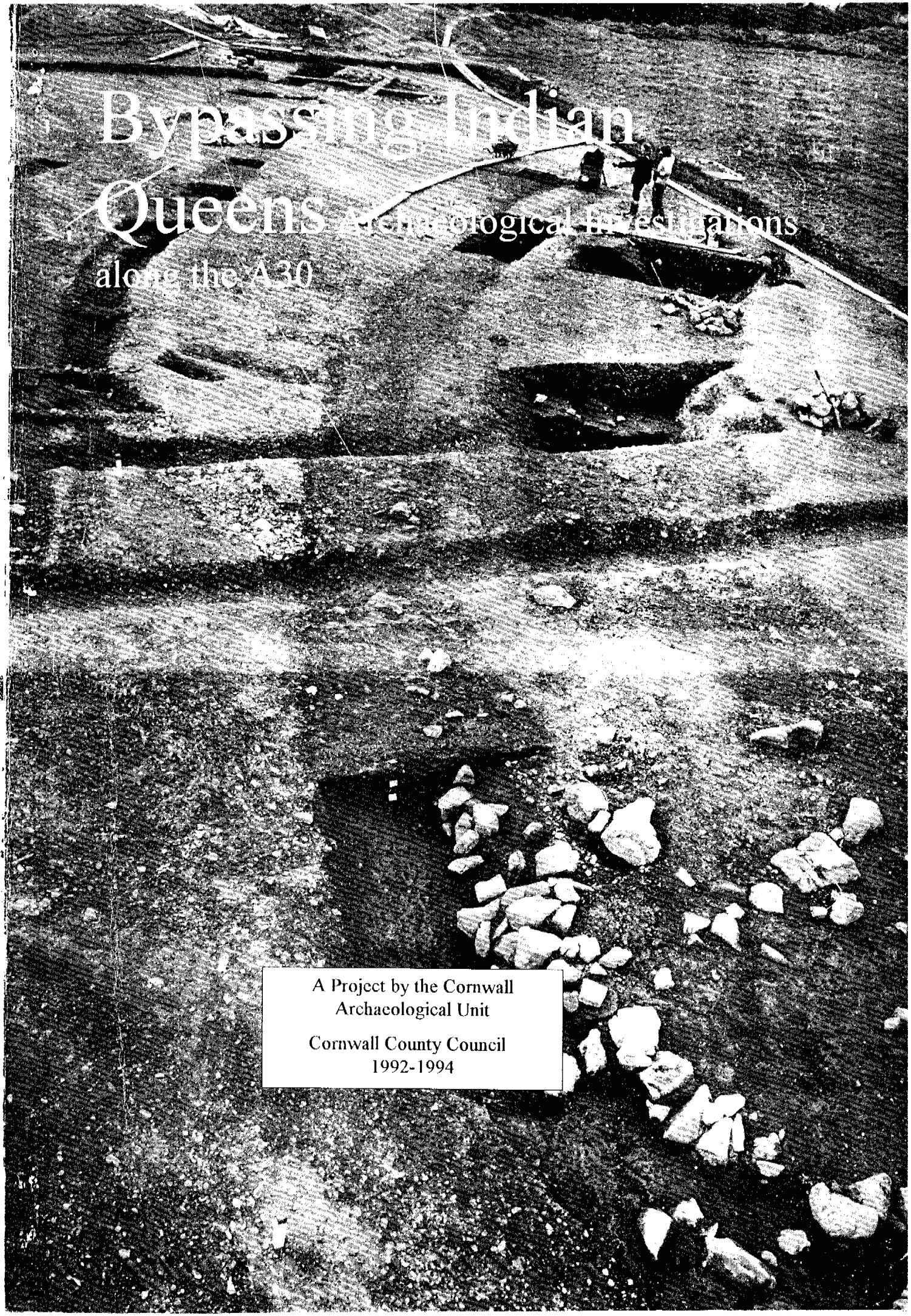


Bypassing the Indian Queens Archaeological Investigations along the A30

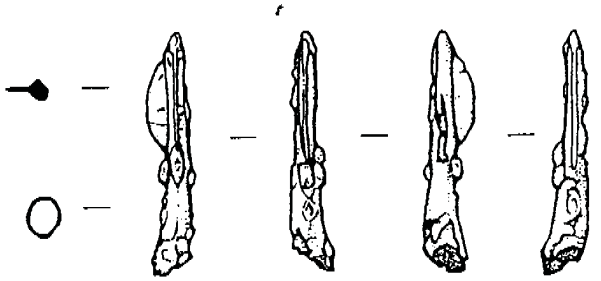
A Project by the Cornwall Archaeological Unit

Cornwall County Council
1992-1994

Bypassing Indian Queens - The Hidden Archaeological Story

The A30 Project - A Summary Report on the Archaeological Investigations carried out on the route of the Indian Queens - Fraddon Road Improvement Scheme 1992 - 1994

Jacqueline A Nowakowski BA MIFA



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Summary

Prior to and during the course of the construction of the Indian Queens-Fraddon bypasses a major programme of archaeological investigation revealed a wide range of information detailing the early history of the area. Excavations at six new prehistoric sites reveals that the area has been settled continuously since early prehistory and that the later historical development of the landscape has grown from a long tradition of settlement and landuse in an area which until recently had previously been perceived as generally "modern" in origin. The range of evidence uncovered during this study allows a fuller picture of the history of the area to be drawn up on a wide canvas - the view of a landscape which has considerable historical depth. The significance of this work is its major contribution to landscape studies within the South-West.

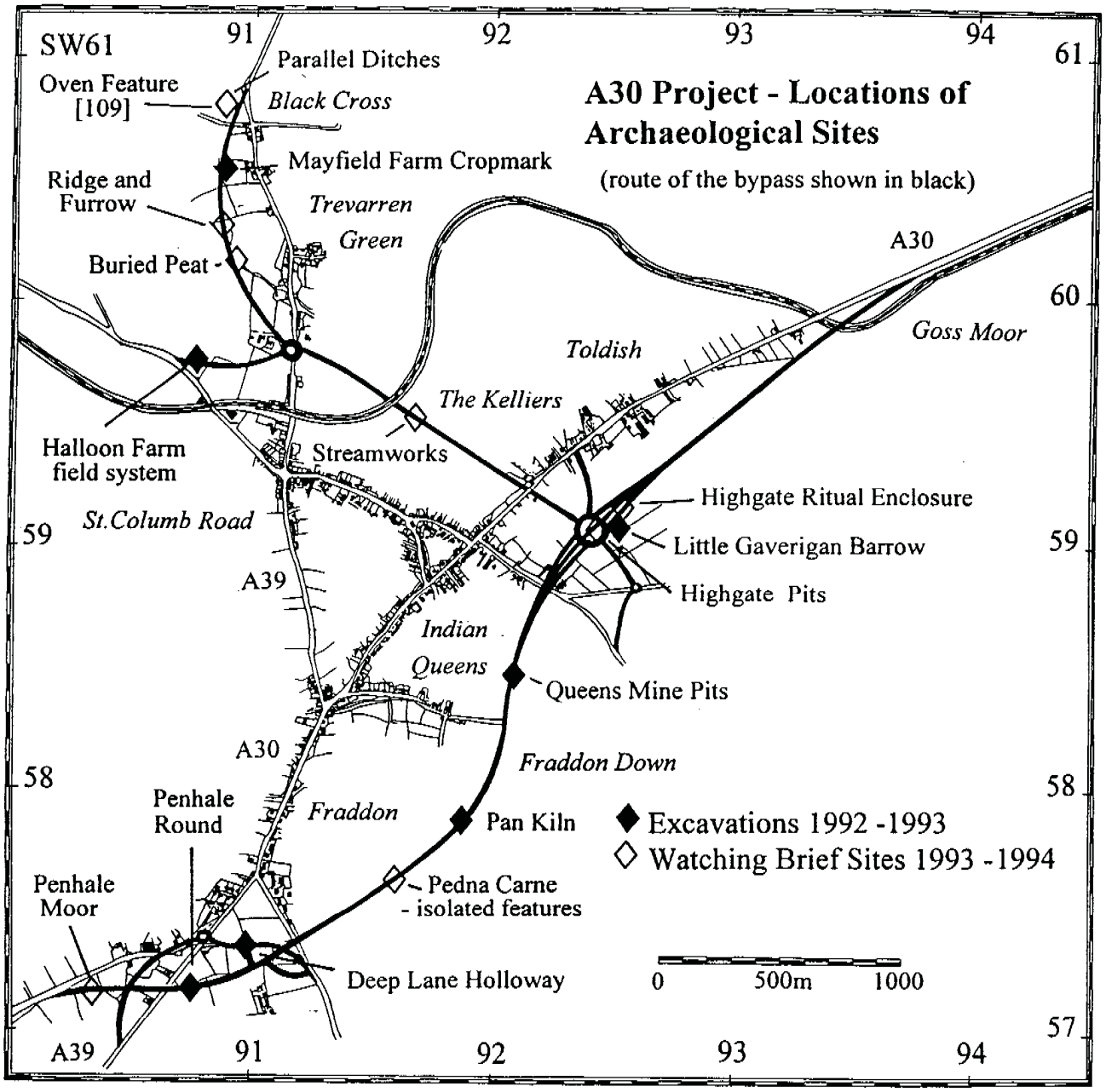


Fig. 1 Locations of all Archaeological Sites Investigated on the Indian Queens-Fraddon bypass - the A30 Project

Bypassing Indian Queens - The Hidden Archaeological Story

Introduction and Background to the A30 Project

The A30 Project has been an intensive archaeological investigation of the area affected by the A30 Indian Queens - Fraddon road improvement scheme. The project evolved from an archaeological reconnaissance survey which was undertaken by the Cornwall Archaeological Unit in the winter of 1991. This initial survey, which was funded by English Heritage and the Dept of Transport, identified sites of archaeological and historical significance which would be affected by the route of the bypass and led to more detailed evaluation to confirm the potential of selected sites; evaluation methods included trail trenching and geophysical surveys.

The detailed project-design which followed recommended appropriate levels of archaeological investigation and recording, and was designed as a landscape-based study of an area of lowland Cornwall, looking at the historic development of the landscape as a whole rather than at individual sites in isolation (Rose, Herring and Nowakowski 1992). Central to this approach was the classification of two main types of historic land-use through which the road runs, namely "historic moorland" and "historic farmland". The former are areas which have been open moor or heath but had been almost entirely enclosed and improved by the 19th century; the latter were historically (in the medieval period) areas of settlements and fields. This distinction is thought to be very ancient and is likely to have already been apparent in late prehistory (1st Millennium BC). This provides the context for the more detailed site investigations, the search for palaeo-environmental evidence, and for the identification and comparison of archaeological remains of all periods along the road corridor.

The corridor of the A30 Indian Queens - Fraddon Improvement scheme runs through a landscape which includes sites of a number of archaeological and historical periods. The earliest evidence discovered belongs to the early prehistoric period - the Mesolithic, some 5/6,000 years ago. The most recent forms part of the local industrial heritage of the nineteenth and twentieth centuries. When collectively analysed much will be revealed about the evolution of an area of lowland Cornwall in which little detailed archaeological work has hitherto taken place. Each historical element required different levels of archaeological response and thus the project comprised four main approaches: earthwork and field boundary surveys; large and small-scale excavations; the recovery of buried peat deposits for environmental analysis and the recording of sites undetected during the pilot study in 1991. The latter work was carried out during an intensive schedule monitoring road construction operations.

The detailed archaeological work listed above took place in two main phases which spanned 19 months of fieldwork. At the core of the project was a major phase of excavation which took place from October 1992 to June 1993, prior to road construction. Road monitoring operations began in July 1993 and were completed by May 1994. During the latter phase earthwork surveys were completed and a number of previously unknown sites were excavated. Throughout the entire period six main prehistoric sites were examined, five of which were fully excavated; at the sixth, work was limited to recording by section. Four sites of medieval date were investigated - all by small-scale excavation, whilst surveys of three post-medieval industrial sites and two recent sites were undertaken. Despite an extensive search, only two areas of buried peat deposits were located and sampled. In addition 140 hedge boundaries were recorded in section and a number of isolated sites comprising small

concentrations of pits and other features were recorded; for many of these no direct dating evidence survived.

This present report is a summary of the work undertaken by the Cornwall Archaeological Unit since fieldwork began in October 1992. It is intended solely as a summary update on the achievements of the project to the completion of fieldwork in May 1994 and represents an update of the interim statement produced mid-term in 1993 (Nowakowski 1993). Archive and preliminary post-excavation analysis (which began in August 1993) is currently in progress and is scheduled for completion by late summer 1994. An overall assessment of the project will commence in the autumn of 1994 following guidelines outlined in the English Heritage protocol document known as MAP2 (Andrews *et al,* 1991). Once this has been completed recommendations for a wider programme of post-excavation analysis will be proposed together with a timetable leading to publication of the results of the project.

This report summarises the programme of work in the order in which it was carried out and as such is in the form of a diary or calendar of events. The first section details work carried out in the 9 months before road construction (Phase I); the second discusses the work undertaken during the watching brief programme (Phase II). Although staff numbers have varied throughout the course of this work, the project was fortunate in maintaining a core team of archaeologists who became very familiar with the area and the landscape, and it is great credit to them and the other members of the various excavation teams that so much detailed archaeological work has been achieved. A full staff list appears in Appendix 1.

Part I

Little Gaverigan Barrow, Indian Queens

The first major excavation was of a Bronze Age barrow at Little Gaverigan Farm (SW9248 5911). The site had been previously unknown, and was discovered during the reconnaissance survey undertaken by Peter Herring in 1991. An evaluation trench dug in June 1992 confirmed his preliminary interpretation and given its obvious archaeological significance total excavation was recommended (Nowakowski and Johns 1992). The excavation ran for 13 weeks and was carried out in far from ideal conditions - Cornwall experiencing one of the wettest winters for years during 1992-1993. Despite long periods of appalling working conditions, significant results were achieved.

