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A Report to English Heritage

A30 Project, Cornwall - Archaeological Investigations along the route of the Indian Queens Bypass 1992-1994

Assessment and Updated Project Design

by Jacqueline Nowakowski BA MIFA

Document Dated: July 1998

Volume III

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VOLUME III

Volume III represents the third part of a four volume document which describes and assesses the results of work carried out on the A30 Project in Cornwall. This work took place along the route of the Fraddon to Indian Queens bypass and was carried out between 1992-1994.

Contents

VOLUME III

VOLUME III

List of Figures

Halloon Farm

Smaller Investigations and Watching Brief sites

List of Tables

Halloon Farm

Smaller Investigations and Watching Brief sites

A30 Project, Cornwall - Archaeological Investigations along the route of the Indian Queens Bypass 1992-1994

ASSESSMENT AND UPDATED PROJECT DESIGN
Volume III

8.0 FACTUAL DATA -The Excavation and Survey of field systems and the sampling of a peat sequence at Halloon Farm, St. Columb Road

Background
Archaeological investigations at Halloon Farm, St. Columb Road took place in the early spring, summer and autumn of 1993 (Fig. 2). The work comprised excavation, survey and sampling a peat deposit - each task carried out at different stages of the A30 project. Prior to the main phase of work at Halloon, a watching brief exercise was undertaken during the realignment of a water-pipe close to the main areas of excavation. This was carried out in January 1993.

A main phase of excavation followed and this was centred on the investigation of the date and character of a buried field system which was detected by geophysical survey in 1991 (Sutherland 1991) and which lay within the bypass corridor (PRN:21097 at SW 9076 5973) section 8.1). An enclosure which lay close to Halloon Farm (PRN:21178 at SW 9110 598) was also investigated by excavation during this time (section 8.2). These excavations were conducted over a four-week period in June.

A reconnaissance survey carried out by Peter Herring in 1991 observed the lynchets of a possible medieval field system (PRN: 33954) within the present fieldscape on the farm and this was sketch surveyed at a scale of 1:2500 as part of the investigation of the evolution of the wider landscape (section 8.3). This work also took place in June.

Environmental sampling formed the final piece of work carried out at this site when a collection of pollen samples was recovered from a series of well-sealed peat deposits (section 8.4). This site lay on the northern boundaries of Halloon at SW 9095 6010 (trench [103]).

All investigations were directed at amalgamating information relating to the history of enclosure in this part of the study area (Rose, Herring and Nowakowski 1992). The following accounts discuss the results of these separate but related field exercises.

8.1 The excavation of field system PRN: 21097 - Structural/stratigraphic data and phasing by Jacky Nowakowski

Background
The geophysical surveys undertaken on a parcel of land at Halloon Farm in 1991 was intended to investigate two areas in the bypass corridor (Fig.2). One survey examined an

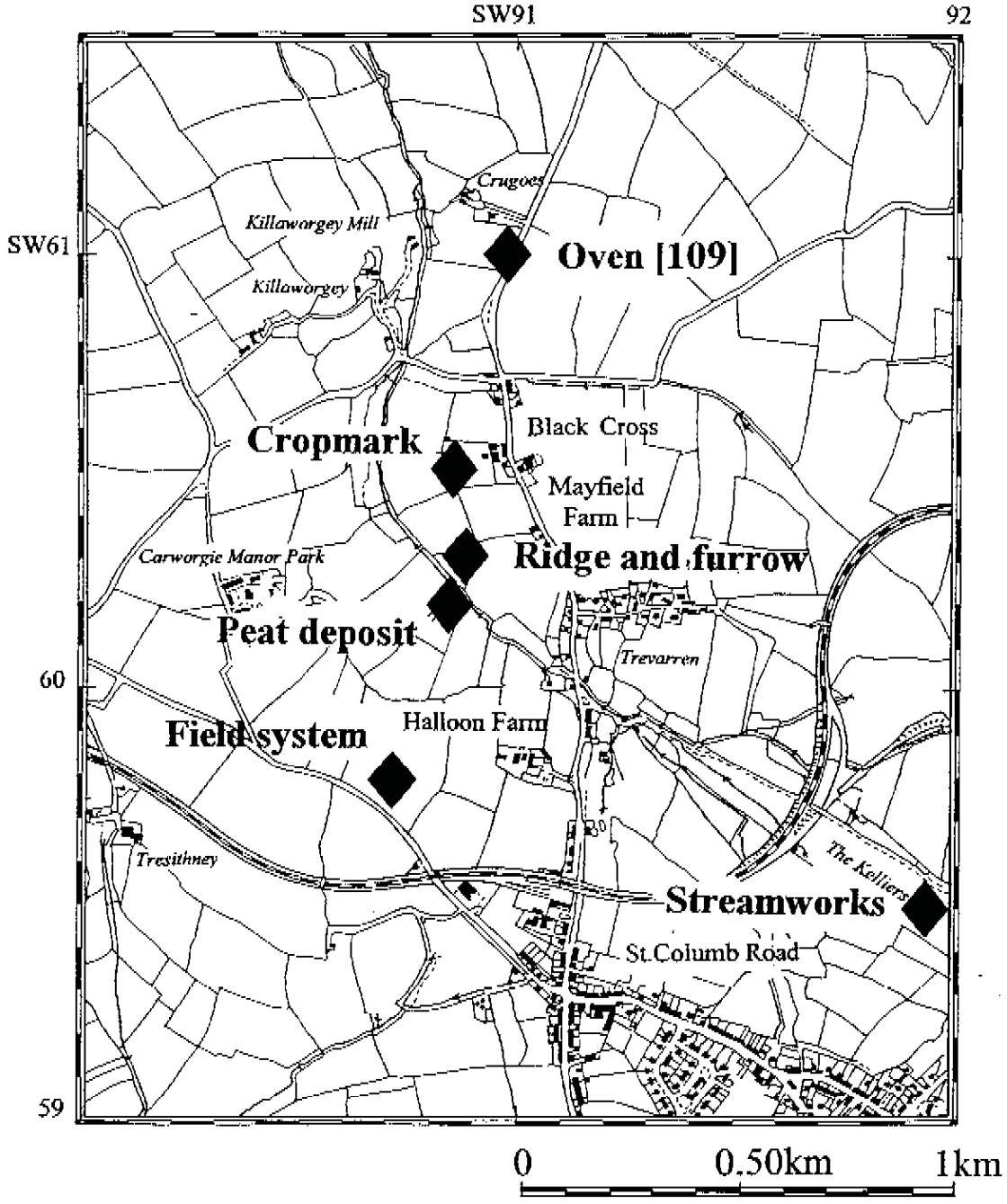


Fig. 68 Location plan of sites around Halloon Farm at 1:2500 (centred at SW96916013) A30 Project, Cornwall *Based upon the Ordnance Survey mapping with the permission of the controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Cornwall County Council LA 076538 (1997).*

area close to the homestead of Halloon Farm, and the second lay within enclosed land where aerial photographs had revealed a faint series of cropmarks (Rose, Herring and Nowakowski 1992, 47). The results of both surveys were patchy but a number of linear features were detected in the area targeted because of the cropmarks. Here a straggling curvilinear field system (PRN:21097) which covered an area 200 m x 50 m in extent was recorded (Fig. 69). Its general character suggested a prehistoric or Romano-British date and it did not appear to be related to the alignment of the present fieldscape on the farm. Since so little is known about the character and date of such systems in lowland Cornwall, an investigation of these features by excavation was recommended. It was hoped that this information could be compared with the results obtained from Penhale Round which had also produced evidence for fields and enclosures of prehistoric date (see section 5).

The second geophysical survey, which took place close to Halloon settlement, was generally disappointing although a local area of disturbance which was interpreted as possible occupation activity was detected (PRN: 21178). It was suggested that this anomaly may have been part of medieval occupation on the farm and the small-scale excavation which took place was directed at clarifying this (see below and section 8.2).

At the project design stage nine trenches (of different sizes) were proposed and these were sited on top of cross-junctions in order to investigate physical relationships between the buried anomalies. In the event, due to the time available, only eight areas were investigated. Areas 1 to 6 were located on the ditches which defined the field system (Fig. 69) and areas 7 to 8 were sited close to the settlement and intended to investigate the enclosure (Fig.73). In January 1993 site-monitoring during the realignment of a waterpipe indicated the generally poor survival of archaeological deposits within the north-western zone of the buried field system, and as a consequence, one of the proposed trenches was abandoned in this area (coded then as area 1, see Rose, Herring and Nowakowski 1992, 48-49).

8.1.1 Results of excavation - Field System PRN:21097

Linear ditches were found areas 1 to 4 (Fig. 69).

A modern pipe trench was found in **area 1** but lying to the north was an alignment of post/stakeholes [28], a linear (but shallow) ditch [2] (which was aligned NW-SE) and an oval- shaped depression [17]. The linear ditch [2] and the oval pit [17] appeared to be associated but post-dated the post/stakehole alignment [28]. Features [2] and [17] were detected by the geophysical survey but were poorly preserved. Some modern glass fragments were recovered from the fill of the linear ditch. The overburden in this part of the field was relatively shallow (200 - 260 mm deep) and the subsoil was scored by a number of ploughmarks which had clearly disturbed sub-surface remains. No datable evidence was recovered from any of the features in this area of the site.

A slightly curving irregular shallow ditch [103] was found in **area 2** following the removal of topsoil. This was aligned NW-SE and detected by the geophysical survey. No datable finds were found in this trench.

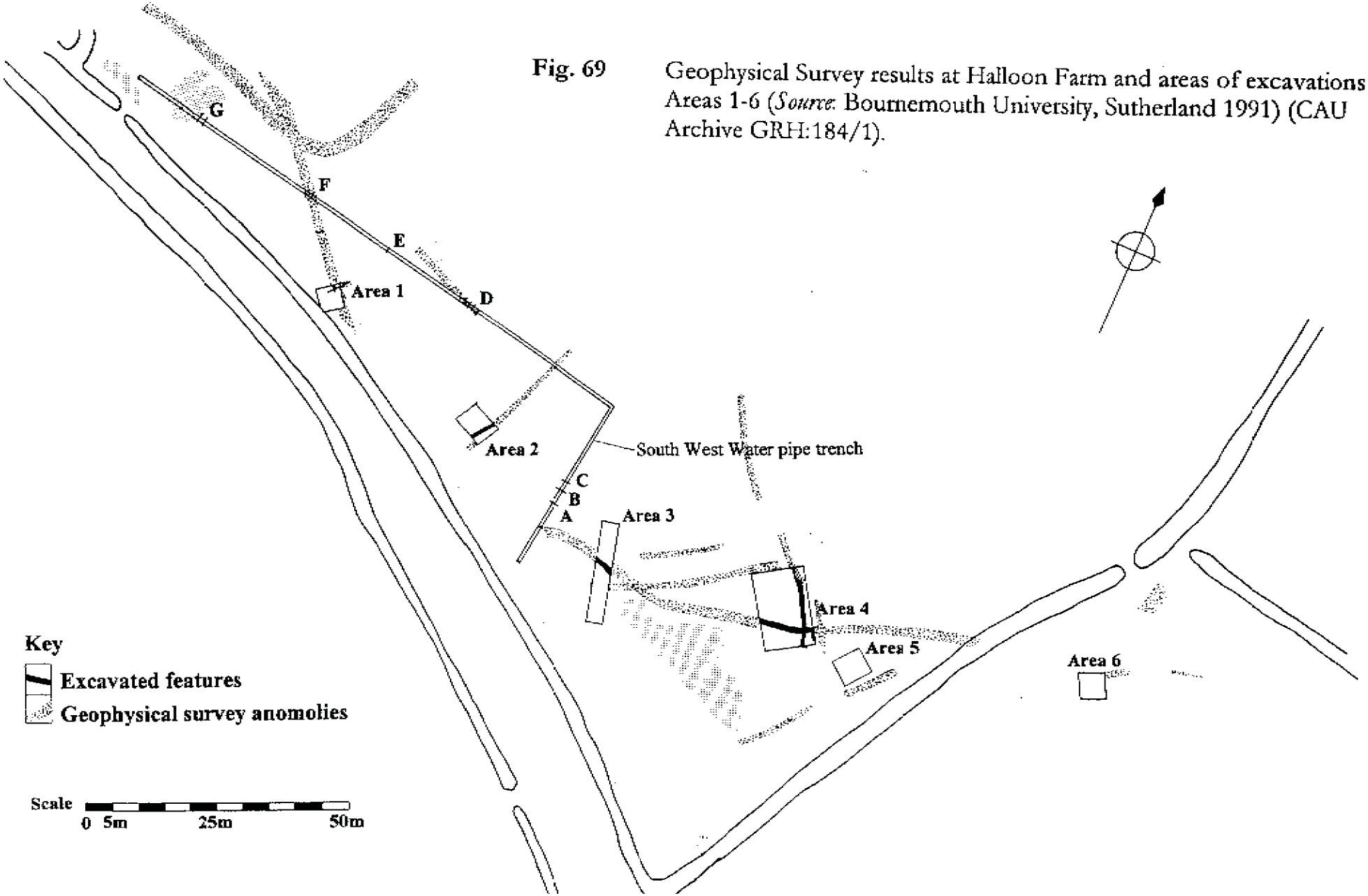


Fig. 69 Geophysical Survey results at Halloon Farm and areas of excavations Areas 1-6 (*Source*: Bournemouth University, Sutherland 1991) (CAU Archive GRH:184/1).

Area 3 (Fig. 70) was positioned over an E-W oriented linear feature and was also positioned to investigate two intersecting linear features and a possible area of activity or occupation - all of which had been highlighted by the geophysical survey. Following the removal of topsoil the linear feature was shown to be a shallow ditch [205] which had been recut as [203]. Neither cuts contained any datable finds. The amorphous spread provisionally interpreted as occupation activity located at the southern end of the trench was found to be a spread of very hard, red natural clay. A further section of the ditched boundary [205] was found in area 4 (see below).

Area 4 was probably the most interesting trench investigated during this exercise. This was positioned in order to investigate the stratigraphic relationship between two linear features detected by the geophysics. One was aligned SSW-NNE and the other NNW-SSE. Both of these features were found on the removal of topsoil together with a number of postholes and a cobbled/metalled surface. Three stratigraphic phases were identified:

Area 4 *Phase 1* (Fig. 71). The earliest feature in the trench was a NNW-SSE aligned ditch [312]. This was 1 metre wide, had a steep-sided U-shaped profile and was filled by homogeneous clay silts and found to be at least 0.45 m deep. Immediately alongside to the east were three regularly spaced postholes: [347], [349] and [352], all of which appeared to be associated and are likely to have once marked out a wooden fence or stockade. Once the ditch, presumably an earlier enclosure boundary, has fallen out of use, it silted up and was partly sealed beneath a cobbled surface (see [318], phase 2).

Immediately to the west of ditch [312] was a scatter of stakeholes and postholes which formed no coherent patterning.

A segment of another ditch [342] which lay parallel to [312] and which was only partly excavated, was found in the eastern zone of area 4. The butt end of another ditch [354] was also discovered in this part of the trench but this too was only excavated in section. [354] was aligned E-W and a gap of less than 1 metre between its terminal end and ditch [312] suggested an association.

No datable finds were found in any of the features which belonged to this phase. The layout of the three ditches and posthole alignment which form part of phase 1 activities suggest an association. The date of all of these features is unknown, but they could represent residual traces of an earlier field system of possible prehistoric date as their arrangement bears little relation to the current fieldscape of the immediate area.

Area 4 *Phase 2* (Fig. 72). Features belonging to a secondary phase of activity in area 4 comprised a ditch [301] and a cobbled surface [318].

The slightly curvilinear ditch [301] found in the eastern zone of area 4 was on a different alignment to the earlier ditches which belonged to phase 1. [301] was aligned SSW-NNE and had cut across the eastern end of [312] and the northern end of [342]. In character ditch [301] was much larger: it was 1.30 m wide, V-shaped in profile but with a slightly rounded base. It was filled by fine silts and remnant ploughsoil and was up to 0.40 m deep. An abraded sherd of prehistoric pottery was found in fill [302].

In the northern zone of area 4, a compacted stony surface [318] was found sealing the upper mouth of earlier ditch [312] (phase 1, see above). [318] was interpreted as a track or pathway.

An association between ditch [301] and cobbled surface [318] is assumed purely on stratigraphic grounds although neither features produced datable finds. Both features sealed earlier traces of activities in area 4. Their different characteristics and spatial arrangement could be taken to represent a distinct chronological phase of activity. Ditch [301] had been detected as a strong anomaly on the geophysical survey (see Fig. 69) and was found to be part of a longer curvilinear boundary which was partly investigated in area 3 (as [205], see above).

Ditch [301] was on a completely different alignment to the present day fieldscape of the surrounding area and may therefore be taken to represent activities *pre-dating* historic enclosure in this landscape.

Area 4 ***Phase 3*** The area appears to have been abandoned and the boundaries represented by the ditches of phases 1 and 2 were not maintained and any banks or barriers associated with them removed. A solitary posthole [311] was found cut into the upper fill of ditch [312] and a layer of silt loam built up over the abandoned trackway ([318]). Subsequent ploughsoil in this area of the site was quite deep - at least 0.50 metres.

Area 5
A trench which measured 5m x 5m was positioned to the SE of area 4 and located upon a tentative linear anomaly detected by the geophysics. In this part of the site the ploughsoil was comparatively shallow (at 200 mm deep). No archaeological remains were found in this area.

Area 6
This trench (5m x 5m) was also positioned upon a tentative anomaly detected by the geophysics. The ploughsoil in this area was also less than 200 mm deep and again no archaeological deposits were located in this trench. Two pieces of modern pottery, two iron fragments and two pieces of flint were found in the ploughsoil.

8.1.2 Summary of results

The small-scale character of archaeological excavation in this area of Halloon Farm provided a limited set of results as well as the opportunity to test the effectiveness of the geophysical survey. In at least half of the trenches investigated the buried remains of linear ditches were found and in only one area (area 4) was limited evidence for chronological depth discovered. At least one ditched boundary (found in areas 3 and 4) could be linked to the same phase. The slightly curvilinear ditch in area 2 may also have been part of the same general phase of enclosure. The phase 1 ditches (area 4) represented a distinctly separate and *earlier* phase of enclosure. There was however little secure dating evidence for even these two distinct phases of enclosure for despite the recovery of a handful of prehistoric sherds and a small collection of flint (see section 8.8.3). All finds were recovered from residual deposits, and whilst may perhaps be diagnostic of the Neolithic

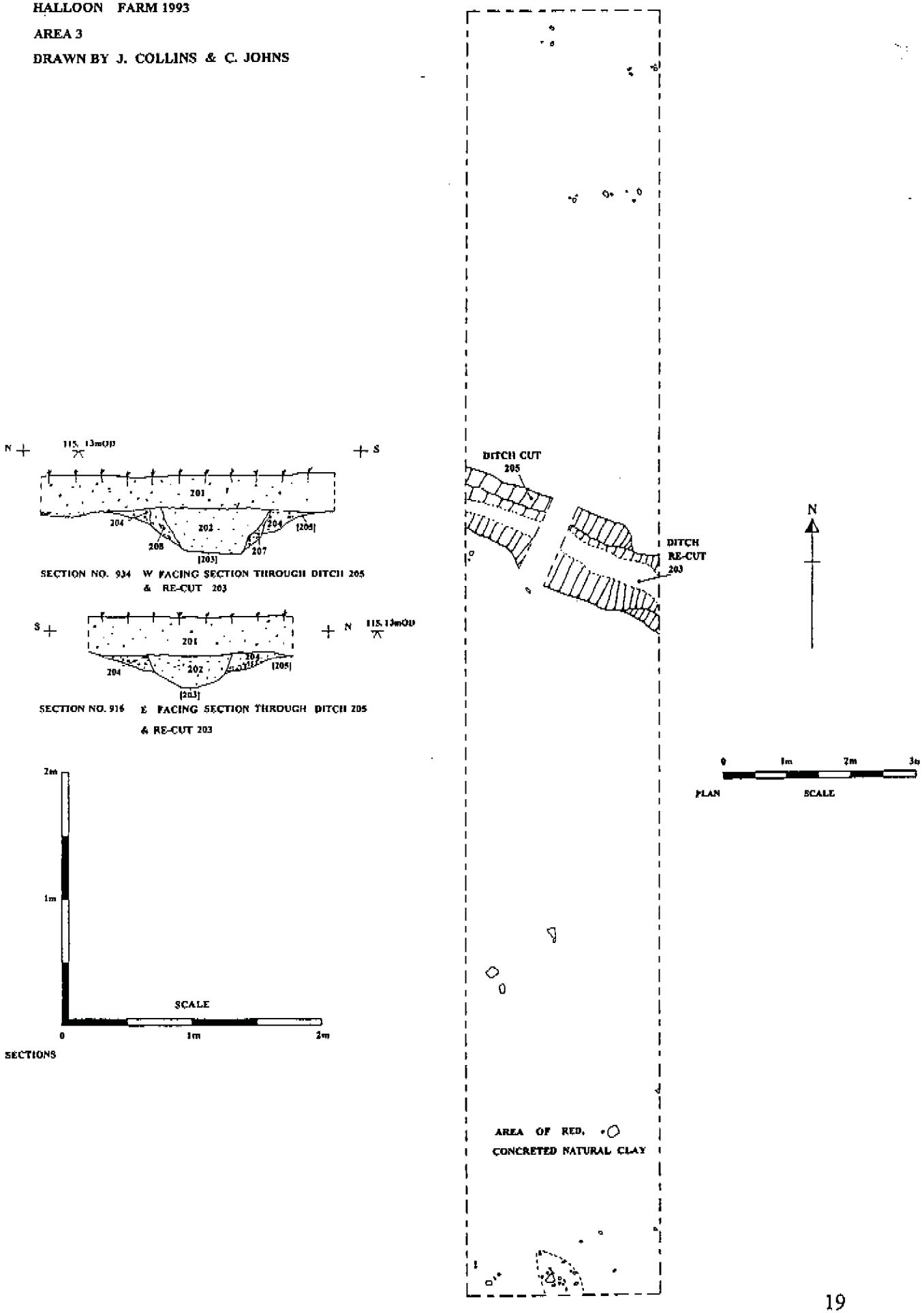


Fig. 70 Halloon Farm - Excavation plan of Area 3 (CAU Archive GRH: 184/4).

period, all were highly abraded and could not therefore provide secure dates to the phases of enclosure.

The survival of all the features was generally poor and the pattern and arrangement of even these two phases of enclosure bore little relation to the present fieldscape of Halloon Farm which had been classified as "anciently enclosed land". The second phase of enclosure may perhaps be related to the remnants of a lynchetted system detected by the sketch survey of the surrounding fields (see below) and may therefore be considered to be part of a later prehistoric episode of enclosure. If so, it is likely that the remains for activities considered to be part of phase 1 (area 4) represents an even earlier, although undatable, prehistoric phase of activity.

8.2 Halloon Farm -the excavation of small enclosure PRN:21178 - Structural and stratigraphic data and phasing

Background by Jacky Nowakowski
The second main area of excavation at Halloon Farm centred on the small-scale investigation of an enclosure located immediately north to the access land to Halloon Farm. This was identified in 1991 by Peter Herring and interpreted as a feature of likely medieval or post-medieval date (Rose, Herring and Nowakowski 1992, 54). A strong circular anomaly was detected by geophysical survey in 1991 and investigation by excavation was recommended (Sutherland 1991, feature 1). Two trenches were opened up (see Fig. 73).

8.2.1 Results of excavation by Charles Johns

Area 7 (Fig. 73)
This trench, which measured 2m by 7m, was located upon the anomaly detected by the geophysical survey in 1991 (Sutherland 1991). No clear archaeological feature was detected in this (hand-dug) trench. Excavation down to the natural subsoil at a depth of 430 mm revealed only topsoil and subsoil layers from which a small collection of residual finds: flint and post-medieval pottery were recovered. The geophysical anomaly was clearly not of archaeological origin. The area was notably wet and boggy and it is likely that this dampness was localised and detected by the geophysics.

Area 8
A trench measuring 10m x 1.75 m was positioned across a section of a low earth bank which formed the northern side of the enclosure (PRN: 21178). Profiles of the bank and an associated ditch were recorded. The bank [1302] comprised a deposit of mottled clay which was 1.80 m wide and 0.18 m high. Four sherds of post-medieval pottery and four metal fragments were recovered from the bank material. Parallel to the bank was a ditch [1304] which lay just under 1 metre to the north. [1304] was a shallow (1 metre wide) cut with concave sides and a flat base and was 0.25 m deep. The ditch was filled by a homogeneous brown clay. The ditch and bank appeared to be related - the bank having been created by ditch upcast. Beneath the bank a thin buried soil [1310] was found from which one sherd of post-medieval pottery was recovered (see Fig. 74).

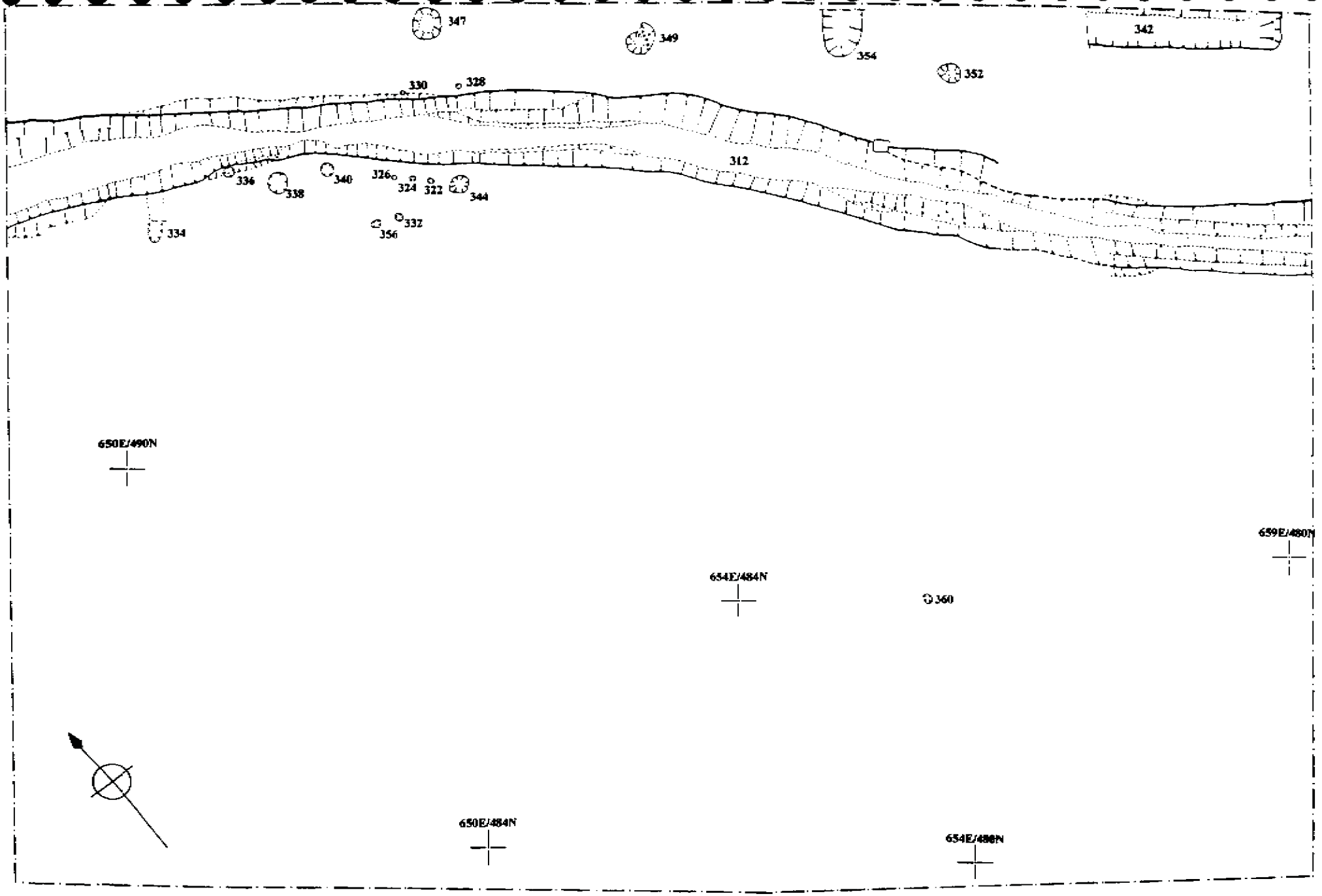


Fig. 71 Halloon Farm - Excavation plan of Area 4 - Phase 1 (CAU Archive GRH: 184/5).

In the north of the trench, segments of two linear shallow ditches were found: [1307] and [1309]. [1307] appeared to partly lie under ditch [1304] and contained a piece of flint. Ditch [1309] was on a slightly different alignment and appeared to be respected by ditch [1304]. The abraded fragment of a Bronze Age sherd was recovered from the topsoil in this area.

8.2.2. Summary of results

Nothing of archaeological interest was detected in area 7 whilst the bank and ditch investigated in area 8 is likely to date to the post-medieval period. Remnant traces of an underlying ditched ?field system found in the northern part of area 8 hinted at an earlier arrangement which could not be dated with any degree of confidence. The discovery of a small collection of prehistoric finds can only be suggestive of general activities in this locality.

8.3 Results of survey - Halloon Farm medieval field system PRN: 33954

by Jacky Nowakowski

Background

During the reconnaissance survey of the A30 project, Peter Herring noted that within the modern field system at Halloon Farm there were some gently curving parallel boundaries which appeared to be typical of a Cornish enclosed strip field system of medieval date. Survey and the examination of a number of hedges sections were recommended (Rose, Herring and Nowakowski 1992, 53-54). These features were surveyed at a scale of 1:500 (Fig.73). So that this information could be assessed within a broader landscape context, a larger sketch survey of the surrounding field system at Halloon was also undertaken at a scale of 1:2500. Hedge types were recorded and the traces of underlying lynchets mapped. Some were recorded during the watching brief programme (see section 15.2.5).

8.3.1 Results of the survey

The first documentary reference to settlement at Halloon appeared in 1334 (Gover 1948) showing it to have been one of the clearly identifiable medieval settlements in the project area. The sketch survey of the fields on Halloon Farm showed that only in some places had elements of medieval enclosure survived and had been incorporated into the later field system. This evidence varied in form with the survival of ploughed-out lynchets located to the north and south of the homestead, and a few remnant downslope hedges. Remains of lynchets found aligned to the general topography may have formed part of earlier enclosure activities which perhaps dated to the later prehistoric period. The remnant traces of earlier enclosure activities investigated by excavation on the higher slopes of the farmland (see section 8.1.2), bore little physical relationship to the general pattern of later enclosure at Halloon Farm which suggests that pre-medieval enclosure in this tract of landscape was of an entirely different character. In addition the remnant survival of medieval-type fields suggests that by the later medieval and post-medieval periods the character of enclosure was markedly different.

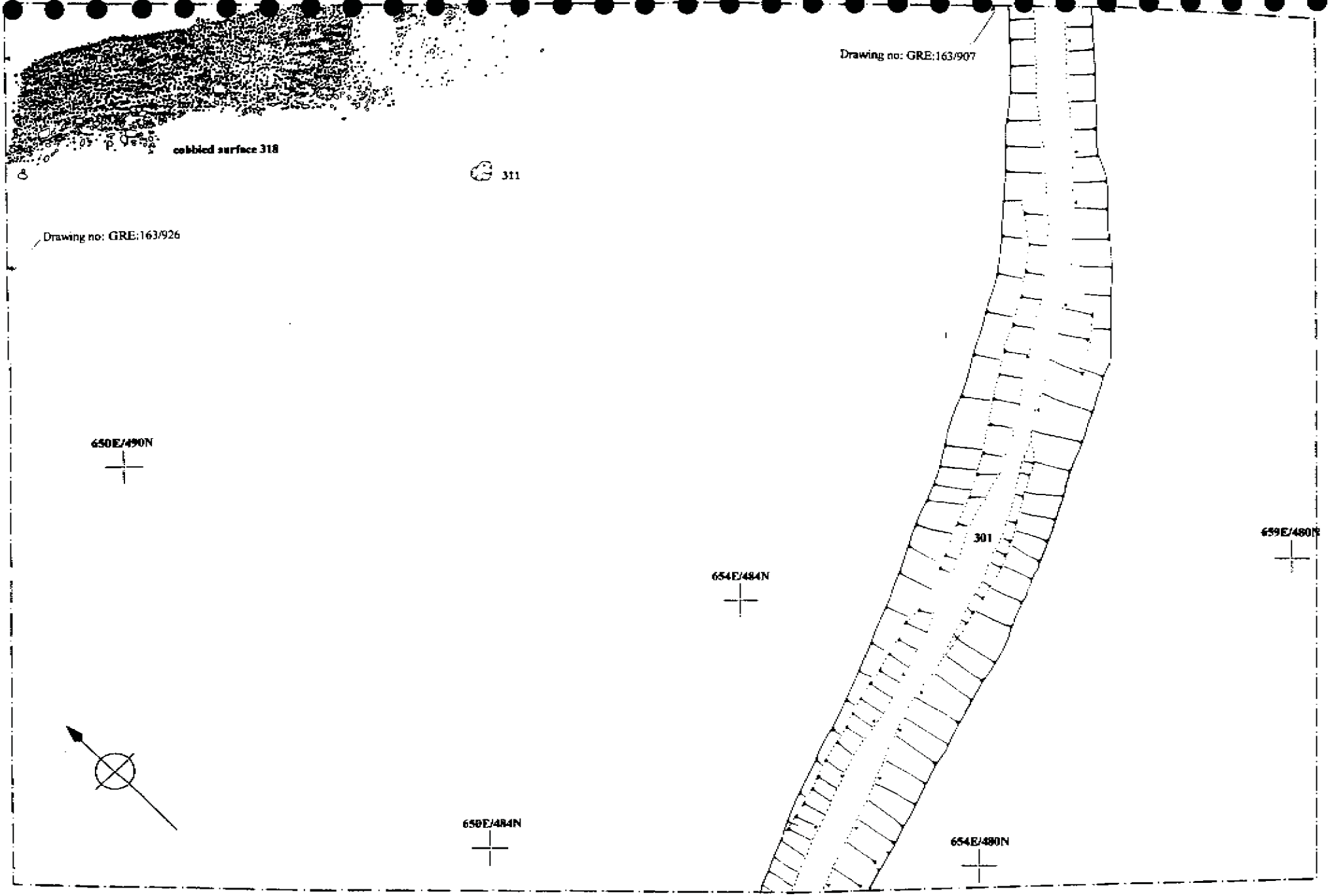


Fig. 72 Halloon Farm - Excavation plan of Area 4 - Phase 2 (CAU Archive GRH: 184/6).

8.4 Halloon Farm - Peat Deposit Trench [103] by Jacky Nowakowski

Background
On the northern boundaries of Halloon Farm at SW 9095 6010 (Fig. 68) a series of well-sealed peat deposits were exposed during the excavation of a drainage ditch in October 1993. These were recorded in section by Anna and Andy Jones of CAU and sampled by Vanessa Straker for palaeoenvironmental analysis (Fig.75). Despite an extensive search this peat sequence was one of only two examples of buried peat suitable for environmental analysis found in the whole of the project area. Four monolith samples ([1041], [1043], [1044] and [1045]) were taken from this exposed section and their palaeoenvironmental potential has been assessed (see section 8.6.2).

8.5 ARTEFACTS

8.5.1 Ceramics - prehistoric by Henrietta Quinnell

Six sherds, of four different fabrics, were recovered; none had any formal or decorative features. A granitic sherd from topsoil [1301] in area 8, very eroded, appeared generally similar macroscopically to the Middle Bronze Age or later granitic material from Penhale Moor. A sherd from topsoil [300] Trench 4 appeared similar, though more finely tempered, to suggested Neolithic material from [2196] at Penhale Round. A sherd with fine matrix and sparse grit came from fill [302] of ditch [301] in Trench 4. Three very thin sherds from [300] topsoil in Trench 4 appeared to be a possible gabbro variant with some admixture. All the sherds were eroded. None, except that from [1301], seem to match the range of Middle Bronze Age and later fabrics studied from the A30 project. The general fineness of the matrix of the other five sherds, and the suggested similarity of that from [300] to PR [2196] indicate that all might be Neolithic in date. (Early Bronze Age fabrics, with the exception of Beaker, tend to be coarser). Given the eroded nature of the sherds, confirmation of their date would have no implications for the field system at Halloon Farm.

