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Survey and excavation at Kilearnan Hill, Sutherland, 1982–3

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based on unpublished reports by H James, R McCullagh, A Radley & J Triscott; and with extracts from specialists' reports by J Barber (1982 survey), J F Birnie (pollen), T Cowie (pottery), D Lehane-Magee (chipped stone) & R Sheil (geology/soils)

ABSTRACT

Forestry ploughing prompted survey and excavation work on a hillside in the Strath of Kildonan, in Sutherland. Several monuments were investigated, including hut circles, cairns and burnt mounds. A range of radiocarbon dates and environmental evidence was obtained. The pottery recovered, although small in quantity, falls into two distinct groups in terms of the temper used. The project was organized and funded by Historic Scotland's predecessor department (Historic Buildings & Monuments).

INTRODUCTION

The work described here was occasioned by forestry development undertaken before the present arrangements to protect important archaeological sites in state-assisted forestry were implemented in 1988 (Barclay 1992).

LOCATION

Kilearnan Hill lies on the south side of the River Helmsdale, c 10 km inland along the Strath of Kildonan from the town of Helmsdale, in Sutherland. The focus for the survey and excavation lay to the east of Kilearnan Hill itself, on a peat-covered north-facing slope between the Gylable Burn and the westernmost tributary of the Oulmsdale Burn (illus 1). To the south the land rises quite steeply to a summit at c 400 m OD, while northwards it drops towards the floodplain of the River Helmsdale.

The present vegetation is dominated by heaths, but with grasses co-dominant in some parts of the site and shrubs of bog myrtle growing in the poorly drained area towards the Oulmsdale Burn.

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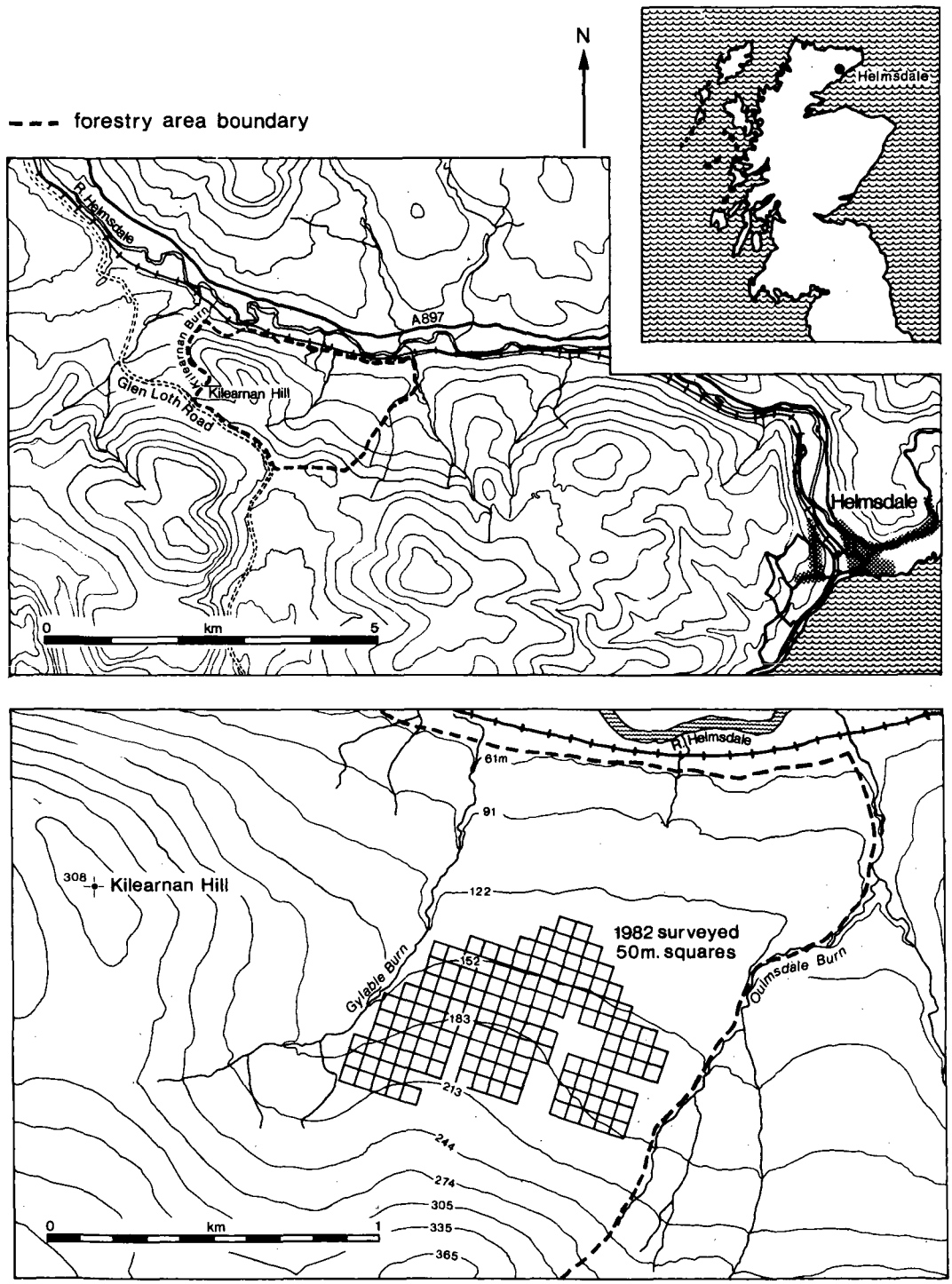