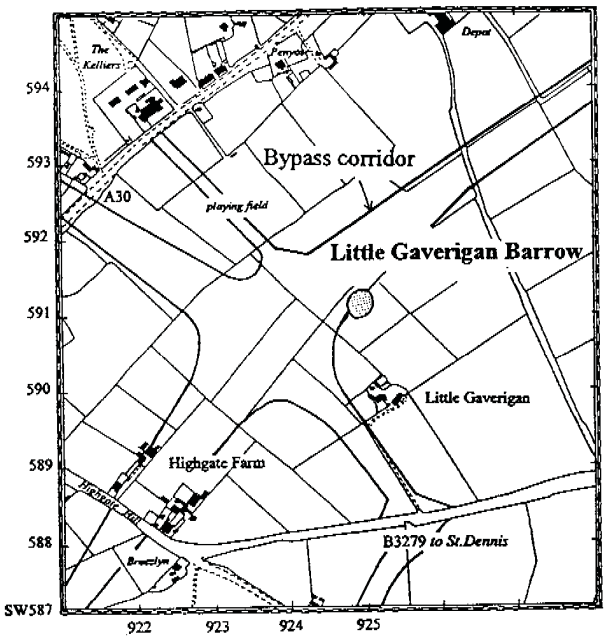


Fig.2 Location of Little Gaverigan barrow

Little Gaverigan barrow was found to comprise three major structural components: a turf mound, a ditch and the remnant traces of an annular stony bank. Excavation showed that the history of the mound had been episodic in character, reflecting a continuing physical transformation: a changing arena in which re-defined ritual activities took place. Phasing has shown that in its clearest earliest manifestation it was a sacred space defined by a ditch. It is possible that this was preceded by even earlier activities although the evidence was extremely vestigial. The actual use of the interior space for the more clearly defined early period has left little tangible evidence apart from a central pavement of quartz rubble - perhaps for

ceremonial use. Silted layers at the base of the ditch suggest that this feature may have remained open for some time allowing leaf mould (impressions), twigs and pieces of bark together with the shadows of poorly degraded wooden stakes to accumulate on the floor of the ditch. A number of large pits subsequently dug into the northern side of the ditch indicate a continuity of *ritual activities* focused on the site. The purpose of such pits is enigmatic although it is tempting to suggest that they once held large stone menhirs or even wooden posts - perhaps of totemic significance. The ditch silted up and was subsequently recut along its original line but to a shallower depth. Eventually the ditch was deliberately infilled. Two

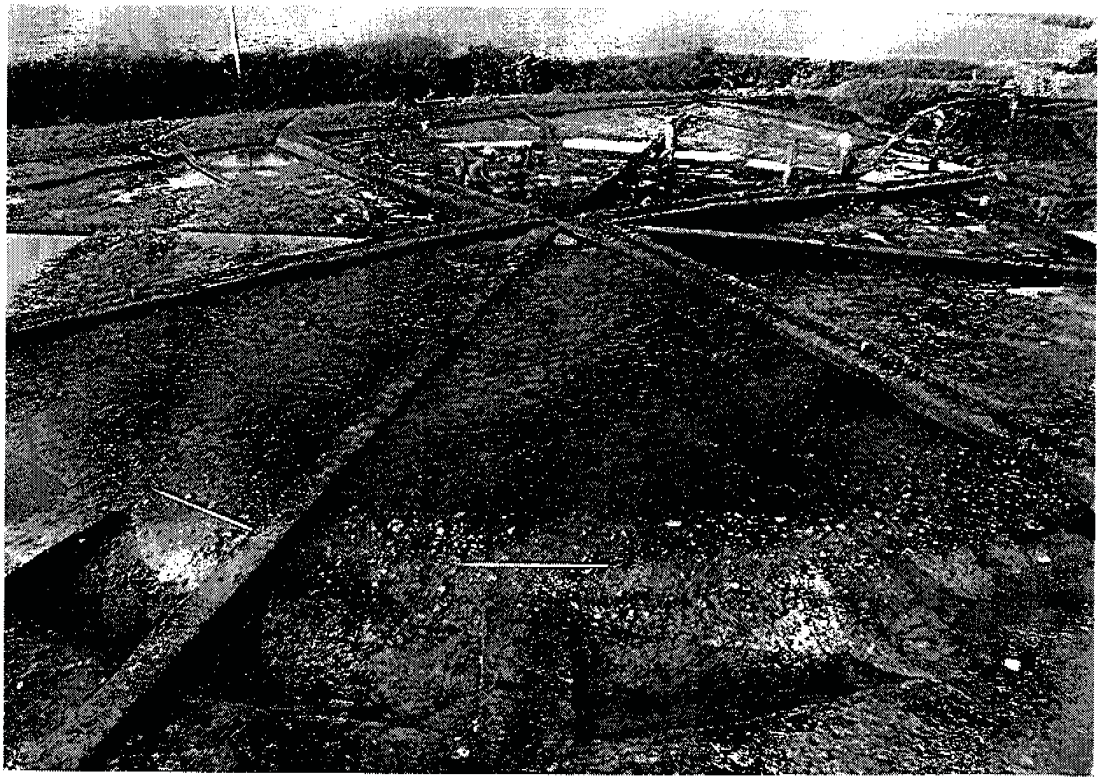


Fig.3 Little Gaverigan barrow during a later stage in the excavation. Only a proportion of its ditch was excavated, hence its segmented appearance. On its inner lip can be seen traces of the annular stony bank, while the central area is dominated by a massive turf mound.

small pits detected in the western area of the enclosed space contained fragments of pottery dating to the Early Bronze Age (about 4,000 years ago) - these were the only artefacts relating to this period of use. One was the upper half of a poorly-preserved collared urn - part of a funerary vessel - but this did not contain any cremated remains. The other was an unusual small vessel with both mouth and base open but with a central perforated plate (see fig 4) whose use is unknown. This small vessel would fit into a category of pottery known as *"accessory cups"* which are generally rare in Cornwall - the most recent example being one found in the 1970s during the excavation of a cairn on Bodmin Moor (Griffith 1984, 79-81). Both finds were conserved by Margaret Brooks (Conservation Laboratory of Salisbury Museum); petrological analysis of the clay fabrics by David Williams of Southampton University showed that both items were made of local clays *(pers.comm)*. The small perforated vessel was found on the edges of a shallow pit which may have been the focus for a fire - the purpose of which is unclear and was not obviously related to funerary behaviour.

The final episode on the site was the capping or sealing of the area by a mound entirely of cut peat turves. A small collection of flint artefacts - including microliths and blade tools - were the only other prehistoric artefacts found. These tools were residual - their inclusion within the turf was probably accidental; that is to say, most of these flints are much older than the barrow itself and were introduced there in the turves used to construct it, having been struck and discarded centuries earlier. The discovery of such artefacts at this location represents the earliest evidence for human activity found during the entire A30 project: during the Mesolithic period (at least 6,000 years ago) nomadic gatherer-hunter groups lived in the area.

Throughout the excavation an extensive sampling programme for pollen and macro-plant remains was carried out and it is hoped that analysis of the material will reveal much about the vegetational history of the area over a long period of time.

The complex sequence of events unearthed at Little Gaverigan provides us with a detailed insight into the structural complexities of Early Bronze Age ritual and ceremony. The results of this excavation can now be set into a broader context since at least two new sites were discovered in this area during the watching brief some 10 months later in 1993 (see below).

Fig.4 Vertical view of the accessory cup from Little Gaverigan Barrow - showing the central perforated plate and how small the artefact is. This extraordinary vessel is 4,000 years old. Its use is uncertain - it may have been used to burn incense during funerary rites.

Its now clear that Little Gaverigan barrow did not stand alone but was part of a wider ceremonial landscape (see Fig.18).

Deep Lane Holloway, Fraddon (Fig.5)

During early January 1993, a small trench was cut across the base of a small section of Deep Lane - a hidden and overgrown holloway at Fraddon (SW9077 5735). The small excavation was located within an area of the holloway cut through by the bypass. The work was carried out by Anna and Andy Jones and the main purpose of the exercise was to look for some evidence which may confirm cartographic evidence suggesting that the lane was a major highway whose origins were pre-Norman in date. The route appears in an estate charter dating to the eleventh century (Herring and Hooke 1993). At the base of the lane a cobbled surface made of pebbles built on a bed of levelled clay was found which filled the width of the holloway. Unfortunately no dating evidence was found.

Penhale Round, Fraddon (Fig. 5)

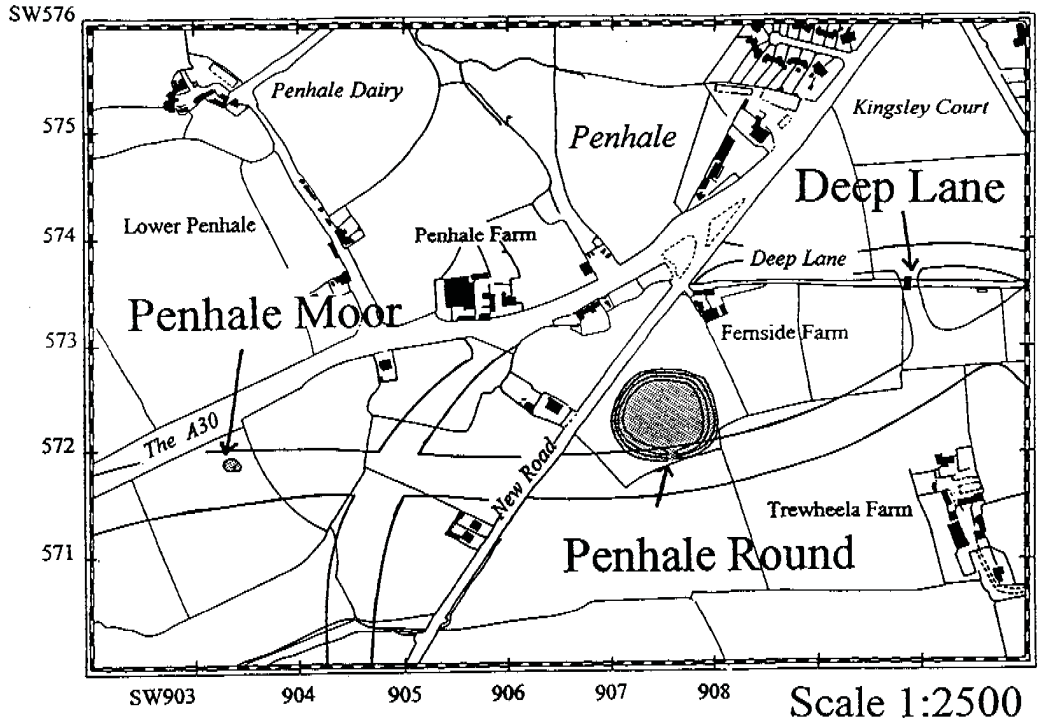


Fig.5 Locations of Penhale Round, the site of Penhale Moor and Deep Lane

Excavations at Penhale Round - the largest excavation carried out on the A30 Project - began in early January 1993 and continued until the end of May 1993. This site is an enclosed prehistoric settlement dating to the later prehistoric period - the late Iron Age and Romano-Cornish periods (approximately 2nd and 1st centuries BC to around 3rd-4th centuries AD). The site was first recognised as a cropmark on an aerial photograph taken in the late 1950s. Above-ground remains today are slight but a number of geophysical surveys carried out by the Ancient Monuments Laboratory in the early 1980s and in 1991 revealed a complex of well-defined archaeological features indicating that the settlement was of a multi-ditched character and that it had been surrounded by a network of boundaries defined by linear ditches. In addition the outlines of at least three round houses could be detected within

its interior (David 1982 and Fig.6). The corridor of the bypass cuts across one edge of the site and it was here that our excavations were focused. Throughout the course of our work it became apparent that the geophysical survey had located features of a buried prehistoric landscape which embraced considerable chronological depth and that the image given by the

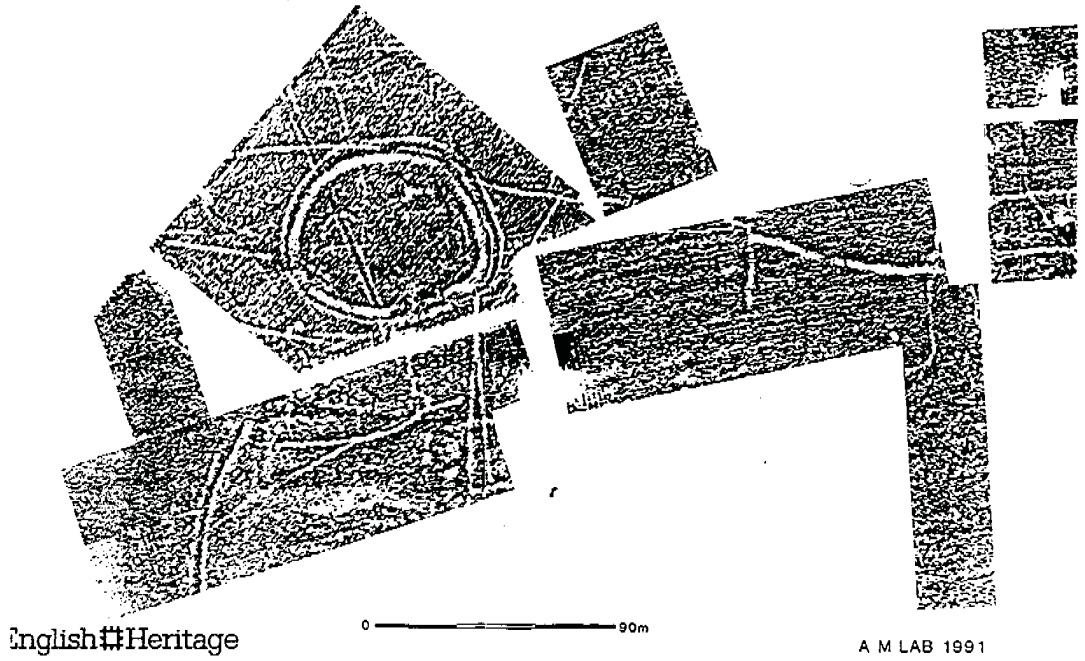


Fig.6 Geophysical Survey of Penhale Round. Source: Ancient Monuments Laboratory

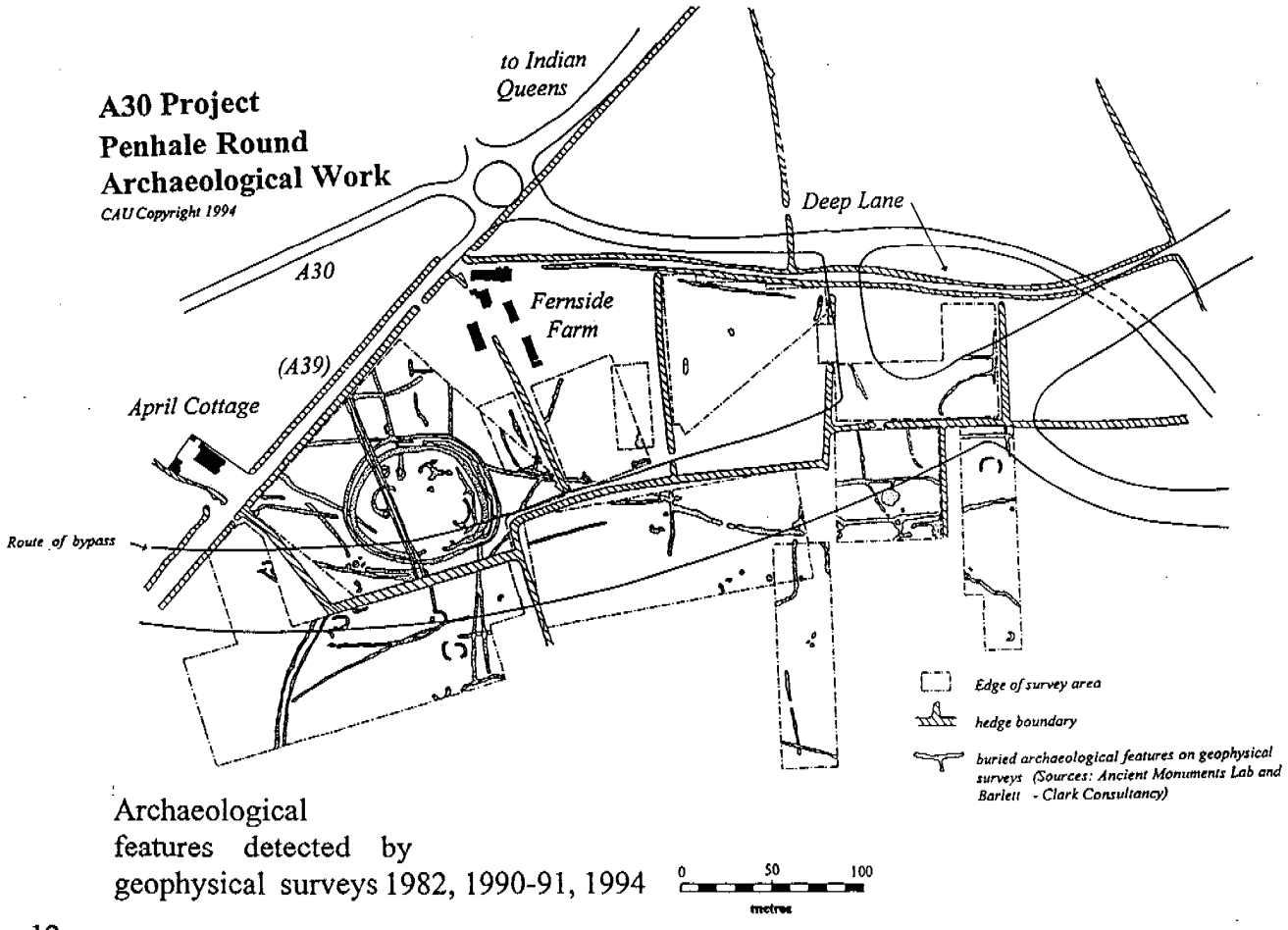


Fig.7 Interpretative plan of geophysical surveys at Penhale Round

geophysical survey represented a snapshot of a several superimposed layers of hidden ancient landscapes (Fig.7).