8.5.2 Ceramics- post-prehistoric by John Allan and Jacky Nowakowski

Report dated: May 1994

A total of 52 sherds of medieval and post-medieval date were recovered from the excavations at Halloon Farm. Of these 22 (42.3%) were retrieved during the controlled excavations in June 1993 and the remaining 30 (57.7%) were found in three localised groups (coded as C, D, and J) during the watching brief programme in 1993. All but a few sherds were recovered from residual ploughsoil and topsoil contexts (see below).

The date range represented by the pottery is broad, spanning the medieval to early modern periods. The largest series of ceramics dates to the medieval period, represented by local hand-made coarse wares (23 sherds) which form 44.2% of the collection. Almost all of this material however is residual in ploughsoil layers and cannot be closely tied to specific archaeological features.

The first documentary reference to Halloon farm appears in 1334 (Gover 1948) and like Penhale Farm and Trewheela Farm is one of the few clearly identifiable medieval

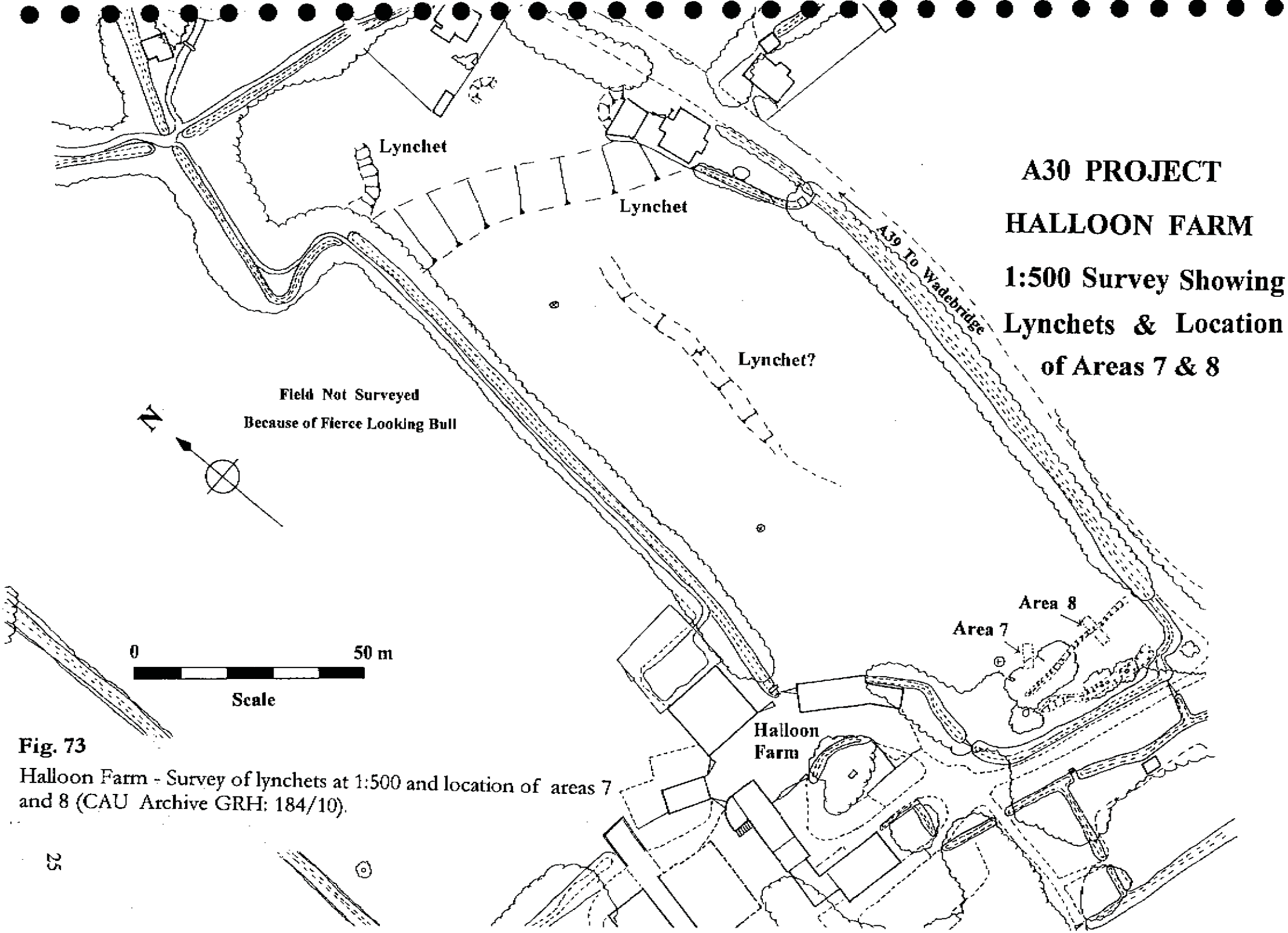


Fig. 73

Halloon Farm - Survey of lynchets at 1:500 and location of areas 7 and 8 (CAU Archive GRH: 184/10).

settlements in the project area. In a document of 1336 Halloon is called *Hel-en-woen* or *the hall on the Down* which may imply that it was a settlement of some status (Henderson 1930, 67). Clearly by the later medieval period (say the 16th century) the Hawke family of Hellwoone were affluent sheep farmers, wealthy enough to donate a *"sylver Rynge to ye pfarlishe by Elizabeth Hawke deceased"* (Thurston Peter 1912, 35, 39 and 66). No obvious medieval buildings presently survive at Halloon Farm and the extant dwelling house appears to be fundamentally 17th century in form although it is possible that some earlier medieval components may have been incorporated into its fabric.

There were only two areas - both situated close to the present farmstead - where any finds closely associated with archaeological deposits were found. In area 7 a fragment of late 19th century industrial china was found in an undifferentiated build-up layer ([1203]). In area 8, post-medieval coarsewares (4 sherds) were recovered from an earthen bank ([1302]) and one fragment of North Devon coarseware ([1303]) was recovered from the backfill of a parallel ditch associated with the bank. These finds indicate post-medieval reorganisation of the earlier medieval field system surrounding the present farm buildings at Halloon Farm. Remnants of the medieval field system has survived in places as revetted lynchets (see Nowakowski 1994, 19).

Only 24 (46.1%) sherds dating to the post-medieval period were found within the Halloon area and of these seven were local coarsewares and the remaining 17 were North Devon coarsewares. 5 sherds (9.6%) of early modern industrial china and coarsewares were found.

The collection of post-prehistoric ceramics from Halloon Farm can only provide general background information about the later medieval and post-medieval periods in the project area. Of interest is a fragment of candlestick from the ploughsoil within group D. This post-medieval form (c. 16th-17th century in date) and its discovery is of some general interest in the light of the more usual chill sherds (parts of fish oil lamps) more common in Cornwall during the post-medieval period (Allan 1984, 131).

8.5.3 **Lithics** by Philippa Bradley

Raw materials

The majority of the raw materials consist of small sub-spherical pebbles. Cortex, where present is generally thin and abraded. The flint is quite varied in colour, it is not particularly good quality and thermal fractures were common. This material has all of the characteristics of derived flint, probably beach pebbles. A small quantity of flint was better quality; it was dark brown to black on colour with a thin buff cortex.

Method

The flint was briefly scanned and limited recording was undertaken to allow the assemblages to be characterised. Dating is provided chiefly by diagnostic artefacts or debitage; much useful information has also been obtained by studying technological traits.

A small assemblage of 42 pieces of worked flint and a single piece of burnt unworked flint was recovered from the excavations at Halloon Farm. The assemblage is summarised in Table 60. The material consists of mainly hard-hammer struck flakes. Hinge fractures and other accidents of debitage were noted. A few flakes appeared to be soft-hammer struck. A

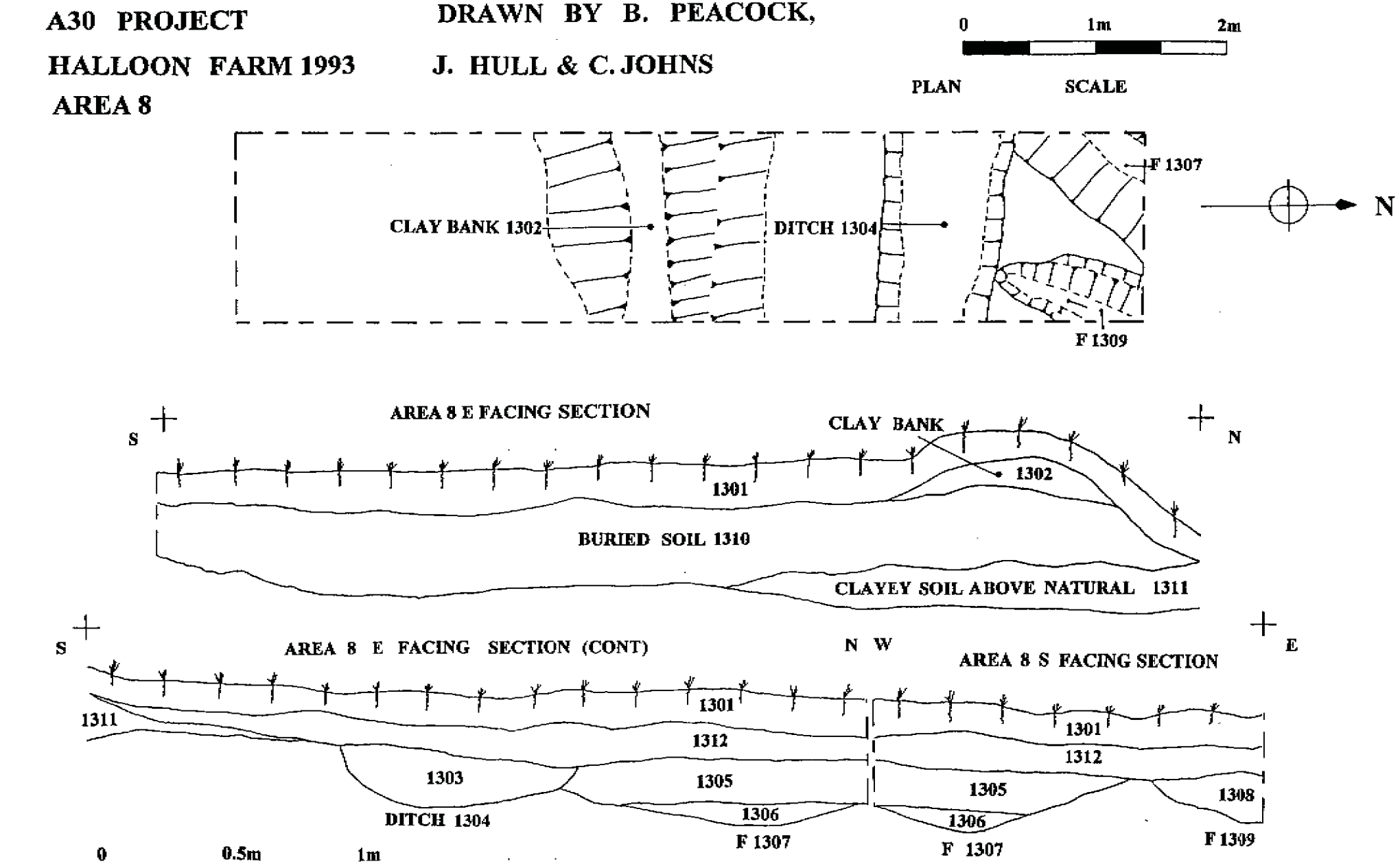


Fig. 74 Halloon Farm - Excavation plan of Area 8 (CAU Archive GRH: 184/11).

single core rejuvenation flake (face/edge) would indicate a concern with maintenance of core platforms, presumably linked to raw material conservation.

The single complete core was a very extensively worked multi-platform type. Only two retouched pieces were found: a later Neolithic chisel arrowhead and a minimally retouched piercer. Chisel arrowheads have often been found in association with the Woodlands substyle of Grooved Ware (Green 1984, 33). The piercer may be of Neolithic or Bronze Age date, the whetstone fragment is also probably of Bronze Age date. It has two well-defined bevelled edges. The debitage is mostly rather undiagnostic but would not be out of place in a later Neolithic or Bronze Age context.

Table 60 Flint quantification from Halloon Farm

Flakes	Chips	Irregular waste	Cores	Retouched forms	Other	Total
34*	3	1	2 (one multi-platform 1Core fragment)	2 (1 chisel arrowhead, 1 piercer)	9 (1 whetstone, 8 unworked quartzite pebbles)	43

* including one core rejuvenation flake (face/edge) and one blade-like flake.

8.5.4 Iron work by Henrietta Quinnell

One modern piece comes from [300] and three from [1302]; two objects from [500] may be studied further if the context is considered important. All material has been X-rayed and studied by Margaret Brooks and Henrietta Quinnell together. A full list is filed with the archive.

8.5.5 Stonework by Henrietta Quinnell

Two small quartz pebbles, four quartz crystals and a broken slate used as a "whetstone" from topsoil [300] in Trench 4. This "whetstone" is of very thin slate and may in fact be a broken Mesolithic artefact.

8.6 ENVIRONMENTAL DATA

8.6.1 Sampling policy by Vanessa Straker

Following on-site discussions with Vanessa Straker and Jenni Heathcote it was decided that given the relatively shallow depth of the features encountered in the excavations that there was little point in sampling the ditches for environmental data. A sample for diatom analysis was taken however from the base of ditch [301] (area 4) which was notably wet (on 17th June 1993). During assessment it was deiced that this had little potential for analysis. The main environmental samples recovered during work at Halloon were the peat samples (see section 8.6.2).

WB93: Trench [103]-showing peat horizons and sample locations.

(Trevarren Green).

(All samples taken between 14-15/10/1993).

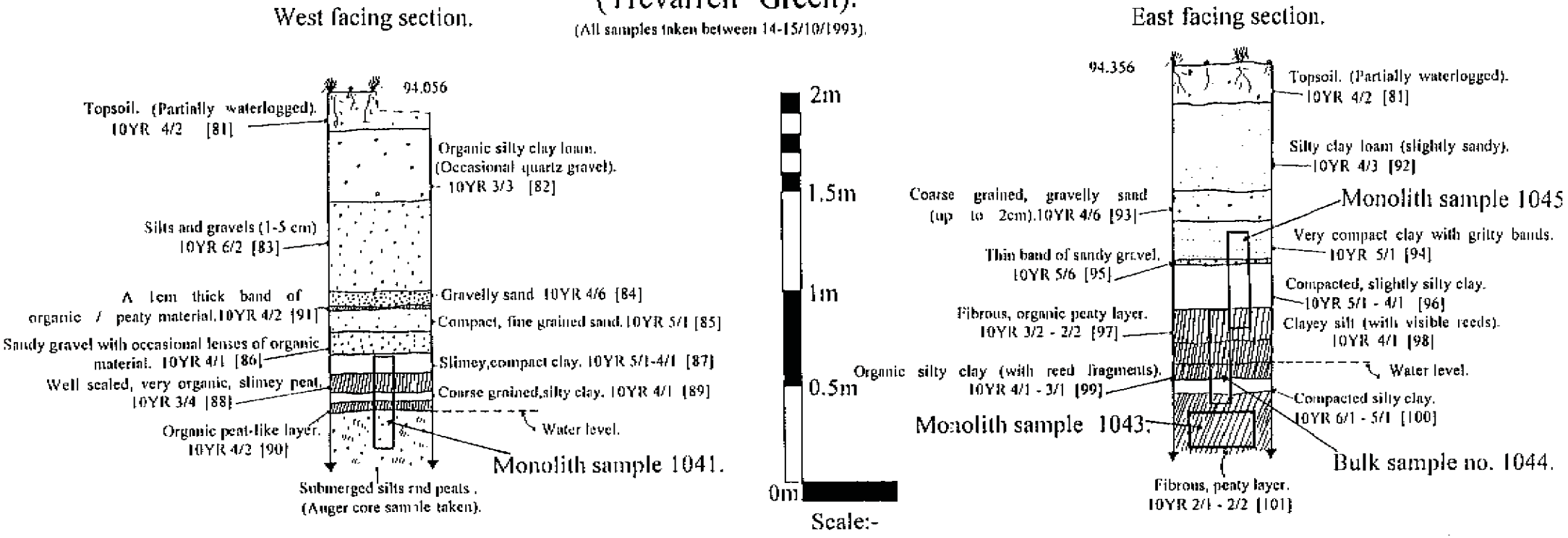
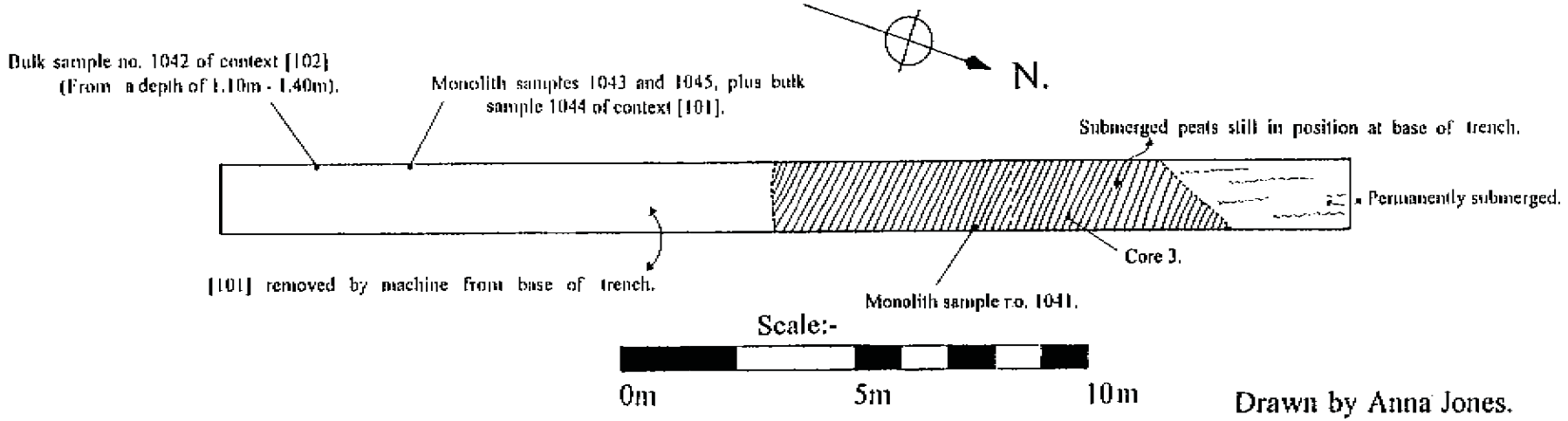


Fig. 75 Halloon Farm - Trench [103] showing location of peat horizons and sample locations (CAU Archive GRH: 188/1).



Drawn by Anna Jones.

8.6.2 **Peat deposits** by Jacqueline Huntley and Vanessa Straker

The following is extracted from a report dated September 1995. A statement on methodology appears in section 6.3.3.

Well sealed peat deposits were sampled from this site. The objective was to use them to produce a picture of the background landscape for the local area under investigation. Three monoliths were sampled. All individual samples consisted of 1 ml of sediment with 3 *Lycopodium* tablets added to each.

8.6.2.1 **WB93 Context [1041]**

Monolith 1041 produced samples 2-3, 17-18, 26-27 and 40-41. Table 61 below, presents the raw counts of pollen and spores. Figs 75 and 76 gives details of stratigraphy and sample location.

Table 61: WB93, 1041 - pollen and spore counts

Sample	Context [87] 2-3	Context [89] 17-18	Context [90] 26-27	No context no - below watertable 40-41
Pinus	1	-	-	1
Betula	4	3	13	12
Quercus	10	6	2	7
Ulmus	-	2	-	1
Fraxinus	2	-	-	1
Alnus	18	37	14	41
Corylus	7	12	10	16
Salix	2	-	-	-
Ericales	-	1	1	1
Calluna	4	4	1	8
Gramineae	53	6	16	15
Cyperaceae	12	25	45	29
Filicales	9	12	15	11
Polypodium	1	1	-	2
Pteridium	3	-	-	-
Sphagnum	4	3	6	4
Artemisia	-	-	-	1
Cerealia	2	1	-	1
Carvophyllaceae	-	2	-	-
Compositae (Tubliflorae)	4	2	1	3
Compositae (Liguliflorae)	5	1	-	5
Filipendula	2	-	-	-
Labiatae	1	-	-	-
Leguminosae	2	-	-	-

Plantago lanceolata	9	1	1	6
Polygonaceae	-	-	1	-
Ranunculaceae	-	-	1	1
Tricolporate - various	2	-	-	2
Indet. corroded	2	8	10	7
Indet. broken	4	1	2	3
Indet. crumpled	10	10	35	20
Indet. concealed	-	-	23	-
Lycopodium spores	30	37	48	35
Total pollen spores	173	138	197	198
Sample volume	1	1	1	1
# Lycopodium added	41733	41733	41733	41733
Volume counted	0.0007	0.0009	0.001	0.0008
Total concentration x 10^5	2.4	1.6	1.6	2.4

Pollen was reasonably well preserved in these samples and at least some of the Indet. crumpled grains could be identified by someone used to counting in glycerine jelly. The author (JH) prefers material mounted in silicone oil which allows grains to be rolled over and is therefore less familiar (at least rusty!) with the, sometimes typical, ways in which grains may fold. The high values of concealed grains in sample 26-27 simply reflects a rather thick slide where clumps of organic debris remained.

Alnus (alder) and *Cyperaceae* (sedges) are the most abundant types recorded and may well represent vegetation that was growing on the coring site at the time of deposition. Sample 2-3 is somewhat different from the others in that *Gramineae* (grasses) are the most abundant type. It is suggested that, as sample numbers reflect depths in the profile, the site became somewhat drier with time to the present day (sample 2-3), and thus sedges decreased, and there also was possible clearance of local alder woods/scrub. Nonetheless a range of herb types was recorded in all four samples and which may well represent a more distant vegetation; these have the potential to address economic questions. Cereal-type appears to be present although measurements were not taken.

The quantity and quality of pollen preserved would enable full counts to be undertaken from this site. This would allow reconstruction of local vegetation and, possibly, of local economic practices, although the time period that this represents cannot be determined at present.

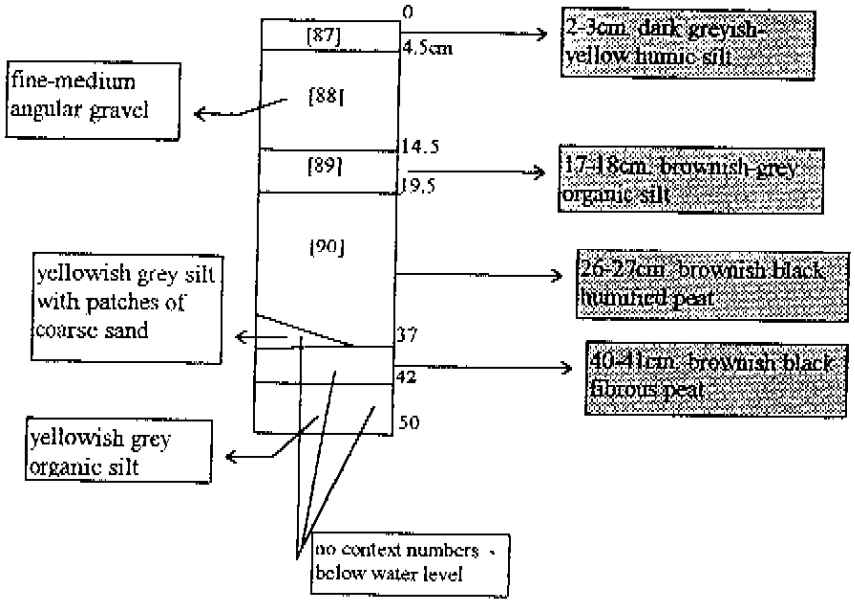


Fig. 76 Halloon [1041]: stratigraphy of monolith and locations of samples
(Source: Vanessa Straker)

8.6.2.2 **WB93 Context [1043]**

Monolith 1043 produced samples 63-64, 70-71 and 81-82. It was taken adjacent to but below [1045] with a 10 cm overlap between the two. The three samples were very varied as can be seen in table 62. Figs. 75 and 77 gives details of stratigraphy and sample location.

Table 62: WB93 1043 - pollen and spore counts

Sample	Context [99] 63-64	Context - 70-71	Context [100] 81-82
Pinus	1	-	2
Betula	8	-	15
Quercus	14	1	6
Ulmus	-	1	1-
Alnus	19	5	37
Corylus	49	3	47
Salix	-	1	-
Ericales	1	-	-
Calluna	4	-	4
Gramineae	9	-	10
Cyperaceae	45	5	36
Filicales undiff.	8	1	12

Polypodium	5	1	3
Sphagnum	6	-	6
Artemisia	-	-	1
Cerealia	2	-	-
Carvophyllaceae	-	-	1
Chenopodiaceae	1	-	-
Compositae (Tubliflorae)	-	-	1
Compositae (Liguliflorae)	2	-	-
Lotus-type	1	-	-
Plantago lanceolata	1	-	2
Polygonaceae	1	-	-
Potentilla	2	-	-
Ranunculaceae	-	-	1
Succisa	-	-	1
Indet. corroded	9	5	3
Indet. degraded	10	-	-
Indet. broken	-	5	3
Indet. crumpled	55	25	36
Indet. concealed	4	-	1
Lycopodium spores	12	24	13
Total pollen spores	253	53	228
Sample volume	1	1	1
# Lycopodium added	41733	41733	41733
Volume counted	0.0003	0.0006	0.0003
Total concentration x 10^5	8.4	0.88	7.6

Sample 63-64 clearly has an abundance of well preserved pollen grains. The assemblage suggests that hazel scrub was nearby at this time but that, perhaps, the site itself was not wooded although wet with sedge-rich vegetation. Several of the herb-type could also have been from plants growing in such a wet fen vegetation (*Potentilla* - tormentil, Polygonaceae - docks, sheep's sorrel, *Lotus*-type - trefoils and Comp. Lig. - dandelions in the broadest sense. There are no strong indications of high levels of local cultivation although the ribwort plantain probably indicates some in the vicinity.

Sample 70-71 seems to have been a period of mineral inwash - highly mineral matrix left after preparation with little or no organic debris at all. The generally poor preservation of the pollen, in addition to the moderate numbers of broken grains, could, again, represent inwash or redeposited material. This sample is not worth further study. Should it have been taken from a clear stratigraphic layer within the profile, then this layer, too, should be ignored. Given the stratigraphic sequence, now received, it seems clear that this sample

does represent a layer of inwash, described as "brownish black silt with black organic streaks and gravel lenses" (Jones *et al* 1994).

The material in sample 81-82 contained very varied staining of the pollen grains. Although this could simply represent very uneven staining during preparation it may indicate pollen from different periods - older pollen taking up stain to a less degree. This re-working maybe a problem. Hazel and sedges remain abundant here but, alder is equally common and it is suggested that alder woodland was growing nearby (albeit only a few trees possibly) at this time. Herb types remain rather uncommon, possibly local trees acting as a screen to their incorporation.

Although two samples could be fully analysed how much more work is carried out on this monolith really depends upon the nature of the stratigraphy. If the samples were taken from three distinct horizons then it would be possible to obtain a full count on the upper one (sample 63-64). If several stratigraphic horizons exist it would be worth preparing a further sequence and assessing further material before undertaking full counts. The strong possibility of inwashed material decreases the potential of this material. However the topography of the site may indicate the likely catchment of the site. If the catchment is small, the material would have higher potential. Since questions should be addressed to the local environmental specialist who will know the site and its locale.

8.6.2.3 WB93 Context [1045]

Monolith 1045 produced samples 16-17, 24-25, 35-36, 41-42 and 49-50. Table 63 presents the counts from this profile. This monolith was taken adjacent to but above 1043 with a 10 cm overlap between the two. Figs 75 and 77 gives details of stratigraphy and sample location.

Table 63: WB93, 1045 - pollen and spore counts

Sample	Context [96] 16-17	Context [96] 24-25	Context [97] 35-36	Context [98] 41-42	Context [99] 49-50
Pinus	1			1	-
Betula	4	7	5	2	5
Quercus	2	3	3	6	6
Ulmus	2	2	5	1	-
Alnus	37	43	67	17	37
Corylus	14	12	27	5	21
Salix	-	1	3	1	1
Calluna	2	3	4	2	3
Pteridium	3	1	1	-	-
Gramineae	11	22	14	14	26
Cyperaceae	38	23	22	41	30
Filicales undiff.	5	8	15	11	11
Polypodium	2	-	-	2	1
Sphagnum	1	5	1	1	-
Cerealia	3	1?	1	1	2

Caryophyllaceae	-	-	-	1	1
Compositae (Tubuliflorae)	1	3	2	2	4
Compositae (Liguliflorae)	5	10	1	3	20
Filipendula	-	1	-	1	1
Leguminosae	-	-	1	-	-
Lotus-type	-	-	1	1	-
cf. Melampyrum	-	1	1	-	-
Plantago lanceolata	-	7	6	2	2
Plantago major/media	-	-	-	1	3
Polygonaceae	1	-	3	4	1
Potentilla	1	-	1	-	1
Ranunculaceae	-	2	-	1	-
Rosaceae	-	-	2	3	2
Succisa	-	1	-	1	-
Umbelliferae	1	2	2	-	1
3 colporate-various	2	-	2	2	-
Indet. corroded	8	7	6	2	5
Indet. broken	5	-	1	-	2
Inder. crumpled	16	13	15	10	15
Indet. concealed	2	-	1	4	3
Lycopodium	31	53	32	61	38
Total pollen and spores	167	178	213	143	204
Sample volume	1	1	1	1	1
#Lycopodium added	41733	41733	41733	41733	41733
Volume counted	0.0007	0.0012	0.0008	0.0014	0.0009
total concentration x 10^5	2.4	1.5	2.7	1.02	2.3

Concentrations of pollen and spores are quite varied although all are sufficient to enable full counts to be undertaken economically.

Alder, grasses and sedges dominate the local vegetation as, indeed, they do for the other material at Halloon. There are suggestions of less alder in sample 41-42 but no corresponding increase in herb types, rather sedges become more common. Compositae (Liguliflorae) are particularly common in sample 49-50. Whilst this may reflect a real

change in the vegetation the taxon is robust and easily recognisable even when somewhat degraded whereas other taxa may have completely corroded away. Given that the Indet: corroded category is not particularly different from that in any other samples from this monolith, and given the continuing, albeit narrow, range of herb types it seems that Comp.Lig plants may well have been more common in the vegetation at this time.

As with the other sites heathland clearly is not common in the area as evidenced by the very low values only for *Calluna* (heather) and *Ericales* (other heaths). The impression is of a wet patch of sedge-rich vegetation with alder amongst, probably, an otherwise grassland region. There is limited evidence for cultivation.

Most of the Halloon samples have enough reasonably well preserved pollen grains to enable full counting to be undertaken within reasonable time/cost restraints. What is perhaps the most interesting comment to make about them in general is that they are remarkably uniform in their pollen assemblages - wet sedge vegetation with alder, sometimes hazel and evidence for local grassland and some cultivation. There are no strong changes in the broad vegetation patterns within the time periods represented by these samples. For further work to be of value, therefore, radiocarbon dating of an appropriate number of samples is essential. There are no clear markers which could otherwise be correlated with more regional diagrams. With the presence of alder throughout, the sequences are clearly mid- to late- Holocene in date but this is of little importance in relation to the archaeology.

Probable cereal pollen has been recorded from several of the samples. Detailed measurements of those grains are necessary to confirm that they are cereal as well as to give an indication of which cereals are present. This is of particular importance when looking for economic evidence since many of the herbs are of broad type only, not identifiable to species, and therefore may relate to plants of quite different ecological habitats.

Although the samples, do, therefore, offer the opportunity to examine the vegetation changes as a whole through an, as yet unknown period of time, they also have the potential to address particular economic questions - namely the types of cereals being grown. This should be seen in comparison with the carbonised grain evidence from the bulk samples. To this end some pollen samples may well require detailed counting of 1000+ grains, perhaps with less detail being tallied for the other taxa (a method well used by Edwards in his search for Mesolithic cereal pollen, Edwards 1984). The samples which require such work will only become apparent when normal (500 grain) counts have been made from throughout this profiles.

Halloon 1045 and 1043: stratigraphy of monoliths and location of samples

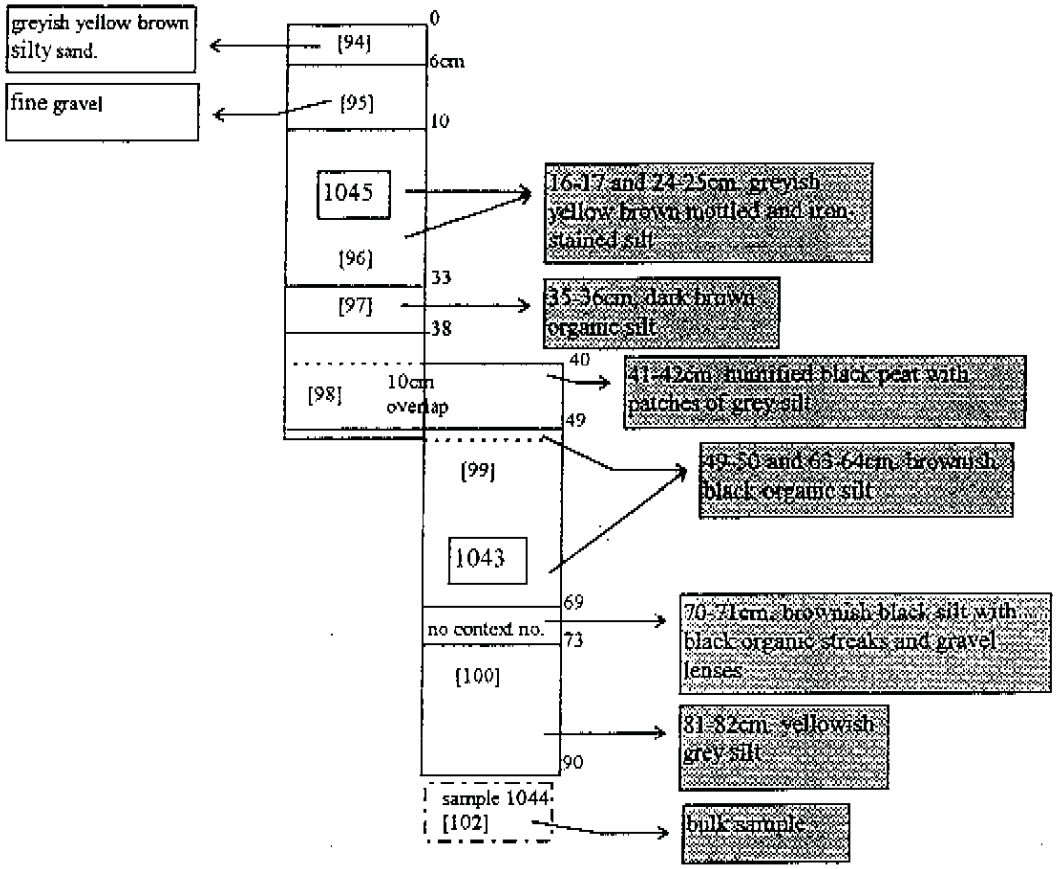


Fig. 77 Halloon [1045] and [1043]: stratigraphy of monliths and locations of samples (Source: Vanessa Straker)

8.7 STATEMENT OF POTENTIAL

8.7.1 Potential of structural and stratigraphic phasing

The excavations at Halloon farm were designed to achieve a number of objectives:

- Test the results of the geophysical survey of field system PRN: 21097.
- Investigate the date and chronology of field system PRN: 21097.
- Investigate the date and chronology of archaeological features associated with the medieval settlement at Halloon (PRN:21178) (Rose, Herring and Nowakowski 1992, 48).
- Recover artefacts and environmental data relevant to their study.

All four objectives were achieved with varied results.

8.7.1.2 Field System PRN:21097

Excavation of selected parts of field system PRN:21097 confirmed the results of the geophysical survey carried out in 1991 (Sutherland 1991). The system was shown to comprise linear ditches which represented at least two phases of enclosure (especially area 4, see 8.1.2). No direct dating evidence was found and the poor survival of these features meant that environmental sampling was not considered worthwhile. The overall pattern and layout of the system bore little relation to the present fieldscape of Halloon Farm and it is therefore likely that the system was laid out and in use during the prehistoric period.