ILLUS 1 Location plan. (*Based on the Ordnance Survey © Crown copyright*)

GEOLOGY

The geology of the area is complex. Fieldwork by Robert Shiel revealed an apparent discrepancy between the solid geology present in the area of the site and that indicated for the same area by the Geological Survey (1 in. to the mile, sheet 109) on which granulitic rocks are shown. Shiel examined sections exposed by both burns. At the north end of the Oulmsdale Burn was an exposure of deeply weathered granitic rock permeating a coarse-textured sedimentary rock, probably sandstone, which was topped by 3 m of boulder-rich till. At the north end of the Gylable Burn was steeply bedded sedimentary rock resembling sandstone, with further south a change to granitic rocks. Subsequent thin-section analysis of the sandstone-like rock from the site confirmed it as arkosic sandstone containing, in addition to quartz, substantial amounts of feldspar and small amounts of biotite. The rock had been heavily metamorphosed, but was not altered enough to be referred to as gneiss. Shiel's work shows that the site is on altered sandstones rather than granite. During at least one glacial episode, ice had moved from west to east along the line of the River Helmsdale and led to the deposition of drift containing large numbers of erratic boulders in a coarse-textured matrix. In the final stages of glaciation, large amounts of sand and gravels were deposited.

PREVIOUS ARCHAEOLOGICAL WORK

The Royal Commission's *Inventory* of Sutherland (RCAHMS 1911, 106, no 311) recorded the presence of a ruinous broch to the east side of the Gylable Burn c 400 m above its junction with the River Helmsdale.

The Ordnance Survey, during resurveying work in 1976, recorded nine hut circles between the two burns (some said to be associated with field systems), two burnt mounds and a group of cairns, in addition to the broch. These were all located between the 200 ft and 700 ft contours (61 m & 213 m) (illus 2).

SURVEY AND EXCAVATION IN 1982

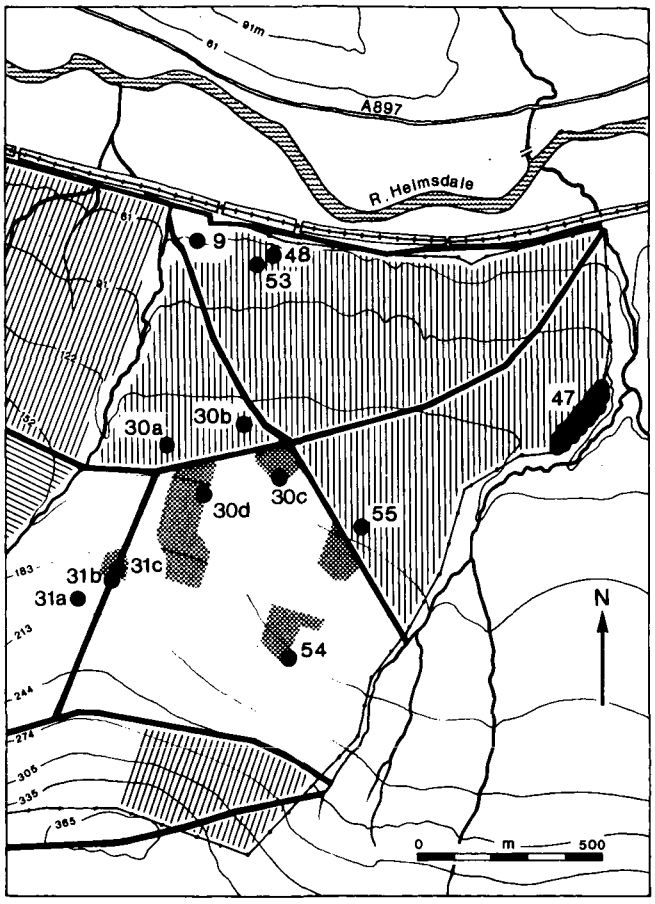
The Forestry Commission acquired a plot of land on the south side of the Strath of Kildonan lying between Kilearnan Burn on the west, Oulmsdale Burn on the east, the Glen Loth road to the south and the railway line to the north (illus 1). By the autumn of 1982, all of the west half of the area (ie Kilearnan Hill itself) and the north part between the Gylable and Oulmsdale Burns had been ploughed. Ploughing of the latter area damaged to varying extents most of the previously recorded monuments on that part of the hill, apart from the broch (illus 2). On realizing that this had occurred, the Forestry Commission requested the assistance of Historic Scotland's predecessor department (Historic Buildings & Monuments) before further ploughing took place.