Seven excavation trenches were opened up by machine; the largest cut right across the edges of the settlement revealing the line of the ramparts and accompanying exterior ditches and their impressive major entranceway. Other satellite trenches were sited beyond the boundary of the round to investigate its contemporary and earlier landscape setting.

Our work at Penhale uncovered a notable range of exciting new information about the evolution of the prehistoric landscape in this little explored area of the Cornish countryside. Although a number of rounds in the county have been examined by excavation, previous work had tended to concentrate on the interiors of these sites and as a result, little data exists concerning the immediate local settings of these important later prehistoric settlements. Our work at Penhale presented an opportunity to address this imbalance. Overall the results of the excavation have been extremely significant revealing insights into the history of landuse in this area dating back to at least the Middle Bronze Age - some 3,500 years ago. Broadly speaking, evidence for four major archaeological phases were uncovered: The Middle Bronze Age, the later Iron Age, the Romano-Cornish and the most recent, the Medieval period.

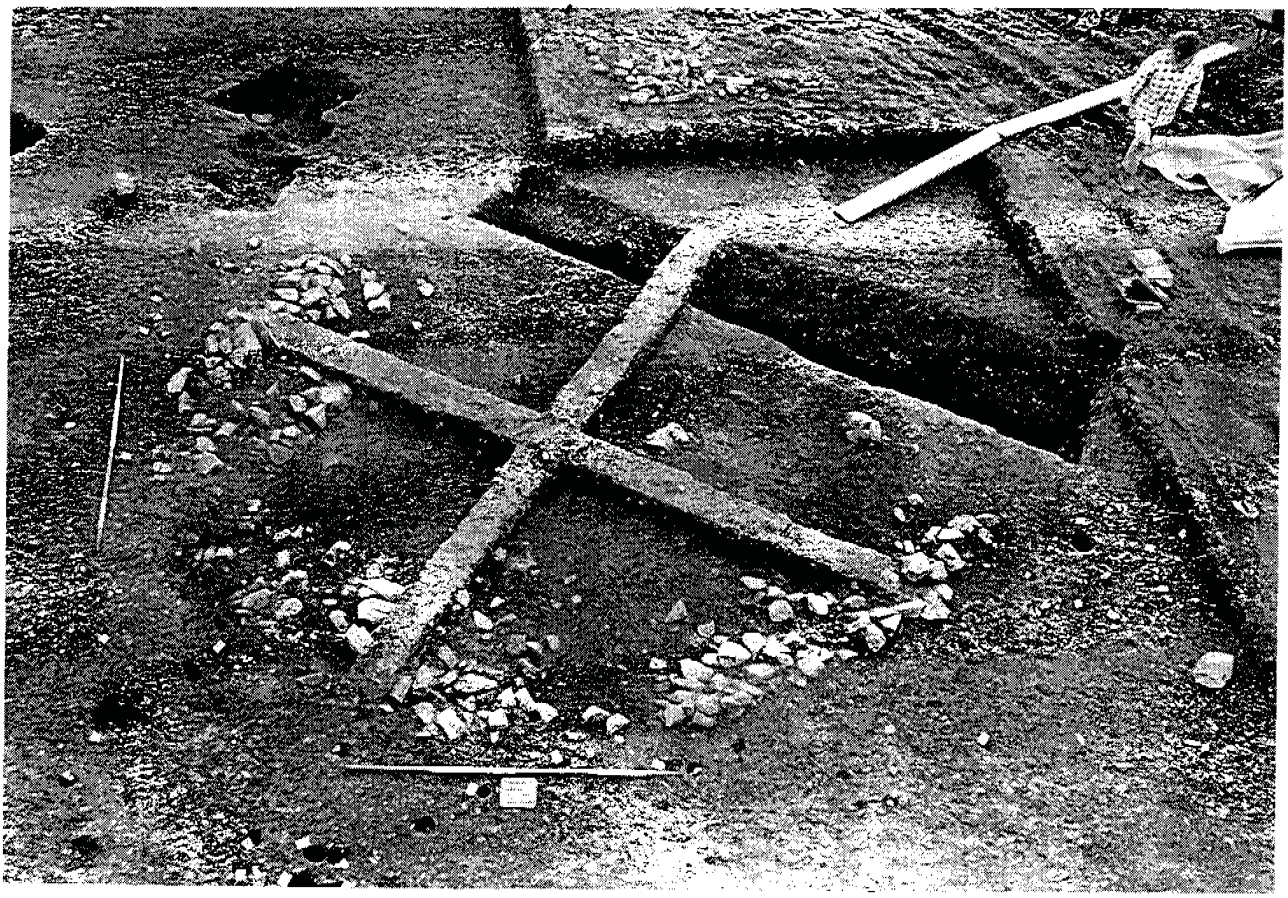


Fig.8 View of the oval Bronze Age building at Penhale during excavation

The Bronze Age Farming Landscape

The earliest remains consist of the outlines of boundaries of an early field system together with a small oval building (fig. 8), a circular stake-built enclosure and the traces of a sub-rectangular structure which contained a domestic hearth-pit. The latter structure - if correctly identified - is an exciting new discovery hinting at previously unsuspected architectural diversity for this period in prehistoric Cornwall. All of these very early remains were remarkably well-preserved, this was especially so in the case of the oval building whose ground plan survived intact. A dense spread of decorated domestic pottery of Middle Bronze Age date (c. 1300 - 900 BC) was found embedded in the floor surfaces of the oval building together with the charred fragments of structural oak timber. The building was small and had probably been used as an outbuilding - perhaps for keeping young animals and agricultural fodder. It was associated with an enclosure and sat within a field system. The use of the sub-rectangular structure has yet to be determined although it is possible that it was a dwelling house. The importance of these findings is highly significant for our understanding of the appearance of the landscape in this period in Cornish prehistory and as such has provided us with a new wealth of information related to the agrarian character of the Cornish Bronze Age. Further exciting evidence relevant to these discoveries was recorded 9 months later when another settlement site of this period was discovered during the 1994 watching brief only 500 metres to the west (see below **Penhale Moor** and Fig.24).

The Pre-Round Landscape

There followed a gap of perhaps several hundreds of years during which the landscape here was probably not intensively re-used - until the later Iron Age (at least 2,000 years ago). Linear ditches and an isolated building (of as yet undetermined use,see Fig.9) belong to this next phase and together appear to mark a departure from the rather disparate arrangement of the earlier

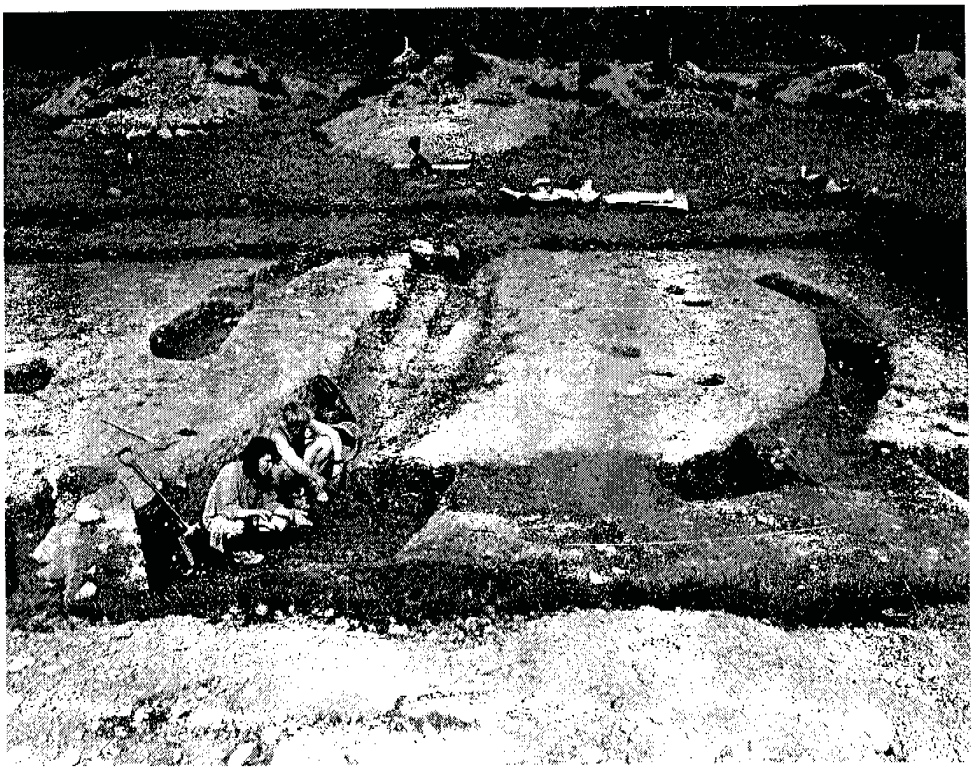


Fig. 9 View of segmented Iron Age building during excavations at Penhale Round

underlying Middle Bronze landscape, imposing upon it a rather more formal layout. Once detailed study and analysis of the artefacts and environmental data from features belonging to this phase have been carried out we will be able to more accurately date the inception of this change. The discoveries belonging to this phase once again provide us with a rare insight - not only into this period in Cornish prehistory, but also for issues concerning changing landuse and settlement continuity.

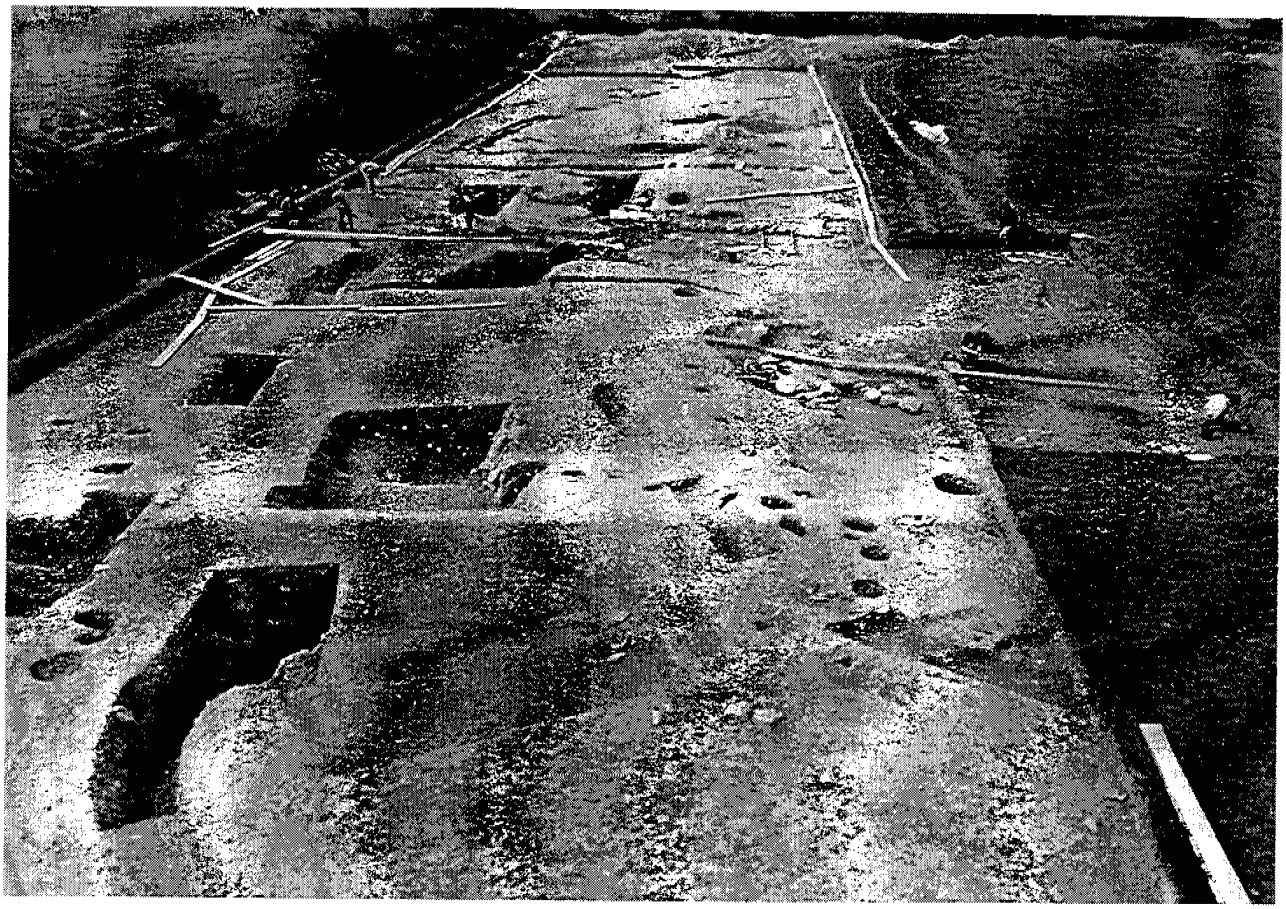


Fig. 10 Looking west along the main excavation trench at Penhale Round. Sections of the outer curving ditches can be seen together with the partial remains of a stone-walled house (centre right) and the main entranceway.