Analysis proposed:

- Stratigraphic and structural phasing has been completed and no further work is required on this data.
- Comparison of the character of this field system with those of prehistoric data excavated at Penhale Round will form part of the interpretative discussion during future analysis (Tasks 50 and 51).

8.7.1.3 Small Enclosure PRN:21178

In the pilot study for the A30 project, a small enclosure (PRN:21178) found at Halloon was considered to be a remnant survival of the medieval settlement (Rose, Herring and Nowakowski 1992, 54). The small-scale excavations did not find any evidence to corroborate this. Whilst the structural features of the enclosure are likely to date to the post-medieval period, no remains for the medieval period were found. The discovery of two linear shallow ditches found in area 8 hint at earlier activities which unfortunately can not be dated with any certainty.

- No further work is required on this data as structural and stratigraphic analysis has been completed (see archive report by Davies *et al* 1994).

8.7.1.4 Survey Results - Medieval Field System PRN:33954

The 1:2500 sketch survey carried out of the medieval field system (PRN:33954) at Halloon Farm showed that only in some places had elements of medieval enclosure survived (see section 8.3.1). This was confirmed by the investigation of a number of sections cut across hedges boundaries which lay with the bypass corridor (see section 15.2.5 and table 69) and which took the form of earthen banks (many incorporating stonework) which crowned lynchets (see section 15.2.5 and table 69). No buried soils were located in the available hedge sections (see section 15.4).

- Whilst the system has been mapped out at an adequate scale for comparison with other field systems of a similar date elsewhere in the county, there is an absence of supporting environmental data. Other studies in the county have shown the potential for such work does however exist (*c.f.* Jones and Herring 1995). A descriptive summary and plan of the survey results should be produced (Task 57).

8.8 Potential of Artefacts

8.8.1 Ceramics - prehistoric by Henrietta Quinnell

Further study of these sherds will not date them closely. Any dating for the field system at Halloon Farm will have to rely on appropriately contexted radiocarbon dates. However the lack of finds, other than these ceramics and of flints, in stratified contexts should be noted. The presence of flints at Halloon, including a transverse arrowhead and the total of 11 flints found at watching brief sites C, D, I and J in the vicinity may be relevant in chronological terms.

There are two reasons for further study of this material. Firstly, any extension of our knowledge of prehistoric ceramics, especially pre-dating the Bronze Age, would be valuable. Whilst this would need to be done by careful study of the nature and source of the sherds, both macroscopically and microscopically, this could be useful as small collections of earlier prehistoric material may be expected to occur in small abraded fragments and it would be helpful to demonstrate that they could be broadly related to chronological horizons. Petrological study would focus on demonstration and similarities between the granitic sherd from [1301] and the granitic material from Penhale Moor and those between topsoil sherd [300] and the possible Neolithic material from [2196] at Penhale Round. The possibility that the finer fabrics of the other sherds would not be appropriate for Beakers should be borne in mind. Secondly, further information on the sherds could be linked with that from the flints to indicate the level of activity at different dates in the landscape around Halloon Farm.

Analysis will consist of:

- *Petrological analysis* of the four different fabric types by David Williams (Task 18).
- *Study*, including macroscopic comparisons with other similar material by HQ. *This would take HQ 1 day.* Illustration would not be necessary. A description would be prepared for publication (Task 24).

8.8.2 Ceramics- post-prehistoric by John Allan and Jacky Nowakowski

Given the fact that all of the post-prehistoric ceramics from excavations at Halloon Farm were all recovered from ploughsoil deposits and with the absence of any closed groups of material, any further research on this assemblage is strictly limited. A full list is filed with the site archive and the whole collection should be retained. The general scarcity of well-documented collections of a similar date range from rural settlements in Cornwall means that this collection may provide in the future a useful sample for petrological study if it was incorporated into a broader research programme which assesses the distribution of medieval and post-medieval pottery in Cornwall. For the moment however, no further detailed work is recommended.

Proposed analysis:

- The collection which has already been classified and listed will be plotted onto a distribution map showing the recovery of medieval and post medieval pottery from different landscape zones in the project area. This will accompany the historic summaries (Task 56).

8.8.3 **Lithics** by Philippa Bradley

The assemblage is of limited potential given its small size and clear lack of prehistoric features identified during the excavations (Nowakowski 1994, 19). However, the material will be of importance in establishing past activities in the area. Comparisons may be made between this small assemblage and material from, for example, Mayfield Farm, Little Gaverigan Barrow, Penhale Moor, Penhale Round and some of the associated watching brief groups.

Recommended further work:

- Attribute analysis of three items, descriptions and text (Task 29).
- Illustration for publication - 3 pieces (Task 66).

8.8.4 **Ironwork** by Henrietta Quinnell

- No further work is necessary unless the context of [500] is considered significant.

8.8.5 **Stonework** by Henrietta Quinnell

No further work necessary, although reference to the pebbles and quartz crystals found at Gaverigan (1.2.5) might be helpful in assessing the periods at which the site was in use. The "whetstone" may need further consideration in the light of the slate finger tool from WB94 Group I.

- The whetstone will be described and discussed in terms of its relevance to the Mesolithic landscape (Tasks 42 and 25).

8.8.6 **Petrological Analysis** by Henrietta Quinnell

Recommended further work:

- Four pieces to be thin sectioned by David Williams for the reasons given on section 8.8.1. (Task 18).

8.9 Potential of Environmental data

8.9.1 **Peat deposits** by Jacqueline Huntley and Vanessa Straker

The Halloon material has a rather uniform pollen assemblage throughout despite the rather varied stratigraphy. Sedges and grasses with alder predominate with indications of

some cultivation in the area. Although no dating can be offered with respect to the pollen (other than post alder rise at c. 5500 years ago) the material does have clear potential to address both local vegetation/landscape and economic questions.

- With an appropriate radiocarbon dating programme and detailed pollen counts an extremely useful diagram should be able to be prepared but care must be taken with the lower samples where inwash may have occurred (Tasks 8 and 35).

It is suggested that full counts of >500 total land pollen (TLP) are made in the first place with a regular, c. 4 cm interval sampling throughout the profile. Detailed examination of grains thought to be cereal should be undertaken and, in areas of the profile where these are most common, a finer resolution sampling AND higher numbers of grains should counted. This would enable details of cereal economy in the area to be defined and compared with the carbonised evidence from bulk samples. Such an opportunity to link these two types of evidence should not be missed although unfortunately the data is not available in this instance. In order to maximise efficiency it is suggested that full effort is concentrated upon the cereal grains *either* with totals of >1000 TLP although not necessarily identifying all of them *or* by scanning the slides at lower magnifications until cereal grains are "spotted" and then critically identifying them at higher magnifications. The author (JH) suggests that future material be mounted in silicone oil thus allowing easy manipulation (hopefully leading to identification) of, in particular, the cereal and little tri-colporate grains.

8.10 SUMMARY OF POTENTIAL

8.10.1 Assessment of the overall results of work at Halloon Farm in terms of chronology and the changing character of lowland settlement

The work at Halloon Farm has produced results which will not only contribute to a discussion of the development of the locality but will also usefully feed into general issues and lines of research arising form the A30 project. The contributions of each strand of data can be outlined as follows:

- The results of the excavation of field system PRN: 21097 should be summarised and published and form part of a general discussion about the detection and interpretation of prehistoric field systems in a lowland context. Specifically, the results should be compared in terms of character and quality of information with the results achieved at Penhale Round. In general terms, the exercise can provide a methodological case study of future work on systems found in lowland contexts (Tasks 50 and 51).
- The results of the survey of medieval field system PRN:33954 can be combined with the results of the hedge section recording to form a discussion on the structural histories of enclosure and landscape evolution. In addition, these results can be compared with those gained of comparative studies in the county - such as at Meledor and Higher Coldreavth (see Jones and Herring 1995; Jones

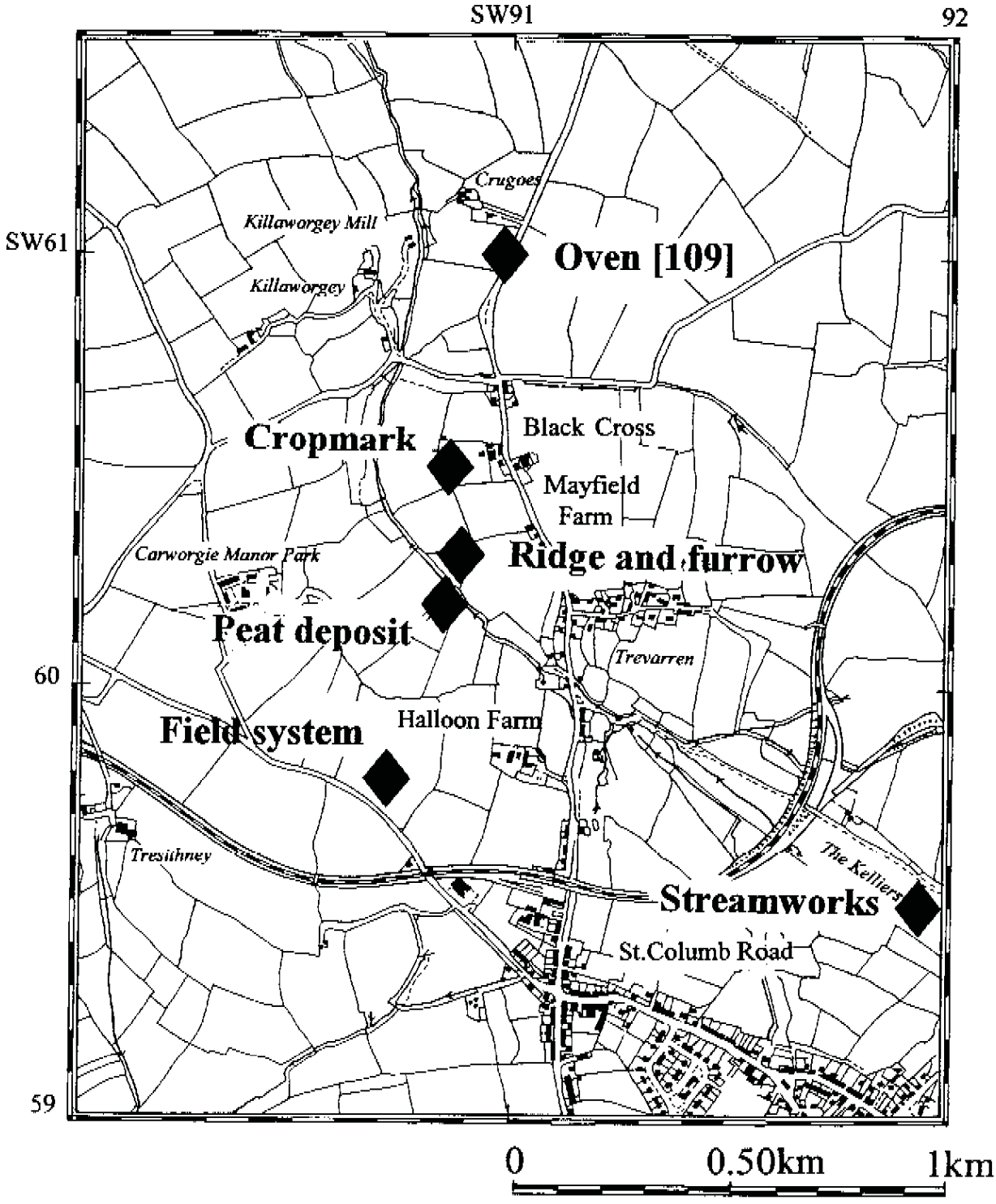


Fig. 78 Locations of sites in northern area of the bypass *Based upon the Ordnance Survey mapping with the permission of the controller of Her Majesty's Stationery Office © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Cornwall County Council LA 076538 (1997).*

and Herring 1996). (Task 55 and 57 with the post-prehistoric pottery added to landscape summary maps - task 56).

- Further study of the small assemblage of prehistoric artefacts - ceramics, flint and stonework - recovered during work at Halloon will add further general commentary on the extent of early prehistoric activities in the project area (Tasks 24, 25 and 29).
- The peat sequences sampled at Halloon Farm have provided an extremely useful pollen record which requires further detailed analysis. This palaeo-environmental data is significant for the project area as a whole, as well as for a regional study of vegetation. Its discovery and analysis will fulfil one of the main objectives of the A30 project (see Rose, Herring and Nowakowski 1992, 4.2). Once full pollen analysis has been completed a series of radiocarbon dates are recommended so that the changes can be dated (Tasks 8 & 35 will contribute to an environmental summary - task 53).

9.0 FACTUAL DATA - Survey of The Kelliers streamworks

PRN:33952 by Anna Lawson Jones and Adam Sharpe

Report dated: August 1994

Background

The area known as "The Kelliers" lay directly between the new Halloon and Highgate roundabouts (SW 9160 5960, Fig.78). This was a tract of marshy scrubland, once heavily disturbed by tinners, and marked by silted and overgrown stream workings. The road corridor (being 30 - 40 metres wide) cut across this site for approximately 1000 metres. In October 1993 the site was examined during the watching brief exercise, the aim of work at this site was to determine the character (of what cartographic evidence had suggested) pre-1840 streamworks by carrying out detailed field survey (Rose, Herring and Nowakowski 1992, 58-59).

9.1.1 Method Statement

Access to this stretch of the road corridor prior to clearance was severely limited due to heavy rain, thick undergrowth and regular flooding (in part caused by the results of former stream working). As a result the sketch survey includes a flattened area along the centre of the road corridor, the result of extensive mechanical clearance.

The survey shows the area of 'best preserved' stream workings. Ephemeral remains were visible to the east and west, but the majority had already been partially damaged, were partly flooded, and were not sufficiently well-defined to allow for survey or interpretation.

The recommendations for archaeological recording at The Kelliers comprised the following - a measured sketch survey of the stream works, the systematic record of all breached hedge boundaries, a programme of field walking following the removal of vegetation and topsoil, a photographic of extant earthworks, and the search for buried peat deposits (to be considered for sampling and environmental analysis). Prior to extensive topsoil removal, a series of deep pits were excavated and core samples taken by the road engineer's geotechnical team. The geotechnical reports for the area were studied by J. Heathcote with the specific intention of identifying possible undisturbed peat horizons. In the event, no suitable peat samples were found in the immediate vicinity of The Kelliers, although a series of peat samples were recovered west of The Kelliers (cutting [103], see section 9.2 and Figs. 78 and 79).

9.1.2 Survey Results

The area of The Kelliers targeted for detailed recording was approximately 200m long and was confined to the west by the railway, to the east by hedge boundary [101], and to the north and south by the limits of the road corridor. The area had a slight slope which ran from north to south and was crossed by a stream. Following the abandonment of industrial activities here many of the upstanding banks at the site had been partially reduced in height with the encroachment of agriculture and dense vegetation.

The sites were located 1000 metres to 1500 metres east of Goss Moor. To the north west, between hedges ([48] and [78]) lay a remnant of what was once the continuation of the Kelliers (i.e., PRN: 33953, see below, section 12). Here the northern extent of the

streamworks was shown to post-date an area of medieval cultivation ridges. Linking Trevarren Green and The Kelliers alluvial workings is a suspected area of eluvial works which lay midway between the railway bridge and the new Halloon roundabout.

Survey at The Kelliers revealed at least two main phases of streamworking. On its abandonment the area had been enclosed with a hedge boundary ([101], see Fig. 79). The earliest works were most ephemeral in appearance. Their waste dumps were narrower and lower and were essentially meandering and sinuous and ran on a NNE to SSW alignment. Both later banks 'E' and 'B' partially overlay these remnants; bank 'B' overlay a blocked and overgrown water channel, bank 'E' swamped it's smaller pre-cursor.

It was not possible to date these workings independently, but a medieval date may be likely. These earlier features were very similar to those seen in the vicinity of the ridge and furrow (Trench [127]) at Mayfield Farm (see section 12.0).

The apparently later waste dumps were much higher, wider, and more regular in plan. They gave a definite impression of systematic exploitation of The Kelliers for its ore-bearing material. Pockets of these deposits had been deep in places. On the southern edge of the road corridor immediately west of the railway bridge, coring showed that alluvial deposits were at least 10 metres deep. Here too, the alignment of the banks and channels was NNE to SSW. The north-west to south-east flowing stream follows the dumps and channels, while the former pits and working areas showed as pools and ponds.

Nineteenth century streamworking tended to be on a larger scale than earlier operations, resulting in more massive waste dumps and channels. Inevitably earlier earthworks were destroyed. The streamwork dimensions at The Kelliers are odd. The substantial widths of the banks suggest working by mechanical means rather than by hand (in the traditional manner). It is possible therefore that The Kelliers were re-worked during the early decades of the twentieth century - perhaps in conjunction with the short-lived reworking of the Goss Moor deposits which created tin-dredging ponds identified on aerial photographs (Andrew Young and Adam Sharpe, *pers. comm;* and see PRN: 37440, Nowakowski *et al* 1997).

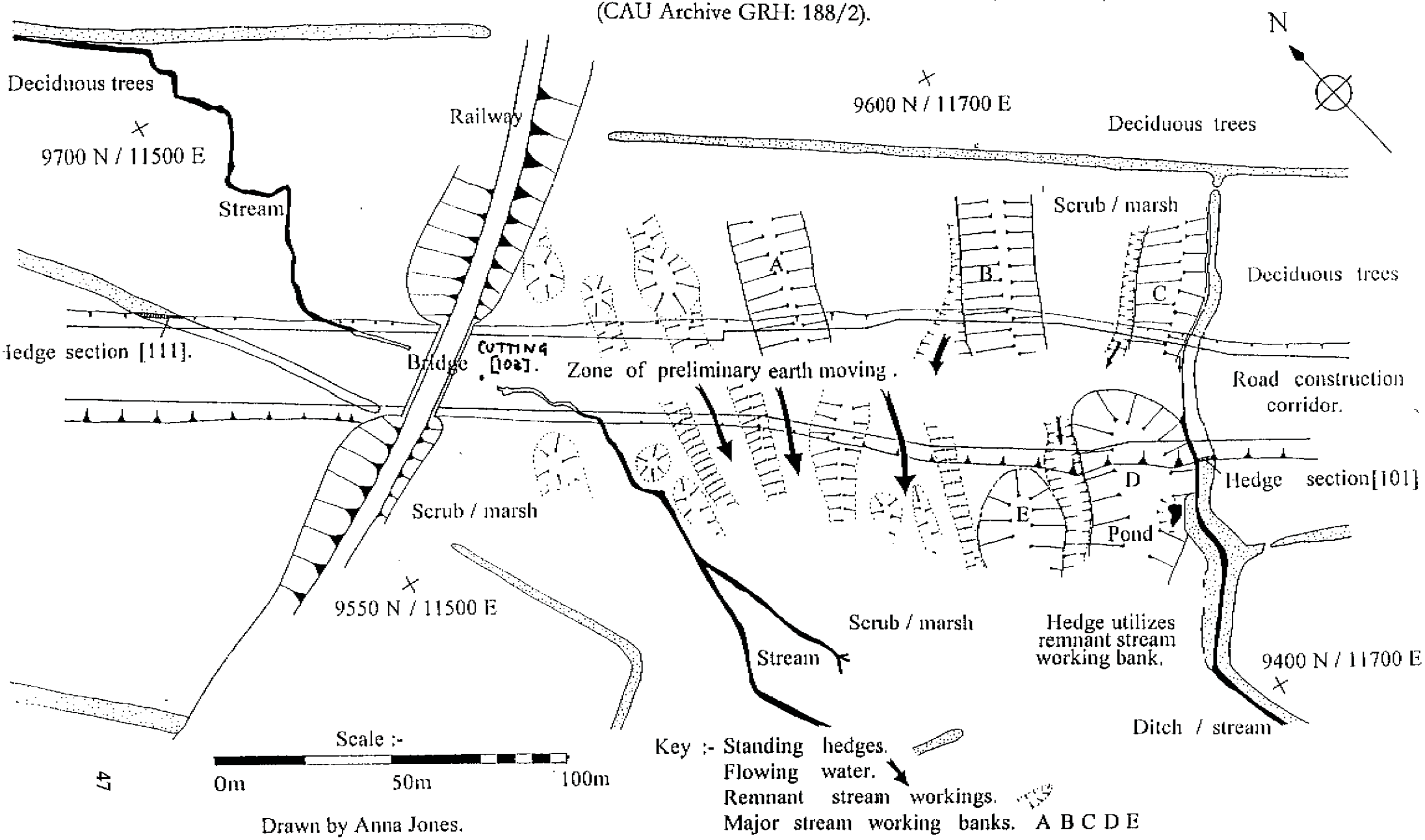
9.1.3 Tin -Streaming - The local context

Tin streaming essentially involves the opencast working of alluvial or eluvial deposits of tin-rich material. Stream working does not involve panning, but the excavation of ore bearing material and its subsequent separation from surrounding materials (generally gravels) utilising copious quantities of running water. Any shortage of water, whether through drought, or mis-management necessarily resulted in activities being episodic or seasonal.

Before the development of effective drainage and rock-breaking technologies, stream tin deposits were favoured resources for exploitation, and formed the basis for a long period of economic success in the early south-western tin industry. Although repeatedly exploited from the medieval period to the mid. nineteenth century, deposits such as those under

WB93 The Kelliers - Stream workings.

Fig. 79 Survey plan of The Kelliers (SW9160 5960) - A30 Project, Cornwall (CAU Archive GRH: 188/2).



Drawn by Anna Jones.

Goss Moor and the project area are likely to have been important sources of tin in prehistory.

The majority of rich tin valley-bottom deposits were formed during and after the last glaciation. They are invariably found close to bedrock, at the base of valley floors and in natural depressions as in the case of nearby Goss Moor. Since deposition, such deposits have become buried by varying depths of material. Removal of this build-up was frequently a dangerous enterprise: for example, in 1817 a tinner drowned when a 9 metre deep working on Goss Moor suddenly flooded (Penhallurick 1986)

Stream workings would have sometimes revealed their parent lodes - generally, in Cornwall, these run in ENE to WSW directions where they were deposited by geological events associated with the emplacement of the granite.

Stream working appears to have taken place across the South West since the Bronze Age: numerous eighteenth and nineteenth centuries accounts recorded the discoveries of a variety of prehistoric artefacts found during streaming (see Penhallurick, *ibid.*). Larger, later workings obliterated much of the earlier more ephemeral sites and frequently buried evidence for earlier activities.

9.1.4 Conclusions

The Kelliers essentially represented a little disturbed area of post-medieval stream workings. Evidence for medieval and prehistoric activities were largely destroyed during this period as well as the disturbance of sealed peat deposits from which it was hoped environmental data could have been recovered. For many, many decades this once intensively worked tract of landscape has been abandoned and colonised by dense willow, pine woodland, scrub and brambles. The construction of the bypass, although admittedly destroying this damp haven, has provided the opportunity to look at an important aspect of landscape history. The inevitable effects of an altered system of drainage as a result of the new road will remove any future potential for the survival of water-logged, *in-situ*, archaeological remains.

9.2 The Environmental Data -The Kelliers

9.2.1 Sampling collection and strategy by Jenni Heathcote

The Kelliers was one location (cutting [103] at SW 9150 5960 see Fig. 79) where surface indications indicated the possibility of buried peat deposits which may be amenable for sampling for palaeoenvironmental analysis. This site was visited and sampled by the project environmental sampling team on 8th March 1993. The investigation were carried out using a Dutch hand auger and a power assisted auger. The Kelliers supported a basic ground cover of molinia, sphagnum and calluna. An upper humic horizon of some 10 cm depth was found. This horizon overlaid a layer of gritty, grey clay to silty-clay which contained lenses of angular pebble-sized gravels. Loose peat was encountered at 0.70 m depth but its full extent could not be calculated due to the slippage from the auger during extraction from the augerhole. The maximum depth of investigation at this site was therefore 1.50 metres.

9.2.2 **Peat deposit** by Jacqueline Huntley

The following is extracted from a report dated September 1995. Methodology and samples preparation are described in section 6.3.3.

The Kelliers represents an area of stream workings although a buried peat horizon was present and sampled. Figure 80 shows sample location and stratigraphy. Four samples were analysed, each using 1 ml of sediment and each with 3 *Lycopodium* tablets added. Table 64 presents the data from these four samples.

Table 64 KELL 93 - Pollen and spore counts

Sample	3-4	10-11	19-20	46-47
Pinus	1	-	-	-
?Juniperus	1	-	-	-
Betula	-	-	1	2
Quercus	2	-	-	2
Ulmus	1	-	-	2
Alnus	5	-	3	1
Corylus	5	-	3	1
Salix	-	-	-	7
Ericales	2	-	1	-
Calluna	5	1	5	6
Gramineae	20	-	9	19
Cyperaceae	48	-	21	32
Filicales undiff.	-	-	2	5
Polypodium	1	-	4	1
Pteridium	2	-	1	-
Sphagnum	1	-	-	1
Cerealia	1	-	-	-
cf. Artemisia	-	-	-	1
Filipendula	1	-	2	-
Compositae (Tubuliflorae)	-	-	1	3
Compositae (Lugliflorae)	6	-	4	5
Cruciferae	-	-	-	1
Lotus-type	1	-	-	-
Plantago lanceolata	7	-	6	4
Plantago major/media	-	-	-	4
Polygonaceae	1	-	1	1
Potentilla	-	-	-	2
Rosaceae	2	-	1	3
cf. Sorbus/Prunus	2	-	-	-
Umbelliferae	1	-	-	1

tricolporate - various	5	-	1	5
Indet. corroded	-	-	38	4
Indet. broken	2	-	4	2
Indet.crumpled	5	-	18	15
Lycopodium	85	25	40	84
Total pollen spores	128	1	126	129
Sample volume	1	1	1	1
#Lycopodium added	41733	41733	41733	41733
Volume counted	0.0031	0.0006	0.001	0.0013
total concentration x 10^{5}	0.41	0.02	1.3	0.99

9.3 STATEMENT OF POTENTIAL

9.3.1 Potential of environmental sampling - Peat deposit

The concentration of pollen and spores was very varied within these four sample and it seems likely that either mineral material was washed in or that the site dried out at some time. The second sample (10 cm - 11cm) contained so little pollen that further work is not merited. In addition, the high number of corroded grains in the third sample suggests that analysis here would be of limited value. The lowermost sample contains a variety of grains with reasonable preservation. Depending on the overall depth of the profile some limited further work may of value from the lowest sedimentary unit. Radiocarbon dates however would be required to determine the dates of this profile. The material clearly represents an open vegetation with sedges and grasses most commonly represented. Woodland or scrub, although present, does not seem to have been growing at this site during the period represented. It could, therefore, produce an assemblage more typical of the surrounding vegetation than that obtained from a wooded site

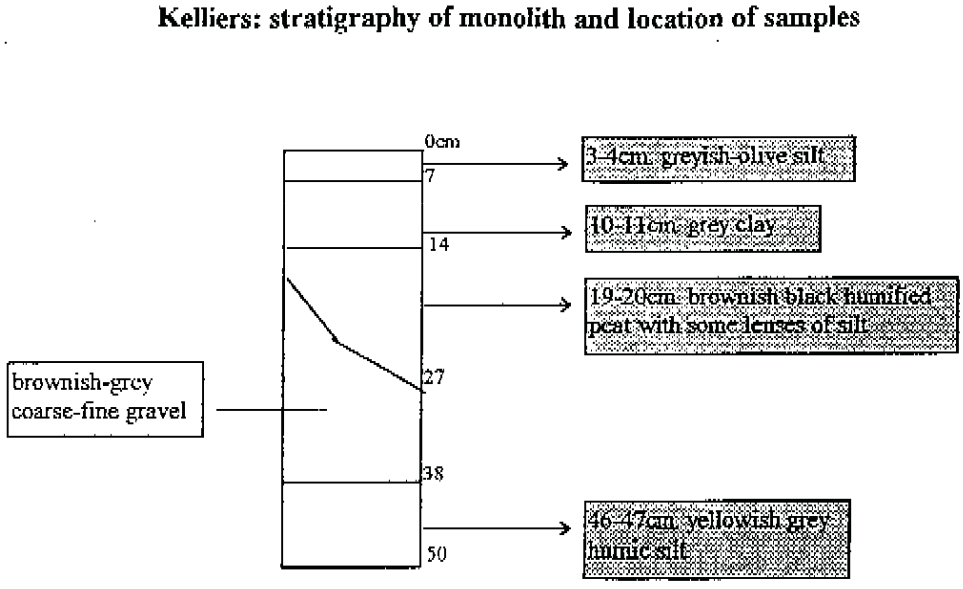


Fig 80 **Kelliers: Stratigraphy of monolith and location of samples** (source: Vanessa Straker)

9.4. Summary of potential for analysis of data from The Kelliers

The Kelliers was one of only two industrial sites available for study during fieldwork on this project. The survey at The Kelliers revealed a rather unusual layout and series of substantial banks which are likely to have resulted from a mechanical reworking of the site. As a result there was very little survival of evidence for features associated with earlier phases of working. It is likely that the origin of The Kelliers are later medieval in date as it appears that they were worked at the same time as the alluvial streamworks (PRN: 33953) located less than 1/2 mile to the north at Mayfield Farm. Archaeological investigation at this latter site showed the streamworks to overlie cultivation ridges of medieval date (see section 12.0 and Fig. 84).

- No further analysis of this survey is recommended though a synthetic account of and a plan of the streamworks should be published (Task 58).

Environmental data from The Kelliers was disappointing because periods of inwash as well as drying out led to highly varied pollen preservation and concentration. The lower samples could be worth full analysis and given that this site was not far away from the Halloon site the results could be of interest. Should the pollen sequence prove to be missing a particular period in time which is represented in the cultural archaeological record then these samples from the Kelliers should be checked to see if they could fill a gap.

- No further work is recommended on the pollen.

10.0 FACTUAL DATA -Excavations of cropmark PRN:33950 and the excavation of a small circular mound PRN:33951 at Mayfield Farm, Black Cross, St. Columb

Background

Small-scale excavations were carried at Mayfield Farm, Black Cross in St. Columb in late June and early July 1993 in order to investigate the nature of two possible sites detected by aerial photography (Fig. 81). These features were in the vicinity of a possible sub-circular cropmark site (PRN: 33950) and a small circular mound (PRN: 33951) centred at SW 9087 6053. A geophysical survey carried out by the Ancient Monuments laboratory in 1993 (Linford 1993b) did not produce any coherent results, but the presence of the mounded feature suggested the possibility of some prehistoric activity and highlighted a need for some archaeological excavation. Three areas were examined.

10.1 STRUCTURAL AND STRATIGRAPHIC DATA by Charles Johns

Area 1

This trench (10 m x 7 m in extent) was excavated in order to examine the intersection of a semi-circular feature and an associated linear feature - both detected on the geophysical survey. It was noted, prior to excavation, that the features lay along the natural lie of the land.

A curvilinear trench [6] was found less than 10 cm below modern ploughsoil. This was found to contain a modern plastic water pipe. This was the curvilinear feature detected by the geophysical survey (see above). An associated linear feature [11] proved to be a pipe connected to the main water pipe.

Nothing of archaeological significance was found in the trench.

Area 2
This area (measuring 7m x 2m) was opened up in order to examine a curvilinear feature located north-east of and concentric to feature [6] in area 1 (see above). Natural clay subsoil was reached at a depth of 0.45 m and a buried linear feature corresponding to an anomaly detected by the geophysical survey was discovered. On excavation this proved to be irregular in form, quite deep (at 0.78 m) and undercut by a meandering tunnel.

There were no datable finds and the feature was interpreted as an animal burrow.

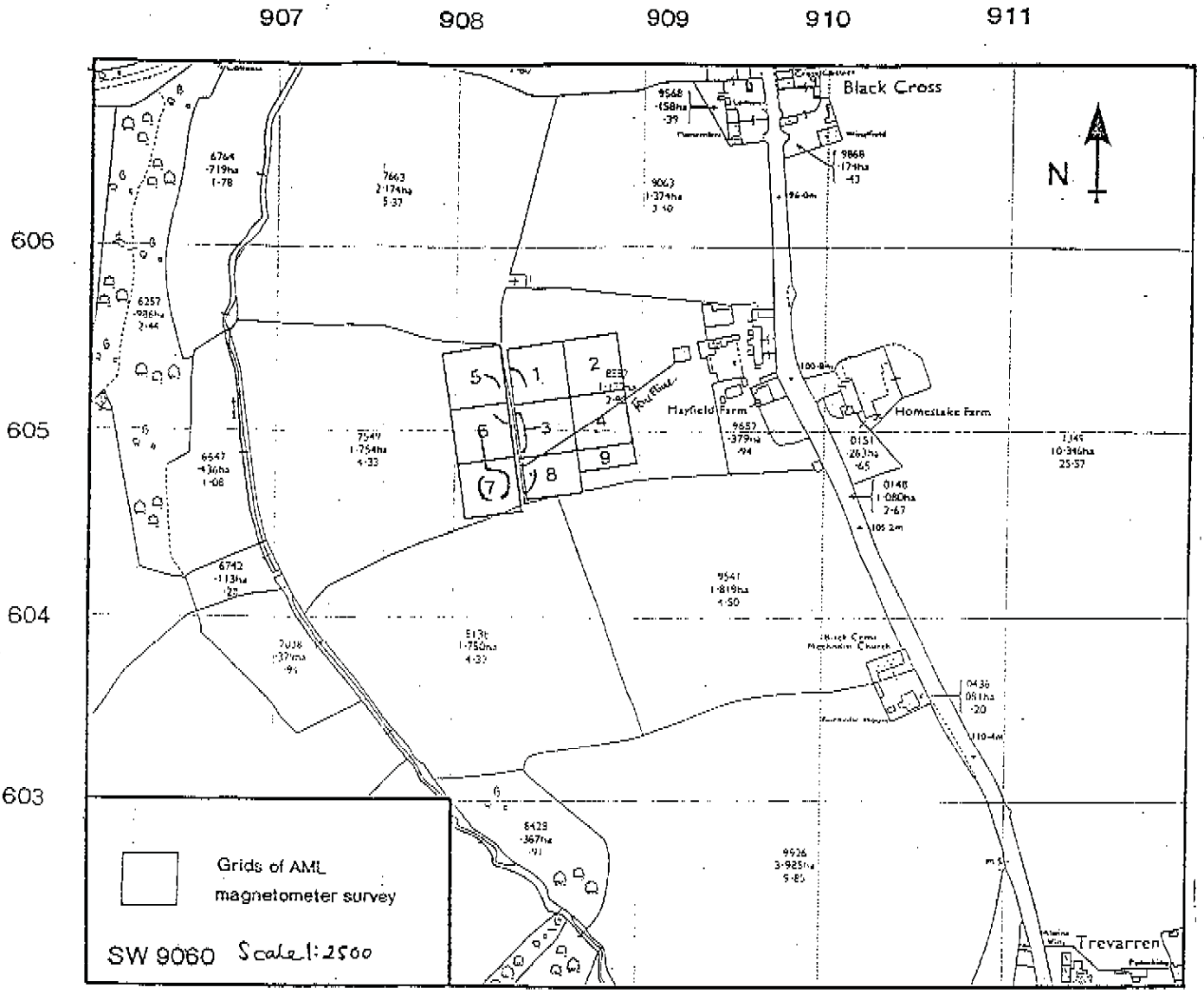
Area 3
This area (measuring 5m x 2m) was opened up in order to examine another curvilinear feature south-east and concentric to feature [6] (in area 1, see above). Below 0.15 m of ploughsoil a spread of clay loam [17] was uncovered and found to be part of a discontinuous stony trackway which lead towards a field gateway. In addition a linear amorphous irregular feature [19] found just over 1 metre to the north-west of [17] was interpreted as a treehole.

10.1.1 Results of excavation
Nothing of archaeological significance was uncovered during work at Mayfield Farm.

10.2 ARTEFACTS

10.2.1 Ceramics- medieval and post-medieval by John Allan and Jacky Nowakowski
The medieval and post-medieval ceramic collection from investigations at Mayfield Farm consists of 62 sherds. Most of the material (54 sherds, 87%) was recovered from ploughsoil and topsoil layers during the excavations in June 1993 and eight sherds were recovered from two localised groups (coded E and G) during topsoil monitoring in the area later that year. The collection is small and varied in character.