Penhale Round

Turning now to the later prehistoric enclosed settlement - that is Penhale Round - we have unearthed a range of information which hints at a fairly complex history of occupation focused on the round, in the process revealing much about the people who once lived there. On present evidence this phase may date to around the 1st century BC up to the 3rd century AD. This complexity is most dramatically revealed in the sequence of changes which modified the overall structural and architectural appearance of the settlement. These changes were

uncovered in the largest excavation trench (Area 3, Fig.10) which was centred on the ramparts, the external ditches and the main entranceway into the settlement. As a general rule, multi-ditched rounds seem to be uncommon in Cornwall. At Penhale the opportunity to examine the main defensive features - the exterior ditches - has allowed the analysis in some detail of the development of a fairly simple site into one of some complexity. The sequence of exterior ditch construction at Penhale Round is complicated and we have been able to isolate at least 5 major phases of modification which affected the external appearance and function of the site throughout its long history. It is clear that the site gradually developed from a single-ditched, enclosed settlement into one with double ditches. Each major change was accompanied by a physical remodelling of the appearance of the major entranceway (see fig.11). It is as yet unclear whether these changes reflected an increasing anxiety about the need for security and defence experienced by those living in the round or whether it symbolised a desire to enhance and make more impressive the outward appearance of the site. The preservation of ditches, palisade trenches, cobbled roadways, drains and gateways was excellent and these features have provided us with a well-buried depth of stratigraphy which we hope (following further detailed analysis) can be dated by artefacts and supporting environmental data. Only a small portion of the interior of the site was examined but the ground plan of a small oval building was excavated (fig.10).

Fig.11 A view of the main entranceway at Penhale Round during excavation. The complex sequence of ditch construction resulted in an elaborate entranceway which changed through time.

Pottery and items of worked stone show that the span of occupation at Penhale extended from at least the end of the 2nd or 1st century BC right up to the 3rd/4th centuries AD. Extensive sampling of buried layers and ditch deposits took place throughout the excavation, and when analysed, these samples will reveal much about the economic lifestyles of the people living at Penhale throughout the time of the Roman occupation of Britain. In addition a number of boundaries of an associated field system were found and excavated. Their layout provides some insight into the character of the contemporary farming landscape.

The Round in the Medieval Period

Following the abandonment of settlement in the round (which is currently considered likely to have been around the 4th century AD) the area seems to have been largely deserted and was not later re-used for settlement by Medieval farmers. It is likely that the site fell into neglect and began a gradual transformation into an overgrown archaeological site so that by the Medieval period - say 600 years ago - it was little more than an overgrown earthwork. The only major change within this area was the construction of a field wall which ran more or less centrally across the site. This medieval field wall no longer exists but has left its scar across the site. Although it is difficult to date this feature accurately, it was probably contemporary with the nearby medieval farms of Trewheela and Penhale, both of which are amongst the earliest documented settlements in the vicinity, being first recorded in 1286 and in 1327 respectively (Gover 1948). By examining sections across a number of extant field hedges (which have been cut through by the bypass corridor) we have found that the lines of some field boundaries established during prehistoric times continued to be reused in more recent historic times.

The excavations at Penhale have proved remarkably successful in providing us with a vast pool of significant information about landuse and settlement in Cornish prehistory. For the moment this range of evidence is unparalleled in illustrating as it does the changing social and economic landscape of Cornwall over a period of some 1500 years - from the 2nd Millennium BC right up to the end of the Romano-Cornish period (the end of the Roman occupation of Britain). In addition a modicum of the medieval and post medieval history of the area can also be deduced from the excavated and documentary evidence.

Fig.12 A class site tour at Penhale Round

We were fortunate to be able to open the excavation at Penhale Round to public inspection and many local people (as well as groups from archaeological and historical societies) visited the excavations while they were in progress. A schools programme run by Chris Crowe with Elizabeth Davis for five weeks in March 1993 attracted schools on a county-wide basis. This proved popular, providing as it did the opportunity to see an archaeological dig in progress, and

was taken up by over 20 schools (approximately 1000 school children, primary and middle school age).

In the summer of the following year during the course of monitoring road construction operations along the bypass on the western and eastern periphery of the settlement, additional traces of the prehistoric landscape were discovered, providing further information on the extent of survival of this remarkable tract of the early Cornish landscape (see Fig 14).

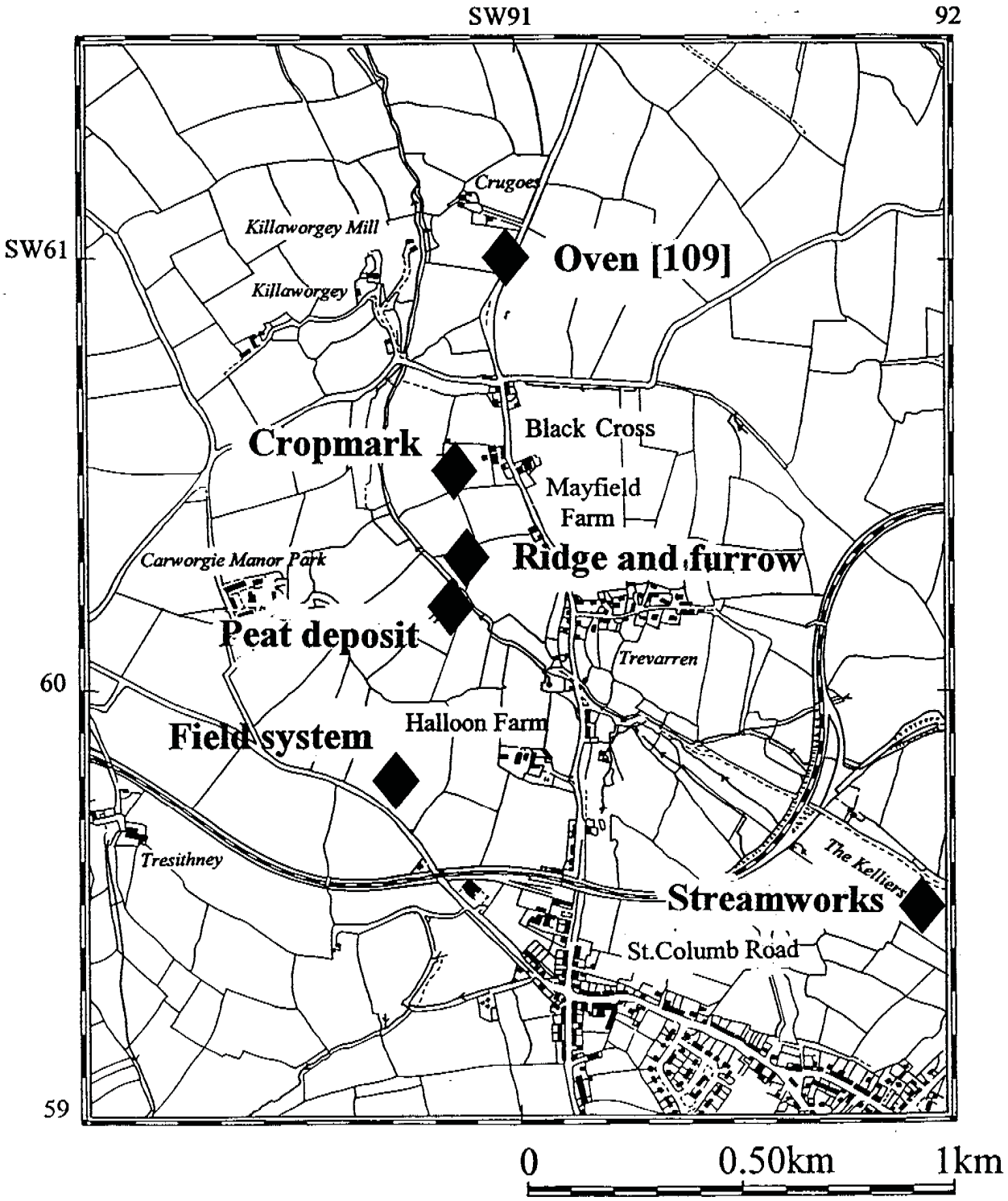


Fig. 13 Locations of sites investigated in the northern section of the bypass scheme.

Higher Fraddon Pan Kiln, Fraddon (Fig.1)

A photographic survey of a derelict twentieth century chimney stack and associated china clay pan kiln and linhay was carried out by John Smith in May 1993. Part of the site fell within the road corridor and in 1991 recording had been recommended in the China Clay Landscape survey undertaken by CAU (Herring and Smith 1991). Pan Kilns were developed in the 1850s and were the principal means of drying clay and preparing it for market until the 1960s. This particular example (Cornwall Sites and Monuments Reference number:27001) probably treated clay from Wheal Remfrey Pit and was superseded some decades ago by more modern centralised plant. The concrete-built structures were used until recently for pig housing. This was the most modern feature recorded by the A30 Project team. The structure was subsequently demolished.

Halloon Farm, St. Columb (SW9076 5973) - The Excavations - (Fig.13)

Throughout June and early July 1993 the project team carried out work on a buried landscape at Halloon Farm in St. Columb on the northern sector of the road scheme.

Here a geophysical survey carried out by Bournemouth Polytechnic in 1991 had located traces of a ditched field system within the area to be cut through by the bypass (Sutherland 1991). Eight trenches were opened and in more than half the remains of linear ditches were uncovered. Little direct dating evidence was found and finds were confined to a handful of flints together with post-medieval and modern pottery. The survival of the features was generally poor; truncation by ploughing in historic times would account for this. The pattern of the ditches excavated bears little relation to the current layout of the fields on the farm and it is likely that the excavations uncovered parts of a buried landscape dating to some unidentifiable prehistoric period. During road construction monitoring in 1993-94 a handful of flints were collected from topsoil in this area confirming general prehistoric activity.

A sketch survey carried out concurrently of the present field layout at Halloon seemed to confirm our general conclusions (see below).

Halloon Farm, St Columb (SW9108 5990) The Survey (Fig 13)

The first documentary reference to settlement at Halloon appears in 1334 (Gover 1948) showing it to have been one of the clearly identifiable medieval settlements in the project area. Boundaries within the present farming landscape at Halloon Farm are early in origin and it was hoped that a sketch survey carried out in June 1993 might aid in the interpretation of the field system undergoing excavation on the farm (see above). The sketch survey showed that in places at Halloon there are remnant traces of a medieval field system but that this was of an altogether different pattern to the layout of boundary ditches found during the excavation (see above). This albeit limited evidence would therefore suggest that a pre-medieval element on the farm had been largely replaced and the character of the subsequent historic farming landscape had been markedly different during the medieval period.

Queens Mine, Indian Queens (Fig 1)

In late June 1993 a small team led by Janice Grove and Adam Sharpe investigated a small group of overgrown mining features located on the slopes of Higher Fraddon (SW 9207 5850). One proved to be a partly backfilled hollow marking a post-medieval shallow outcrop shaft (*a lode back pit*) while the other was a prospecting pit (probably contemporary with the shaft). Documentary sources show that Queens Mine, the core of which lay further downslope, was operational during the 1840s. Areas of shallow surface workings such as

these may be considerably older. A plane table survey of the area was also carried out to show the broader context in which these features had existed. This small-scale exercise provided invaluable evidence regarding early shallow mining techniques and the results will be reviewed within a wider programme of experimental archaeology examining early tin mining methods.

Mayfield Farm, St. Columb (SW9087 6053) (Fig 13)

At the request of the Archaeological Unit the Ancient Monuments Laboratory carried out another geophysical survey of a small area of land at Mayfield Farm in 1992 (Linford 1993a). Aerial photographs hinted at the possible existence of the ploughed-out remains of ditched circular features in this area. The results of the geophysical survey were inconclusive and it was decided to investigate the areas where anomalies had been detected using small-scale excavations. Three small trenches were opened up by a team led by Charles Johns in July 1993, but little of archaeological significance was found and the anomalies were found to have been created by recent activity and animal disturbance.

End of Phase I - July 1993

The end of the first phase of archaeological work finished with the work at Queen's Mine and Mayfield Farm by which time the project team had been in the field continuously for 9 months. All of the detailed work carried out during this time had to be completed within the tight deadline imposed by the commencement of road construction set for mid July 1993. During that period a substantial body of work had been achieved and all major objectives had been met. From mid July, however, the nature of the project changed as it entered a rescue phase where conditions relating to access and time became significantly restricted. The overriding aim for this phase of work was to monitor road construction as it took place and to record (whenever possible) any new sites which evaluation had failed to detect. Minor sites (to which access before July 1993 had not been possible) were also to be investigated. In Phase II the field team was smaller but consisted of members of staff who had worked on the project from the outset and who were therefore familiar with the landscape, its problems and the archaeology of the area.

Budgeting for adequate resources to cover this type of archaeological response is extremely difficult as there are many factors which can dramatically modify the working schedule of any large construction project. In early summer 1993 we could not have foreseen the appalling weather conditions which marred the autumn, winter and following spring and which were to beset construction timetable. We are thus extremely grateful for the assistance and co-operation of the on-site contractors and project managers who kept us informed of the many changes in the construction schedule. We are also grateful to English Heritage, the principle funders of this project, for the necessary contingency funds which permitted us to effectively monitor the whole extent of the road scheme.

Part II

Phase II - Watching Brief 1993 - 1994

Clearly there were certain sections of the route which had acquired high priority status for monitoring during the course of road construction operations - largely those within the vicinity of the major excavations carried out the previous nine months. There were also, however, other minor sites which the pilot study in 1991 had highlighted for inspection and these were also targeted during this second phase of the archaeological work.