Five sherds of local medieval coarse wares were recovered. This disparate collection was highly abraded and included one basal sherd. As with other material of this date found elsewhere in the project area, the collection from Mayfield probably represents residual material scattered as manuring waste in the fields surrounding medieval settlement in the general area. The present farm buildings at Mayfield post-date the 1840s and the farmstead is probably later, rather than medieval in origin. It was however close to Trevarren which was first recorded in 1201 (Gover 1948) and which Henderson noted was probably a hamlet established by medieval tinners who worked the nearby streams and moors (Henderson 1930, 64). The remnant traces of medieval ridge and furrow examined close by



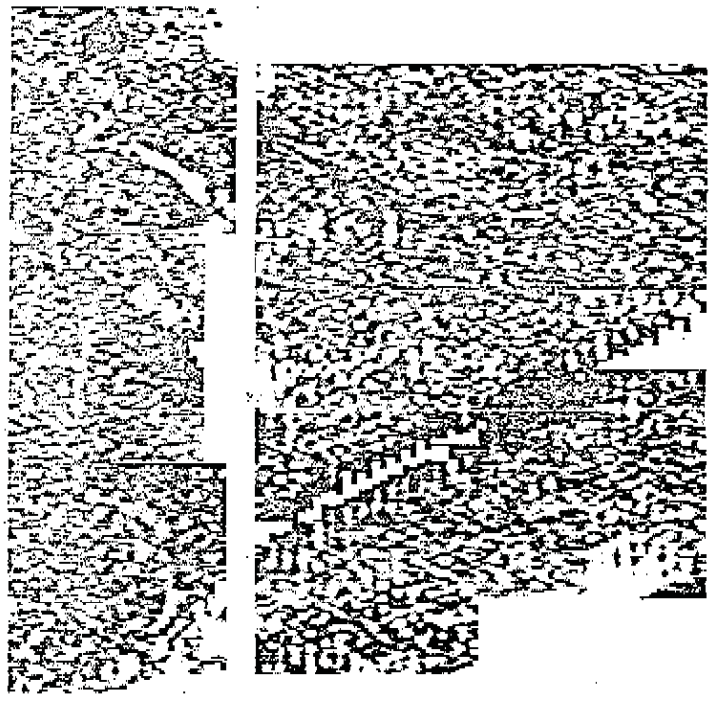


Fig. 81 Mayfield Farm - Location & Results of Geophysical Survey (*Source*: AM Lab Rep 1/93, N Linford)

(see section 12) could imply that the area was probably fairly heavily populated in the medieval period and that there was some pressure on land in this locality.

The rest of the collection comprises post-medieval and early modern material with a notable absence of later medieval material (i.e., dating to the 15th to 16th centuries). Of the post-medieval material there were six sherds of post-16th century Cornish coarse wares, 17 sherds of North Devonshire coarse and calcareous wares and fragments of a handle from a late 17th/early18th century Staffordshire porringer together with one sherd of 18th century English stoneware. Just over half (and the largest portion) of this assemblage comprises 32 pieces (51.6%) of 19th century industrial china.

10.2.2 Ironwork by Henrietta Quinnell

Eleven nails, whole or broken, come from topsoil and all appear modern. All material has been X-rayed and studied by Margaret Brooks and Henrietta Quinnell together. A full list is filed with the archive.

10.2.3 Lithics by Philippa Bradley

Nine flakes and a single possible fabricator fragment were recovered from Mayfield Farm (Table 65). The majority of the pieces were recovered from topsoil layers. A single flake had been burnt. Fabricators were in use from the Mesolithic period to the Bronze Age and so are not particularly useful for dating purposes. However, the debitage recovered, mostly squat, hard-hammer struck flakes would be consistent with a Bronze Age date. However, the dating is tentative as the assemblage is so small.

Table 65. Flint quantification from Mayfield Farm

Flakes	*Retouched forms*	*Total*
9	1 (?fabricator)	10

10.3 STATEMENT OF POTENTIAL - STRUCTURAL AND STRATIGRAPHIC PHASING

- The excavations revealed that the geophysical anomalies were not archaeological in origin. No further work is recommended.

10.4 Potential of Artefacts

10.4.1 Ceramics- medieval and post-medieval by John Allan and Jacky Nowakowski

The collection is of limited potential given the absence of any closed stratified groups. A full list of finds is given in the site archive. The general scarcity of well-documented collections of a similar date range from rural settlements in Cornwall means that this collection may provide in the future a useful sample for petrological study if it was incorporated into a broader research programme which assesses the distribution of

medieval and post-medieval pottery in Cornwall. For the moment however, no further detailed work is recommended.

Proposed analysis:

- The collection which has already been classified and listed will be plotted onto a distribution map showing the recovery of medieval and post medieval pottery from different landscape zones in the project area. This will accompany the historic summaries (Task 56).

10.4.2 **Ironwork** by Henrietta Quinnell

- No further work is necessary, given the modern appearance of the material.

10.4.3 **Lithics** by Philippa Bradley

This material is of limited potential given the size of the assemblage and its tentative dating. It does, however, provide very general information regarding prehistoric activity in the area and will be useful for comparison with other assemblages, for example, Penhale Round, Little Gaverigan Barrow, Penhale Moor and Halloon Farm.

Recommendations for further work:

- Description and text for publication of 1 piece (Task 29).
- Illustration for 1 piece (Task 66).

10.5 Summary of potential analysis of results from Mayfield Farm

The results of the archaeological work at Mayfield Farm were disappointing. No prehistoric, medieval or indeed post-medieval structural remains were found at this location. Of interest however was the small but disparate scatter of flintwork which gave a general indication of activities in this landscape from at least the Mesolithic period.

- No further work is required for this site. The details should be summarised for the County Sites and Monuments Record (Task 83).
- A published note on the few lithics will contribute to the broader picture of prehistoric activities in this part of the project area (Task 42).

11.0 FACTUAL DATA Results of small-scale excavation of Deep Lane - DL93 by Janice Grove and Jacky Nowakowski

Background

Deep Lane (PRN: 33965) - a holloway - was identified during reconnaissance fieldwork on the A30 project as Penhale /Trewhela Early Medieval highway in 1991 (see Rose, Herring

and Nowakowski 1992). Until recently it was known locally as Deep Lane and prior to the bypass construction it was a very overgrown, but frequently used, footpath (centred at SW 9077 5735) (Fig.2). In early January 1993 a small-scale excavation was carried out by Anna Lawson Jones and Andrew Jones at this site. The investigation comprised a small trench sited across the base of a small section of the lane cut through by the Indian Queens bypass. The main purpose of the exercise was to look for some evidence to confirm cartographic evidence which suggested 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).

11.1 **Stratigraphic and Structural data** by Jacky Nowakowski

Report dated: *March 1993*

A trench (5 metres by 2 metres) was opened up by hand across the width of the holloway directly in front of two blocked gateways. Under a thin deposit of leaf litter [1] was a dark yellowish brown silty clay layer [2] which varied in depth from 10 cm to 35 cm. This was penetrated by roots and the deposit appeared to have been washed into the holloway from the adjacent fields. It was deepest at the two gateways and shallowest towards the centre of the holloway where it had been partially removed by the action of water which had collected across the deepest part of the holloway (i.e., the centre). This build up [2] over laid a made-up cobbled surface (Fig. 82). The cobbled surface comprised tightly compacted small pebbles and the surface was shown to extend the width of the holloway as well as running across the mouth of the northern gateway (see Fig. 82). The absence of a break suggests the two are contemporary.

The pebbles had been compacted into the underlying surface of natural clay [5]. A deep rut (some 30 cm deep) was found cut into the cobbled surface on its northern side. The rut, perhaps caused by a wheeled vehicle, ran parallel to the hedge-line on the northern side of the holloway. An area of the cobbled surface was removed and the underlying deposit of natural clay [5] was found to have been levelled prior to the construction of the cobbled surface within the width of the holloway. No finds were recovered.

Both gateways were recorded and photographed prior to their destruction by the bypass. A section across the profile of the holloway was recorded (Fig.83).

11.1.2 **Hedge Recording** by Janice Grove

The following summary describes the hedge sections on either side of the lane.

Hedge 6050 (HS 3) (Fig. 83).

Hedge 6050 was built over a natural yellow clay subsoil [5]. Layer [6066] lay centrally beneath the main bulk of the hedge, and possibly represented a buried soil horizon or the primary build of the hedge. The main earth bank of [6064], a yellowish brown clay loam, was up to a metre in height and was faced on the eastern side by [6067], large angular granite blocks, 10-30 cm in size, which lay within the loamy clay matrix of [6065].

Layer [6063] on the upper western side of the bank possibly represents a rebuild of the hedge, possibly facing, as there were stone cavities within the yellowish brown clay loam.

All these layers were sealed beneath [6062], up to 46 cm of humic rooty loam and vegetation, probably representing a fairly modern rebuild of the hedge profile, as it contained two sherds of post-medieval pottery.

Hedge 6051 (HS 4)
The natural subsoil [6058/5] was overlain by [6056], a firm silty clay, a buried soil pre-dating the hedge build, up to 20 cm deep. This was below layer [6054], which could also be a buried soil, or the primary build of the hedge. Up to 30 cm deep, it was cut through by [6070] for the gate-post which formed part of the structure.

The main body of the hedge consisted of large angular stones of granite and quartz [6068] set in a matrix of a dark brown firm silty clay loam [6059]. The western side of the hedge was roughly coursed. The granite gate-post was 1.4m tall above the ground surface, and contained a drilled hole for a gate-pin. Both [6068] and [6069] were covered by layer [6052], which could be re-build/upcast to maintain the hedge profile after possible collapse of the walling.

A period of soil formation subsequent of the hedge construction is represented by [6055], an organic loamy leaf litter. The section is confusing on the east side in relation to this context, as the walling was projected forward, so in all probability, [6055] did not extend beneath [6068]. The upper hedge and sides were covered in a layer of leaf litter and vegetation [6053].

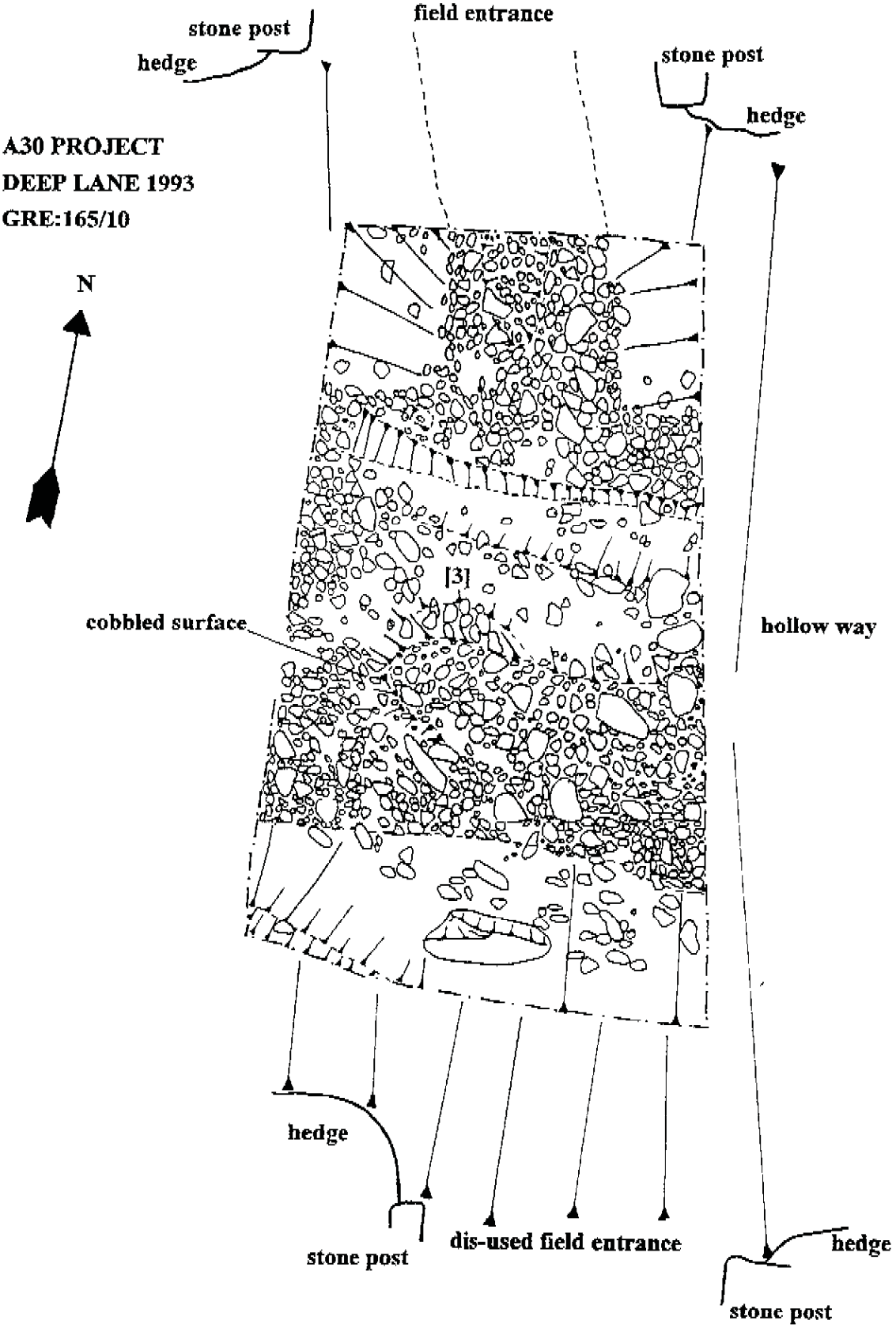
Three hedge sections were recorded along a routeway called Dump Lane (Fig.88) HS93, HS98 and HS94 - see table 72, section 15.2.8). The Tithe Map of 1840 shows that Dump Lane represents a higher segment of Deep Lane. Two stone faced-banks lined either side of the lane whilst further along one boundary became a stone-faced earth and stone wall. None of these hedges had ditches. A glass bottle was found in HS99.

11.2 Statement of potential of further analysis at Deep Lane by Jacky Nowakowski

Although no direct dating evidence was found, the holloway had clearly been a major route along which wheeled vehicles had at one time driven. The cobbled surface indicates periods of busy use as this would have maintained a clean and mud-free surface along which people walked, rode or drove their vehicles and animals. This made-up roadway would appear to be contemporary with the previous use of the main point of access through a formal gateway into the field which lies immediately to the north of the holloway. There was no evidence to show when both the holloway and gateway fell out of use.

- No further analysis of the site is required although a synthetic account should be published and discussed as part of the evolution of the early medieval landscape (Tasks 55 and 57).

Fig. 82 Excavation plan of Deep Lane (SW9077 5735) - A30 Project, Cornwall (CAU Archive GRH: 181/2).



12.0 FACTUAL DATA - Ridge and Furrow Site (PRN:33952) Mayfield Farm - Trench [127] by Jacky Nowakowski

Background

A small plot of medieval cultivation ridges was discovered within a wooded enclosure on the edge of Mayfield Farm during a reconnaissance study in 1991 (PRN:33952 Rose, Herring and Nowakowski *ibid.*). The site comprised at least 10 cultivation ridges which lay within a heavily wooded area which was cut on one side by the new bypass (SW 9088 6027 and see Fig. 84). Remnant traces of alluvial streamworks (PRN: 33953) were also noted in this area but were unaffected by the road works.

Survey and small-scale excavation were recommended at this site but because of the dense vegetation it was not possible to carry out this work until October 1993. A sketch survey (Fig. 84) was undertaken and a small trench [127] (Fig. 85) was cut through a section of the ridges. The aim of this exercise was to record a profile of the ridges and to look for a buried soil, as well as to examine the relationship between the enclosure, the cultivation ridges and the remnant earthworks associated with tin streaming.

12.1 Results of the excavation

The trench [127] revealed that the cultivation ridges had probably been spade-dug (Fig. 85) but unfortunately no intact buried soil horizon was found beneath the ridges. The survey did however reveal that the cultivation ridges were a discrete site which predated the establishment of woodland in the enclosure as they were found to extend beyond the confines of the enclosure. The ridges also lay under spoil dumps from the adjacent streamworks (Fig. 84).

12.2 Statement of potential of analysis from work at Mayfield Ridge and Furrow site and summary of contribution to the project results

The survival of broad-ridged cultivation features is a rarity within lowland Cornwall and although no direct dating evidence was recovered, a medieval date for these features is likely. Few opportunities to examine these types of landscape features have appeared in Cornish lowland settings and so the information gained from this exercise is invaluable, contributing to a little-studied aspect of medieval life in the south-west (*c.f.* Griffith 1984).

A synthetic account of the results of this work should be published and will contribute to the historic data discussion (Task 57).

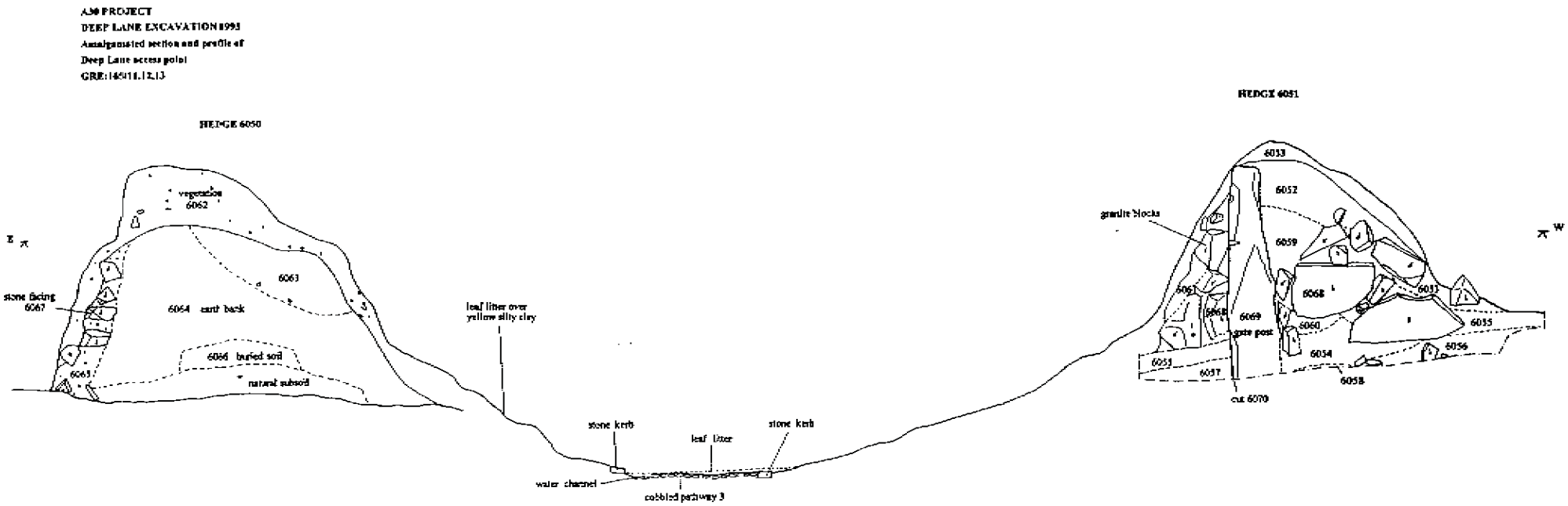


Fig. 83 Section across Deep Lane (SW9077 5735) - A30 Project, Cornwall (CAU Archive GRH: 181/1).

WB93. SKETCH SURVEY OF BANKED ENCLOSURE , STREAM WORKINGS AND RIDGE AND FURROW COMPLEX.

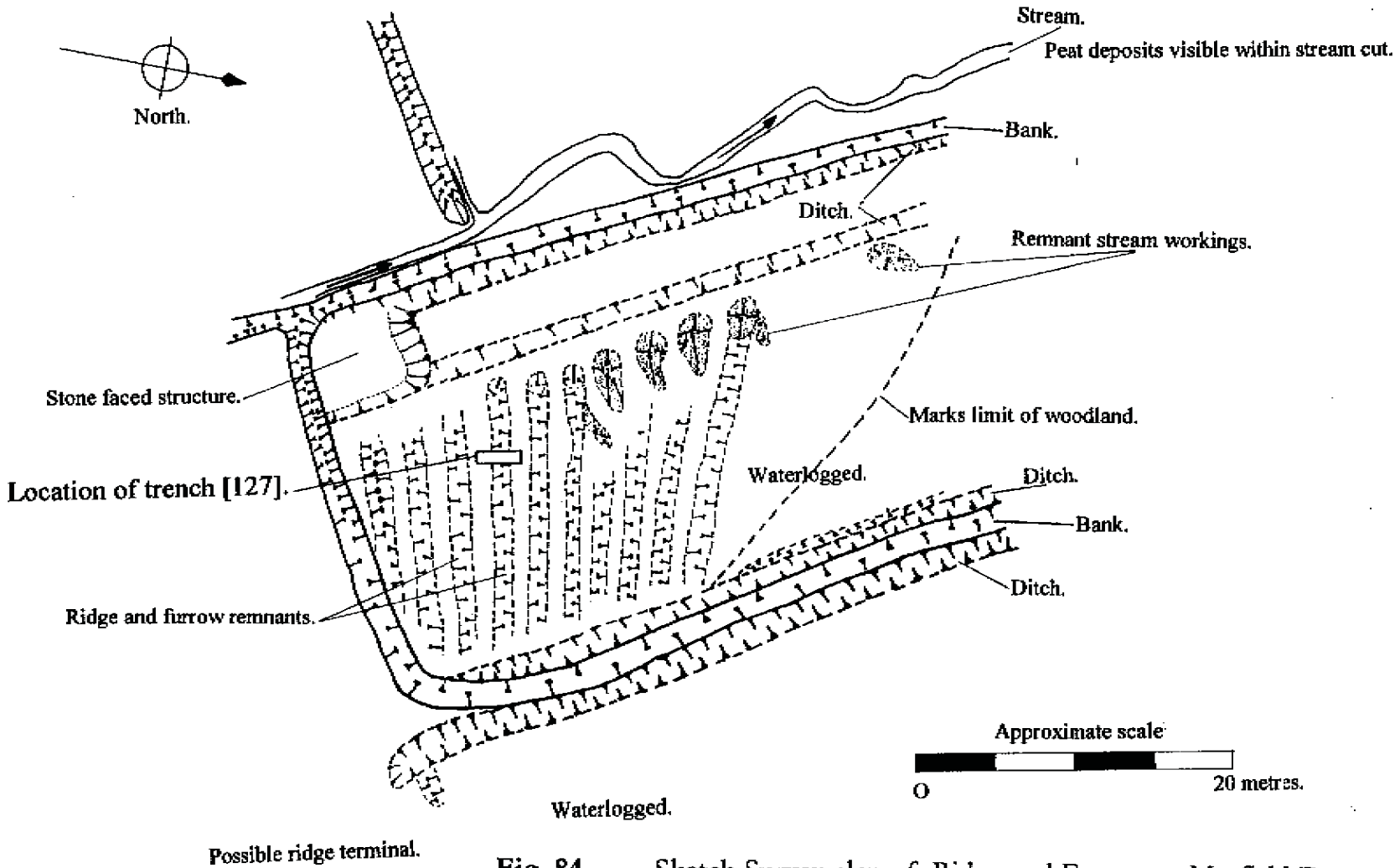


Fig. 84 Sketch Survey plan of Ridge and Furrow at Mayfield Farm (PRN:33952; SW 9088 6027) - A30 Project, Cornwall (CAU Archive GRH: 188/13).

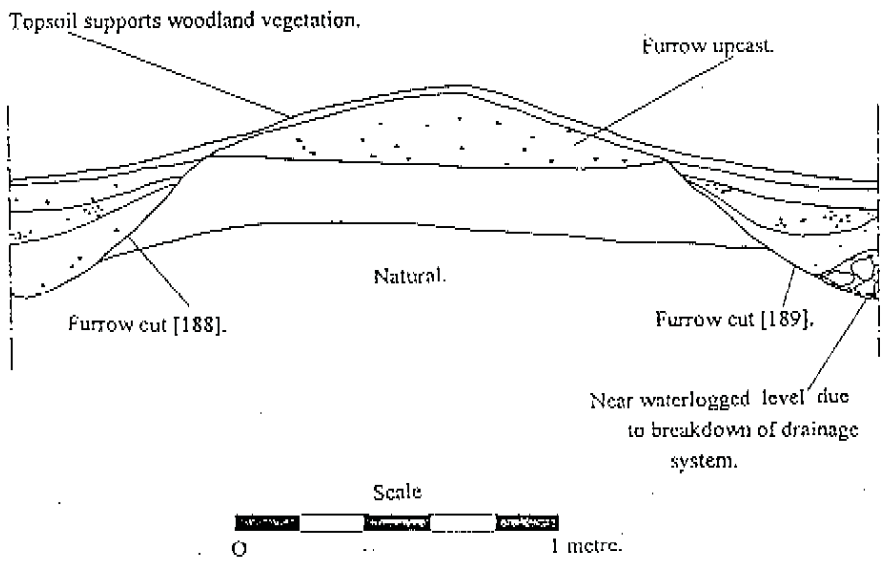


Fig. 85 Section across trench [127] (CAU Archive GRH: 188/14).

Fig. 85 Section through trench 127 showing Ridge and Furrow

13.0 FACTUAL DATA Results of small-scale excavations and field survey at Queens Mine PRN:33970 by Adam Sharpe and Janice Grove

Background

Preliminary assessment by Peter Herring in 1991 had identified an area of ploughed-down mining remains (SW 9207 5850) to the south-east of Indian Queens; the site of documented mining (known as Queen's Mine during the 18th and 19th centuries). This site was coded as PRN: 33970 and survey and small-scale excavations were recommended as the area lay within the proposed road corridor (Rose, Herring and Nowakowski 1992). A sketch survey and small excavation carried out in June 1992 in an adjoining enclosure to the west revealed that a broad spectrum of prospecting and production features on a series of east-west lodes typical of the pre-industrial period were likely to be present in the area cut through by the Indian Queens bypass (Nowakowski and Johns 1992).

During late June and early July 1993 an enclosure containing surface remains within the sett of Queen's Mine were surveyed by plane table at a scale of 1:1000 (using a microptic alidade and sopwith staff from triangulated base stations- see Fig. 86). Despite extensive ploughing across this entire area (funded by a moorland clearance grant about a decade ago), it proved possible to locate and survey many features, to discern the underlying lode structure and to interpret most of the field remains. The principal components were chains of prospecting pits, a series of lode-back workings (shallow early shafts) cut into the lode outcrops and at least two shafts of presumed later date, one of which was associated with a possible horse-whim platform.

Two of the features surveyed were partially excavated by hand and a sondage pit was opened up in order to look at the natural stratigraphy of the area.

13.1 Results of the Excavation

Trench 1 - Lode back pit 34 (Fig 87).
Approximately 4 metres in diameter, this pit was half-sectioned to a depth of 1.65 m, but was not bottomed. The pit had steeply sloping sides, with two shallow breaks of slope in the north and west which dipped vertically. For safety reasons the pit was excavated to a depth of 1 metre where is was shown to be much narrower (perhaps 2 metres in diameter).

The lowest fills noted were mixed clay deposits [15] and [17], which appeared to be the same major "blocking" fill in the mouth of the pit, but which were separated by [14], a clay loam with mortar inclusions, and [16] a black silt with orange clay. The overlying deposit [13] was loam with black silt lenses.

Above this possible soil horizon, layers [11] and [12] of clay loam with charcoal flecks were bisected by loose clay loam [9], which was viewed at an oblique angle and which over laid [11] and [12]. Deposit [10] was an isolated clay lens.

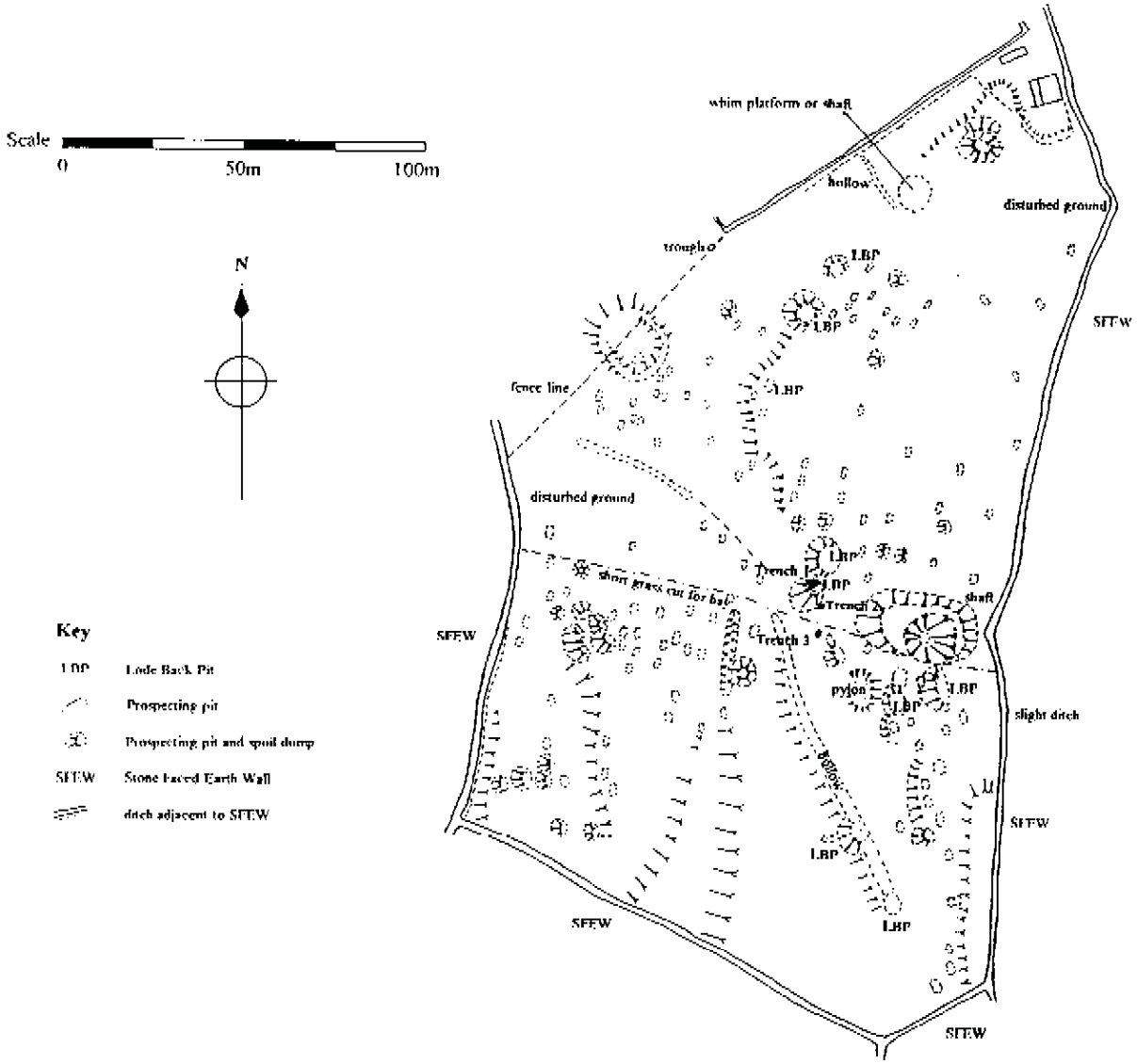
Another possible soil horizon [7] was detected (this was at least 0.15m deep) and sealed these deposits (0.85 m below the ground surface). The pit was backfilled in one event by layer [6] which was a mixed deposit of brick rubble in a loose sandy loam.

A layer of dark brown humic silty loam [5] covered the whole excavated area, separated from layer [3] to the south by another rubble deposit ([4]). Layer [3] was a thin continuous band of dark brown to black humic loam with occasional charcoal inclusions and may have represented another phase of build-up. Just 12 cm below the turfline lay a rubble layer (0.20 m deep).

Trench 2 - prospecting pit 35 (Fig. 87)
This trench lay to the south of trench 1 and was opened up in order to investigate one of the many prospecting pits indicated by the survey. Not all of the pit was excavated, but it was shown to be at least 1.10 m wide and 1.42 m deep.

The base of the pit was almost level and appeared to have been subjected to trampling. The lowest fill [33], a lens of silty clay was over laid by clay [32] and (up to 0.40m) sandy clay

Fig. 86 Queen's Mine Excavation and Survey Plan (SW9207 5850) - A30 Project, Cornwall (CAU Archive GRH: 182/1).



[31], which included some large angular stone. Layer [30], a dark brown to black silt also contained a concentration of angular stone (50 - 100 mm in size). This layer was up to 0.30 m deep and was sampled for its cassiterite content.

A thin band of black silt [29] overlaid these seemingly deliberate infills; distinctive by inclusions of charcoal fragments and a percentage of mica. Layer [28] was a mixed deposit of sandy clay loam which lay beneath [27] (another thin black silt band with mica). The two uppermost deposits below the topsoil were of a loose silt loam [26] and a mixed sandy loam [24] These had been disturbed by animal burrowing.

Trench 3 - sondage (Fig. 87)
This third trench was excavated so that the normal geological profile of the area could be established and be compared with the data recorded in trenches 1 & 2. It was cut in an undisturbed part of the field and comprised a small pit (1.8 m x 1.2 m in size). It was dug to a depth of 1.50 m and was sited to the south of trench 2. The lowest horizon was [23], and all layers were found to be in a horizontal plane:

Bottom	[23] - natural compact red and yellow clay (natural)
	[22] - 90% stone up to 15 cm, grey/blue angular stone (natural) - probably "schorl"
	[21] - compact friable clay (natural)
	[20] - fine grained sandy clay (natural)
	[19] - loose grey/brown loam build up
Top	[18] - turf and topsoil

13.2 Concluding Summary and recommendations for further research by Adam Sharpe

The first trench (1) showing at surface as a 2 m^2 hollowed area, 0.3 metres deep, proved to be the northern third of a lode-back working about 4.0 metres in diameter. Removal of a series of fills revealed the trumpet-shaped shaft mouth tapering rapidly into a sub-circular plan shaft with near vertical sides cut into much-decayed parent rock and approximately 1.8 m diameter at the base of the excavation. The fills consisted of backfilled mine spoil - the majority of which apparently originated within the shaft spoil dump upslope. Infill had clearly taken place on an intermittent basis; the fill slumping and stabilising between such episodes, developing vestigial soils on more than one occasion. The final levelling episode is assumed to have been that undertaken a decade ago. No artefacts were recovered from the partially mineralised rock and clay-soil fill and on the advice of Vanessa Straker, no samples were taken. The exposed section was recorded prior to backfilling.

The second feature investigated (2), though almost identical in surface appearance, proved to be a prospecting pit measuring 2 metres by 1 metre in plan, about 1.7 m deep. The sides were vertical, the base flat and covered with a pronounced trodden clay layer had been cut down to near the top of the underlying bedrock. The standing section was recorded (Fig. 87) and revealed that whilst some infill of the pit had taken place shortly after its excavation, the feature had remained as an open hollow for long enough for a deep peaty

soil to develop - judged to be indicative of prolonged water-logging. This material was sampled. The pit had subsequently been infilled on two further occasions.

The third sondage trench (3) was opened up in order to establish the widely-held hypothesis that such features were excavated in progressive sequences to test for rising levels of detrital lode-derived tin content within the intersected soil layers. The soil profile revealed no signs of human activity beneath the shallow plough zone, as had been hoped, but instead revealed a complex sequence of clays containing 2 distinct bands of sub-angular rocks - one at about 1 metre from the surface, the second at the level of the pit base (corresponding with the base of the pit within trench 2).

Visual identification of tin-bearing material within the bands of rock proved impossible, though the presence of angular schorl (tourmaline-rich stone) and massive quartz were felt to be indicative of nearby present veins. Samples of this material were retrieved. A full-depth 10 cm wide soil column was taken from the western end of the pit for subsequent examination. The soil profile was recorded and the pit backfilled.

13.3 STATEMENT OF POTENTIAL of analysis from work at Queens Mine and summary of contribution to the project results by Adam Sharpe

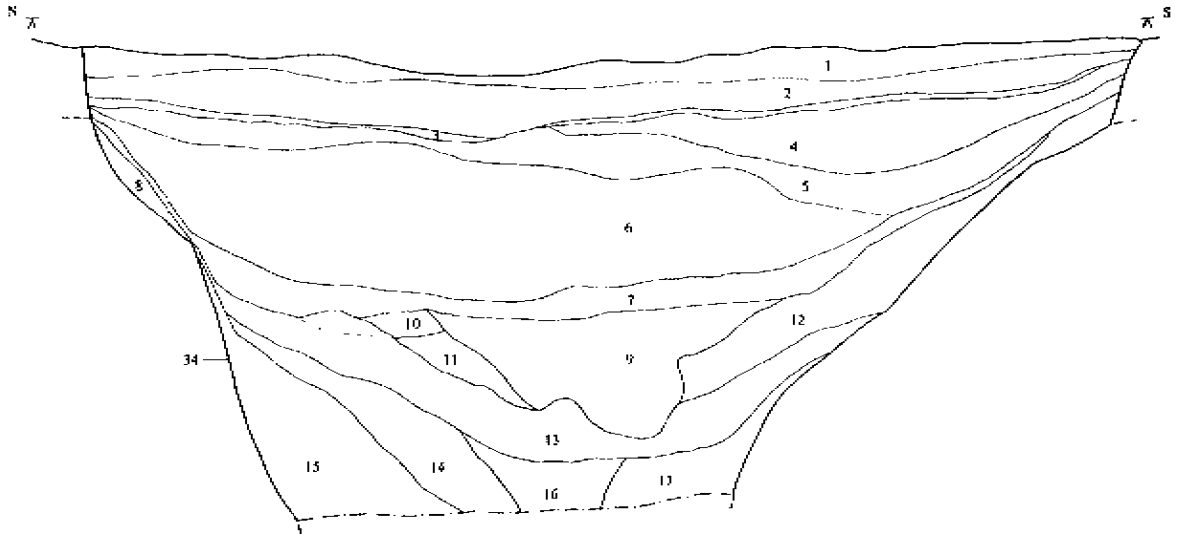
The material within the upcast was examined for signs of shoad, but no firm identification of tin-bearing material was made. In order to ensure that this was not simply the result of untrained observation, two slightly overlapping core box samples were taken from one side of the pit (see above), to provide a full soil profile from surface to base, the intention being that the analysis of the material within the soil sample would reveal the presence, quantity, nature and horizon at which any such material occurred.

In order to analyse the material, it will initially be necessary to record the soil morphology in order to understand the processes involved in its creation. Following this, a mineral analysis of the soil and stones within the whole column should be undertaken. Given that this is approximately 1.0 m height, it is recommended that samples are taken of the soil matrix at intervals along the column - the preferred maximum being 50 mm, though 100 mm might provide usable results if full analysis cannot be funded. The soil samples should be amalgamated within each sample to provide a series of representative samples. In addition, larger stones within the column should also be analysed for their mineral content.

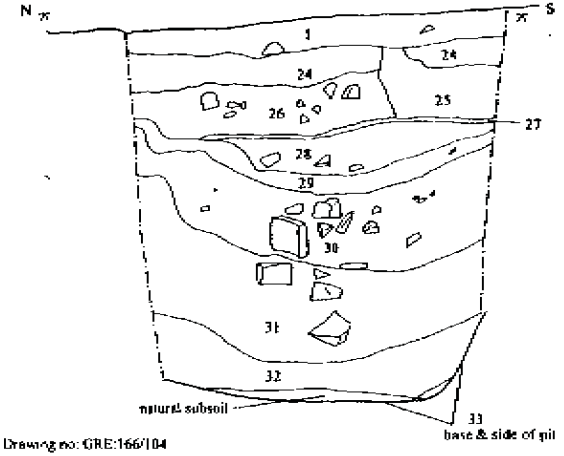
Whilst considerable areas of shallow mining evidence have now been surveyed by CAU in the county, opportunities to conduct controlled excavation of features associated with such landscapes have been rare. As a result, most hypotheses concerning early mining techniques have had to be based on the inferential data recovered from surveys or from the very limited contemporary documentation. The sample excavations at Queens Mine have been a valuable opportunity to test our ideas about pre-industrial mining technology, in particular, in relation to prospecting activities. Given the small range of features sampled, it would be unreasonable to expect the results from Queens Mine to do more than to begin

to throw light on this area of research and inevitably the results have produced more questions than answers.

- It is recommended that the soil columns and samples be examined for their mineral content and in particular in relation to the placement of any tin values within the soil profiles (Task 14).
- Recording of soil morphology to take place. Advise on this will be required. (Task 14).
- Sampling of the soil matrix at 50 mm or 100 mm intervals. XRF analysis of a representative fraction. This will cost roughly £35.00 + VAT a sample for a six mineral analysis - between 10-20 samples. (Estimates from CSM Associates November 1997) (Task 14).
- XRF analysis of representative possible tin-bearing rocks within the soil matrix. Minimum of 5 samples likely, maximum of 10. Appropriate number to be advised by competent geologist (Task 14).
- Synthesis of results and text for publication (Task 58).

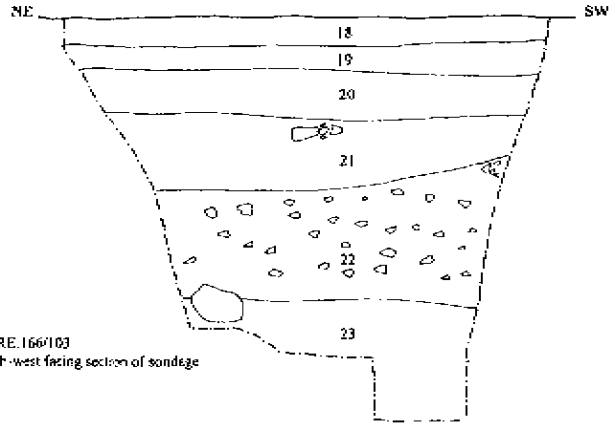


Drawing no: GRE.166/101
French 1 - West facing section of lode back pit



Drawing no: GRE.166/104
French 2 - West facing section through prospecting pit

Scale
0 0.5m 1m



Drawing no: GRE.166/103
French 3 - North-west facing section of sondage

Fig. 87 Sections across Queen Mine pits (CAU Archive GRH: 182/2).

14.0 Summary of recording two china clay sites: Trevarren Green PRN:33958 and Higher Fraddon Pan Kiln, Fraddon PRN: 27001 by John Smith

Background
There were two sites within the project area which were connected with the China Clay industry. One was at Trevarren Green (PRN: 33958) near Halloon Farm and the other was at Higher Fraddon (PRN: 27001) (Fig.2). Since both were affected to some degree by the bypass scheme it was recommended that they were recorded by photography.

14.1 Results

At **Trevarren Green** (SW 9121 5979) an overgrown linear pit together with stone and gravel dumps were noted in 1991 (Rose, Herring and Nowakowski 1992, 62). These features belonged to a relatively recent chapter in local industrial history and were old tin pits reworked for tile clay at the turn of the twentieth century (Penhallurick 1986, 197). Kelly's directory of 1893 included a reference to the "North Cornwall Brick and Tile Co. Lim, brick and tile manufacturers, Halloon". The main features affected by the road works at this site were the pit and dump which were destroyed during initial stages of road construction (i.e., by May 1993) before a photographic record could be made.

Adjacent to the pig farm on **Higher Fraddon** at SW 9182 5792 was the lower half of a chimney stack which formed part of a pan kiln at this location (PRN: 27001). Part of this ruinous complex was within the road corridor and a photographic record of this site was carried out by John Smith of CAU on 11th May 1993. This is archived within the county SMR.

14.2 Contribution of work to project results

- The photographic record ensures *preservation by record* and no further analysis is required at these sites although a note about these sites will appear in the industrial landscape discussion (Task 58).
- No further work is required for this site. The details should be summarised for the County Sites and Monuments Record (Task 83).

15.0 FACTUAL DATA - Results of hedge boundary recording programme by Jacky Nowakowski with Andy Jones and Peter Rose

Background
One of the major objectives of the A30 project has been the collection of data which may contribute towards a discussion on the history of enclosure within an area of lowland landscape, the overall objective being to model the processes of land-use through time. The hedge boundary recording programme has been guided by these aims and it is anticipated that such a corpus of data will provide useful results for landscape studies as a whole.

The main objectives of the hedge recording programme were:

- To examine the character, development and archaeological potential of boundaries thought to be of medieval origin; e.g., examining how much of the original medieval form of the boundary survives within the modern Cornish hedge or bank, and what form this takes.
- To examine the potential of environmental evidence.
- To compare and contrast boundaries within "historic moorland areas" (*recently enclosed land - REL*) and "historic enclosed areas" (*anciently enclosed land - AEL* - see section 18.2).

The intention was to record as many as possible of the "medieval" boundaries (52 extant hedges, 6 low banks, 15 lynchets) and a much smaller sample of the post medieval boundaries (70 extant hedges and 23 removed) (Rose et al 1992, 8,9,12). On completion of this work 134 hedge sections were recorded.

15.1 Methodology

Drawn sections across field boundaries were recorded at scales of 1:10 or 1:20 and photographed. Boundary type, notes on phasing, vegetation, and the discovery of any artefacts were made. The locations of all boundaries examined are shown on figure 88. Field drawings are stored in archive file number GRE:170 and a representative sample was inked up (for example Figs. 89-91). The hedges were classified according to a typology devised by Johnson and Rose (see below and see Johnson 1985) and field data concerning each hedge was collated with the available cartographic evidence: the 1840 Tithe Map, and the 1880 and 1907 editions of the Ordnance Survey.

The hedges were classified into the following types:

SFSEW - Stone faced stone earth wall
SFEW - Stone faced earth wall
E/TB - Earth/turf bank
SEB - Stone earth bank
SFB - Stone faced bank

15.2 Summary of the Results - General Trends

The information gathered by this exercise was collated and tabulated (filed in project archive). Detailed analysis of the results of this exercise have not yet been undertaken however an overall summary has been produced below.

In the following summary the overall results will be considered first and this discussion is followed by a preliminary analysis of trends and differences noted between areas.

Boundary morphology was the first category of information collated. The following boundary types were recorded:

Earth banks - 42%
Stone and earth banks - 30%
Stone-faced banks - 12%
Stone-faced earth walls - 8%

Stone-faced earth and stone walls - 5%
Hedges with ditches - 36%

Structural Histories

The second category intended to provide information on the structural histories of the boundaries and to provide a general comparison between those considered to be of medieval origin and those of post medieval date. The following summary highlights the general trends which should form the basis for further detailed study (see section 15.4).

Medieval boundaries

Of all the boundaries considered to be of medieval origin (see table 76) 42% showed evidence for structural refurbishment. This was a notable trend in areas classified as "historically enclosed land" (AEL) - in particular within the farmlands of Halloon, Trewheela and Penhale. In general earthen banks accompanied by ditches and topped with trees and shrubs appeared to be the dominant type for these historic boundaries. Structural refurbishment in general comprised an increase in the height of the boundary with upcast soil (created by recutting accompanying ditches, as shown in HS113 at Penhale, see Fig.89), and/or by adding a stone face to one side of the boundary (as shown in HS134 at Trewheela, see Fig. 90). Only a small number of those boundaries fully excavated (8%) were found to overlie earlier features - in general these were ditches which appeared to be on the same alignment as the later boundaries suggesting a general trend in the maintenance and perpetuation of older field boundaries. On the whole it is unlikely however that these earlier features were prehistoric in origin (see sections 15.2.1 and 15.2.5 but also 15.2.2).

Post medieval boundaries

In general those boundaries considered to be post medieval in origin (see table 77) were not modified to the same degree and evidence for more than one structural phase was limited to just 24% with the greater evidence for refurbishment occurring within boundaries which were pre-1840 in date and were located on higher ground such as Highgate, Gaverigan and Higher Fraddon in recently enclosed land (REL). It is of interest that earthen banks were again the main boundary type and those with stone faces tended to be located on higher land. Only 4 boundaries out of the 25 sections fully excavated were found to overlie earlier features and these tended to be ditches or hollows which were clearly unrelated to the pattern of post medieval enclosure (such as at Pedna Carne, see section 16.3).

Environmental Data

Buried soils in hedge sections were very difficult to detect throughout the whole of the project area and in only 1.4% of all the hedges sections recorded were possible buried soils recorded. The dominance of the earthen hedge or bank within the project area made sampling clearly defined layers for environmental data not viable (see section 15.2.1).

Cartographic Evidence

A large number (77%) of the boundaries studied in the project area were extant by the time of the 1840 Tithe Map. By the time of the first edition of the Ordnance Survey in

1880, only a relatively small number of new boundaries (18%) had been created. Even fewer boundaries (3.7%) were added when the 1907 OS map was published.

The results from a preliminary analysis of the different categories of the information collated from different locations in the project area are discussed below.

15.2.1 Hedge sections at Penhale Farm - Part of Medieval Field System PRN: 33964 (Fig.88)

Table 66 Hedge sections at Penhale Farm

HS number	*Boundary type*	*Phases*	*First Documentary ref*	*Comments*
HS114	ETB and ditch	6	1840 Tithe map	not exposed to base
HS113	ETB and ditch	2	1840 Tithe map	sealed earlier ditch
HS63	ETB	1/2	1840 Tithe map	not exposed to base
HS62	SFB and ditch	1	1840 Tithe map	flint blade in bank
HS61	SFEW and ditch	?1	1840 Tithe map	not exposed to base
HS59	SFEW and ditch	2/3	1840 Tithe map	-
HS57	SFB and ditch	2	1840 Tithe map	not exposed to base

All the hedges examined in the vicinity of Penhale Farm were extant in the mid nineteenth century. This landscape zone was classified as being "anciently enclosed land" (see Cornwall Landscape Assessment 1994, 1996) and the pattern of the field system was interpreted as medieval in origin (PRN: 33964 in Rose, Herring and Nowakowski 1992, 55). The majority of the hedge boundaries in this part of the study area were earthen or turf banks, some were stone faced, and most were accompanied by ditches. Over half these boundaries displayed some evidence of rebuild but the structural phases were difficult to detect with clarity due to biological intermixing (bioturbation) of earthen layers. This factor also prevented the clear field identification of buried soils - a general phenomenon noted elsewhere in this project area as well as in other hedge boundary recording exercises in lowland Cornwall (*c.f.* Meledor fields, Jones and Herring 1995 and Higher Coldvreath, Jones and Herring 1996). Evidence for structural phases at Penhale Farm did however indicate a degree of chronology and whilst most of the extant hedges are likely to date from at least the 16th century, an earlier medieval date for some of these boundaries can not be discounted. At least one hedge (HS113, Fig.89) was found to overlie an earlier ditch (WB93 [276]) and the pair of ditches initially detected by geophysical survey and later examined by excavation during work at Penhale Moor, were also likely to have once bordered a medieval boundary (see ditches [52] and [96] in section 6.1.6). There was no direct evidence however which linked the extant field system to earlier prehistoric occupation activities for either the Middle Bronze Age (the settlement excavated at Penhale Moor appeared to sit in a "open" rather than enclosed landscape (see section 6)) or the Iron Age/Romano-British period. The majority of the hedges in this area were not fully excavated to base in this area because of regular ground water flooding.

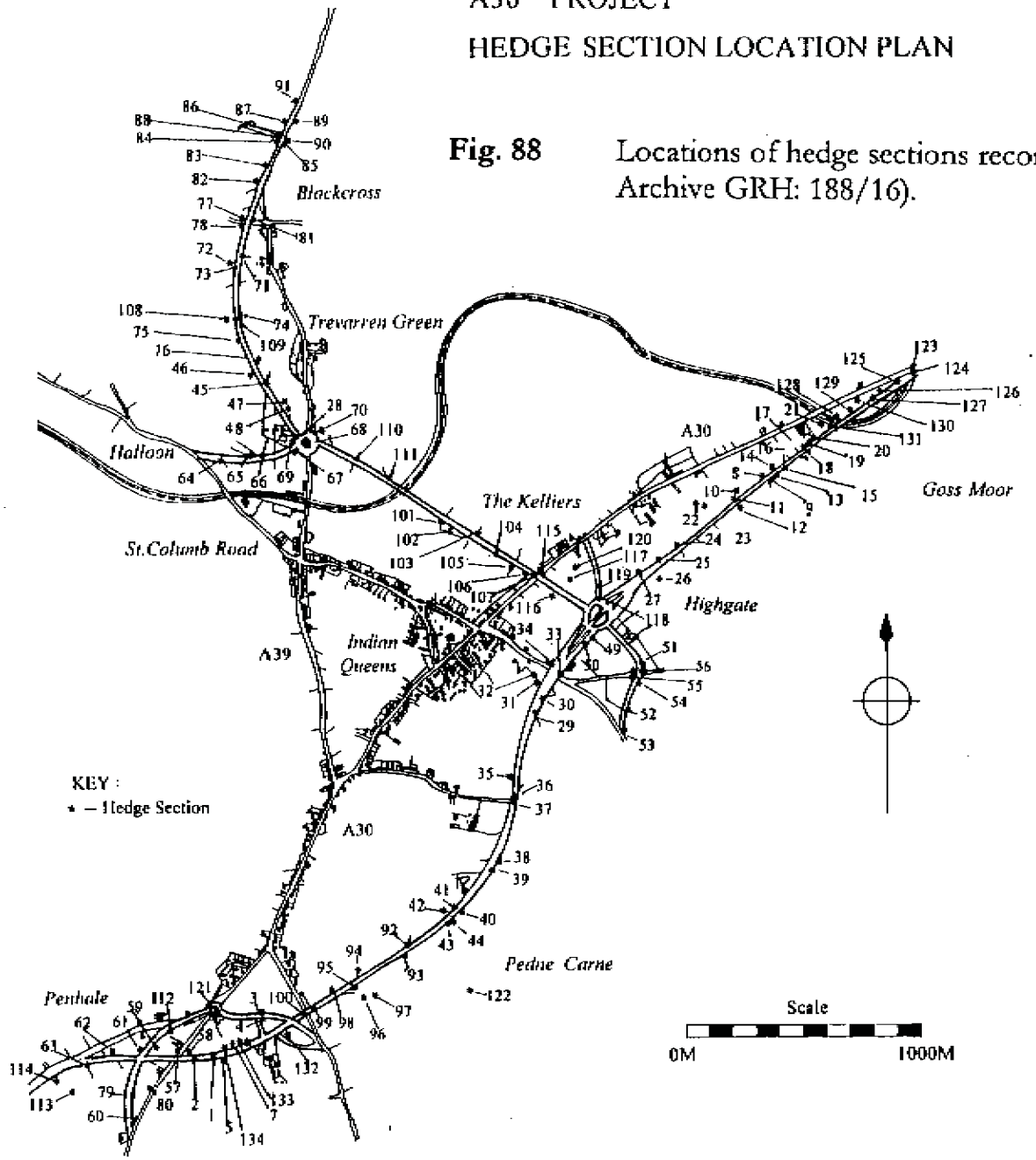


Fig. 88 Locations of hedge sections recorded on the A30 project (CAU Archive GRH: 188/16).

Drawn by Andy Jones

15.2.2. Hedge sections at Trewheela Farm in the vicinity of Penhale Farm - Medieval Field System 33966 (Fig. 88)

Table 67 Hedge sections at Trewheela Farm

HS number	*Boundary type*	*Phases*	*First Documentary ref*	*Comments*
HS1	?	4	1840 Tithe map	sealed earlier features
HS58	SEB	2	1840 Tithe map	possible buried soil
HS2	SEB and ditch	2	1840 Tithe map	-
HS5	SFB and ditch	2	1840 Tithe map	sealed posthole
HS7	SFEW	?	1840 Tithe map	not recorded
HS6	SFEW	2	1840 Tithe map	-
HS 133	E/TB and ditch	?1	1840 Tithe map	not excavated to base
HS 132	SFB and ditch	3	1840 Tithe map	sealed earlier ditches
HS 134	SFB and ditch	2	1840 Tithe map	not excavated to base

This tract of landscape in effect represented an extension of "anciently enclosed land" at neighbouring Penhale Farm (see above) but for the purposes of this summary analysis is discussed separately. As at Penhale Farm all the hedge boundaries were extant in the mid nineteenth century and were characterised by stone faced walls. Of interest at this location was the relatively high percentage of hedges which were built upon earlier features - that is, ditches, pits and postholes. This occurred in particular within the vicinity of Penhale Round but not exclusively so. Hedge HS 132, for example, which lay at some distance to the east of the round was found to seal a pair of deep parallel ditches (WB94 [283] and [282]). None unfortunately produced direct dating evidence but one showed evidence of refurbishment (i.e., recut [2524]) and this boundary may possibly indicate a very early, perhaps prehistoric, origin. The overall field pattern in this area, which may broadly date to the medieval period (i.e., 16th century), did not appear to be greatly influenced by the earlier field system associated with occupation in the round during the Roman period (see phase 7; section 5.1.7). Indeed it is likely that many hundreds of years after the demise of occupation within Penhale Round reorganisation within the local landscape took place during the medieval period. During the 1993 excavation a pair of ditches - which presumably had once bordered the faces of a former field boundary (see section 5.1.9) - where shown to cut right across the round. This boundary is likely to have dated to the later medieval period when quite clearly the present field system in this area was laid out.

15.2.3 Medieval Pasture Boundary, May's Farm PRN: 33977

A curving pasture boundary was shown on the 1840 Tithe Map on the edge of May's Farm and a medieval origin for the boundary was proposed (Rose, Herring and Nowakowski 1992, 56). A section cut across this boundary (HS12) confirmed this was a substantial earthen and turf bank topped with scrub, trees and hawthorn. No clear structural phases were recorded and no buried soils were identified. Given the substantial character of this boundary, its distinctiveness (see character of others recorded in the Goss Moor area, Table 74) would make a medieval date likely as this would have divided enclosed pasture from the rough open land on the adjacent Goss Moor, although no direct evidence for any date was found.

15.2.4 Black Cross Trackway - A sunken lane of medieval origin PRN: 33955

Table 68 Hedge sections at Black Cross

Hedge number	*Boundary type*	*Phases*	*First Documentary Ref*	*Comments*
HS 78	E/TB	1	1840 Tithe Map	-
HS 77	SEB	1/2	1840 Tithe Map	-
HS 81	SFB	1/2	1840 Tithe Map	-

The opportunity to carry out a small-scale excavation across a section of this sunken lane of possible medieval origin was not available to the project team in advance of the road works. However three hedge boundaries were sectioned and recorded at this location (SW 9090 6072) and at least two showed evidence of having been refurbished which may indicate an earlier origin than the post-medieval period. No datable evidence was found to corroborate a proposed medieval date but the record of a "mutilated cross" which once stood built into a wall further along this roadway at the cross roads of the village (Henderson 1930, 55) lends weight to the early origin of this roadway as it was likely to have been a wayside cross. The earliest documentary record for the name *Black Cross,* appeared in 1810 (Gover 1948), although there are medieval settlements in the vicinity such as Halloon Farm, Crugoes and Killaworgey or Ruthvoes. Very few sherds of medieval date were recovered from the topsoil in this area (see group E, section 10.2.1) Of interest was the difference in character of this sunken lane or medieval highway to Deep Lane (see section 11). Like the surrounding field system here, the predominant field boundary was an earthen bank crowned by mature scrub and trees.

15.2.5 Halloon Farm Medieval Field System PRN: 33954

A preliminary survey of the character of the field system at Halloon Farm suggested that elements of the field system may be medieval in origin (Rose, Herring and Nowakowski 1992, 53). A great number of hedges within the corridor of the bypass were sectioned and recorded so that the overall character of these boundaries could be compared to others of a similar date - such as those at Trewheela Farm and Penhale Farm (see above).

Table 69 Hedges sectioned at Halloon Farm

Hedge number	*Boundary type*	*Phases*	*First Documentary Ref*	*Comments*
HS70	SEB	1	1840 Tithe Map?	Trees
HS64	SFB	2	1840 Tithe Map	-
HS65	E/TB + ditch	2	1840 Tithe Map	on a lynchet
HS66	SFSEW	1	1840 Tithe Map	on a lynchet
HS68	E/TB + ditch	2	1840 Tithe Map	-
HS67	E/TB + ditch	1	1840 Tithe Map	not fully excavated
HS69*	E/TB + ditch	1/2	1840 Tithe Map	not fully excavated
HS28*	SFEW	1	1840 Tithe Map	-
HS48	E/TB + ditch	2	1840 Tithe Map?	upon a lynchet
HS47	SEB	1	1840 Tithe Map?	-

HS45	SEB + ditch	1	1840 Tithe Map	-
HS46	SEB + ditch	1	1840 Tithe Map	-
HS76	E/TB	1	1840 Tithe Map	-
HS75	E/TB	1/2	1840 Tithe Map	not fully excavated
HS109**	SEB + ditch	1+	1840 Tithe Map	not fully excavated
HS108**	SEB + ditch	1+	1840 Tithe Map	not fully excavated

* lined a trackway
** bordered a wooded enclosure

The excavation of a number of linear anomalies at Halloon Farm demonstrated that this was "anciently enclosed" land (Cornwall Landscape Assessment 1994; 1996) (see section 8.1). However the extant fieldscape was organised in a different manner to those earlier phases of enclosure (see section 8.1.2) and only a couple of hedges utilised earlier boundaries defined by lynchets (such as HS64, HS65 and HS48). Almost all the hedges examined by section at Halloon Farm were found to be earthen banks, many of which were faced with stone and crowned by mature shrubs and trees. It is likely that most of these boundaries date to the later medieval period - that is, sixteenth century onwards. As place-name evidence suggests (see section 8.2.2), the focus for the medieval farm was at the location of the present-day farm and it was from around this area that a small handful of medieval sherds were recovered during topsoil removal (groups C and D, see section 8.2.2).

15.2.6 Mayfield Farm Area - Field System

Table 70 Hedges at Mayfield Farm

Hedge number	*Boundary type*	*Phases*	*First Documentary Ref*	*Comments*
HS74	SFB	3	1840 Tithe Map	-
HS75	E/TB	2	1840 Tithe Map	-
HS72	SFB	3/4	1840 Tithe Map	-
HS71	SFB +ditch	1/2	1840 Tithe Map	alongside WB feature 80

The field system at Mayfield Farm is an extension of the present post-medieval enclosure at Halloon Farm although its downslope components are likely to have originated in the medieval period. Most boundaries are of a similar character to those recorded at Halloon (see above). Of interest was a prominent scarp located close to HS78 (see below), this appeared to have been a vertical quarry face (WB93 [80]) along which a boundary was later positioned. The date of this "quarry face" is unknown although it did not appear on the 1840 Tithe Map.

WB93 HEDGE SECTIONS

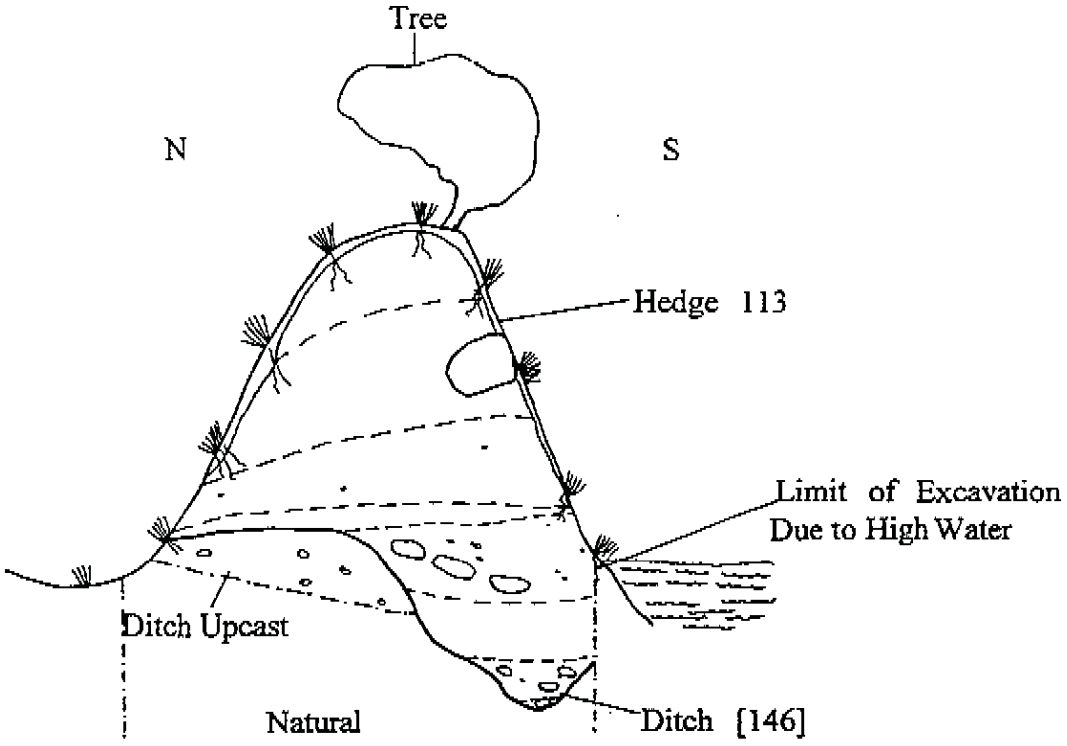
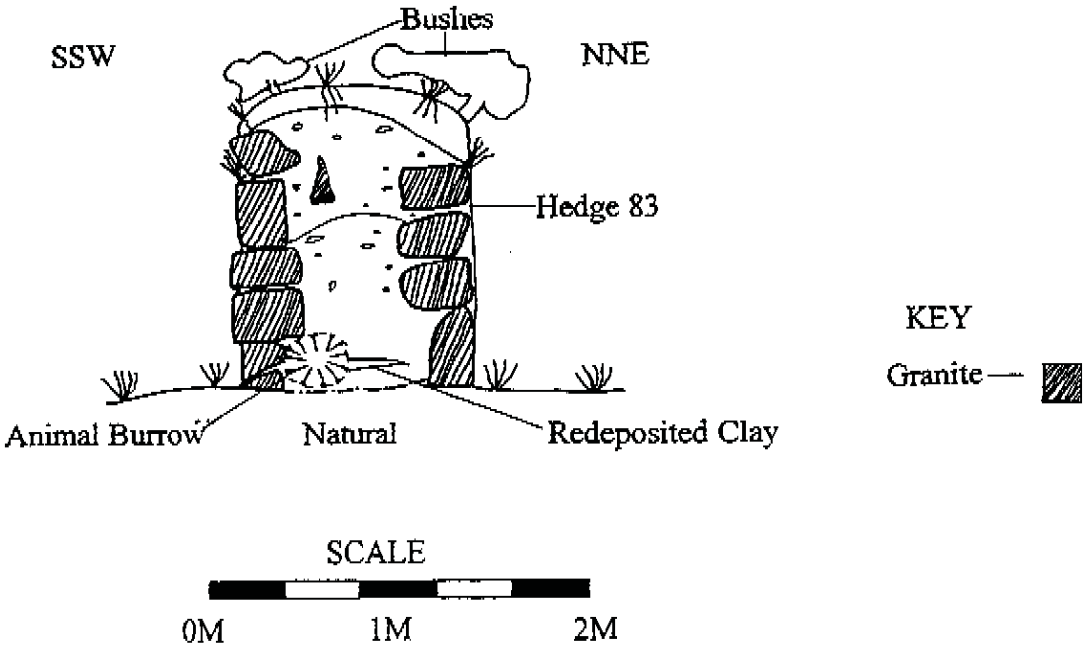


Fig. 89 a. Hedge section 113 - earthen bank. Medieval boundary at Penhale
b. Hedge section 83 - Stone faced earth and stone wall. Post-medieval boundary at Crugoes (CAU Archive GRH: 188/17).



DRAWN BY ANDY JONES

15.2.7 Highgate Roundabout and Gaverigan Area

Table 71 Hedges in the Highgate Roundabout and Gaverigan Area

Hedge number	*Boundary type*	*Phases*	*First Documentary Ref*	*Comments*
HS34	SEB + ditch	1/2	1840 Tithe Map	-
HS49	E/TB	2	1840 Tithe Map	possible buried soil
HS50	E/TB	1?	1840 Tithe Map	-
HS51	E/TB	1	date uncertain C20th?	-
HS52	E/TB	?	1840 Tithe Map	hedge not breached
HS53	E/TB	1	1880 OS map	base not exposed
HS54	E/TB	1	1840 Tithe Map	-
HS55	SFSEW + ditch	1	1840 Tithe Map	sealed slate feature [78]
HS56	SEB	2	1840 Tithe Map	-
HS118	E/TB	?	1840 Tithe Map	not fully excavated
HS119	SEB	2	1840 Tithe Map	-
HS120	E/TB	2	-	-
HS117	SEB	2	1840 Tithe Map	not fully excavated
HS116	SEB	1	1840 Tithe Map	-
HS107	SEB	1	1840 Tithe Map	not fully excavated
HS106	SEB + ditch	1	1840 Tithe Map	not fully excavated

Little Gaverigan Farm and Highgate Farm were typical examples of small post-medieval farmsteads built in the project area after the 1840s. Both farmsteads first appear on the 1880 Ordnance Survey map but the general area had been enclosed by the 1840s. The Tithe Apportionment shows that the area was mainly used for pasture and the rectilinear character of the field patterns betrays a relatively late date for the processes of enclosure in this area. The majority of boundaries sectioned here were earthen banks and of single phase. The earliest prehistoric funerary and ceremonial sites investigated by this project were found in this area (see sections 1,2, and 3) and environmental data implies that the open heathland character of this area remained essentially unchanged since prehistory (see section 1.4.3.3). Under HS55 a very disturbed slate "structure" (WB93 [78)] was found - the discovery of a cup-mark on one of the slates prompted the suggestion that this feature was a poorly preserved cairn. Whilst it was not possible to confirm this interpretation, its landscape setting close to an early prehistoric "ritual" landscape makes this an intriguing and significant discovery.

12.2.8 Higher Fraddon, Pedna Carne to Dump Lane

Table 72 Hedge sections on Higher Fraddon, Pedna Carne to Dump Lane

Hedge number	*Boundary type*	*Phases*	*First Documentary Ref*	*Comments*
HS33	SFB	2?	1840 Tithe Map	-
HS32	SFEW	1	1880 OS map	-

HS31	SFEW + ditch	1	1880 OS map	-
HS30	E/TB	1	1880 OS map	-
HS29	SEB	3	1880 OS map	possible buried soil
HS35	SEB	2	1840 Tithe Map	-
HS36*	E/TB	2	1840 Tithe Map	not fully excavated
HS37*	SEB	1	1840 Tithe Map	not fully excavated
HS38	E/TB	1	after 1907	possible buried soil
HS39	SEB	3?	after 1907	sealed ditch
HS40	E/TB	1/2	after 1907	-
HS41@	SEB + ditch	4	1840 Tithe Map	-
HS42	E/TB	1	1840 Tithe Map	-
HS43#	E/TB	1	1840 Tithe Map	-
HS44#	E/TB	1+	1840 Tithe Map	not fully excavated
HS92	SFEW	1	1840 Tithe Map	-
HS93+	SEB	1	1840 Tithe Map	-
HS94	SEB	1	1840 Tithe Map	-
HS95	SEB	2	1840 Tithe Map	-
HS96+	SFSEW	1/2	1840 Tithe Map	not fully excavated
HS97+	SEB	1+	1840 Tithe Map	not fully excavated
HS98	E/TB	1	1840 Tithe Map	small trees
HS99+	SEB	1	1840 Tithe Map	glass bottle in bank
HS100	SEB	1	1840 Tithe Map	Trees

* edge of trackway @edge of ?lane # edge of ?lane +Dump Lane

Fraddon Down was the highest tract of landscape recorded in the study area. Just over half of the boundaries within this landscape were built by 1840 though the remaining were constructed between 1880 and after 1907. This would traditionally have been an area of enclosed rough pasture and the majority of boundaries within this landscape were earthen banks with some stone element in their make-up forming clearly defined stockproof boundaries. In general these hedges tended to be of single phases, although a trend for refurbishment was noted within those located close to farm buildings and tracks and routeways. Of particular interest on Higher Fraddon Down was the discovery of buried remains of possible earlier field systems during the watching brief programme in 1994 (see sections 16.4.5 and 16.4.3) . Unfortunately these did not produce datable evidence but these earlier boundaries marked by ditches had clearly fallen out of use by the time the extant fieldscape was constructed here. Enclosure at Pedna Carne was also linked to the historic processes of enclosure on an essentially upland landscape. It was also in this area that a number of buried remains related to earlier but undated phases of activities were recorded (see section 16.4).