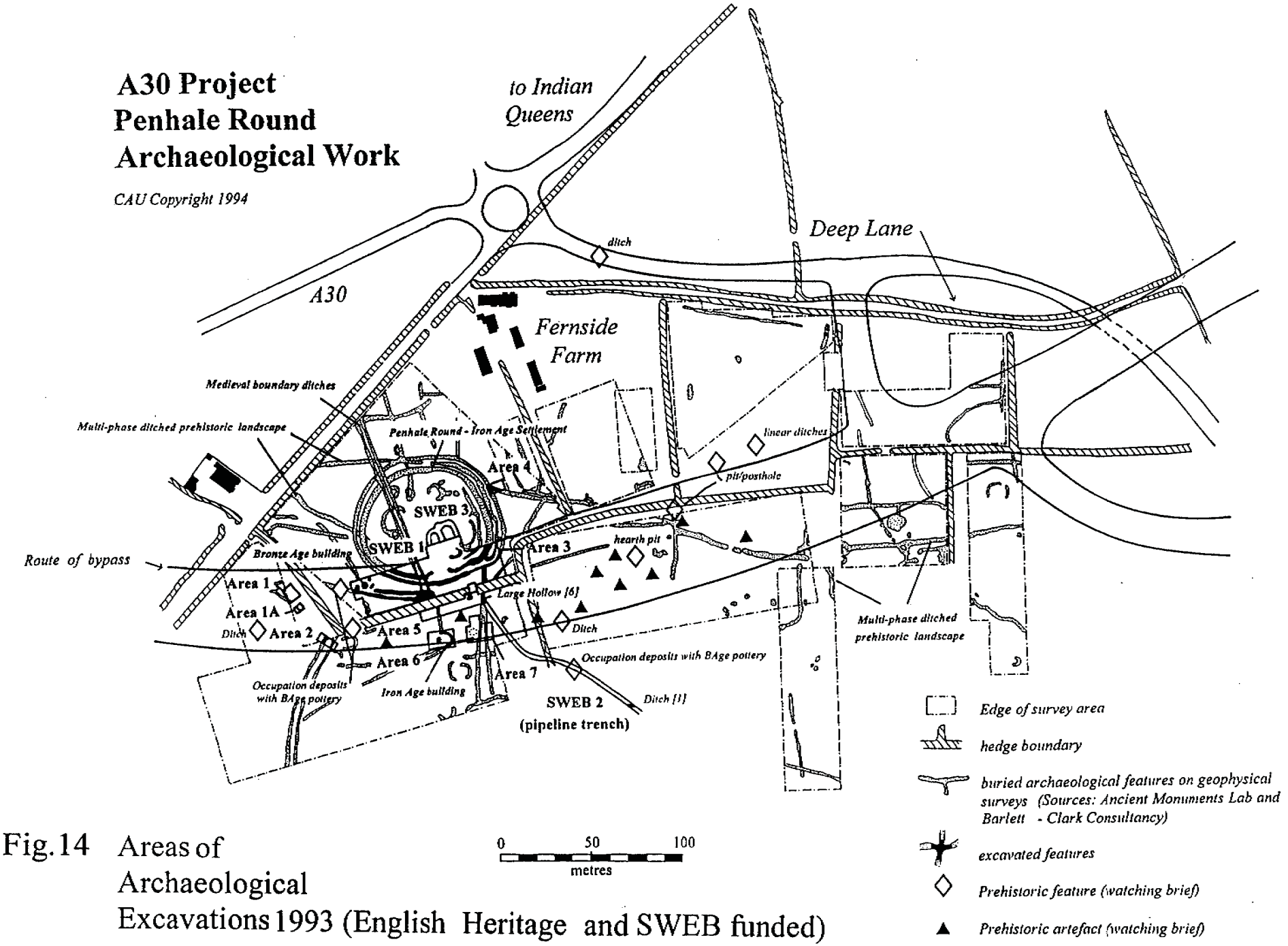


Fig.14 Areas of Archaeological Excavations 1993 (English Heritage and SWEB funded)

The following section discusses the work which was carried out from mid July 1993 to May 1994. During this time sites from a wide range of periods were recorded and two major rescue excavations of new prehistoric sites were carried out.

The Vicinity of Penhale Round (SW 9075 5720) (Fig 14)

Road construction began in the vicinity of Penhale Round providing the first major area requiring monitoring. Isolated pits, ditches and spreads were surveyed around the main site giving us some indication of the extent of survival of the Bronze Age and later prehistoric landscapes of the area (see Fig14). No major new discovery was made but the opportunity to record the extent of survival of features associated with those excavated early in the year has been important for overall interpretation of the area.

During this time the team also monitored road-related service works which were carried out by South Western Electricity Plc. A further area within the interior of the round was disturbed the installation of the underground section of a high voltage cable and financial provision and access to excavate this area was granted by South Western Electricity Plc. Further traces of occupational activity within the round were uncovered - and despite disturbance being limited to narrow cable trenches, postholes and floor surfaces of a structure were recorded. Pottery indicated a Romano-Cornish date.

Highgate Roundabout - Highgate Ritual Enclosure (SW 9244 5915) (Fig.15)

Towards the end of August a completely new site was detected and rapidly excavated (in four days) in the area where Highgate roundabout now stands. This is an important discovery as it is located less than 30 metres to the north of Little Gaverigan barrow and provides us with evidence of the broader ceremonial landscape setting of the barrow.

Highgate Ritual Enclosure is an Early Bronze Age site of unusual character and of a type not previously documented for Cornwall, making its discovery all the more important. The site

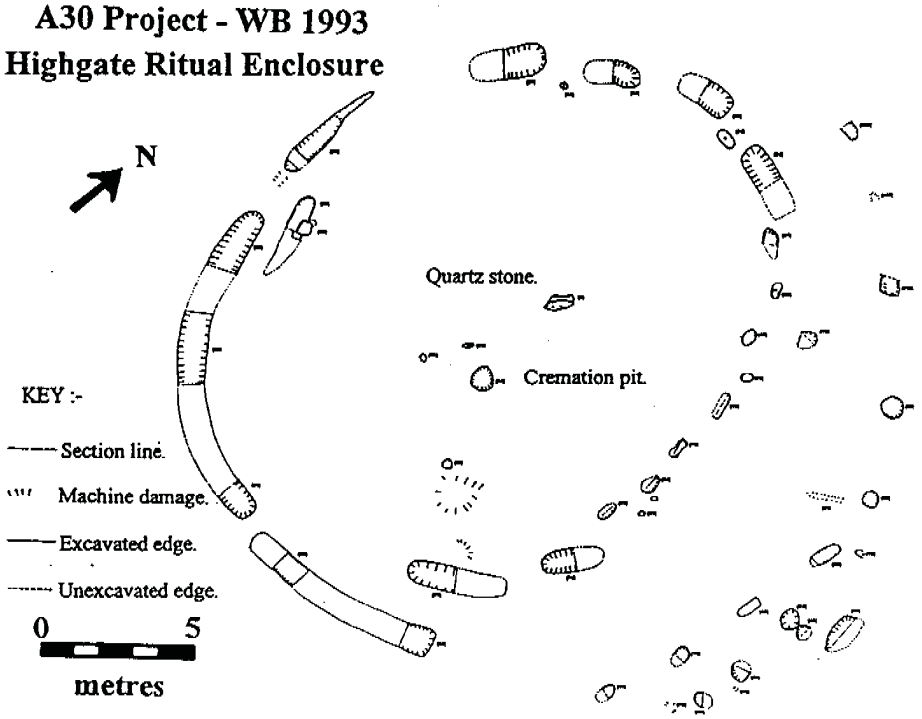


Fig.15 Plan of Highgate Ritual Enclosure

comprised an enclosed oval space (10 x 12 metres in size) defined by a series of shallow segmented ditches and postholes which form an unusual horse-shoe arrangement (Fig.15).

Towards the centre lay a fairly deep pit containing a cremation deposit within a decorated ceramic urn. The urn had been broken at some time in antiquity (either during deposition or prior to burial) and the pit had been sealed with a black silty layer. Close by was a large quartz block embedded into the clay subsoil. This may have been a marker stone. There were no other signs of activity or indeed any other identifiable artefacts found within the enclosure. The cremation was lifted *en bloc* and taken for careful examination by Margaret Brooks at the conservation laboratory at Salisbury. It was found to contain a mass of cremated material together with a bronze awl. Bronze awls have been found in Bronze Age burials in the South-West but are generally rare (*cf* Christie 1985, esp.73 -74 and Fig. 43). The cremation vessel is decorated and would appear to be a collared urn, dating the site to the Early Bronze Age (4,000 years ago). Unlike its neighbour - Little Gaverigan Barrow - there were no signs a covering turf mound at this site.

Fig.16 Excavations in progress at Highgate Ritual Enclosure in August 1993

The discovery of another ceremonial site close to the barrow at Little Gaverigan together with other features (see below) clearly indicates the focus of much ritual and ceremonial activity at this location.

Highgate Roundabout - Highgate Pits (SW 9241 5910) (Figs.17 and 18).

A month later a cluster of 13 large pits were discovered some 100 metres to the south of Highgate Ritual Enclosure and Little Gaverigan barrow. All were surveyed and recorded in section. These were distinctive in shape and profile - the majority being wide-mouthed but narrowing at their bases to deep regular cuts. Depths varied from 0.50 metre to 1.50 metres. They vary in section but all exhibited signs of having been recut, while some had evidence for smaller postholes set within them. In general these pits do not exhibit the characteristics of known mining features and in terms of shape and size they share some similarities with the large pits which were found to belong to an early phase at Little Gaverigan Barrow (see above). They also appear to share an alignment (NNE- WSS) and at this interim stage in our investigations they are considered to represent a further component of the prehistoric ritual landscape setting of the two ritual sites - Little Gaverigan Barrow and Highgate Ritual Enclosure (see Fig 18).

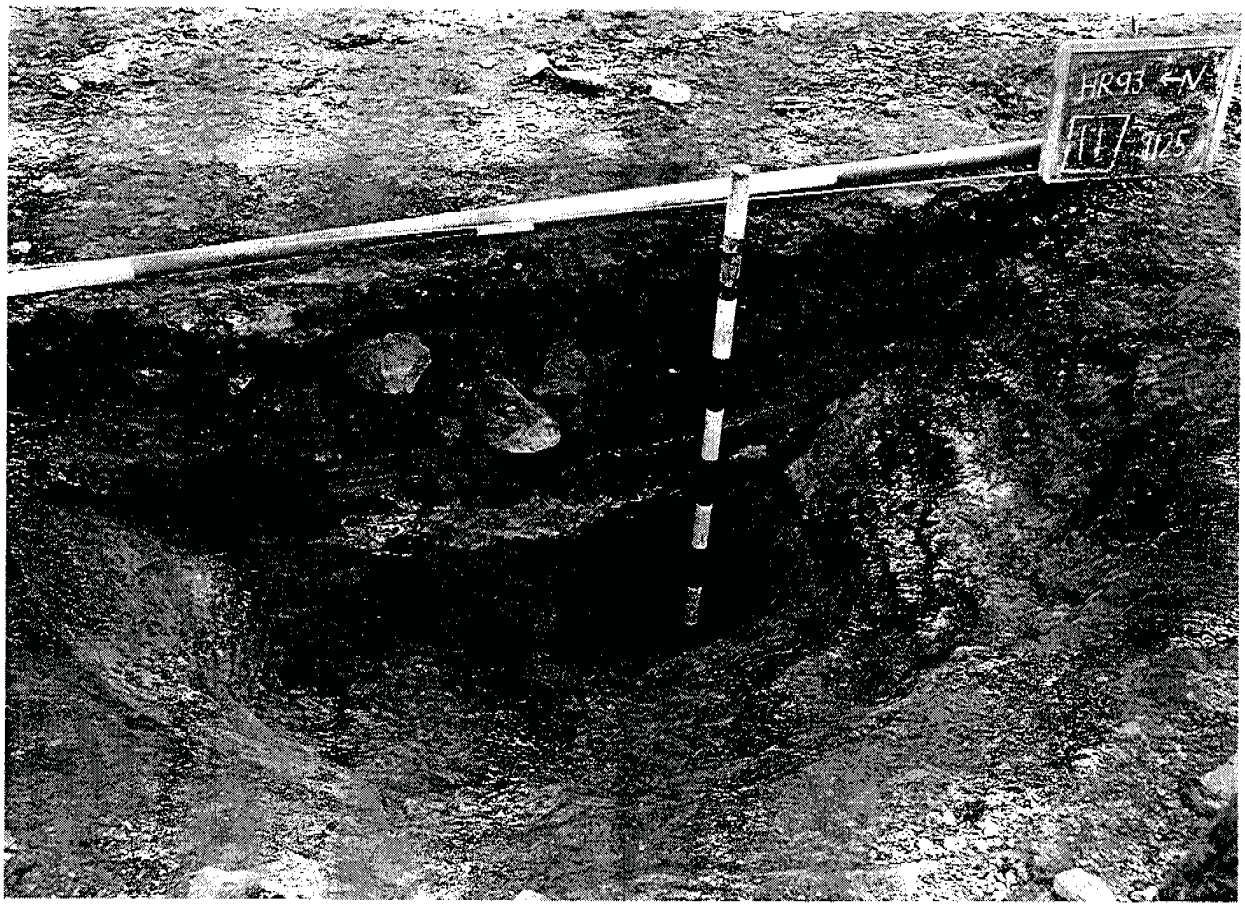


Fig.17 Excavated section of one of the Highgate pits at Highgate Roundabout

The discovery of an isolated **cup-marked slate** (site reference <328>) found at SW 9255 5884 in this general locality contributes further to this overall emerging picture of a ritual landscape. This was not *in situ* but had been displaced - perhaps from another site which had once stood within this *"ritual landscape setting"*. Cup-marked stones are commonly associated with ceremonial sites of this period in Cornish Prehistory (*cf* Christie 1986, esp. 100 - 102).

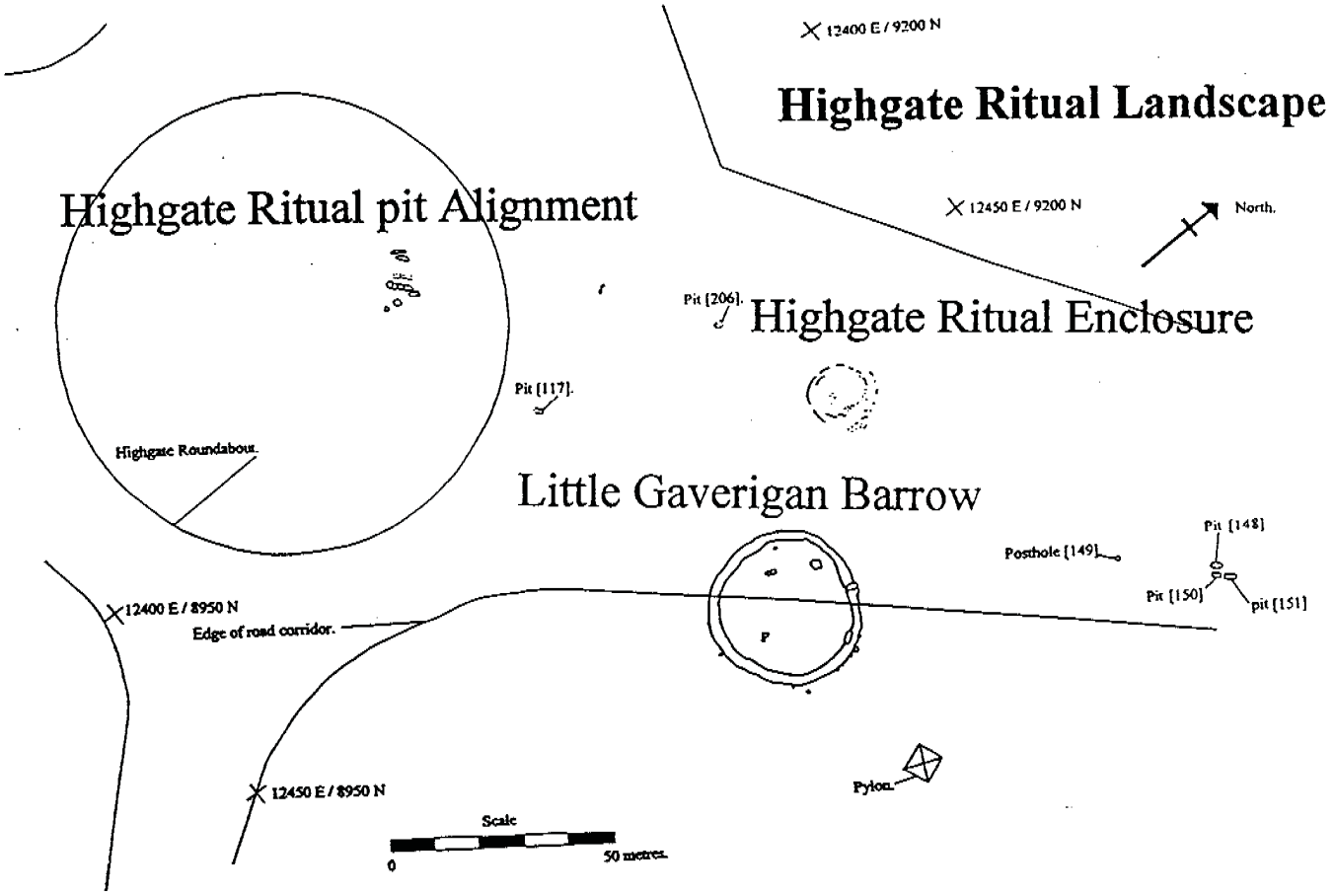


Fig.18 The Ritual Landscape Setting of Little Gaverigan Barrow, Highgate Ritual Enclosure and Highgate Pits.