WB93 HEDGE SECTIONS

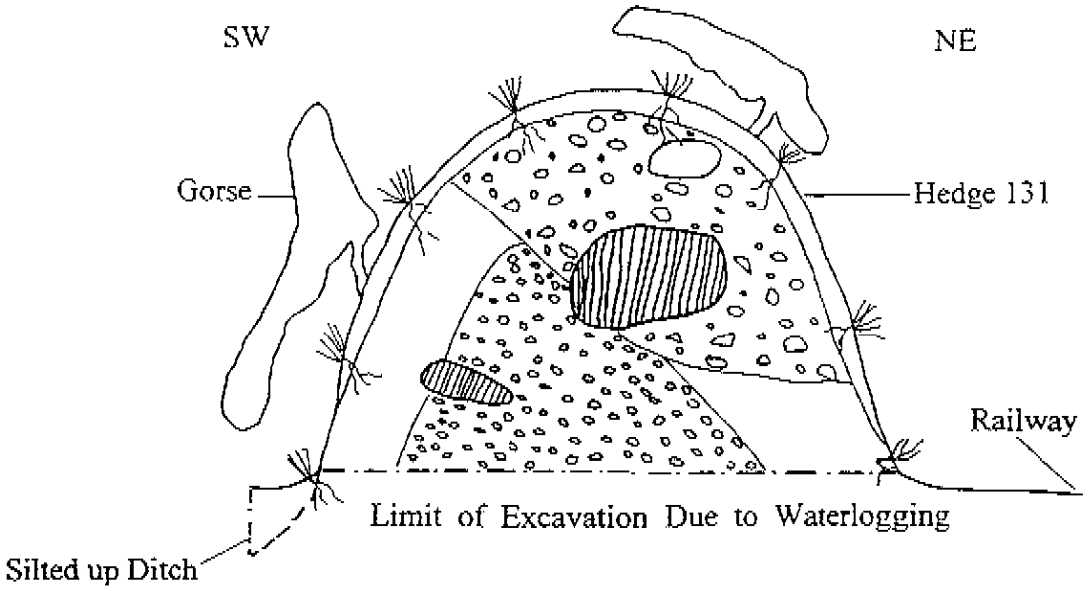
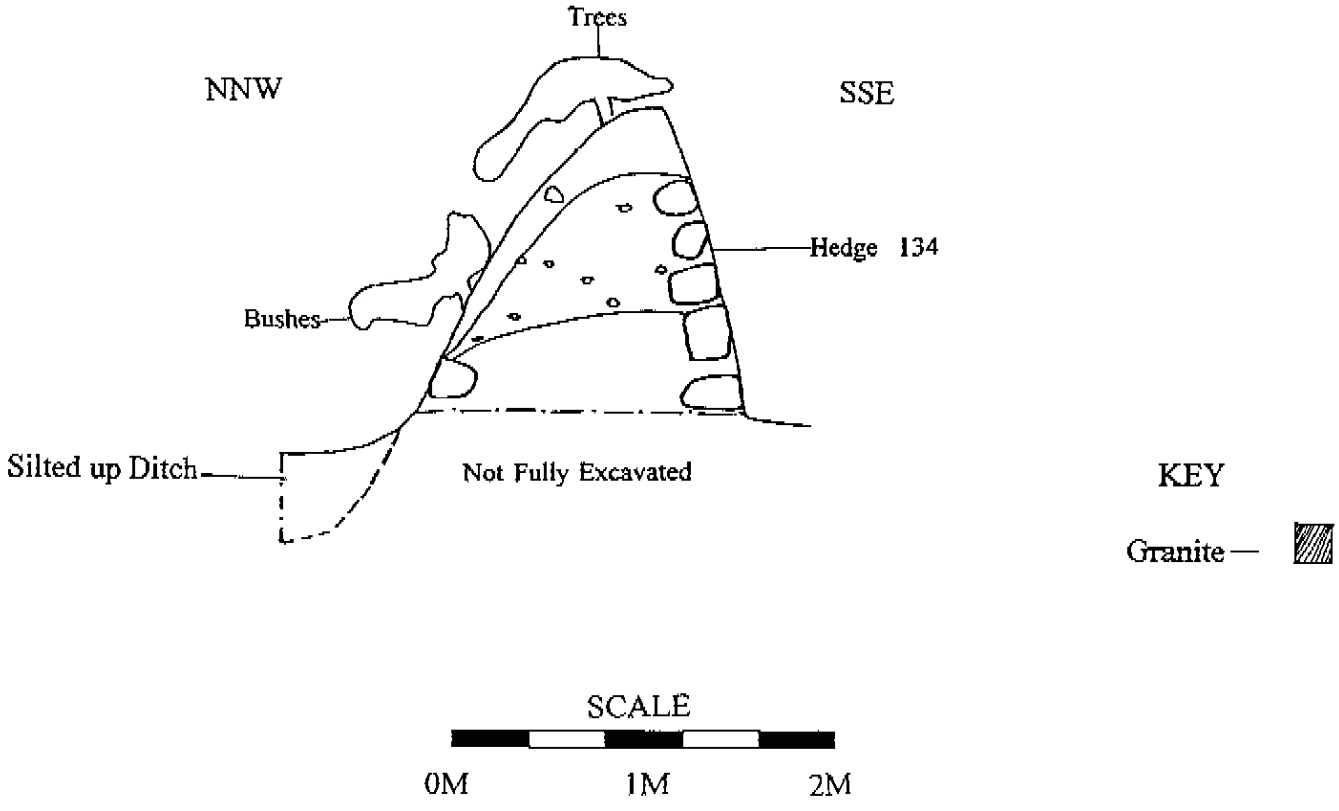


Fig. 90 a. Hedge section 131 - Stone and earth bank. Post-medieval hedge on Goss Moor
b. Hedge section 134 - Stone faced bank. Medieval boundary at Trewheela. (CAU Archive GRH:188/15).



DRAWN BY ANDY JONES

15.2.9 The Kelliers

Table 73 Hedge sections in The Kelliers Area

Hedge number	*Boundary type*	*Phases*	*First Documentary Ref*	*Comments*
HS105	SEB + ditch	1	1840 Tithe Map	not fully excavated
HS103	E/TB	1	1880 OS map	not fully excavated
HS102	T/EB	1	1880 OS map	-
HS101	SEB	1	1880 OS map	upon early bank
HS111	E/TB	1/2	1880 OS map	not fully excavated
HS110	SEB	2	1880 OS map	not fully excavated
HS104	?	1	1880 OS map	not fully excavated

On the 1840 Tithe Map the Kelyers is shown as an open unenclosed tract of land where "Stream Banks" were found. The majority of the hedges examined in this area are later 19th century in date. Some, such as HS101, were built along the banks of abandoned streamworks and may therefore have fossilised earlier property boundaries (see section 9).

15.2.10 Goss Moor area

Table 74 Hedge sections in the Goss Moor Area

Hedge number	*Boundary type*	*Phases*	*First Documentary Ref*	*Comments*
HS8	E/TB + ditch	?		dense vegetation
HS10	E/TB	?	1880 OS map	dense vegetation
HS11	E/TB	?	1840 Tithe map	dense vegetation
HS12	E/TB	?	1840 Tithe map	dense vegetation
HS13	E/TB	?	1840 Tithe map	dense vegetation
HS15	E/TB + ditch	?	1880 OS map	-
HS16	E/TB + ditch	?	1840 Tithe map	-
HS17	E/TB + ditch	?	1840 Tithe map	-
HS18*	E/TB + ditch	?	1840 Tithe map	-
HS19*	E/TB	?	1880 OS map	-
HS20	E/TB	?	1880 OS map	-
HS21	E/TB	?	1880 OS map	-
HS22	E/TB	2/3	1840 Tithe Map	-
HS23	E/TB	1	1880 OS map	-
HS130	E/TB	?	1840 Tithe Map	Hedge not breached
HS127	SEB	1/2	1880 OS map	-
HS131	SEB + ditch	1	1880 OS map	not fully excavated
HS128	SEB + ditch	1	1880 OS map	-
HS129	E/TB	1	1880 OS map	not fully excavated
HS126	SEB	1	1880 OS map	-

HS125	SEB + ditch	1	1840 Tithe Map	not fully excavated
HS124	E/TB	1	1840 Tithe Map	upon earlier boundary
HS123	SEB	1	1840 Tithe Map	-

* lines a trackway

On John Nordon's map of this area in 1597, Goss Moor ("Gosmore") was shown as a great open expanse of rough land. Over a hundred and thirty years later, Gascoyne's map (published in 1733) showed a route or trackway across this landscape - this eventually became the present A30 - but the road was only formally listed as a turnpike highway in the latter part of the eighteenth century (Spreadbury 1971). It was apparently a fine highway: *"Bodmin to Indian Queen - 11 miles of excellent road mostly upon a level. All moorland, not a tree to be seen on this road"* wrote an anonymous diarist in 1795 (Spreadbury 1971, 9). Together with Higher Fraddon and Pedna Carne, enclosure in this landscape is late. For most of the historic periods the area remained predominantly moorland, rough pasture and waste where local drainage patterns have been substantially altered by tin-streaming activities since the medieval period at least (Gerrard 1986). HS12 was a section through a substantial boundary which may have been of earlier date although no direct dating evidence was found (see above). All of the boundaries recorded in this area were of earthen build and in many cases it was difficult to distinguish structural phases. An earlier boundary was found under HS 124, but this produced no direct dating evidence. By the time of the 1840 Tithe Map 52% of the boundaries were in existence and the remaining were built after 1907. As at The Kelliers several of the hedges appeared to be aligned upon earlier stream banks (see above).

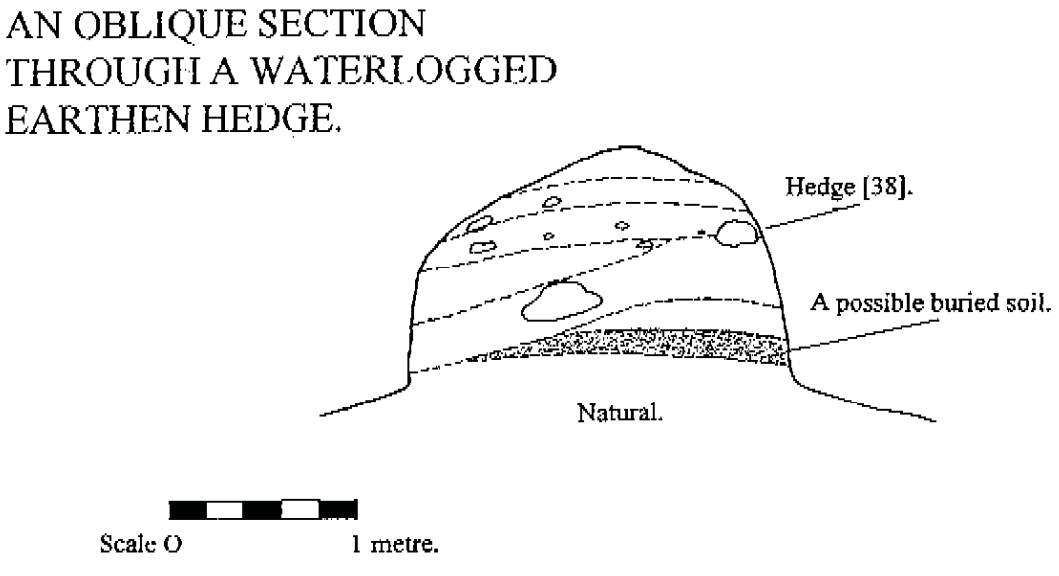


Fig. 91 Section through hedge boundary [38] - Higher Fraddon

15.2.11 Crugoes

Table 75 Hedge sections at Crugoes

Hedge number	*Boundary type*	*Phases*	*First documentary ref*	*Comments*
HS82	SFSEW	1	1840 Tithe Map	Trees - base not exposed
HS83	SFEW	1	1840 Tithe Map	-
HS84*	E/TB	1	1840 Tithe Map	Trees
HS88*	SFB	2/3	1840 Tithe Map	Trees
HS85#	SFB	2	1840 Tithe Map	-
HS86#	SEB + ditch	1/2	1880 OS map	Trees - base not exposed
HS87	SFB	2	1840 Tithe Map	base not exposed
HS89	E/TB + ditch	1	1840 Tithe Map	Trees
HS90	SFEW	1	1840 Tithe Map	Trees and metal object in bank
HS91	SFEW	1	Modern rebuild - 1C20th	-

* edge of trackway # edge of trackway

The majority of the boundaries within this part of the project area were stone and earth hedges. With the exception of two, all were extant in the 1840s although it is likely that the area was farmed during the medieval period as the place-name *Crugoes* was first mentioned in 1327 (Gover 1948, 320). No clearly defined medieval boundaries were examined during this study. The dominant hedge type in this area were clearly made as stockproof boundaries and as at nearby Black Cross and Halloon Farm, the boundaries are crowned with mature scrub and trees (as for example HS83, Fig. 89). The buried remains of an enigmatic parallel ditch system found in this area did not appear to be associated with the present fieldscape and clearly belonged to an earlier, as yet undated, phase of activities within this area (see section 16.1).

15.3 **Preliminary conclusions** with additional comments by Peter Rose

"The soil seems encouraging to cultivation in some spots, but towards St. Roche a wild extensive heath spreads itself, and the road to Bodmin presents a barren scene until it approaches pretty near to that place" (Maton 1794 - 96).

The hedge boundary recording programme on the A30 Project has highlighted several points of interest concerning the development of the historic landscape within the project area.

For the comparative study between boundaries considered medieval and those to be of post medieval date the following tables provide useful general comparisions. These comparisions highlight the scope for further work on these results (see section 15.4.).

Table 76 Summary of data for boundaries thought to be of medieval origin

Area	No. exam.	fully exc.	Type bank	SFB	SFW	other	Buried soils	Earlier features	Phases 2	<2	Total
Penhale	7	3	3	2	2	-	-	1	3	2	5
Trewheela	9	6	3	3	2	1	1	3	5	2	7
May's Farm	1	1	1	-	-	-	-	-	-	-	-
Black Cross	3	3	2	1	-	-	-	-	2	-	2
Halloon	16	11	13	1	2	-	-	-	6	-	6
Mayfield	4	4	2	2	-	-	-	-	2	2	4
Crugoes	10	3	3	3	4	-	-	-	3	1	4
Totals	50	31	27	12	10	1	1	4	21	7	28

Table 77 Summary of data for boundaries thought to be of post medieval origin

Area	No Exam.	Fully exc.	Type bank	SFB	SFW	Other	Buried soils	Earlier features	Phases 2	<2	Total
Highgate/ Gaverigan - All	16	10	15	-	1	-	1	1	6	-	6
Pre 1840	13	8	14	-	1	-	1	1	6	-	6
1840 & later	3	2	1	-	-	-	-	-	-	-	-
Higher Fraddon - All	24	19	19	1	4	-	2	1	8	3	11
Pre 1840	17	12	14	1	2	-	-	-	7	2	9
1840 & later	7	7	5	-	2	-	2	1	1	1	2
The Kelliers	7	2	6	-	-	1	-	1	2	-	2
Pre 1840	1	-	1	-	-	-	-	-	-	-	-
1840 & later	6	2	5	-	-	1	-	1	2	-	2
Goss Moor - All	23	14	23	-	-	-	-	1	1	1	2
Pre 1840	12	6	12	-	-	-	-	1	-	1	1
1840 & later	11	8	11	-	-	-	-		1	-	1
TOTALS											
All	70	45	63	1	5	1	3	4	17	4	21
Pre 1840	43	26	41	1	3	-	1	2	13	3	16
1840 & later	27	19	22	-	2	1	2	2	4	1	5

Other general trends to emerge from this study are the following:

- Most of the hedge boundaries (77%) existed prior to the 1840 Tithe Map and this indicates the high survival of historic landscape features within the area under analysis.
- Most of the hedges recorded were earthen banks, or stone and earth banks (72% of the hedges). Other types of hedgerow seemed to occur either close to the farming settlements or alongside the tracks and routeways. Broad trends such as these are important indicators of husbandry practices, fashions in hedging styles, as well as an indication of changing land-use through time.

- Stonework tended to be more frequent in the boundaries located in the lowland zones in areas which would be classified as "anciently enclosed land" (*c.f.* Landscape Assessment *ibid.*). The field systems within these areas are likely to date in the main to the medieval period.
- Earlier (prehistoric) field systems such as those investigated at Halloon Farm and Penhale Round did not generally influence the layout of medieval and later fields. Although the majority of lowland hedges tended to be accompanied by ditches - this was a shared characteristic with those excavated boundaries which can be assigned to prehistory.
- Those boundaries in the higher zones of the project area as well as in areas of former moor or heathland were in the main earthen banks with an element of stone. These were frequently overgrown by dense vegetation and were penetrated by deep roots which blurred any clear horizons. Possible buried soils were identified in some horizons but these were not suitable for sampling for analysis because of bioturbation.
- Some of the most recent boundaries which dated to the late nineteenth or twentieth centuries later were shown to be influenced by earlier features. For example some of the boundaries at The Kelliers and on Goss Moor re-used medieval stream-working banks. This could suggest that traditional property boundaries may have remained little changed throughout the post-medieval period.

15.4 STATEMENT OF POTENTIAL

These results need to be critically reviewed in terms of biases that emerged during and after the fieldwork.

In the first instance, not all the hedges were fully excavated and about 24% or 33 of the hedges were not cut to their bases. (One hedge was destroyed before being fully recorded). This problem varied across the road corridor - for example 9% of the hedges around Pedna Carne were not fully excavated, while at Penhale Round 22% of the hedges were not fully examined). This bias obviously effects general conclusions about structural histories, and the survival of earlier archaeological features.

The second bias resulted from the differing emphasis placed upon what should be recorded about the hedgerows. Individual fieldworkers recorded the hedgerows in slightly different ways. For example vegetation information is well documented for some of the Goss Moor hedges, whilst information about layers and phasing was not. However the converse is true in other areas. The strategy for vegetation recording was therefore patchy. Little can be said about hedge history from the recording of the vegetation, other than saying whether the hedge was densely vegetated or not (although the dating of hedgerows by the number of species has been called into question in the south-west, see Aston 1985).

It proved very difficult to find clear buried soil horizons within all of the hedge sections examined. This proved a most disappointing aspect of this study as sampling for environmental data was one of the main aims of the exercise. One general lesson does

however emerge from this disappointment. The survival of well-sealed and intact archaeological horizons within hedges depends very much on the boundary type and it is the double-skimmed stone faced boundary (SFSEW) which is more likely to protect primary deposits which can help date the construction of the boundary as well as buried soils (*c.f. Jones and Herring 1995).*

Despite these drawbacks the hedge recording programme has produced an invaluable pool of information which will prove useful towards the production of a synthetic account of landscape development in the study area. This can be compared and contrasted with the archaeological evidence for prehistoric settlement and farming.

Further study is recommended in the following areas:

- Further study of the structural histories of those boundaries where full sections were examined is recommended. Ideally further work should address such questions as what types of structural phases were apparent for different periods in order to provide a consideration of what this might signify in terms of landscape history. How far is it possible to identify early boundary forms and for those of a clearly medieval origin is it possible to detect the structural elements which were clearly of that date? Similar questions should also be applied of post medieval date (Tasks 55 and 58).
- A preliminary level of analysis has shown general trends in the comparison of medieval and post medieval boundaries. But there is scope for further study in matters of boundary type where there are clear distinctions in form - 90% of post medieval boundaries were simple banks whilst only 54 % of the medieval boundaries were of this type. A detailed study of the location of other types - stone faced banks and stone faced walls - may allow some comment on farming, husbandry practices, fashions in hedging styles and provide further indication of changing land-use through time within the project area. This kind of detailed study would provide a broad corpus of data which could be compared and contrasted in other areas of the county where hedge boundary recording has taken place. The generally high degree of refurbishment of medieval boundaries (56%) in contrast to the 30% of later boundaries and this suggests a more complex history of landscape development which should be examined in further detail (Tasks 5 and 58).

In summary, the field systems throughout the area are historic in date - medieval or later in character. The patterns of known earlier field systems (found by excavations) were supplanted and generally ignored so that the patterns of fields within the later landscapes tended to be highly distinctive; there were clearly significant factors at play which influenced decision-making and attitudes towards the landscape inherited from former times (see Nowakowski 1994). The detailed study of hedges greatly aids perception of changing aspects of landscape history.

16.0 FACTUAL DATA - Results of work on isolated smaller sites discovered during the 1993-1994 Watching brief by Jacky Nowakowski and Anna Lawson Jones

A number of isolated features were found during the watching brief programme in 1993-1994. These features did not appear to form parts of coherent distinctive "sites" and so they have been discussed below as separate categories of data. Their discoveries contribute further chronological dimensions to the broad canvas of human activities within this landscape.

16.1 Black Cross Oven [108] and nearby ditch complex PRN: 37268 by Anna Lawson Jones

Report dated: August 1994

Background

At the northern end of the new St.Columb Road bypass, a number of features appeared during the 1993 watching brief programme (Fig. 2). To the north of Black Cross and opposite the entrance to Crugoes Farm, a parallel ditch system was discovered. Almost all of these features were noted in the exposed sections of the road cutting. An isolated pit (oven [108] at SW9100 6098) was also found in this area (Fig 92). No finds were found associated with any of the features and their dates are unknown. A scatter of artefacts was found during field walking (group F) but these in the main comprised pottery of post-medieval date. A flint core and blade were also found and give some hint of nearby prehistoric activities.

16.1.1 STRUCTURAL AND STRATIGRAPHIC DATA - Black Cross Oven [108] (PRN: 37268)

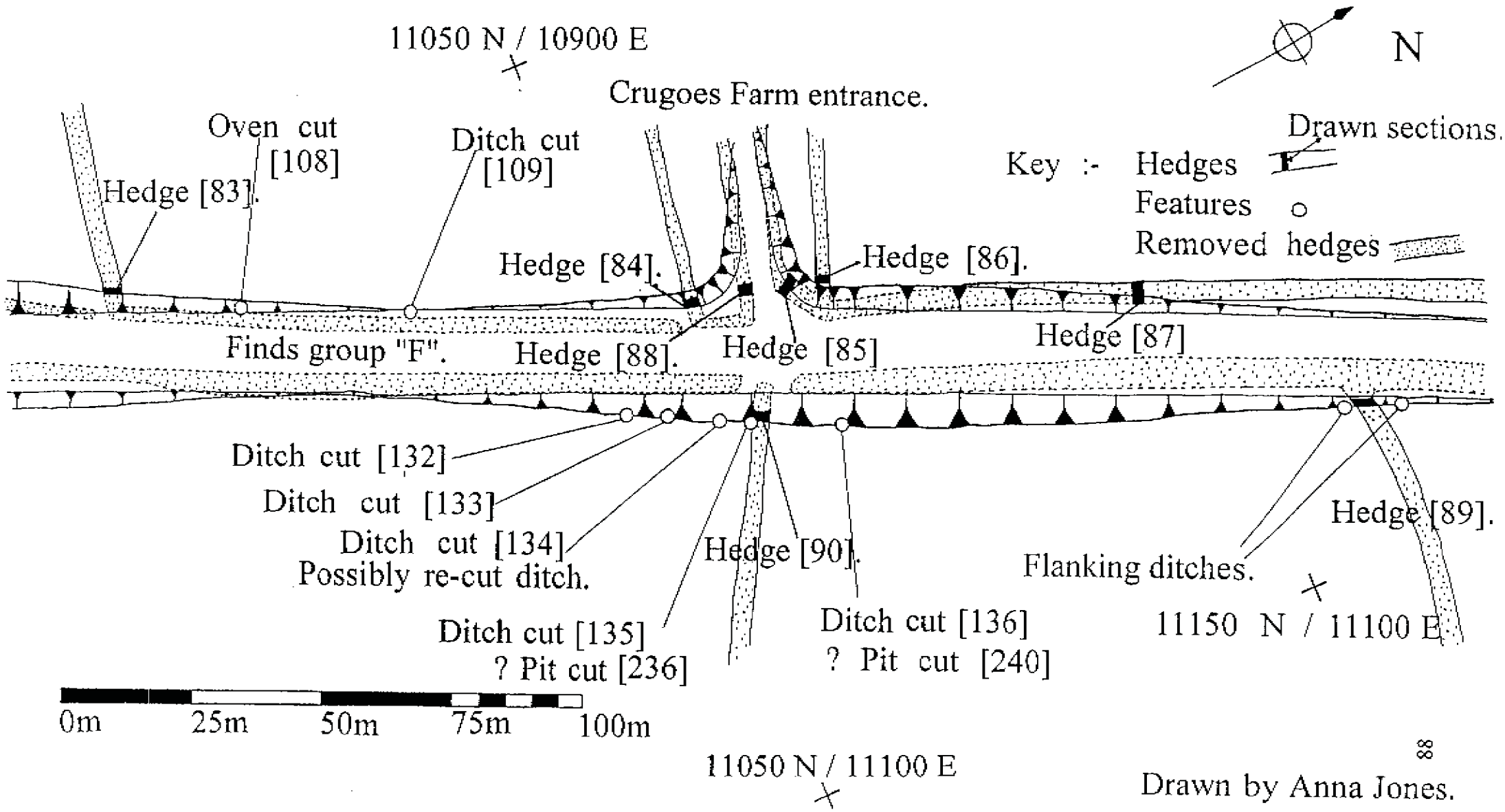
Lying half-way between hedge (HS83) and a ditch (feature WB93[132]) was feature [108] at SW 9100 6098 (see Fig 92). Only part of the feature was revealed in section and its full extent is unknown. It was aligned WNW - ESE (its eastern end ran beneath the road). During field investigation a one metre long section was exposed, excavated and recorded. This linear pit was 1.65 m wide and 85 cm deep. The western profile was recorded (Fig. 93).

Feature [108] was a linear stone-lined pit within which lay a narrow gully along its base. The gully contained alternating layers of dense charcoal and burnt clay. The lower surface was extensively burnt. Flanking either side of the gully was a step which supported the (burnt) stone lining. Between the four lower undisturbed fills and the upper layer was deposit [111].

Fill [111] was a stony, slightly burnt, charcoal-flecked fill - probably representing the collapse of packing material or backfill. Within this fill were occasional, heavily burnt structural stones which may have derived from a collapsed stone covering or from a second course of lining stone.

Plan showing all features found at Black Cross. WB93

Fig. 92 Location plan of all features found at Black Cross (SW9100 6000) - A30 Project, Cornwall (CAU Archive GRH:188/5).



Within the eastern section there were large quantities of burnt clay and charcoal *in situ* (Fig 93). Some remnant traces of stone lining were noted on its northern edge. Above this, and seen partially in plan, as well as in section, was at least one and probably two layers of clay capping. The lower one - [119]- showed limited burning, but the upper one ([118]) showed none at all, and was shown to extend to the east for at least 40 cm. No equivalent capping material was recorded in the western section.

Bulk samples were taken from this feature for analysis (see section 16.1.2).

16.1.2 Environmental Data - Black Cross Oven by Vanessa Straker

Report dated: May 1997

Introduction and methodology

Bulk samples were taken for assessment of their environmental potential from a number of features recorded during the watching brief.

All samples were processed by flotation; floats were collected on a 250 micron mesh and residues on a 1mm mesh.

All floats were scanned to establish their potential to provide information on the early environment and economy of the area. Some of the features were undated, and in these cases, assessment of the potential of the samples for radiocarbon dating was considered important.

Black Cross Oven

A stone-lined pit (Feature [108] was one of a number of features recorded during the watching brief north of Black Cross at the northern end of the St Columb Road by-pass. Within the pit was a narrow gully containing alternate layers of charcoal and burnt clay. Samples were taken from two of the charcoal-rich layers. The results of the assessment are presented in Table 78.

Table 78 Black Cross Oven: Assessment of bulk samples

Sample	Context	Location	Vol (l) / weight (kg)	Vol. of float (approx ml)	Grain	Chaff	Weeds	Comments. C14 dating (charcoal) *: potential; **: high potential
1046	115	pit [108] 15-20% sampled		150	F (A)	M (florets of *A.sativa*, awn frags.)	F	F<2mm, F>2mm. Some not oak**. Weeds include *Raphanus raphanistrum* (wild radish) and *Fallopia convolvulus* (black bindweed).
1047	117	pit [108] 35% sampled		350	F (A)	O	O	F<2mm, F>2mm. Some not oak**

Charcoal: 0: occasional (1-10 fragments); M: moderate (11-50 fragments); F: frequent (>51 fragments). <2mm: very small fragments not readily identifiable; >2mm: identifiable fragments. A: *Avena* sp., oats; H: *Hordeum* sp. barley; T: *Triticum* sp., wheat.

Comments
Both samples are rich in plant macrofossils consisting largely of oats with some arable weeds. Some of the oats retain floret bases and these are all characteristic of domesticated oats (*Avena sativa*). Their relationship to an oven is unclear as oats do not usually require parching to separate grain from chaff. However, the charring of large numbers could result from accidental burning of a largely cleaned crop that was being dried simply because it was damp, to prevent sprouting during storage. As well as grain, there is also a lot of charcoal, the identification of a subsample of which would be of interest, as it may represent the remains of fuel used in the oven.

Although the feature is undated, the assemblages are similar in composition to those from Penhale Round of Roman date. The oven is most likely to be Roman or later in date. There is plenty of material for radiocarbon dating if required.

16.1.2.1 Charcoal - Recommendations

Introduction and methodology
Charcoal was abundant in the 2 bulk samples from the oven pit and identification is recommended as the charcoal may be the remains of fuel used in the oven.

Recommendation

- A radiocarbon date should be obtained from one or both samples, either from grain or charcoal. Full analysis of both samples should then be undertaken for identification of charred seeds and charcoal.

16.2 The Black Cross Ditches

The Black Cross ditch 'complex' comprised six ditches, two of which showed clear signs of having cut into earlier features (centred at SW 9101 6102, Fig 92). (*These earlier features were initially interpreted as ditches, but could have been pits).* Five of the six ditches were located opposite, or east of the entrance to Crugoes Farm. The sixth was located on the western side of the road, south of the main group (Fig 92). All of these features were recorded in section.

Ditch [109] was located midway between 'oven' [108] and ditch [132] (Fig 92). It contained one fill but no finds. In profile the ditch was wide, rounded and shallow (Fig 94). It had been dug into natural and showed signs of having been truncated by ploughing activities.

Ditch [132] was very similar in size to [109]. It contained two fills: the lowest included small charcoal flecks and lumps. This was not sampled and there were no finds. This too had been truncated by ploughing activities.

Black Cross oven [108].

WB93.

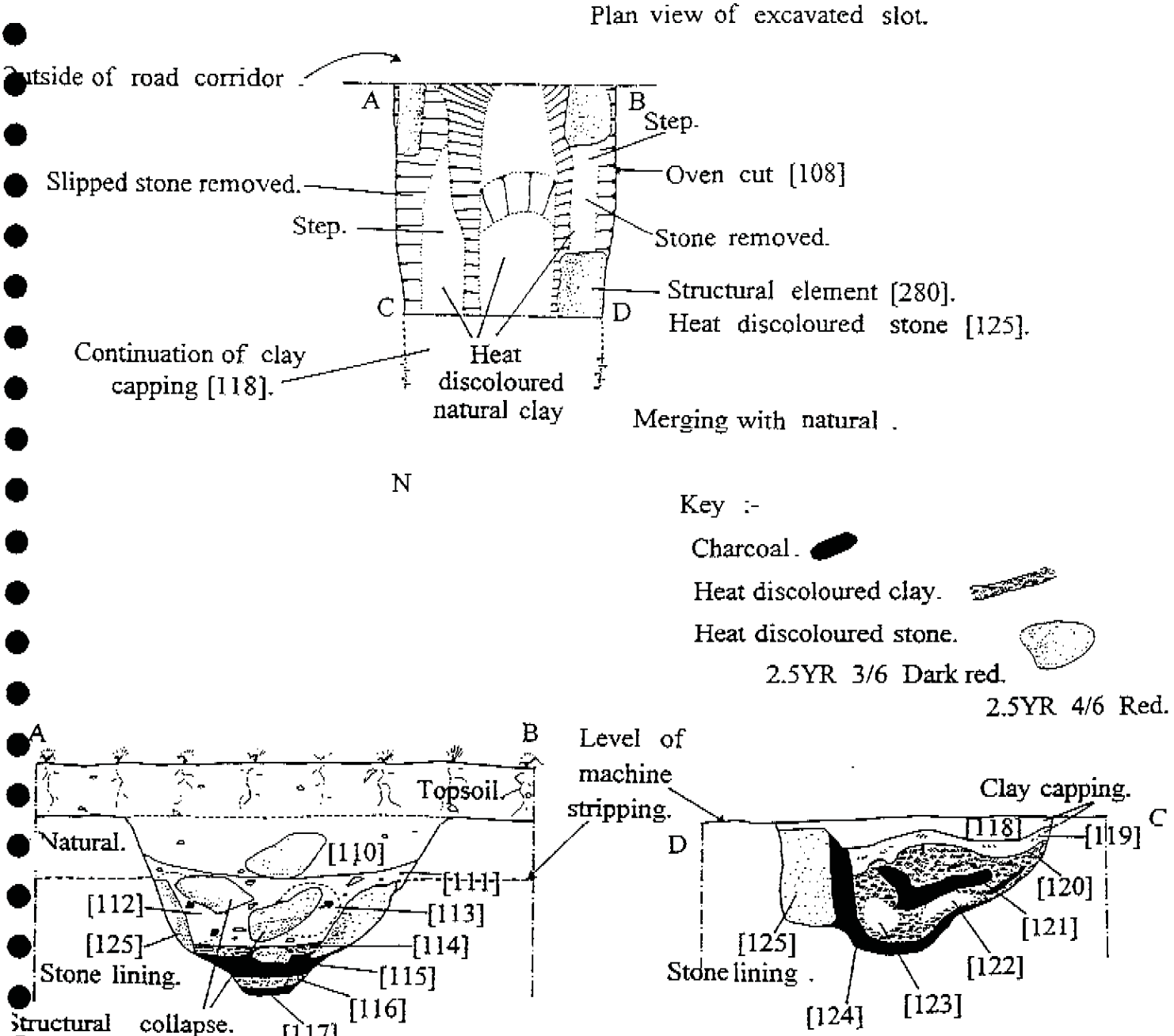


Fig. 93 Excavation plan of Black Cross Oven [108] (SW 9100 6098) - A30 Project, Cornwall (CAU Archive GRH:188/4).

Ditches [109] and [132] were only viewed in section, and not in plan. It would appear however that they were both aligned on a east to west orientation, and that they represented the remnants of a former field system, the date of which is unknown.

Ditches [133] and [134] had very similar shapes and dimensions (Fig 94). Both were at least two metres wide and their sides sloped downwards (at a 55 ^{0} angle) towards concave bases. They were both at least 1.20 metres deep. As with the previous two ditches, they too had been truncated. Ditch [133] contained three fills, while ditch [134] had two. Neither ditch produced any dateable evidence and neither were sampled.

Ditch [134], located immediately north of [133] was almost identical in shape but this ditch contained different fills. It had only two fills, neither of which are greatly dissimilar, and both had a less than 5% shillet content. Unlike all the other deep ditches in this system ditch [134] had not been recut.

It is difficult to clearly interpret these features. They appear to be disproportionately large for field ditches. (Compare the dimensions for [109] and [132] - see fig 94). It is possible that they were boundaries which marked out land ownership. Their shared alignment suggested an association.

Ditch [135] had steep sides and a rounded flat base. It had two fills, neither of which produced finds and no samples were taken. It directly overlay feature [236]. Although [135] shared a similar profile to ditch [136], it was much smaller in scale. It could well have been a field boundary, perhaps associated with a hedge/bank. Although it lay very close to hedge (HS90), the two do not appear to be related. It is possible that it represented an earlier hedge boundary which was supplanted by a later hedgeline (HS90) which was established just to the east. It should be added that if it is a 'conventional' field boundary ditch, then it is deeper and was different in section to both [109] and [132]. .

Ditch [136], like [135] appeared to be centred on an earlier feature. Ditches [135] and [136] were 17 metres apart, making it unlikely that they flanked a simple boundary. It is possible that they directly relate to a previously longer trackway into Crugoes Farm, but if so, their difference in size is difficult to explain. Both seem to run in an approximately east to west direction, but it has to be remembered that they were never seen in plan. *(A geophysical survey would greatly facilitate their future interpretation).*

Features [236] and [240] represent the deepest and probably earliest features in the Black Cross complex. It is not certain whether these features are ditches or pits. Neither were seen in plan, and neither produced any dating evidence. Both contained a single fill, each a high shillet mix in a silty clay matrix.