Ritual landscapes are primarily phenomena dating to Early Prehistory and mark a period of ceremonial monument building which was carried out on a large scale over an extended period of time during the late Neolithic and Early Bronze Age periods across Northern Europe (some 4,000 years ago). To date these have generally been documented within areas of upland in the South-West such as West Penwith or Bodmin Moor where concentrations of ceremonial sites have survived as upstanding monuments (*cf.* Johnson and Rose 1994). The discovery of

such a landscape here on the edges of this heavily modified granite moorland is exciting as it reveals an unsuspected symbolic importance of the Indian Queens area during prehistory.

Halloon Farm - Peat Deposit (Trench [103]) (Fig.13)

On the northern boundaries of Halloon Farm at SW 9095 6010 a series of well-sealed peat deposits were exposed during the excavation of a new drainage ditch in October 1993. These were recorded by the field team with guidance of our environmental consultant Vanessa Straker who took core samples from the site for the purpose of palaeo-environmental analysis. Despite an extensive search for peat for our landscape study this was one of only two examples of buried peat susceptible for such environmental analysis found in the project area. Together with the other site at the Kelliers (which was sampled in August by Jenni Heathcote) it is hoped that these deposits will provide useful background information in helping to construct a picture of the development of the vegetational history of the project area.

Mayfield Farm, Ridge and Furrow (SW 9088 6027) (Fig 19)

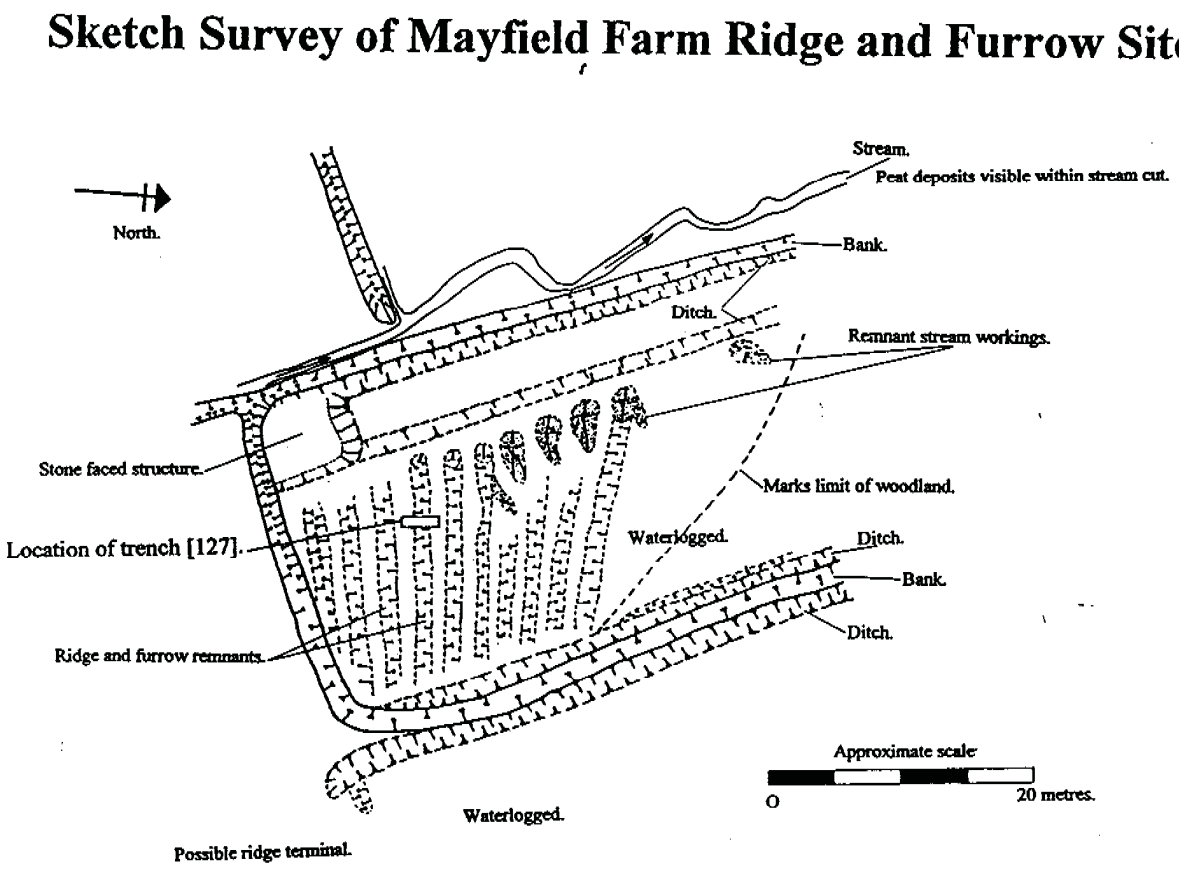


Fig. 19 Sketch survey of banked enclosure, streamworkings and ridge and furrow site at Mayfield Farm.

During the 1991 pilot study a small plot of medieval cultivation ridges was discovered within a wooded enclosure on the lower slopes of a valley between Halloon and Mayfield Farms. The site was overgrown by trees and survey was not possible until some of the dense

overgrowth had been cut back. In October 1993 Anna and Andy Jones carried out a sketch survey of the site. At least 10 broad cultivation ridges were found and a small trench was cut through these which revealed wide spade-dug furrows. The site was shown to pre-date the establishment of the wood as well as traces of streamworking activities whose banks and cuttings overlaid the ridges. The survival of broad-ridged cultivation features is a rarity within lowland Cornwall and although no direct dating evidence was found during the excavation a medieval date is likely. The information gained from this exercise will contribute to a little-studied aspect of medieval life in the South-West (*cf* Griffith 1984).

The Kelliers Streamworks (SW 9160 5960) (Fig 13)

A number of streamworking sites were identified in the area during the 1991 pilot study and in all cases scaled surveys of the sites within the road corridor were recommended (Rose, Herring and Nowakowski 1992). This however proved impractical or impossible since many of the sites were densely overgrown and in the event only one site - the Kelliers - was surve. It only became practical to carry out a sketch survey of the site in December 1993 after the wholesale removal of dense scrubby vegetation cover. The work was carried out by Anna and Andy Jones with advice from Adam Sharpe. The arrangements of the spoil banks suggest eluvial streamworking activities, probably of medieval date. These were clearly extensive in character and appeared to be part of a larger complex which stretched northwards down towards the small valley bordered by Halloon Farm and Mayfield Farm. It is probable that most of the stream valleys flowing off the moorland have been worked in such a fashion but surviving evidence is now rare.

Hedge Boundaries Recording Programme

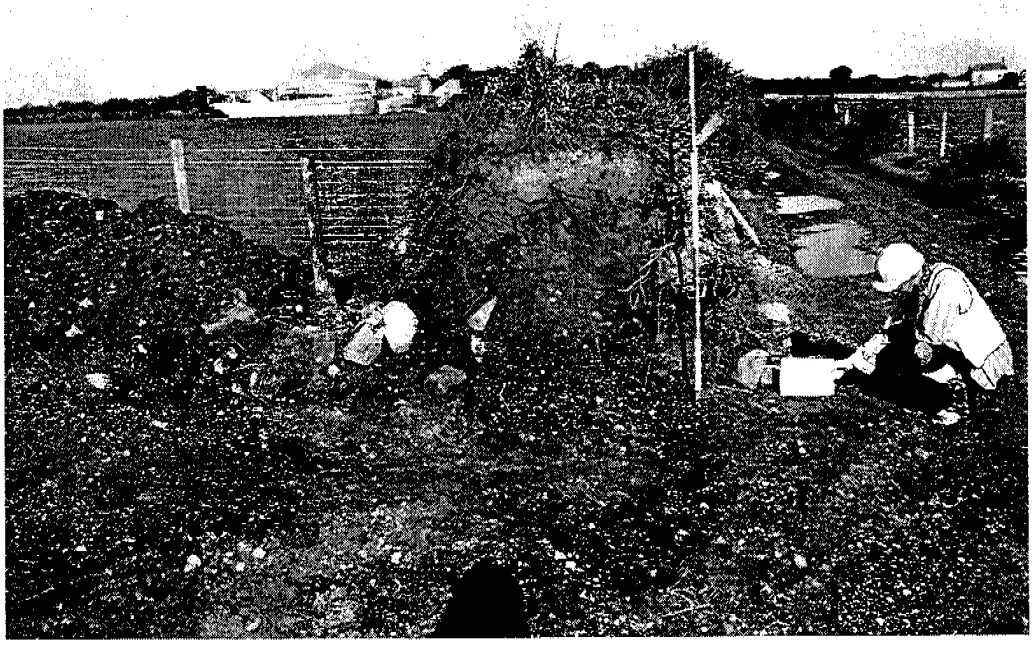
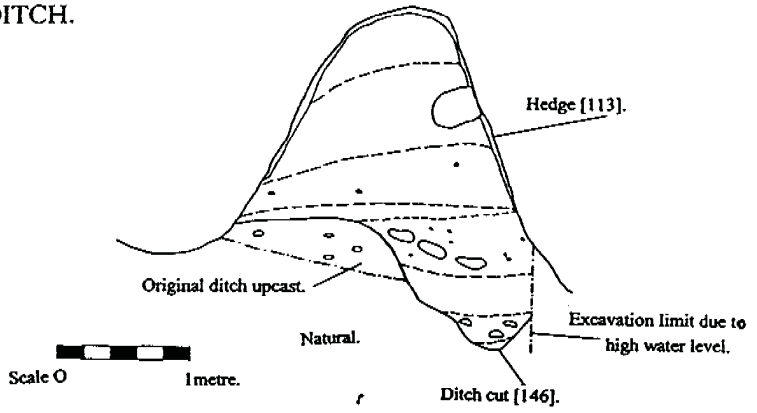


Fig. 20 Hedge Boundary Recording in Progress

One the of the major objectives of this project has been the collection of data which will contribute to a detailed overview of the development of agricultural activity in lowland Cornwall. This aims to model changing landuse through time and it is hoped that a detailed

analysis of the **hedge boundary recording programme** will provide us with a useful model with which to examine landuse in the low-lying areas of the county as a whole.

CONTINUING BOUNDARYS: A HEDGE OVERLYING AN EARLIER DITCH.



AN OBLIQUE SECTION THROUGH A WATERLOGGED EARTHEN HEDGE.

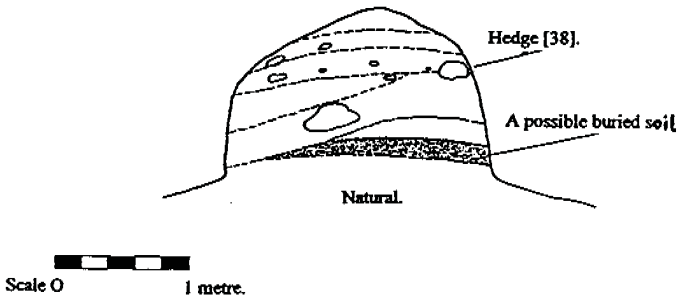


Fig. 21 Sections through hedges - A30 Project Watching Brief 1993-94

Throughout the watching brief programme sections of field boundaries cut through by the route of the bypass were recorded by the field team. Over 140 hedges were recorded in detail to form a substantial representative sample across both historic farmland and former moorland in the project area. Some boundaries show clear evidence for structural phasing and this record forms a detailed insight into the morphology of Cornish hedges and contributes to a long term research project being undertaken by CAU. At the time of writing analysis of this body of data is in its preliminary stages although it is already possible to demonstrate that there are broad differences between boundary types in the project area. This seems to be related to the different processes of enclosure and reflects changing landuse through time. In

general, boundaries in wetter areas are broader, tend to have an organic structure and are low-standing (see Fig 21). In drier areas the classic Cornish stone hedge with its distinctive battered profile is more commonplace. Clearly local topography has some influence on the character of the field walls but the history of landuse and fashions in hedging styles also bear some influence. In some places it was possible to show that later stone and earth hedges were built on the alignments of earlier boundaries - a phenomenon observed in particular within the vicinity of Penhale Round (see also Fig 21).

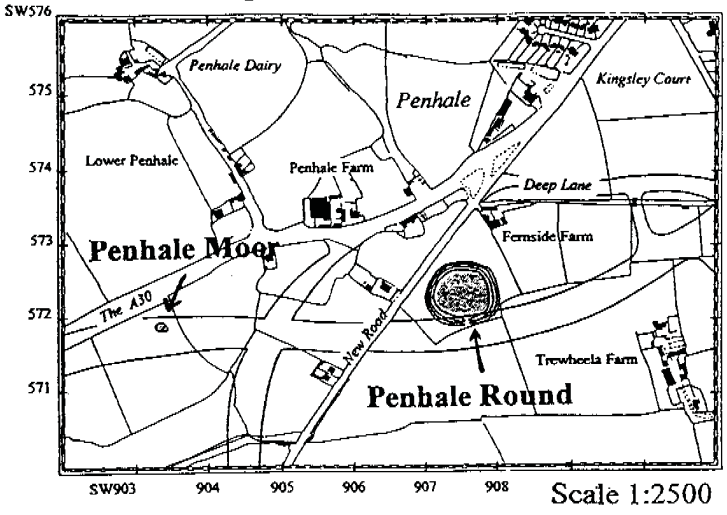
Isolated Sites, Features and Artefacts

A number of isolated features were recorded at various locations on the bypass route. In general these features do not form part of discrete or identifiable sites but comprise isolated ditches, banks, pits and scarps, trackways and odd pits. None of these have produced any direct dating evidence and it is likely that their overall archaeological significance is limited.