In sections [236] and [240] were very distinctive - they were steep-sided (angled between 70 ^{0} to 90 ^{0}). Both had flat bases, and both had been cut into by later ditches (Fig 94). They may also have been truncated by later ploughing activity. These are unusual features and unlike anything else in the project area. These ditches, which were up to 2.00 metres deep and fairly regular in width (1.20 metres), have characteristics of those commonly associated with "defensive", "linear" or "enclosure" earthworks. There was no sign of any

accompanying ramparts, hedge or banks. Their location - on the top of the hill - it of some interest and perhaps supports an "enclosure" or indeed a linear earthwork interpretation (*cf.* The Giant's Hedge near Looe, or in Ludgvan). If so then any traces of banks have long since gone. Of interest is the close correspondence of the "later" entrance into Crugoes Farm entrance which appears to share this earlier alignment.

As neither [236] or [240] were seen in plan it is possible that these may have been pits rather than ditches. Although these have been recut by ditches and it is unlikely that these were random sitings. If, on the other hand, these features were pits, then they shared some similarities to the pits found in the Highgate area (see section 3). It is unfortunate that there were no associated finds, and that the fills did not appear to warrant sampling. It is equally unfortunate that due to the circumstances of their discovery, further excavation was not feasible. As with all of the main ditch complex - alterations to Crugoes Farm entrance had totally removed any evidence for their extension westwards.

16.3 FACTUAL DATA - Pedna Carne features by Anna Lawson Jones

Report dated: August 1994

Background

The area known as Pedna Carne is located at the western end of the bypass on a plateau over looking Fraddon (Fig 95). A number of sub-surface remains were discovered here during the watching brief programme. Three types of features were found: boundary ditches, a "complex" of pits, postholes and ditches, and a solitary charcoal-filled pit. (The latter was very similar to feature WB93 [64] on Higher Fraddon Down). Features discovered during the topsoil strip at Pedna Carne were recorded in plan and section and sampled where considered appropriate.

16.3.1 Ditches [2534] and [2535] (Fig.95).

Parallel ditches [2534] and [2535] were found during topsoil removal in this locality (at SW 9177 5782). They had presumably once edged field boundaries and lay two metres apart. Both were sealed by a single layer ([2540]) which lay immediately beneath topsoil. Neither ditch were clearly aligned to the layout of the current fieldscape to the north of the road corridor although they did appear to share the same alignment formed by hedges recorded on the southern side of the road corridor (see hedges [43] and [44], Fig. 95). Hedges [43] and [44] bordered a trackway which appeared on the 1840 Tithe map (see section 15, table 72). These parallel ditches may well be earlier remains of this trackway.

16.3.2 Ditch [281] (Fig.95).

Ditch [281] was located at the far western end of Pedna Carne (Fig 96) and was aligned north-south. Its ran along the western side of hedge [94] for at least 2.30 ms. However, unlike hedge [94] which terminated in the centre of the new A30 road corridor, ditch [281] ran right across the road corridor. It is likely that ditch [281] was earlier than hedge boundary [94] and that the hedge replaced an earlier boundary at this location. [281] was recorded in plan and not in section. Its eastern side was well-defined, and here it was found to cut across an earlier deposit ([2521], see Fig.96) which formed part of an earlier phase of activities (see section 16.4.3). Features within this area were truncated which may be an indication of their probable antiquity.

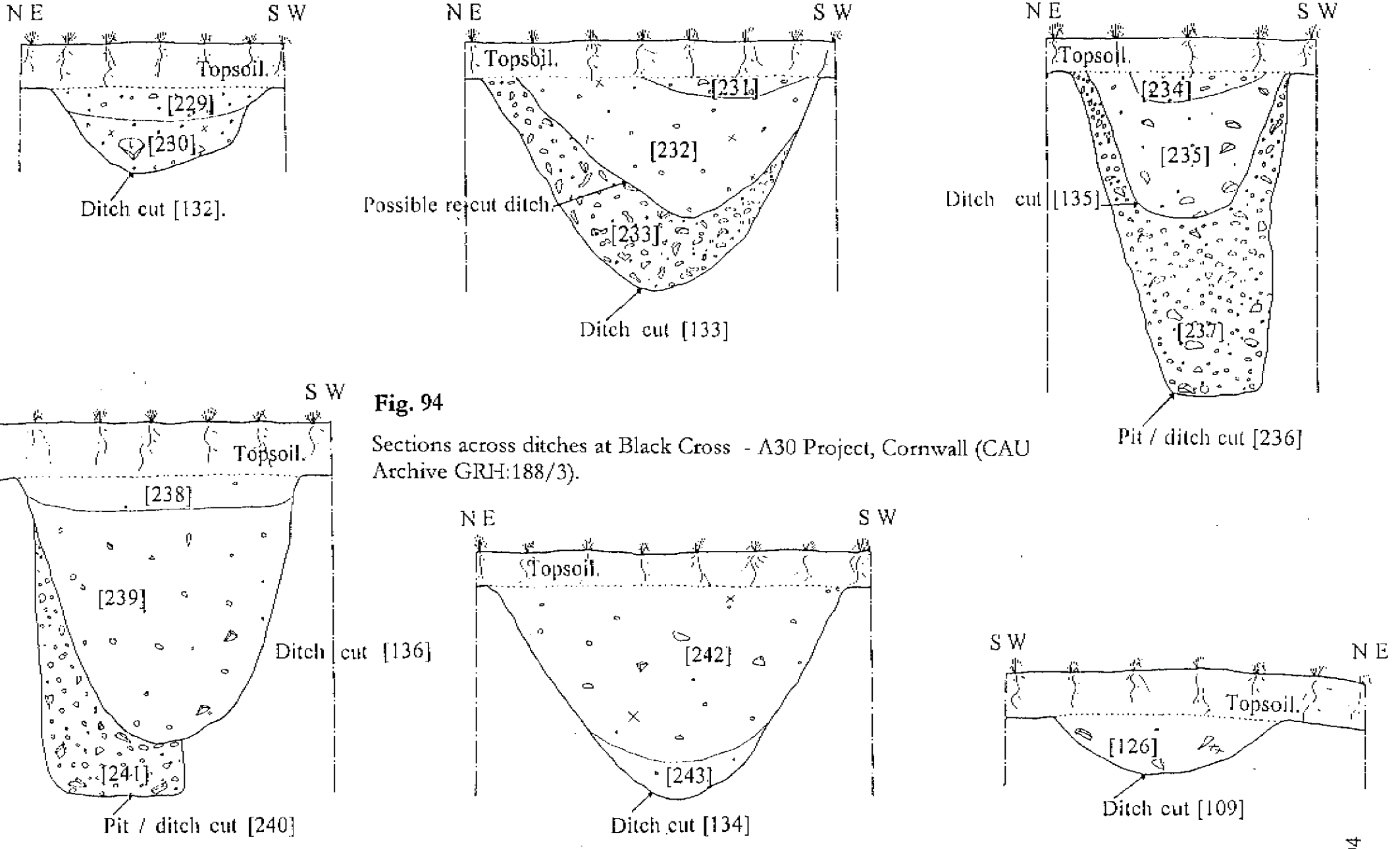


Fig. 94

Sections across ditches at Black Cross - A30 Project, Cornwall (CAU Archive GRH:188/3).

Drawn by Anna Jones

16.3.3. Feature complex [129], [130], [131], [2517] and [2521] (Fig.96).

A "complex" or arrangement of pits, postholes and spreads were found at SW 9139 5752. This group lay beneath the southern terminal of hedge [94] (Fig 96). The group comprised a posthole [131], a gully feature [129], scoop [2517], linear cut [130] and a spread [2521]. Their layout suggested an association and these were earlier than hedge [94] and ditch [281] (see above and Fig. 96).

Feature [129] was an 'L' shaped gully, aligned north-south, which terminated at a right angle in the north where it lay beneath hedge [94]. A central section (north to south) was excavated and showed the gully to be steep-sided with a round-base. The northern zone of this feature was filled with a stony clay loam. The function of this feature and indeed its origin was not apparent - it may have been a beam slot for a building.

Another linear cut [130] was found close by and this was aligned east-west and could have been a recut of an earlier feature represented by [2521] (which lay to the west, see fig 96). The western terminal of [130] was excavated, where it was revealed to be a relatively shallow feature with a rounded base, gentle southern side and a steeper northern edge. It was filled by [2519] which contained occasional charcoal flecks. Clear interpretation of the functions of [130] or its precursor [2521] is difficult, however, like gully [129] it could have had a structural function. Unfortunately no associated activity surfaces or spreads were found.

At the western terminal of [130] were posthole [131] and depression [2517]. They were aligned north - south. The significance of [2517] was unclear as it seemed to be disturbed (or else was a severely truncated feature earlier than [131]). Since [131] had obviously once held an upright post, and cut [130] may have contained a structural framework, it is possible that the right angled junction once again represented a corner of a structure or building.

In summary, this small group of undated archaeological features displayed some stratigraphy and a number phases/ events were recorded. The earliest features were gully/linear cuts [2521] and [2517], which were later cut into by gully [130] and (probably) [131]. The L-shaped gully [129] was later established and placed across [2519]. If these features are related to former buildings or structures here in the landscape then we have no indication or their origin, purpose or date. Ditch [281] and hedge [94] would appear to represent a predominantly later agricultural phase.

16.3.4. Pit [128] Pedna Carne

Of all the "isolated" features discovered during the watching brief at Pedna Carne, pit [128] may be the earliest. It was located in the centre of the road corridor, at the western end of Pedna Carne (SW 9145 5755, fig 95). Pit [128] was a truncated, near circular, small feature which contained relatively charcoal rich-fills. The upper fill ([173]) was a black (60% charcoal) silty clay with occasional small quartz inclusions. The lower fill ([174]) comprised a brown silty clay with (10%) charcoal flecks and occasional quartz, merging with some quartz blocks which were found at the base of the cut.

When this feature was discovered topsoil had already been removed from this area so its relationship to the former ground surface could not be recorded. However a spread ([207]) found in the immediate vicinity may have represented the old land surface.

Pit [128] was very similar to feature [64] which had been recorded on a separate occasion on Higher Fraddon Down (see section 16.4.1).

The function of pit [128] is not clear. A sample of its fill was taken ([1048]) for environmental analysis (see section 16.3.6). The quartz packing material within the pit could indicate preclude any idea of casual deposition (particularly since feature [64] showed a similar arrangement of deposits). The broader context of this feature is unknown as indeed its date.

16.3.5 Fieldwalking Artefacts by Elizabeth Davis, Pippa Bradley and John Allan
All of the artefacts found during the watching brief exercise in this area of the bypass scheme at Pedna Carne were unstratified, and were collected as finds group 'H' (centred at SW 9140 5750). The finds comprised a couple of prehistoric flints and medieval and later pottery. The flint collection consisted of only two pieces; a Mesolithic microlith and an undiagnostic burnt flint. The pottery consisted of five sherds of medieval date and four of post-medieval date.

Little can be said as regards this extremely limited number and range of finds. No artefact concentrations were discernible and none of the features had any directly related finds. The presence of a burnt flint flake was of interest however in view of the discovery of pit [128] (see above).

16.3.6 Samples from pit [128] by Vanessa Straker
Report dated: May 1997

A number of archaeological features, including ditches, pits and postholes were recorded in the Pedna Carne area, at the western end of the bypass. A small pit [128], located in the centre of the road corridor, and a bulk sample was taken from its upper fill [173].

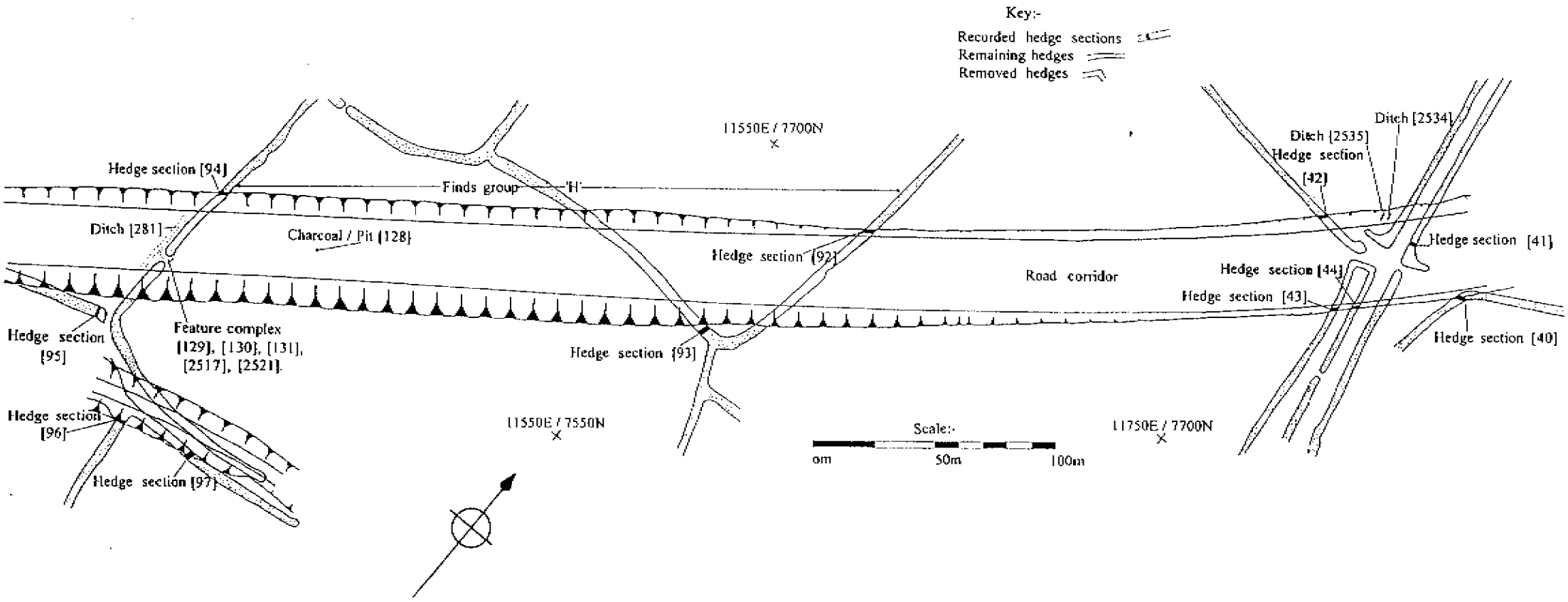
The results of the assessment are given in Table 79.

Table 79 Pedna Carne

Sample	Context	Location	% sample (vol)	Vol(l) / weigh t (kg)	Vol.of float (approx ml)	Grain	Chaff	weeds	Comments. C14 dating (charcoal)*: poteutial; ** :high potential
1048	173	pit[128]	75%	-	100	F (A), O(H)	O-M inc *A.Sati va* florets	O	F < 2mm, F > 2mm, some not oak**. Weeds include *Raphanus raphanistrum and Polygonum aviculare*

Charcoal: 0: occasional (1-10 fragments); M: moderate (11-50 fragments); F: frequent (>51 fragments). <2mm: very small fragments not readily identifiable; >2mm: identifiable fragments. A: *Avena* sp., oats; H: *Hordeum* sp. barley; T: *Triticum* sp., wheat.

Fig. 95 Location plan of features found at Pedna Carne (SW 91505700) - A30 Project, Cornwall (CAU Archive GRH:188/7).



Comments
The assemblage appears to be very similar to those from Black Cross Oven, consisting mainly of a crop of (largely) cleaned oats. It is also rich in charcoal.

Charcoal - Recommendations
Introduction and methodology

- Charcoal was abundant in the bulk sample from the pit and species identification is recommended (Task 7).

Recommendation

- As for Black Cross Oven. As the feature is undated, a radiocarbon date should be obtained from the sample, either from grain or charcoal. Full analysis of the sample should then be undertaken for identification of charred seeds and charcoal (Tasks 8 and 37).

16.4 FACTUAL DATA - Higher Fraddon Down by Anna Lawson Jones

Report dated: August 1994

Background
At the north eastern edge of Higher Fraddon Down, a number of features were recorded during the Watching Brief. Broadly these features can be classified as industrial, agricultural and miscellaneous remains. All were found during topsoil removal and were recorded in section (along the eastern face of the road cutting).

16.4.1 Features Pit [64], Spread [68] and Gully [71]

This small cluster of features was located at SW 9205 5850 (Fig 97) and are likely to represent only a sample of the remains at this location. This group comprised a truncated pit [64], a gully [71] and a layer (or spread). Chronologically pit [64] was the latest, while the earliest feature was layer [68] although all are likely to be broadly contemporary with each other. Gully [71] defined the northern edge of layer [68], while pit [64] was centred upon [71] and on almost exactly the same alignment (Fig.97).

Pit [64] was oval in shape, with short, steep sides and a rounded base. It contained a single, fill - [66], which was dark with approximately 20% charcoal content. The base of the pit was lined with a number of quartz stones in a fashion similar to pit [128] found at Pedna Carne (see section 16.3.4). No finds were found with this feature and its function not clear. The charcoal was not the result of *in-situ* burning.

The full extent of gully [71] was not investigated. It was aligned East-West, had a steeply rounded base and was filled by one clay loam fill. It had been truncated. No associated finds were found. Its function was unclear. It may have been related to spread [68] as it marked the northern limits of the deposit as though it contained the spread.

Layer [68] extended southwards from gully [71] was localised but very shallow. The layer was essentially a mix of natural clay and silty loam with occasional stones. Unlike gully

[71] it did not contain any visible charcoal. Had it not been for it's clarity in the excavated slot, it would have been easy to dismiss as natural.

16.4.2 Feature [70]

Feature [70] was a solitary pit recorded in the section of a newly excavated fence post hole (Fig.97) . It contained a single fill and was 0.80 m deep and 0.40 m in diameter. Its function and origin are unknown although it may be quite old as it was sealed under approximately 0.25 m of topsoil. The uniformity of its fill, and to some extent it's depth, discounted a mining interpretation as indeed an agricultural one.

16.4.3 Bank [69] - part of an earlier field system

Bank [69] was discovered after topsoil stripping at SW 9203 5852 (Fig.97). It was made up of stone blocks bonded by silty clay and was discovered beneath 0.30 m of topsoil. It may have been a field boundary. If this is a correct interpretation it would certainly belong to a system which pre-dated extant enclosure in the area.

16.4.4 Prospecting pits [137] and [138]

Features [137] and [138] were both prospecting pits (Adam Sharpe, *pers.comm.*) Both were recorded in section (Figs.97 and 98). The full depth of pit [137] was exposed but only a partial view of pit [138] was available. Both pits extended further east and would have therefore have had an elongated oval shape, rounded ends and steep sides - all characteristics of prospecting pits. Pit [137] was backfilled from the north and capped by a final phase of natural silting and lay beneath topsoil. Pit [138] contained a very compact stony fill. Unlike pit [137] it's upper fills lay horizontally. Both mining features were sealed by topsoil and are likely to be of some antiquity. No datable finds were recovered from this area.

16.4.5 Ditches and hollows [139] to [144]

Six features were located at SW 9204 5868 and are likely to represent former agricultural activities. (Other similar remains were observed in this general area, although time and resources for a comprehensive full record were not available and those explored in detail are likely to have been representative of a more extensive "site").

Features [140] and [141] were shallow rounded pits or hollows which were identical in size and were filled with compact silty clay with quartz. No samples were taken, and no finds were found. Although slightly larger in size, ditch/pit [144] may have been related to this pair as all these features were regularly spaced and appeared to share the same east-west alignment (see fig. 98).

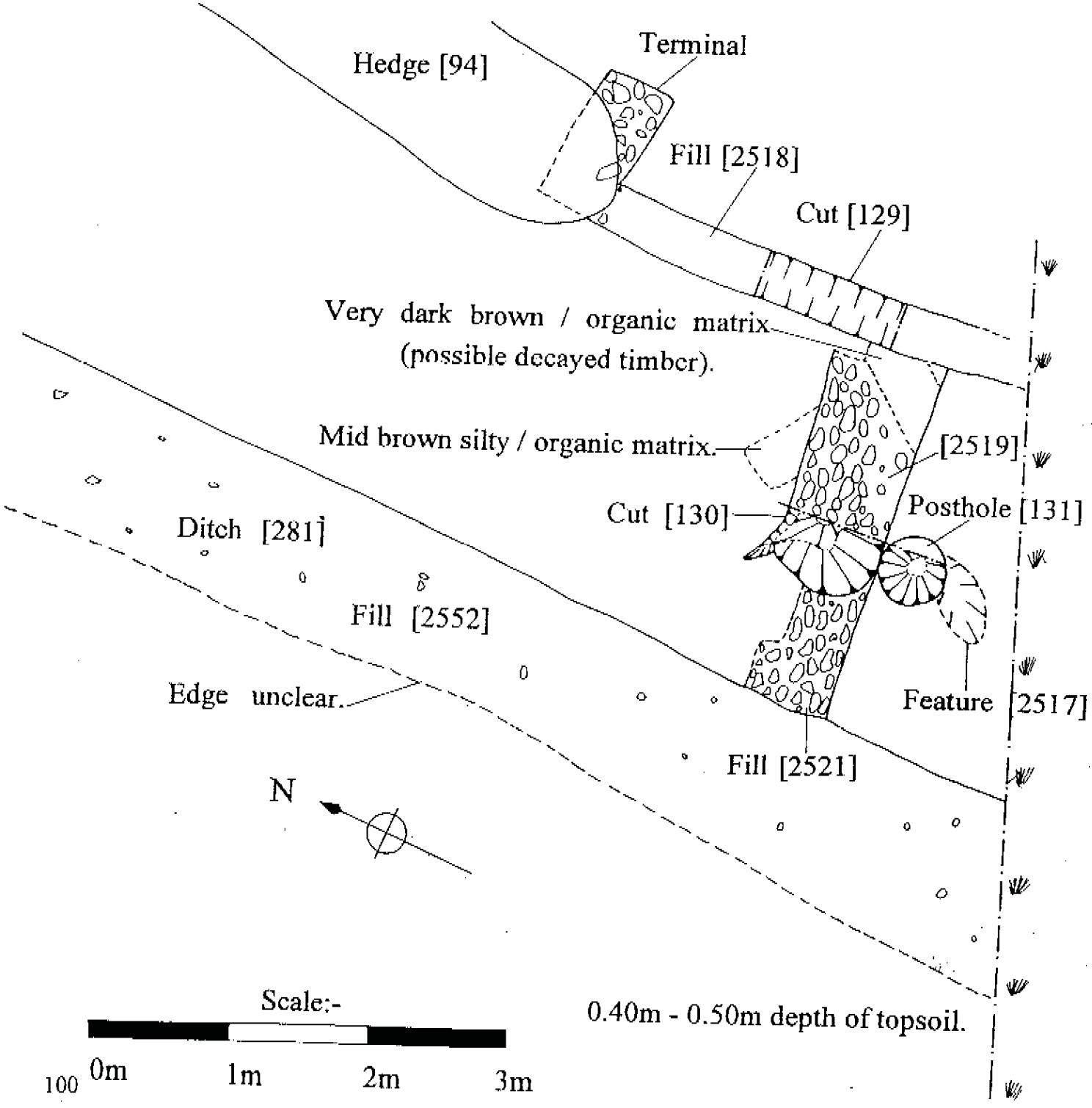
Ditches [139] and [143] were also very similar to each other. Both were stepped (on their northern sides) and were deep in the south. They both contained compact silty clay and stone fills. Feature [142] was comparable in size (although it did not have a stepped profile) and may have been associated (see Fig. 98). These three features were not regularly set apart from each other but did share an east -west alignment.

The heavy clay subsoil on Fraddon Down is quite poorly drained and prone to flooding. An agricultural function for all of these features may be offered in the light of the poor drainage conditions in the vicinity and they could be field boundary ditches or field drains.

WB93 PEDNA CARNE FEATURE COMPLEX.

Drawn by Anna Jones.

Fig. 96 Pedna Carne plan of feature complex - A30 Project, Cornwall (CAU Archive GRH:188/9).



They are difficult to date but since they were all sealed by topsoil they are likely to have an earlier origin - perhaps representing a phase of enclosure during the medieval or later medieval periods.

16.4.6 Postholes [104] and [105]

A pair of well-preserved postholes (104] and [105]) were found at SW 9204 5871, well sealed under 0.35 m of a clay loam subsoil. Each contained two clearly defined fills - post pipes and packing material. The shallowest was [104] which was 0.50 m whilst [105] was very deep at 1.10 m (see Fig.97). The features were set 0.90 m apart. The broader context of this pair of postholes is, unfortunately, unknown despite the systematic search of the surrounding area for similar, related or datable remains.

16.4.7 Environmental Data by Vanessa Straker

Report dated: May 1997

A bulk sample was taken from an isolated pit on Higher Fraddon Down, an area which prior to the nineteenth century was marginal rough open ground. The results of the assessment are presented in table 80.

Table 80 - Higher Fraddon

Sample	Context	Location	% sampled (volume)	Vol/(l) / Weight (kg)	Volume of float (approx ml)	Grain, chaff and weeds	Comments. C14 dating (charcoal) *: potential; **: high potential
1040	66	pit [64]	c. 50		400	-	F<2mm, F>2mm, some not oak**.

Charcoal: 0: occasional (1-10 fragments); M: moderate (11-50 fragments); F: frequent (>51 fragments). <2mm: very small fragments not readily identifiable; >2mm: identifiable fragments. A: *Avena* sp., oats; H: *Hordeum* sp. barley; T: *Triticum* sp., wheat.

Comments and recommendation

- The sample was rich in charcoal, but contained no other plant macrofossils. Unless a radiocarbon date is required, no further analysis is suggested.

16.5 STATEMENT OF POTENTIAL of analysis of watching brief smaller sites and summary of contribution to the project results by Jacky Nowakowski

16.5.1 Statement of potential and summary conclusions - Black Cross Oven

Although there were no associated finds, the charcoal samples may provide radiocarbon dates as well as some indication of the function of oven [108]. Samples taken from this feature have already produced very substantial quantities of carbonised grain (see section 16.1.2), which may suggest an agricultural function. The feature may have been a flue for a

corn drying oven, or perhaps the trough itself, was used for the bulk drying or processing of grain prior to storage. Medieval, or earlier, it is a feature of great interest, not least because of it's unexpected presence. Its broader context is unknown.

- No further work on its structural data is required but since the composition of the macroplant remains is similar to assemblages found at Penhale Round a radiocarbon date is recommended and a synthetic account of the feature should be published (Tasks 8 and 37).
- A radiocarbon date is recommended to date the oven at Black Cross. If it is found to be of Roman date then it will contribute to the discussion of evidence for the landscape during the later prehistoric and Roman periods (Task 52).

16.5.2. Statement of potential of "ditch complex" at Black Cross and concluding observations

In addition to the 'oven', the linear ditch "complex" found at Black Cross represented a keyhole glimpse at past land use in the area. None of the features could be directly related to current land use and although difficult to date, were clearly traces of pre-nineteenth century activities. (None appeared on the 1840s Tithe Map). It was evident during the watching brief that there were quite a number of buried "field" boundaries in this general area - all of which however were not recorded to the same degree of detail.

Of interest was the fact that some of the ditches shared characteristics and by these criteria they may be broadly considered in as three sub-groups.
The first group comprised field boundary ditches which had once belonged to an earlier, undated, field system. Within this group the two slightly deeper ditches flanking hedge [89] may also be considered (Fig. 92).

The second category of ditches included three very wide and fairly deep (round-bottomed) - ditches, none of which correlated with field boundaries currently in use. They were distinctive by their size and depths which were too substantial for hedge boundaries. It is possible that they marked the boundary between different agricultural zones or were perhaps property boundaries. They clearly had become redundant at some point in time and their significance waned.

Underlying these larger ditches (the second group, above) were earlier ditches - in particular [236] and [240] (Figs.94). Their functions were equally obscure. In form they shared some similarities with those large pits recorded at Highgate roundabout (HR93 pits, see section 3). Their siting at the top of a hill must also have some bearing on their original purpose and significance.

- No further work on its structural data is required but a synthetic account of the complex should be published (Task 57).
- There may be further research potential at this site as a geophysical survey adjacent to the location of this site would be very useful to ascertain the full extent of the ditch complex as well as aid in its interpretation.

WB93 Higher Fraddon Down.

Showing recorded hedges and archaeological features.

Drawn by Anna Jones.

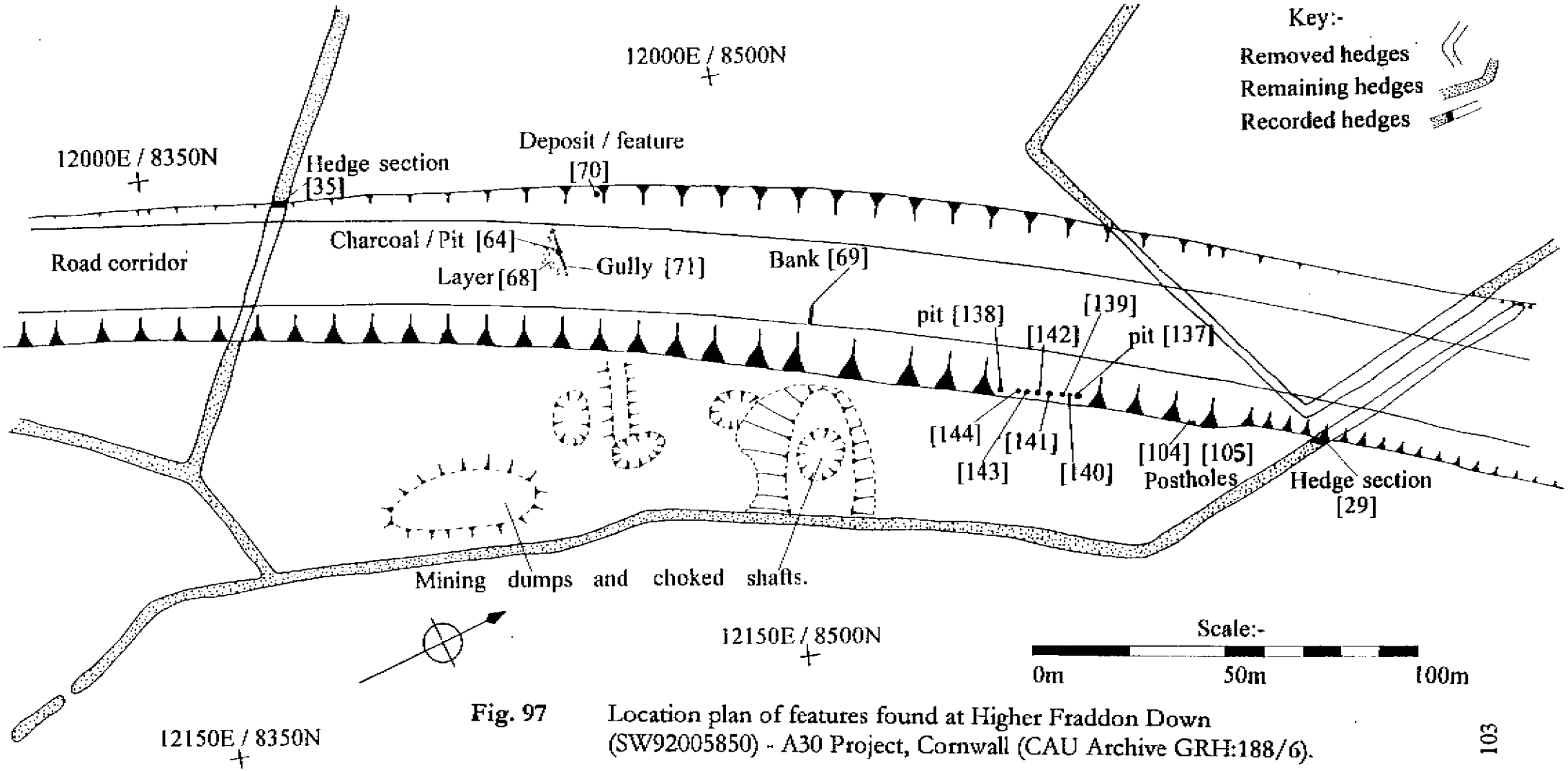


Fig. 97 Location plan of features found at Higher Fraddon Down (SW92005850) - A30 Project, Cornwall (CAU Archive GRH:188/6).

16.5.3 Statement of potential of "isolated" archaeological features at Pedna Carne

At Pedna Carne sporadic, limited evidence for probable prehistoric activity and later medieval and post-medieval activities in the form of field boundaries and perhaps agricultural structures were found.

- Further analysis of the majority of these features is not recommended although their discovery in this zone of the project area is of some interest and a synthetic account of their discovery should be published. Pit [128] in particular could provide some useful indication of the extent of possible prehistoric activities in the area as a whole and a radiocarbon date obtained for this feature could be useful and suitable material is available (see section 16.3.6). Four very similar features to pit [128] were found during the excavations at Penhale Moor (see section 6). These were all truncated pits or postholes ([77], [90], [93] and [103) which were within the vicinity of the Bronze Age farmstead (Tasks 8 and 57).

16.5.4 Statement of potential of "isolated" archaeological features at Higher Fraddon Down

- The variety of features discovered on Higher Fraddon Down gave an indication of past land-use in a zone which prior to the nineteenth century was marginal open rough land (see section 15). Their discovery is therefore significant particularly as all the features were well-scaled beneath topsoil.

However given the lack of datable evidence and the disparate characters of the features no further analysis is recommended but a synthetic account should be published (Task 57).

16.5.5 Statement of potential of miscellaneous watching brief finds by Henrietta Quinnell

WB93 HS55 [200] <328>

Cup-marked slate

A slab of local slate with a cup mark was found within a deposit of slately material incorporated in a hedge boundary about 100 m south of Little Gaverigan Barrow. The slab is 0.8m long, a maximum of 0.28 m wide and 0.04 m thick. One edge appeared to have been worked. the cup mark is set towards one end, It is almost circular, 40 mm across and 16 mm deep. Pecking marks, traces of its manufacture appear around parts of its circumference. The cup mark appears to be hardly, if at all, weathered.

Potential

Cup-marked slates, usually in easily worked rocks such as slate are fairly frequent finds in Cornish Barrows (see list and discussion in Christie 1985, 116). they are rare, if not unknown in Devon barrows, but in Cornwall may occur in domestic contexts as at Trethellan Farm (Nowakowski 1991, 153-155). A recent study of the cup-marked stones at Stithians (Hartgroves 1987) contains a list of these marks in the county in all contexts. While it is sometimes obvious that a stone has been incorporated in a barrow and the cup

marks covered over (as at Treligga 7, Christie 1985, 64) there has never been a comprehensive consideration of the degree to which cup-marked stones were eventually covered over in the process of the development of individual Cornish barrows, nor of the detailed methods by which the cup marks were made. SF <328> is so fresh that quick covering seems almost certain; a consideration of the frequency with which this covering happened would be useful. The freshness of the cup mark offers the ideal opportunity for the study of its manufacture; either flint or bronze tools might be used. More generally, full publication of the stone would provide an additional dimension to the ritual area which comprises Little Gaverigan Barrow, the Highgate Ritual Enclosure and the Highgate Pits.

Analysis will consist of:

- Detailed study of working of cup-mark: this might involve some experimental work. Time/personnel for this aspect are difficult to specify. If not feasible, this possibility should be highlighted for future research.
- A general description of the cup-marked stone an its local and Cornish context. This will take HQ 1 day (task 25).
- A photograph to be published (task 13)
- A detailed large-scale drawing of the cup mark showing the cut marks which produced this (task 62).

WATCHING BRIEF 94 GROUP I

Artefactual data: stonework

A thin finger stone (4 mm) of slate, with end broken,. End battered and facets intensively worn. Its fragility seems too great for a standard whetstone and it may be interpreted as a tool of Mesolithic date.

Potential of stonework

- The slate finger stone requires examination e.g. an authority in early Prehistoric stone tools. (this and the "whetstone" from Halloon Farm appear to be sea-worn slate and therefore imported inland).
- The object in general, appears similar to the various categories of Mesolithic stone tools found in coastal sites (Berridge & Roberts 1986,20). In view of the proximity of Group I to possible prehistoric activity at Halloon Farm, further advice should be sought before any decision is made on publication. This "whetstone" is of very thin slate and may in fact be a broken Mesolithic artefact (task 25).

WATCHING BRIEF 94 GROUP J

Artefactual data: stonework

A worn quartzite rubbing stone with end damaged by percussive use.

Potential

- Consideration should be given to the rubbing stone against the general scatter of prehistoric material from the Halloon Farm area.

17.0 CURATION OF ARCHIVE, STORAGE & CONSERVATION

17.1 The Contents of the Project Archive

The archive for this project comprises the following components:

Excavation Records

Context data in the form of paper records and an electronic database - Delilah.
Handwritten field notes on paper and film in pencil.
Handwritten notes in pencil and pen in site diaries.
Graphic records on film and paper.
Inked archive plans on drafting film.
Monochrome prints.
Colour transparencies.