One particular discovery in this category is a concentration of features with possible intrinsic interest located at the northern end of the bypass scheme at **Black Cross (SW 9100 6098)** (Fig.13). Here 6 linear parallel ditches and a deep stone-lined "oven" pit were found. The ditches - sharing the same alignment - would appear to be part of an earlier field system which had been cut through by the A39 St.Columb road during its construction in the mid Nineteenth century. The alignment of these ditches differs to that of the present field system. Unfortunately no direct dating evidence was found for any of these features.

A scatter of isolated artefacts was recovered from topsoil deposits along the length of the bypass route. On the whole the assemblage is rather small and comprises mainly pottery of medieval or post-medieval date. These residual finds represent general activity rather than specific sites. Of interest is the collection of flint artefacts found at 12 different locations along the bypass route. The majority represent isolated finds but they do indicate some activity across the entire area during prehistory. It was the discovery of a concentration of worked flint tools at one particular spot which alerted the team to a possible hitherto - unsuspected prehistoric site. This site was **Penhale Moor** and this discovery and its subsequent excavation proved a fitting end to a this final phase of archaeological fieldwork.

Penhale Moor Excavations - A Middle Bronze Age Farmstead (SW 9034 5714)



During the winter of 1993-94 a notable quantity of worked flint was picked up by the field team at a location at the western end of the bypass route (at a site which later came to be known as Penhale Moor Fig 22). An increasing number of prehistoric pot sherds were also found in this area during repeated field visits following the stripping of topsoil. This collection of finds represented definite traces of prehistoric activity at a location where there had been no obvious surface remains. Eleven months earlier, at the request of CAU, a geophysical survey had been carried out at this location by a team from the Ancient Monuments Laboratory (Linfrd 1993b and Fig 23). Their results proved inconclusive and although some disparate

ditched features had been detected, it was difficult to be certain of their significance or antiquity. The discovery therefore of a significant quantity of prehistoric finds from this site during site-watching was particularly exciting and a case for detailed excavation was strong.

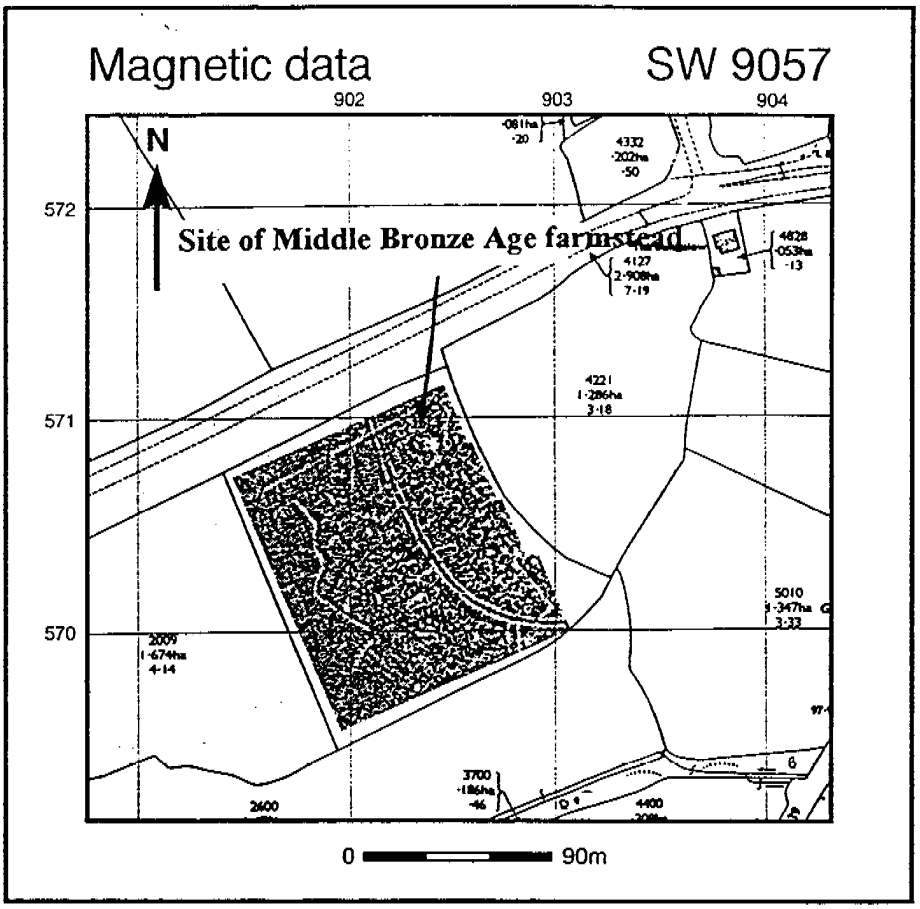


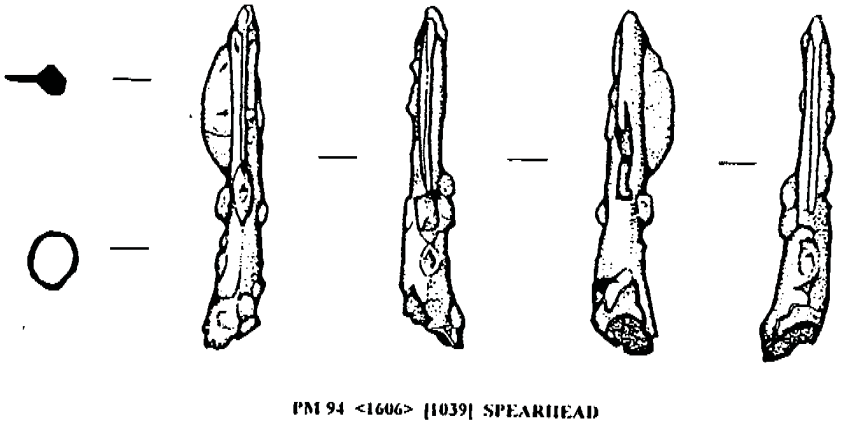
Fig. 23 Geophysical survey of Penhale Moor. Source: Ancient Monuments Lab.1993

Over five weeks during a very wet February and March in 1994, a small team led by Anna and Andy Jones carried out the excavation of what emerged to be a small Middle Bronze Age farmstead at this site. The site consisted of two structures, both of which were set in hollows. One was a circular building, probably the focus for residential and related domestic activities, whilst the other (which lay adjacent and appeared rectangular in shape) may have been used in a different way - perhaps as an outbuilding. Occupation surfaces, internal pits and postholes were well-sealed and therefore preservation of layers and spreads within the hollows was good and will permit reconstruction and modelling of activities within the structures to take place. A sizeable collection of Middle Bronze Age pottery was found in association with the hollows; most of the sherds are decorated with the familiar cord-impressed motif of the Trevisker ceramic series - a cultural assemblage which has been most recently securely radiocarbon-dated from organic samples obtained during excavations at Trethellan Farm in Newquay in 1987. This style of pottery is currently dated to c. 1300 - 900BC (Nowakowski 1991). The arrangement of two buildings at Penhale Moor appears to be part of a small farmstead very reminiscent of a type of settlement excavated at Trevisker in St. Eval in the

1950s (ApSimon and Greenfield 1972). These buildings at Penhale Moor were surrounded by a scatter of pits and smaller hollows; many of which were badly truncated but appear to be related to this main chronological phase. Worked pieces of stone and flint were also found during the excavation and of particular note was the discovery of a Middle Bronze Age spearhead embedded in the floor of the main residential building. Some of the worked flint hints at earlier traces of activity at the site - perhaps dating to the Early Bronze Age or even Neolithic periods - but no definite features were found which can be assigned to these earlier periods.

The results of this excavation were not only exciting for the field team who were coming to the end of a very long period of fieldwork on the A30 project but also very significant in that they represent further evidence for the character of the early prehistoric farming landscape of the project area. The small settlement at Penhale Moor is contemporary with the Bronze Age landscape which had been uncovered during the work at Penhale Round some 12 months earlier. Collectively these sites demonstrate the importance of this area for settlement and farming over 2,500 years ago.

Fig.24 Excavations in progress at Penhale Moor in February 1994



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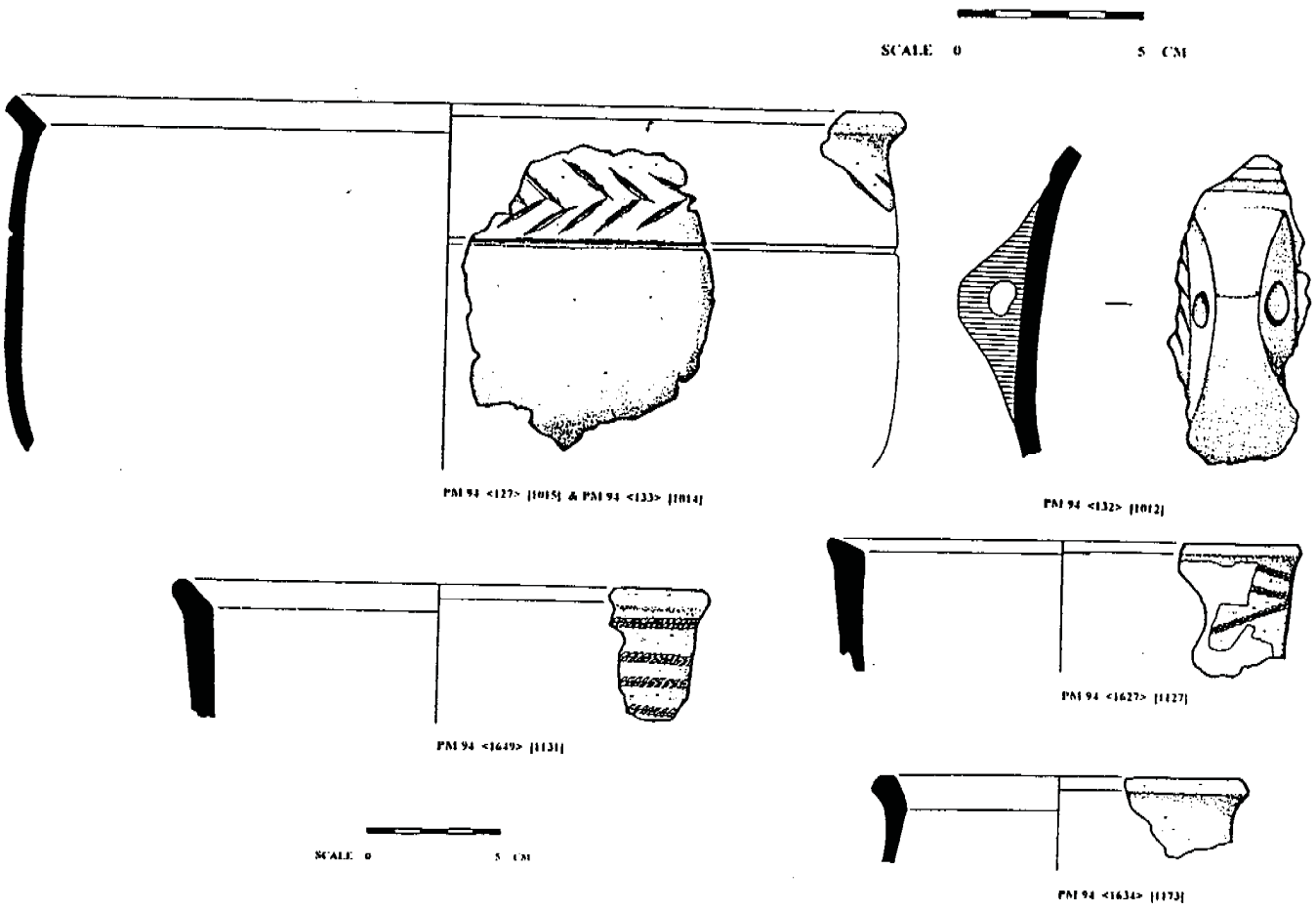

Fig. 25 Copper Alloy spearhead and domestic Middle Bronze Age Pottery from Penhale Moor Excavations 1994. Drawn by Carl Thorpe.

Concluding Summary

Archaeological work on the Indian Queens-Fraddon bypasses has uniquely permitted us to chart in some detail the historical evolution of a tract of Cornish landscape which had previously received little attention from archaeologist and landscape historian alike. A broad range and wealth of evidence has been uncovered which reveals that this area had been settled continuously since early prehistory and that under the "modern" settlements of Indian Queens, Fraddon and St.Columb Road lie remarkably well-preserved traces of their ancient past. This range of evidence is not only important in highlighting the ancient legacy of this locality's heritage, but will also make a significant contribution to our understanding of Cornish Prehistory as a whole, particularly in relation of the development of lowland Cornwall.

The obvious major highlights of this project were the excavations of a number of prehistoric sites - both early and late - which have revealed much about the character and appearance of the area several thousand years ago. However, although excavations of individual sites provide a wealth of detailed information about specific places within the landscape, the most significant aspect of this work has been the opportunity to record information about the broader context in which these ancient sites had once existed. The results from the watching brief programme are highly significant in this respect as this work has permitted this broader contextual approach to be developed. The results speak for themselves. By adopting a landscape-approach to this project we have been able to look beyond the confines of individual earthworks or sites and to document their relationships with other contemporary sites as well as to assess their impact on the developing historical character of the project area.

As has already been mentioned, only preliminary analysis of the data has taken place at the time of writing but even at this stage it is possible to draw together various strands of this evidence to underline the value of a landscape approach and to make some brief comments on the success of archaeological methods employed in this study.

Indian Queens in Early Prehistory

A previously unsuspected early ceremonial setting has now been identified in the area to the north of Indian Queens overlooking Goss Moor. Little Gaverigan Barrow was placed and developed in a setting exclusively reserved during the Early Bronze Age for ceremony, display and ritual. Highgate Ritual Enclosure and the cluster of enigmatic pits collectively known as Highgate Pits, are further components in this prehistoric landscape setting. All these sites must be considered collectively as their function and meaning are interrelated. They present an elaborate picture of early prehistoric ritual display: a scenario which one suspects maybe fairly common for the Early Bronze Age period in the South-West. During the 1970s a number of similarly dated barrows and Early Bronze Age sites were excavated by Henrietta Quinnell in the adjacent China Clay area (Miles 1975). Her work demonstrated that much of the high ground in this zone would have been used for rough grazing and the positioning of ceremonial sites rather than for settlements and their fields. The ritual landscape focused around Little Gaverigan Barrow is on the very north-western edges of this upland area. As has already been mentioned ritual landscapes such as this have already been identified on other upland areas of Cornwall (*cf* Johnson and Rose 1994) and although these have been defined by archaeological survey, very few have been closely examined through excavation. Thus the analysis of this particular setting will be an important contribution to the study of this phenomenon in Cornwall.

Contemporary settlement for this period has always been difficult to detect in Cornwall and this is also true for the Indian Queens area. So although we do not know where the people

who constructed and used these sites lived, the general scatter of flint artefacts found along the whole extent of the bypass corridor during the watching brief programme in 1993-94, gives us some indication that there is general prehistoric activity throughout the low-lying areas of the project area. It is as yet too early to be certain, but some of the diagnostically early flint tools found within the vicinities of Penhale Round and Penhale Moor in Fraddon and even at Halloon Farm near St. Columb Road, could be an indication of favoured locations for early settlement.

The fortunate survival of Little Gaverigan Barrow as an earthwork in a landscape which had been enclosed in recent times - cartographic evidence shows that Little Gaverigan Farm was a 19th century creation - allowed the site to be discovered during the 1991 pilot study (Rose, Herring and Nowakowski 1992). There was however no surface indication of the other two related sites - Highgate Ritual Enclosure and Highgate Pits. It was fortunate therefore that provision to survey and examine the area around the barrow was granted during the watching brief in 1993. In hindsight however there is a very strong case to carry out extensive evaluation work within the vicinity of any prehistoric earthwork of this type and a geophysical survey of the landscape setting of the barrow may have alerted us to the likelihood of related sites prior to road construction. As has already been mentioned this type of scenario is likely to be commonplace in Cornwall and it is therefore important to emphasise that during assessment stages of any similar road-related schemes, such extensive preliminary evaluation practices should be employed. The overall good survival of archaeological layers and deposits at all three sites belies the belief that post-medieval or modern agricultural practices completely obliterates all traces of such ancient landscapes and this is a salutary lesson for all landscape prehistorians.

Indian Queens in the Middle Bronze Age

Another exciting and significant range of evidence was that uncovered during our excavations at Penhale Round, Penhale Moor and also possibly at Halloon Farm. At all three sites the remains of field boundaries were discovered, and at the first two sites these were found together with buildings dating to the Middle Bronze Age. The early buildings, enclosures and related features at Penhale Round and Penhale Moor form part of a contemporary (landscape) setting and in doing so these features have provided us with a remarkable detailed insight into the character of the agrarian landscape over 2,500 years ago. At both sites the evidence varied in character. At Penhale Round for example, the sub-rectangular building (an unusual building type for this period) and an oval building appear to play different functional roles within the same topographical scene hinting at the diversity of vernacular architecture within lowland settlement - feature which has not been clearly recognised in Cornwall before. The two buildings at Penhale Moor form part of what appears to be a small detached farmstead or small-holding and therefore adds another dimension to the story of landuse and human settlement in the locality. At Halloon Farm relict traces of a prehistoric field system but no surviving structures were found. Although it will be difficult to securely date this site, the layout of the boundary ditches may be suggestive of a comparatively early date.

Little extensive knowledge exists for the character of settlement dating to the Middle Bronze Age period in the South-West and indeed for Southern England as whole. Previous archaeological work for this period in Cornwall has been limited to the examination of a few individual settlements found more by accident than design: Trevisker in St. Eval (ApSimon and Greenfield 1972), Gwithian near Hayle (Megaw 1976) and Trethellan Farm near Newquay (Nowakowski 1991). This new range of evidence uncovered at Indian Queens will

therefore make not only a significant contribution to our understanding of Cornish Prehistory but also to Bronze Age Studies nationally.

Again the remarkable survival of archaeological features at all three sites will alert prehistorians in their search for the elusive settlement patterns in the Cornish lowlands to the likelihood that despite later historic landscape development, sites of this period may survive well and in large numbers. In all three cases geophysical survey has proved its value as a detection tool and it is tempting when reviewing the results of this project, to advocate its use for all similar archaeological schemes. Geophysical survey is a cost-effective means of evaluating the archaeological resource and will help the landscape archaeologist make informed judgements about the potential survival of sub-surface archaeological remains. This is particularly important in relation to the assessment of any major impact by construction projects such as road schemes. Of course, geophysical survey may not work well on all geology and therefore the case for small-scale trial trenching or test-pits becomes an important alternative or complimentary option. Certainly for this particular project we can argue, with the benefit of hindsight, that this technique should have been employed more extensively.

Indian Queens in Later Prehistory

Our main evidence for settlement in later prehistory is the site of Penhale Round. This enclosed settlement is characteristic of the general scene in rural Cornwall over 1500 years ago. Although a number of rounds have been examined by excavation in Cornwall little previous work has been directed at examining the landscape settings of such sites. Our work at Penhale therefore provided the first opportunity to look beyond the confines of the site and by doing so has allowed a broader interpretative outlook to be developed.

At Penhale Round evidence for the early stages of the development of the settlement was uncovered. Early field boundaries together with a solitary "structure" were found and these can be viewed as formative components in the landscape which reflect the character of early settlement history in the area. The settlement clearly has a history of several hundred years and during this time major structural alterations to the round were made which hint at a history affected by factors within the wider society. The key question arising here may be what can Penhale Round tell us about Cornish society during this time? The structural changes which dramatically affect the outward appearance of the settlement as it is transformed from a single ditched site to a multi-ditched one, are they part of a broader social phenomenon addressing issues of changing ideals and status and a society increasing ill at ease with itself? Or are these changes a more prosaic response to problems caused by local topographical factors such as poor drainage? At this stage it is impossible to know although there has to be a suspicion that both factors have some degree of influence on what happened at the site. Whatever the answers we can be certain that the extraordinary sequence of structural modification to the entranceway and exterior ditches at Penhale will contribute to the ongoing debate as to the social status of such settlements in late Iron Age and Roman Cornwall.

The site itself was first identified as a cropmark on an aerial photograph taken in the late 1950s. Once plans for the route of the bypass were finalised and it was clear that the road was to cut through one side of the settlement a number of geophysical surveys were carried out which indicated the extent of survival of related boundaries. In this particular case the results of the geophysical work were exceptionally good and demonstrate the use of this detection technique at its best. This tool became vital in the pre-planning stages of our work and permitted us to judge with more accuracy the degree of archaeological work required at this site.

Indian Queens in the Medieval and Post-medieval Periods

The value of a well planned research strategy in a project of this nature is vital for all stages of archaeological work and this is especially true when looking at sites belonging to later historic periods. Documentary evidence, namely place-name analysis, reveals that by the medieval period there are a number of small settlements on the area - mainly around Fraddon and to the north of St. Columb Road. Analysis of the growth and character of later historic landscapes can progress by examining the patterns of medieval and later settlement through changing landuse and processes of enclosure. The hedge boundary recording programme is therefore very significant in this respect since this type of information can only be recovered by archaeological fieldwork as historical documents shed no light on this aspect of rural life. In addition the study of the actual physical remains of medieval cultivation practices such as the Mayfield Farm ridge and furrow site and the field system at Halloon Farm, together with the early highway of Deep Lane holloway contribute to an on-going in-depth study of rural life in medieval and post-medieval Cornwall. The importance of other rural industries in addition to farming must also not be overlooked as the early tin mining industry played an important social and economic role in Cornwall from the medieval period onwards. The study of the early mining sites examined in this project - Queens Mine and the Kelliers and Mayfield farm streamworks - will contribute to a county-wide assessment of this aspect of the Cornish economy. For such early sites - many of which are difficult to detect because of the destructive impact of later extensive mining operations - field survey as an archaeological technique has an important part to play as different types of mining operations can be dated by the arrangements of earthworks.

Indian Queens - The Vegetational History

Throughout the project a major objective has been the collection of a range of environmental data both from the routine sampling of well-sealed archaeological deposits within individual sites and features as well as from isolated places where good palaeo-environmental material has survived. The samples recovered from individual sites when analysed will reveal much about the local environmental background of each locality as well as about past economic farming practices, whilst other general background information is provided by well-buried peat deposits found in the project area. Whilst a vast collection of environmental samples was recovered during each excavation, unfortunately only two sites of buried peat were detected. Whilst it was generally possible to predict where background (peat) deposits may exist, it was disappointing that only two suitable sites were found. Detection strategies rely on general surface indications - peat in particular can be expected in wetter areas were the vegetation is marshy - but as was the case in this project, some predictions were unfortunately inaccurate. There is a strong case therefore for the environmental archaeologist to be consulted at a very early stage in any project of this nature and particularly so when preliminary geotechnical work is being carried out by the road planners. If possible it would be extremely useful for an environmental archaeologist to be one of the field team carrying out geotechnical work so that soil cores can be examined immediately they are extracted. This would allow the archaeologist to be more informed at the outset about the potential survival of such useful deposits and allow a more realistic response to be developed at an early stage in any project.

Final bypassing observations

In conclusion the A30 project has unearthed various strands of Cornish history and by doing so has encountered past forgotten landscapes. When collectively analysed these results will provide a valuable model and form a major contribution to landscape studies as a whole.

In our review of the work several striking general points have emerged. The Indian Queens-Fraddon bypass avoids modern settlement but by doing so reveals an earlier history in areas whose character and functions have changed over time. This study has shown that places like Indian Queens - perhaps an unremarkable landscape in general terms and one which may not rate highly in archaeological databases - can be extremely interesting given the opportunity to examine them in intensive and extensive detail. This road scheme has provided an opportunity to look at a tract of countryside and to demonstrate its historical depth beyond the confines of monument or site-specific archaeology. The conceptual framework of a landscape-approach has been important in this respect. This scheme has also shown the value of PPG 16 and similar planning guidelines where co-operation between developers, landowners, the local community and archaeologists has been extremely important and excellent results have been achieved through integrated working practices and ongoing consultations. In this respect, the construction of such road schemes can be seen in a positive light, when the needs and interests of all parties are considered through consultation. If local people were asked to list areas of archaeological importance it is unlikely that Indian Queens would immediately spring to mind. Yet this project has in some ways helped to alter this view and may serve to inspire a developing awe and local respect for the hidden heritage of Indian Queens.

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Midsummer Solstice 1994

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Bibliography

Andrews, G. *et al* 1991 *Management of Archaeological Projects* English Heritage

ApSimon, A.M.
& Greenfield, E., 1972 "The Excavation of the Bronze Age and Iron Age Settlement at Trevisker Round, St. Eval, Cornwall" *Proc Prehist Soc* No: **38**, 302-381

Christie, P., 1985 "Barrows on the North Cornish Coast: Wartime Excavations by C.K.Croft Andrew 1939 - 1944" *Cornish Archaeol.* No: **24** , 23-122

Christie, P., 1986 "Cornwall in the Bronze Age" *Cornish Archaeol.* No: **25**, 81 - 110

Christie, P., 1988 "A Barrow Cemetery on Davidstow Moor, Cornwall: Wartime Excavations by C. K.Croft Andrew" *Cornish Archaeol.* No:**27**, 27-169

David, A., 1982 *Geophysical Survey of Penhale Round,* Ancient Monuments Laboratory Report 4/82, English Heritage

Griffith, F.M., 1984 "Archaeological Investigations at Colliford Reservoir, Bodmin Moor, 1977-1978", *Cornish Archaeol.* No: **23**, 49 -130

Gover, J.E.B., 1948 *Place - names of Cornwall* Unpub. mss, RIC, Truro.

Herring, P.C.
& Hooke, D., 1993 "Interrogating Anglo-Saxons in St.Dennis" *Cornish Archaeol* No: **32**, 67 -75

Herring, P.C.
& Smith, J.R., 1991 *The Archaeology of the St. Austell China Clay Area* Cornwall Archaeological Unit, Truro

Linford, N., 1993b *Notes on Geophysical Survey at Penhale Farm, Penhale, Fraddon,1992* Source: Ancient Monuments Laboratory

Linford N., 1993a *Geophysical Survey, Mayfield Farm,* Cornwall Ancient Monuments Laboratory Report 1/93, English Heritage

Johnson, N.
& Rose, P., 1994 *Bodmin Moor: An Archaeological Survey* Volume 1 The Human Landscape to c.1800 English Heritage and RCHME

Megaw, J.V.S., 1976 "Gwithian, Cornwall: some notes on the evidence for Neolithic and Bronze Age settlement" in Burgess, C. and Miket, R (eds) *Settlement and Economy in the third and second millennia BC,* Brit.Archaeol Rep Ser **33**, 51 - 79, Oxford.

Miles, H., 1975 "Barrows on the St.Austell Granite, Cornwall" *Cornish Archaeol.* No:**14**, 5 - 81.

Nowakowski, J.A, 1991 "Trethellan Farm, Newquay: Excavation of a Lowland Bronze Age Settlement and Iron Age Cemetery" *Cornish Archaeol.* No: **30,** 5-242

Nowakowski, J.A., 1993 "Archaeology Along the Hard Shoulder - the Indian Queens Project" *Cornish Archaeol* No: **32,** 146 -152

Nowakowski, J. A & Johns, C., 1992 *Results of Archaeological Evaluation Work for the A30 Fraddon-Indian Queens Improvement Road Scheme* - A Report to English Heritage, CAU, Truro.

Nowakowski, J. A., Jones, A., & Jones, A. 1994 *A30 Archaeological Watching Brief Programme. The Fraddon-Indian Queens Road Improvement Scheme,Cornwall 1993 -1994.* A Report to English Heritage - January 1994 CAU, Truro.

Rose, P., Herring, P., & Nowakowski, J.A., 1992 *The A30 Fraddon-Indian Queens Improvement: Recommendations for Archaeological Recording* - A Report to English Heritage, CAU, Truro.

Sutherland. T., 1991 *Halloon Farm, St Columb Road, Cornwall - Geophysical Survey 1991* Archaeology Reports, Second Series, No **6,** Dept of Tourism and Heritage Conservation, Bournemouth Polytechnic

Appendix - A30 Project Staff

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	Charles Johns
Finds Supervisors	Elizabeth Davis
	Carl Thorpe *(Penhale Moor 1994)*
Environmental Supervisor	Jenni Heathcote
Education Officer - Penhale	Chris Crowe
Computer Manager	John Smith

Specialists

Margaret Brooks - *South West Conservator, Salisbury Conservation Laboratory*

Matthew Canti - *Soil Scientist, Ancient Monuments Laboratory, English Heritage*

Caroline Earwood - *Freelance Consultant - Wood Specialist*

Alan Francis - *Geologist, English China Clays*

Neil Linford - *Geophysicist, Ancient Monuments Laboratory, English Heritage*

Simon Mays - *Human Bone Specialist, Ancient Monuments Laboratory, English Heritage*

Henrietta Quinnell - *Finds Specialist*

Vanessa Straker - *SW English Heritage Environmental Officer*

David Williams - *Petrological Analyst, Southampton University*

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Jim Collins

Geoff Connal

Angela Garwood

Judith Hamilton

Keith Hughes

Josh Hull

Anna Jones

Andrew Jones

Phil McMahon

Bryan Matthews

Steven Membery

Bridget Peacock

Richard O'Neill

Stan Reed

Lucy Whetman

Clive Williams

Excavation Volunteers 1992 - 1993

Helen Banks

Francis Chaloner

Vic Chapman

Elizabeth Davis

John Gould

Geoff Muir

Adam Sharpe

Ben Wallis

Geoff Walford

Katy Walke

Phase II - Watching Brief Programme July 1993 - May 1994

Road Monitoring Team Elizabeth Davis

Janice Grove

Jenni Heathcote

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Anna Jones

Andrew Jones

Jacqueline Nowakowski

Carl Thorpe

Excavation Assistance 1993 - 1994

Colin Buck

Angela Garwood

John Gould

Jeanette Ratcliffe

Adam Sharpe

Clive Williams

Geoff Walford

Bruce, Kate and Ears the dog

Fig.26 Baling out at Little Gaverigan excavations - November 18th 1992 9.02 am.