Project records and archive reports

Progress reports, project correspondence and archive reports exist on paper and are also stored electronically at the offices of The Cornwall Archaeological Unit. They are filed in:

G:\Document\Sites\Sites A-D\A30ASSRE
G:\Document\Sites\Sites A-D\A30
G:\Document\Sites\Sites A-D\Deeplane\DPLJG.SAM
G:\Document\Sites\Sites E-H\Fraddon.A30
G:\Document\Sites\Sites E-H\Halloon
G:\Document\Sites\Sites E-H\Highgate
G:\Document\Sites\Sites M-P\Mayfield.Frm
G:\Document\Sites\Sites M-P\Penhale rnd
G:\Document\Sites\Sites M-P\Penhale mr
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Paper copies of all these records are stored in pocket files and banker's boxes (see below).

Research notes

Research notes and correspondence on paper in A4 ring binders.

Field drawings

Measured plans and sections together with handwritten annotations in pencil are stored in the GRE system at CAU. The following are listed for the A30 Project.

GRE:151 Various excavation and Evaluation plans 1992-1994
GRE:154 Little Gaverigan Barrow - GV92

GRE:157 Penhale Round - PR3
GRE:157 SWEB 1 - Penhale Round PR93
GRE:167 SWEB 2, 3 and 4 investigations at Penhale Round and Penhale/Trewheela Farm
GRE:163 Halloon Farm Excavations 1993 - HF93
GRE:164 Mayfield Farm Excavations - MF93
GRE:165 Deep Lane Excavations - DL93
GRE:166 Queen's Mine Excavations - QM93
GRE:168 Highgate Ritual Enclosure - HG93
GRE:169 Highgate Ritual Pits - HR93
GRE:175 Penhale Moor - PM94
GRE:171 Watching Brief sites WB93 and WB94

Archive Drwaings
Inked-up archive drawings exist as hanging plans on drafting film coded as GRH. The following are listed for the A30 Project.

GRH:177 Little Gaverigan Barrow - GV92
GRH:178 Penhale Round - PR3
GRH:185 SWEB 1 - Penhale Round PR93
GRH:186 SWEB 2 and 3 investigations at Penhale Round
GRH:167 SWEB 2 Pipeline and SWEB 3 watching brief/Excavation at Penhale Farm
GRH:184 Halloon Farm Excavations 1993
GRH:180 Highgate Ritual Enclosure - HG93
GRH:187 Highgate Ritual Pits - HR93
GRH:183 Penhale Moor - PM94
GRH:188 Watching Brief sites WB93 and WB94

Material Archive
Finds are catalogues and boxed by category for each site. They consist of pottery, stonework, flint, glass, metalwork, clay, industrial debris, soil samples, environmental samples (plant macrofossils, charcoal and pollen).

Project files stored in Bankers' Boxes and contained in green folder (pocket) A4 files

Progress Reports 1992-1994
Team accommodation details
Petty Cash details
Project members and volunteers

Project files contained in green folder (pocket) A4 files and stored in filing cabinet in room 9 at CAU.

Project Design and outline 1991
A30 exhibition
Master text - A30 Evaluation Report 1992

Master text - Bypassing Indian Queens 1994
A30 project Equipment Records 1991-1993
A30 project Compensation details 1992-1993
A30 Project - Schools' programme Penhale Round 1993
A30 Project Watching Brief programme - general file 1993-1994
Master text - Watching Brief reports
Master texts of all archive reports in individual folders
SWEB work files at Penhale Round
Correpondence files - general enquiries during fieldwork and archive and assessment
A30 project 1991-1993 Progress Reports and Target Attainments and monitoring meetings notes and minutes
A30 project 1993-1994 Archive Progress Reports and Timetable and costings and meetings notes and minutes
A30 project 1994-1995 Assessment Progress Reports and Timetable and costings and monitoring meetings notes and minutes
A30 project 1995-1996 Assessment Progress Reports and Timetable and costings and monitoring meetings notes and minutes
A30 project 1996-1997 Assessment Progress Reports and Timetable and costings and monitoring meetings notes and minutes
A30 project lecture notes
A30 project texts for various articles and summary reports

MISCELLANEOUS PRIMARY RECORDS

A4 ring binders for watching brief finds groups
A4 ring binders for isolated features WB93 and WB94

17.2 INDIVIDUAL SITE ARCHIVES

17.2.1 Little Gaverigan Barrow Excavation 1992

The site code is GV92. The barrow was excavated in quadrants (individually coded quadrant 1, 2, 3 and 4). The ditch was divided up into a number of 3 metre long segments of which just under 45 % were fully excavated.

A single context system recording system was employed and records were computerised using a software programme called *Delilah*.

The following record numbers were allocated:

1 - 199	Context records Quadrants 1 and 2
200 - 399	Context records Quadrants 3 and 4
400 - 599	Object records All Quadrants
600 - 799	Sample records All Quadrants
800 - 999	Plans All Quadrants
1000 - 1599	Photographs All Quadrants
1600 - 1699	Context records Quadrant 4
1700 - 1799	Photographs All Quadrants
1800 - 1899	Context records Quadrant 1

Primary Record
328 context records
147 environmental samples (does not included small finds)
56 small finds (of which 8 were environmental samples)
1234 bulk finds
92 field drawings
682 colour slides and black and white negatives
1 levels book
4 site diaries - supervisors

Archive comprises:
4 x A4 Ring binders with context information
3 x A4 Ring binders with finds information
2 x A4 Ring binders with environmental information
Photographic index (field book and photographic register)
Field drawings and index (GRE:154)
14 Boxes of material artefacts
4 boxes of dried floats
8 boxes of preserved wood
Progress reports 1,2 and 3 (by Jacky Nowakowski)
Research file
Petrological report on Bronze Age pottery (David Williams)
Correspondence file
4 Inked-up phase plans (GRH: 177/2-5)
1 Inked-up matrix plan (GRH:177/6)
Survey of barrow before excavation (GRH:177/1)
East and North facing sections across the site (GRH:177/10 and 11)
Pre-Mound features - Quadrants 3 and 4 (GRH:177/8)
Ditch Sections - Quadrant 4 (GRH: 177/9)
Site matrix (GRH:177/6)
Phase 2 pit sections [83] and [318] (GRH:177/7)
Summary of results for quadrants 1 and 2 (Charles Johns)
Summary of results for quadrants 3 and 4 (Janice Grove)
Summary statement of finds (Elizabeth Davis)
Summary statement of environmental samples (Jenni Heathcote).

The site archive report is filed as G:\Document\Reports\GVACREP.SAM

Archive Report on the Excavation of Little Gaverigan Barrow, Indian Queens, Cornwall 1992 Compiled by E. Davis, J. Grove, J. Heathcote, C. Johns and J. A.Nowakowski with contributions from Margaret Brooks and David Williams, CAU 1994, Truro, Cornwall.

A Petrological Note on Some Bronze Age Pottery from the 1992 Excavations at Little Gaverigan Barrow, Cornwall By David Williams, Dept of Archaeology, University of Southampton

17.2.2 Highgate Ritual Enclosure

The site code for this excavation is HG93.

A single context recording system was employed and records were computerised using a software programme called Delilah.

The following record numbers were allocated:

1 - 105	Context records
201-244	Drawing record numbers
324	Object record
400 - 422	Sample records
739-837	Photographic records

Primary Record

105	Context records
23	Environmental samples
1	Object record
43	Field drawings (GRE:168)
4	Archive drawings (GRH:180)
98	Colour and black and white photographs
	Notes in Watching Brief Diary
1 x	A4 Ring Binder with context information
1 x	A4 Ring Binder with sample information
	Photographic index and contact folder (WB Folder).
	Research file and correspondence.

The site archive report is filed as G:\Document\Sites\Sites E-H\ Highgate\HGJG.SAM

Archive Report for Highgate Ritual Enclosure, Indian Queens, Cornwall 1993 Compiled by Janice Grove and J. A. Nowakowski with a contribution from Margaret Brooks, CAU 1994, Truro, Cornwall

Assessment of burnt bone from Indian Queens (Highgate) by Simon Mays, English Heritage Ancient Monuments Lab Report dated: 10.10.95

17.2.3 Highgate Pits HR93

The site code is HR93. The Features were Recorded in section at a scale of 1:10. A manual record was kept. The following record numbers were allocated:

1-136	Context Records
1032-1039	Sample Records
974-1193	Photographic Records
3000-3016	field drawings (CRE: 169)

Primary Record

136 Context Records.

7 Sample Records
119 Photographic Records (Black and White and Colour)
17 Archive Drawings
Site Notes in Diary
1 A4 Folder-Context Records
1 A4 Folder- Sample Records

The site archive report is filed as G:\Document\Reports\HRREP.SAM

Archive Report on the Archaeological Investigations of a Pit Alignment at Highgate Roundabout, Indian Queens, Cornwall 1993 Compiled by Andrew Jones with a contribution from J.A. Nowakowski CAU 1994, Truro, Cornwall

17.2.4 Penhale Round PR93

The overall site code is PR93. Contexts are identified by area. Seven trenches were excavated during January to May 1993 - Areas 1 to 7, and additional investigations are coded as SWEB 1, SWEB 2, SWEB 3 and 4 and the PRWB (road watching brief).

A single context recording system was employed and records were computerised using a software programme called *Delilah.*

The following record numbers were used:

1 - 199	Object	Area 3
200 - 499	Context	Area 3
500 - 699	Plans	Area 3
700 - 894	Samples	Area 3
900 - 1999	Photographs	Area 3
2000 - 2199	Context	Area 3
2200 - 2399	Context	Area 3
2400 - 2499	Object	Area 3
2500 - 2538	Context	Area 1
2550 - 2588	Context	Area 2 and Hedge 2
2600 - 2699	Context	Area 6
2700 - 2799	Context	Area 3
2800 - 2892	Samples	Area 3
2900 - 2998	Object	All areas
3000 - 3099	Context	Area 7
3100 - 3199	Context	Area 5
3200 - 3299	Context	Area 3
3300 - 3399	Context	Area 6
3400 - 3999	Photographs	All areas
4000 - 4299	Samples	All areas
4301 - 4389	Object	All areas
4400 - 4499	Context	Area 3
4500 - 4599	Context	Area 7
5000 - 5097	Context	SWEB 1
5250 - 5299	Plans	SWEB 1

5300 - 5399	Samples	SWEB 1
5400 - 5408	Object	SWEB 1
5500 - 5525	Context	Area 6
5550 - 5599	Context	Area 3
5601 - 5699	Context	Area 3
5700 - 5899	Plans	All areas
5900 - 5999	Plans	All areas
6000 - 6024	Context	Area 4
6100 - 6157	Context	Area 5
6200 - 6499	Photographs	All areas
6500 - 6515	Context	Area 3
6600 - 6654	Section [2152]	Area 3
6700 - 6799	Photographs	All areas
6800 - 6900	Samples	All areas
7000 - 7499	Photographs	All areas
1 - 37	Contexts	SWEB 2 and watching brief 93
100 - 104	Plans	SWEB 2 and watching brief 93
500 - 543	Photos	SWEB 2 and watching brief 93

Primary Record
2021 context records
422 environmental samples
492 object records
1194 bulk finds
464 field drawings
1296 colour slides and 1404 black and white negatives
3 levels books
6 site diaries
3 photographic records books
Archive comprises:
19 x A4 ring binders with context information
5 x A4 ring binders object records
2 x A4 ring binders of environmental records
2 x A4 Photographic prints and contacts
Field Drawings for Areas 1, 1A, 2, 3, 4, 5, 6, 7 and SWEB 1 - GRE:157
Field Drawings for SWEB 2, 3 and 4 watching brief - GRE:167
Archive drawings for Penhale Round Areas 1, 1A, 2, 3, 4, 5, 6 and 7 - GRH:178
Archive drawings for SWEB 1 - GRH:185
Archive drawings for SWEB 2, 3 and 4 - GRH: 186
Research files
Progress reports: 4, 7, 11, 12 (by Jacky Nowakowski).
Correspondence files
Conservators report

Summary reports by Elizabeth Davis, Janice Grove, Charles Johns and Jenni Heathcote
3 boxes of charcoal
17 boxes of ceramics
12 boxes of stone and flint artefacts
1 box of clay, daub artefacts
1 box glass
1 box industrial material
1 box wood samples
1 box copper alloy
2 boxes iron
2 boxes of bone

The site archive report is filed as Penhale Round Archive Report - G:\Document\ Sites\sites M-P\Penhale rnd\Block1.SAM & Block 2.SAM & Block 3.SAM

Archive Report on the Archaeological Excavations at Penhale Round, Fraddon, Cornwall 1993 Compiled by Elizabeth Davis, Janice Grove, Jenni Heathcote, Charles Johns and J.A. Nowakowski with contributions from Margaret Brooks and Caroline Earwood CAU 1994, Truro, Cornwall. Vols I and II

The Assessment of slag and other metalworking Debris from Penhale Round, Indian Queens, Cornwall 1993 by D Starley, English Heritage, Ancient Monuments Lab Report 41/1996

A30 Project: Assessment of potential for analysis of plant macrofossils from bulk samples from Penhale Round by Vanessa Straker University of Bristol, Dept of Geography, University Road, Bristol BS8 1SS Report dated: 2.4.1997

17.2.5 Penhale Moor - PM94

The site code is PM94. The site was stripped by machine and followed by hand excavation (see above). The site was divided into five zones (areas) and excavated sequentially. Area 5 forms the main area of excavation (a combination of Areas 3 and 4, see sections 2 , 5 and 6 above).

A single context recording system was employed and records were computerised using software programme called *Delilah*.

The following record numbers were allocated:

1-99	Context records - Areas 1 and 2.
100-199	Object records - All Areas.
200-299	Sample records - All Areas.
300-399	Photographs - Area 1.
400-499	Plans - All Areas.
500-999	Photographs - All Areas 2-5.

1000-1500	Context Records - Area 5.
1600-1699	Object Records - Area 5.
1700-2000	Photographs - Area 5.

Primary Record

393	Context records.
62	Environmental records.
179	Small finds.
570	Bulk finds.
123	Field drawings (GRE:175).
1008	Colour slides and black + white negatives.
1	Levels book.
	Site diaries.

Archive comprises:
3 x A4 ring binders with context information.
1 x A4 ring binder with environmental sample information.
2 x A4 ring binder with object records.
Photographic index (field book and photographic register).
Field drawings GRE: 175.
Archive drawings: GRH: 183.
13 boxes of material finds.
Research box file and notes.

The site archive report is filed G:\Document\Sites\Sites M-P\Penhale mr\PMARCH.SAM

Archive Report on the Excavations of Penhale Moor Middle Bronze Age site, Fraddon Cornwall 1994 Compiled by Anna Jones, Andrew Jones, J.A. Nowakowski and Carl Thorpe with a contribution from Margaret Brooks CAU 1994, Truro, Cornwall.

Notes on Geophysical Survey at Penhale Farm, Penhale, Fraddon by N Linford , English Heritage, Ancient Monuments Lab Report 1993

A30 Project: Assessment of potential for analysis of plant macrofossils from bulk samples from Penhale Moor by Vanessa Straker University of Bristol, Dept of Geography, University Road, Bristol BS8 1SS Report dated: 2.4.1997

17.2.6 Halloon Farm HF93

The site code is HF93.

The following record numbers were allocated:

1-50	Context records - Area 1
101-103	Context records -Area 2.
201-208	Context records - Area 3

300 -361 Context records - Area 4
400 Context records - Area 5
500-501 Context records - Area 6
Finds contexts checklists and register
800 - 1054 Photographic records

Primary Record
126 Context records.
98 Bulk finds.
30 Field drawings (GRE:163).
11 Inked-up plans (GHR:184)
162 Colour slides and black + white negatives.
6 Boxes of finds - pottery, stone, flint, iron, clay pipe, glass - one of each category

Box file containing:
Hardcover manuscript book - Halloon Farm Planning and Sample Registers
Hardcover manuscript book - Halloon Farm Site Dairy - Jan Grove
Hardcover manuscript book - Halloon Farm Site Dairy for finds - Liz Davis
Levels Book

Reports filed on computer are:
Stratigraphic summary of areas 1,2,3, 7 & 8 by Charles Johns in file G:\Document\Sites\Sites E-H\Halloon\HFREP1.SAM
Stratigraphic summary of areas 4, 5 & 6 by Jan Grove in file G:\Document\Sites\Sites E-H\Halloon\Haljg.SAM
Halloon Farm Finds summary by Elizabeth Davis in file G:\Document\Sites\Sites E-H\Halloon\HFFINDS.SAM

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

Archive Report on the Excavations at Halloon Farm, St. Columb Road, Cornwall 1993 Compiled by E. Davies, J. Grove, C. Johns and J.A. Nowakowski CAU 1994, Truro, Cornwall.

17.2.7 Mayfield Farm - MF93
The site code is MF93.

The following record numbers were allocated:

1-20 Context records
Finds context checklist
1-14 photographic record

Primary Record

20 context records
94 bulk finds
14 monochrome and colour photographs
1 correspondence file
5 boxes of finds - pottery, iron, clay pipes, glass and stone including flint - one box of each category

Report filed on computer is:
Mayfield Farm Finds summary by Elizabeth Davis in file
G:\Document\Sites\Sites M-P\Mayfield.Frm\MFFIND.SAM

Additional information is in:
Geophysical Survey, Mayfield Farm, Cornwall by N Linford, English Heritage Ancient Monuments Lab Report 1/1993

The archive report is which exists in draft hand-written form:
Archive Report on the Excavations at Mayfield Farm, St. Columb Road, Cornwall 1993 Compiled by E. Davies and C. Johns CAU 1994, Truro, Cornwall.

17.2.8 Deep Lane - DL93

The site code is DL93.

The following record numbers were allocated:

1-7	Context records
6050-6070	Context records
10 -15	field drawings
16-69	Photographs

Primary record
27 contexts
5 field drawings
53 photographs

Archive report electronically filed as:
G:\Document\Sites\Sites A-D\Deeplane\DPLJG.SAM

Archive Report on the Excavations at Deep Lane, Fraddon 1993 Compiled by Jan Grove and Jacky Nowakowski, CAU 1994, Truro, Cornwall.

17.2.9 Queen's Mine - QM93

The site code is QM93 and the excavations were carried out in July 1993 by a small team from the A30 project: Robin Ault, Janice Grove, Joshua Hull and Adam Sharpe.

The trenches were opened up and backfilled by hand.

The following record numbers were allocated:

1-35 Context records
101 - 105 Field drawings (GRE: 166)
1071 - 1086 Black and white and colour photographs

Primary record

36 contexts
5 field drawings (GRE:166)
15 photographs
2 soil samples
archive plans (GRH:182)
Research file and correspondence

Archive report electronically filed as:
G:\Document\Sites\Sites Q-T\Queenmn\QMJG.SAM

Archive Report on the Excavations at Queens Mine, Fraddon 1993 Compiled by Jan Grove and Adam Sharpe CAU 1994, Truro, Cornwall.

17.2.10 MINOR WATCHING BRIEF SITES

The Kelliers Streamworks

Primary record

This site was surveyed and detailed inked up plan is GRH: 188/2.
Field drawing GRE: 171/3048
1625 - 1633 (=8) Black and white and colour photographs

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E- H\Fraddon.A30\WBREP.SAM

Archive Report on the Watching Brief Sites on the A30 project Compiled by F. Davies, Anna Lawson Jones, Andy Jones, J.A. Nowakowski, A. Sharpe and J.R.Smith 1995, Truro, Cornwall.

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

17.2.11 Hedge Boundary Recording

Each hedge section was given a unique number prefixed HS. The numbers used were 1-135 inclusive.

Primary record

Field notes on individual boundaries hand written in pencil and pen are kept in a paper folder stored in a banker's box.

The locations of the recorded boundaries are shown on inked up plan GRH: 188/16

The field drawings are archived in GRE: 170

940-951; 1158-1205; 1218-1374; 1386-1411; 1422-1456; 1492-1541; 1588-1623; 1636-1671; 1802-1826; 1838-1847;1890-2040; 2054-2059 (= 386) Black and white and colour photographs

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E- H\Fraddon.A30\WBREP.SAM

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

17.2.12 Peat Trench [103] - Halloon Farm

This exposure was called trench [103]. Its location is shown on inked up plan GRH: 188/1.

Record numbers allocated:

81-103 context records
1041-1045 sample records
Field drawings GRE:171/3022, 3023, 3024.
Archive drawings GRH::188/1
1457 - 1489 Photographic numbers - Black and white and colour photographs
3 soil monoliths

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E H\Fraddon.A30\WBREP.SAM

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

17.2.13 Black Cross Sites - Oven, ditch complex and field boundaries

This area was part of the project coded WB93. Locations of all features recorded were marked on location plan GRH:188/5. All features were given unique record numbers.

Black Cross Oven [128]

The following record numbers were allocated:

108-280 context records
1046-1047 sample records
1570- 1581 photographic records

Primary record

18 contexts
2 samples
11 monochrome and colour photographs
Field drawings GRE:171/3025-3028
Archive drawings GRH:188/4,12

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E- H\Fraddon.A30\WBREP.SAM

Archive Report on the Watching Brief Sites on the A30 project Compiled by E. Davies, Anna Lawson Jones, Andy Jones, J.A. Nowakowski, A. Sharpe and J.R.Smith 1995, Truro, Cornwall.

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

Black Cross Ditch Complex

The following record numbers were allocated:

108-126; 132-136;229-243;280 context records
1 sample record
1736-1755 photographic records

Primary record

18 contexts
2 samples
19 monochrome and colour photographs
Field drawings GRE: 171/3039-3040
Archive drawings GRH:188/3,5

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E- H\Fraddon.A30\WBREP.SAM

Archive Report on the Watching Brief Sites on the A30 project Compiled by E. Davies, Anna Lawson Jones, Andy Jones, J.A. Nowakowski, A. Sharpe and J.R.Smith 1995, Truro, Cornwall.

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

17.2.14 Higher Fraddon Features

This area was part of the project coded WB93. Locations of all features recorded were marked on location plan GRH:188/6. All features were given unique record numbers.

The following record numbers were allocated:

64; 66-71; 104-105; 137-144; 176; 211-212; 244-268 context records
1040 sample record
1208- 1219, 1546 - 1561, 1756-1797 photographic records

Primary record
45 contexts
1 sample
67 monochrome and colour photographs
Field drawings GRE: 171/3012, 3013, 3014, 3015, 3029, 3047.
Archive drawings GRH:188/6, 10, 11.

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E- H\Fraddon.A30\WBREP.SAM

Archive Report on the Watching Brief Sites on the A30 project Compiled by E. Davies, Anna Lawson Jones, Andy Jones, J.A. Nowakowski, A. Sharpe and J.R.Smith 1995, Truro, Cornwall.

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

17.2.15 Pedna Carne Features

This area was part of the project coded WB93. Locations of all features recorded were marked on location plan GRH:188/7. All features were given unique record numbers.

The following record numbers were allocated:

128-131; 173-174; 207; 281; 2517-2523; 2534-2540 context records
1048 sample record
2084-2087; 1721-1739 photographic records

Primary record
22 contexts
1 sample
21 monochrome and colour photographs
Field drawings GRE: 171/3017; 3018; 3044; 3045; 3046.
Archive drawings GRH:188/7; 8; 9.

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E- H\Fraddon.A30\WBREP.SAM

Archive Report on the Watching Brief Sites on the A30 project Compiled by E. Davies, Anna Lawson Jones, Andy Jones, J.A. Nowakowski, A. Sharpe and J.R.Smith 1995, Truro, Cornwall.

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

17.2.16 Mayfield Ridge and Furrow Site - Trench [127]

This excavation was coded as trench [127] and formed part of WB93. Location of this site is marked on archive plan GRH:188/1.

The following record numbers were allocated:

127; 177-189 context records
1693-1712 photographic records

Primary record
13 contexts
19 monochrome and colour photographs
Field drawings GRE: 171/3032; 3033; 3034.
Archive drawings GRH:188/1; 13; 14.

Descriptive summary electronically filed as:
G:\Document\Sites\Sites E- H\Fraddon.A30\WBREP.SAM

Archive Report on the Watching Brief Sites on the A30 project Compiled by E. Davies, Anna Lawson Jones, Andy Jones, J.A. Nowakowski, A. Sharpe and J.R.Smith 1995, Truro, Cornwall.

Summary in *A30 Archaeological Watching Brief Programme The Fraddon-Indian Queens Road Improvement Scheme, Cornwall 1993-1994* by J. A. Nowakowski with Anna Jones and Andrew Jones A CAU report for English Heritage January 1994

17.2.17 Other supporting documents, interim statements and assessment reports

1. *Results of Archaeological Evaluation Work for the Indian Queens- Fraddon Improvement Scheme* by J Nowakowski and C. Johns A CAU report to English Heritage 1992

2. *A30 Indian Queens - Fraddon, Cornwall. An Assessment of the Palaeoenvironmental samples* by J. P Huntley Durham Environmental Archaeological Report 23/95

3. *Assessment of Geoarchaeological Work from the A30 project* by J.L. Heathcote, M.G.Canti and S.J. Mellalieu - English Heritage Report dated: 16.11.95

4. *Indian Queens/A30 sites, Cornwall 1992-1994 Assessment of the artefact conservation required for the post excavation research and publication* by Margaret Brooks, English Heritage Contract Conservator, September 1995 Wiltshire County Council - Library and Museum Service

5. *Indian Queens/A30 sites, Cornwall 1992-1994* i) Summary of investigative and remedial conservation of artefacts carried out for the field archive. ii). Assessment of the further artefact conservation required for the research and publication by Margaret Brooks, English Heritage Contract Conservator, September 1995 Wiltshire County Council - Library and Museum Service

6. *Organic Residue Analysis of Prehistoric Pottery from the A30 Project: Pilot Study* by Stephanie N. Dudd and Richard P Evershed, Organic Geochemistry Unit, School of Chemistry, Cantock's Close, Bristol BS8 1TS Report dated: 18th July 1996

7. *A30 Project: Assessment of potential for analysis of plant macrofossils from bulk samples from the Watching Brief sites* by Vanessa Straker University of Bristol, Dept of Geography, University Road, Bristol BS8 1SS Report dated: 2.4.1997

8. *Assessment of archaeobotanical material (pollen) from Little Gaverigan, Penhale Round, Cornwall* by James Greig Dept of Ancient History and Archaeology, Birmingham University, Edgbaston, Birmingham B15 2TT Report dated: 22nd March 1996

9. Lithics assessments - supporting *pro formae* and notes by Philippa Bradley on flintwork from the project

10. Assessment records and notes on prehistoric pottery, metalwork, daub, stonework by Henrietta Quinnell.

11. Supporting documentary and cartographic references for the project area.

12. Nowakowski, J.A., 1993 "Archaeology Along the Hard Shoulder - the Indian Queens Project" *Cornish Arch.* **32**, 146-152

13. Nowakowski, J.A., 1994 *Bypassing Indian Queens - Archaeological Investigations along the A30* A CAU report for EH and Dept of Transport

14. Note on work at Deep Lane, Fraddon: Halloon Farm, St. Columb; Mayfield Farm, St. Columb in *Medieval Archaeology* Vol. XXXVIII 1994 p. 198-200

15. Note on work at Queens Mine, Indian Queens; The Kelliers Streamworks, Indian Queens; Higher Fraddon Pan Kiln, Fraddon in *Post- Medieval Archaeology* 1994

16. Nowakowski, J.A., 1994 "Finally bypassing Indian Queens - the A30 project" *Cornish Archaeol.* No:33 224- 225

17. Nowakowski, J.A., 1994 "Indian Queens Bypass - the A30 project" *Cornish Archaeol.* No:33 243

18. Nowakowski, J.A. 1997 *A30 Bodmin bypass - Indian Queens Improvement Archaeological Evaluation and Assessment of bypass corridor* A CAU Report for The Design Consultancy, Truro

17.3 Conservation

Conservation of artefacts recovered during the A30 project were carried out during fieldwork and archive stages of the project and this work has been summarised in various sections listed above. Specific conservation recommendations have been listed in assessment sections and are summarised in section 18.5.1.5.

17.3.1 **Preventive Storage Implications** by Margaret Brooks and David Starley

Iron: Objects from all sites were considerably eroded because of the acid soil conditions. post-medieval iron, which formed the bulk of the material from sites other than Penhale Round, seemed to have more metal remaining. Objects from Penhale Round which may date to the Romano-British or medieval periods are extensively mineralised, often hollow and with powdery masses or large blisters obscuring the surface. Some items are crumbled. all are potentially likely to continue corroding in poor storage. there is at present no satisfactory method of sustaining archaeological iron.

Iron Slag by David Starley
Iron working, being predominantly fayalitic, is not prone to deterioration and requires no special storage treatment. All slag should be saved. The iron objects should be appropriately repacked.

Long term storage: the current practice is to store iron objects in airtight polythene containers with a desiccant such as silica gel. This method requires regular monitoring to maintain a Relative Humidity of less than 20%.

Copper alloy: the bell (from Penhale Round) and the two Bronze Age spearheads were in a cracked condition with very powdery surfaces. The awl (from Highgate Ritual Enclosure) retained fine surface detail, but it is in an unusual mineralised state with a tin-rich surface and only a residual proportion of the original copper and lead (as defined by the XRF analysis). This may have resulted from "tin-sweat" or possibly from subjection to heat. the Romano-British coin (from Penhale Round) by contrast has a fine patinated surface. The bell and the coin have been chemically stabilised and the other objects impregnated with an acrylic compound containing the same corrosion-inhibiting chemical. In normal storage these objects should not corrode further.
Long term storage: this should be in museum conditions of 45% - 55% Relative Humidity Future deterioration is most likely to be caused by physical handling.

Silver: The medieval penny from Penhale Round is not considered likely to deteriorate.
Long term storage: As for copper alloy.

Amber: The bead is quite solid and seems stable but should be handled carefully.
Long term storage: As for copper alloy, in an unfluctuating environment.

Pottery: Much of the pottery is fragile and requires adequate packing for storage. Note: sherds of vessels and other fired clay items which may have food, metal or other residues incorporated in their fabric (visibly or invisibly) should not be fully cleaned until selection for analysis has taken place.

- Meeting at Royal Cornwall Museum to discuss packing of material and paper archive for long term storage with Henrietta Quinnell, Margaret Brooks, Carl Thorpe, Anna Tyacke and Jacky Nowakowski (Task 32).

17.4 Ownership of finds and Long term curation

It is understood that the entire archive belongs to the Highways Agency who owned the bypass corridor. Clarification as to the ownership of finds discovered prior to the ownership of the land within the road corridor will take place during analysis and arrangements for the deposition of the archive into an agreed and suitable archive store will be finalised.

The entire archive for this project is currently stored at the offices of CAU in Truro where it will remain until analysis has been completed. The final place for the deposition of the entire project archive will be the Royal Cornwall Museum, River Street, Truro, Cornwall TR1 2SJ.

17.5 Further work required for the deposition of the archive into a museum store

The contents of the project archive listed in sections 17.1 and 17.2 represent as comprehensive and overview as practicable during this phase of the project. Clearly the archive will expand during analysis and provision must be made for time to organise the final project archive. It is recommended that the following tasks be carried out towards the final stages of the analysis phase. Only an estimated cost for this process can be produced at this stage and this will be revised towards the end of the analysis stage.

- A complete inventory of the entire project archive to be produced (Task 82).
- Security copies of paperwork, plans on drafting film and other paper records to be made on microfilm (task 82).
- All photographic records to be stored in approved archive storage files.
- All paperwork and artwork on drafting film to be stored in appropriate archive (acid free) boxes and folders and follow curation practice as guided by the Royal Cornwall Museum (Task 82).

- Seek advice and identify costs for the copying of paperwork on other forms of electronic archive storage systems such as Optical Discs and/or CD rom (Task 82).

WB93: Higher Fraddon Down.

Section showing prospecting pits and probable agriculture related features.

Drawn by Anna Jones.

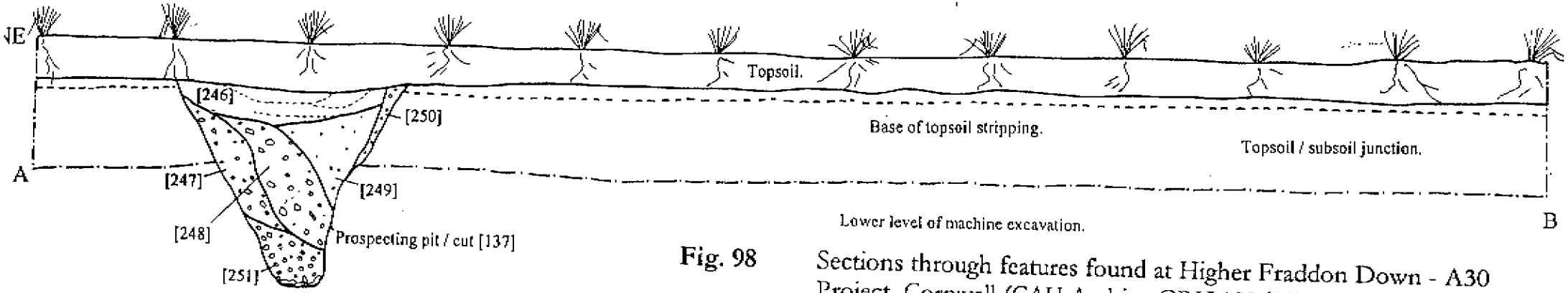
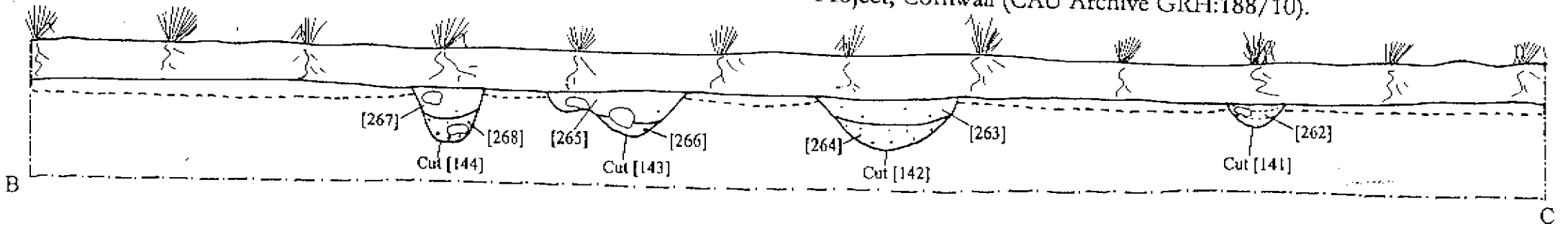
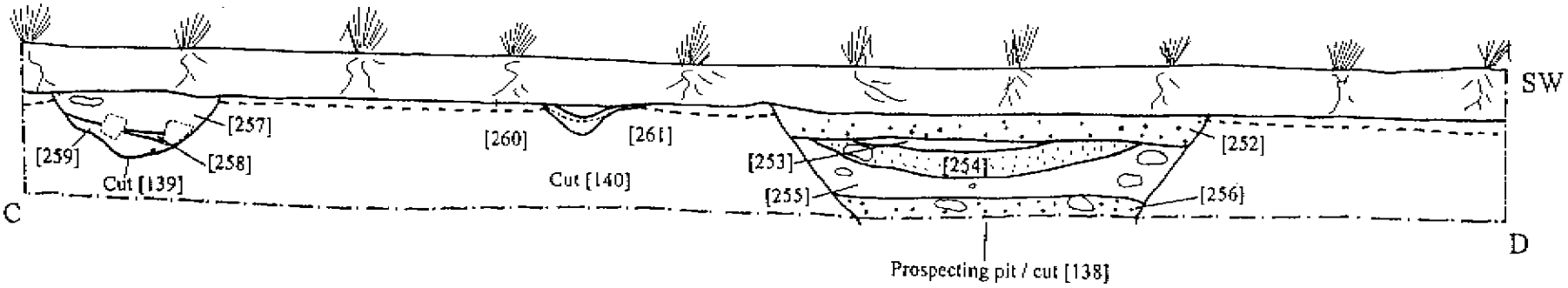


Fig. 98 Sections through features found at Higher Fraddon Down - A30 Project, Cornwall (CAU Archive GRH:188/10).





Excavated portion of prospecting pit [137].