In late November 1982, a small team led by John Barber (of the former Central Excavation Unit) embarked on a programme of survey and sample excavations on the area left unploughed. One purpose of the survey was to record all recognizable monuments, and from this database to recommend areas for preservation from ploughing. Simple field-walking showed that the sites were concentrated in the unploughed central area between the Gylable and Oulmsdale Burns. This was gridded in 100 m squares and the survey was carried out on 50 m squares extrapolated from the grid (illus 1). The 100 m grid was marked out with bamboo rods and labelled with waterproof plastic tags. The original field survey sheets were drawn up and a simplified version of

forestry fence
forestry ride
area ploughed 1982
proposed conservation area

Ordnance survey previously recorded sites:–

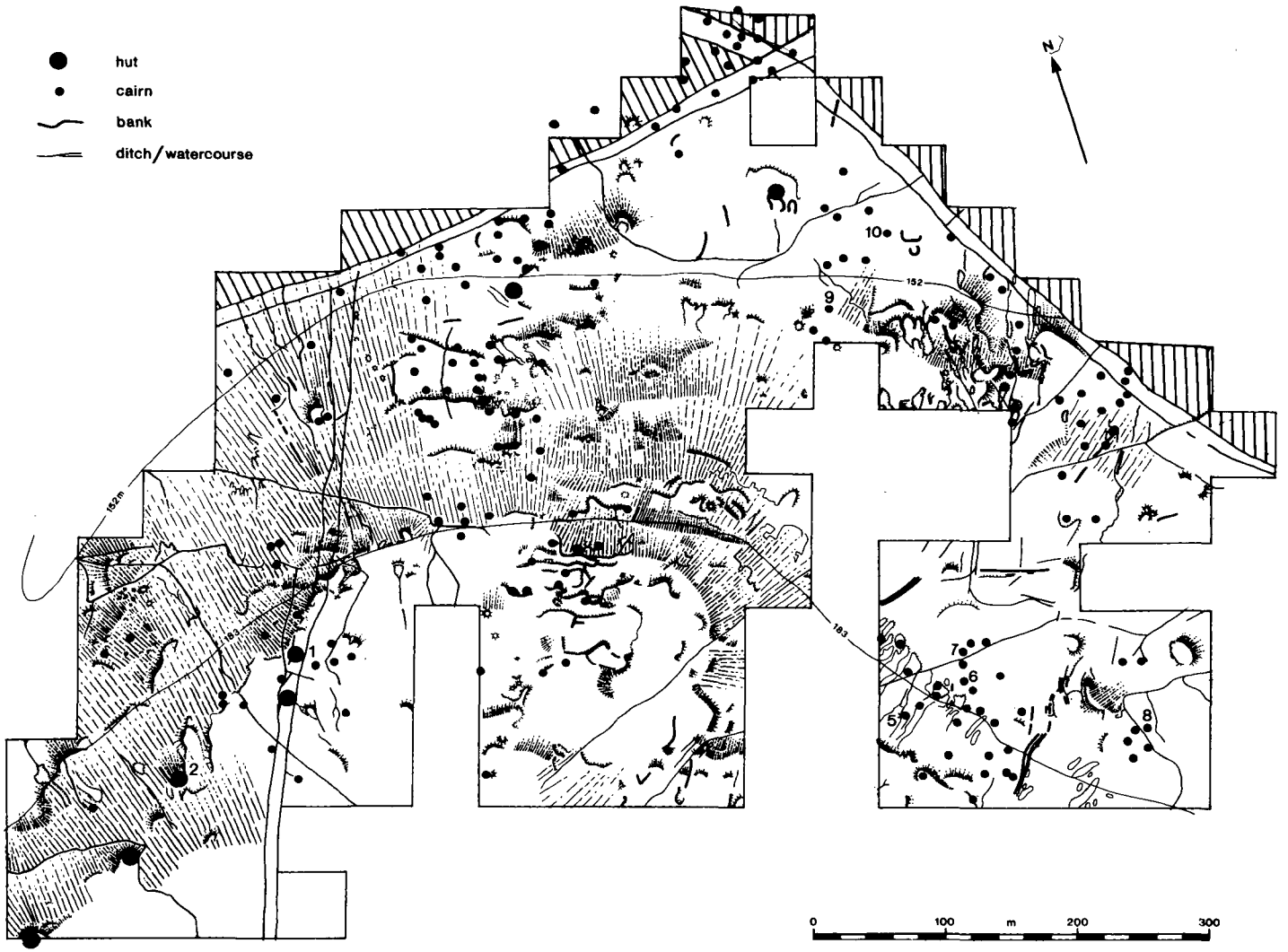
9 broch
30a hut circle
30b *(site 3)* hut circle
30c hut circle
30d hut circle
31a *(site 2)* hut circle
31b hut circle
31c *(site 1)* hut circle
47 cairns
48 *(site 16)* burnt mound
53 *(site 4)* hut circle
54 hut circle
55 *(site 15)* burnt mound



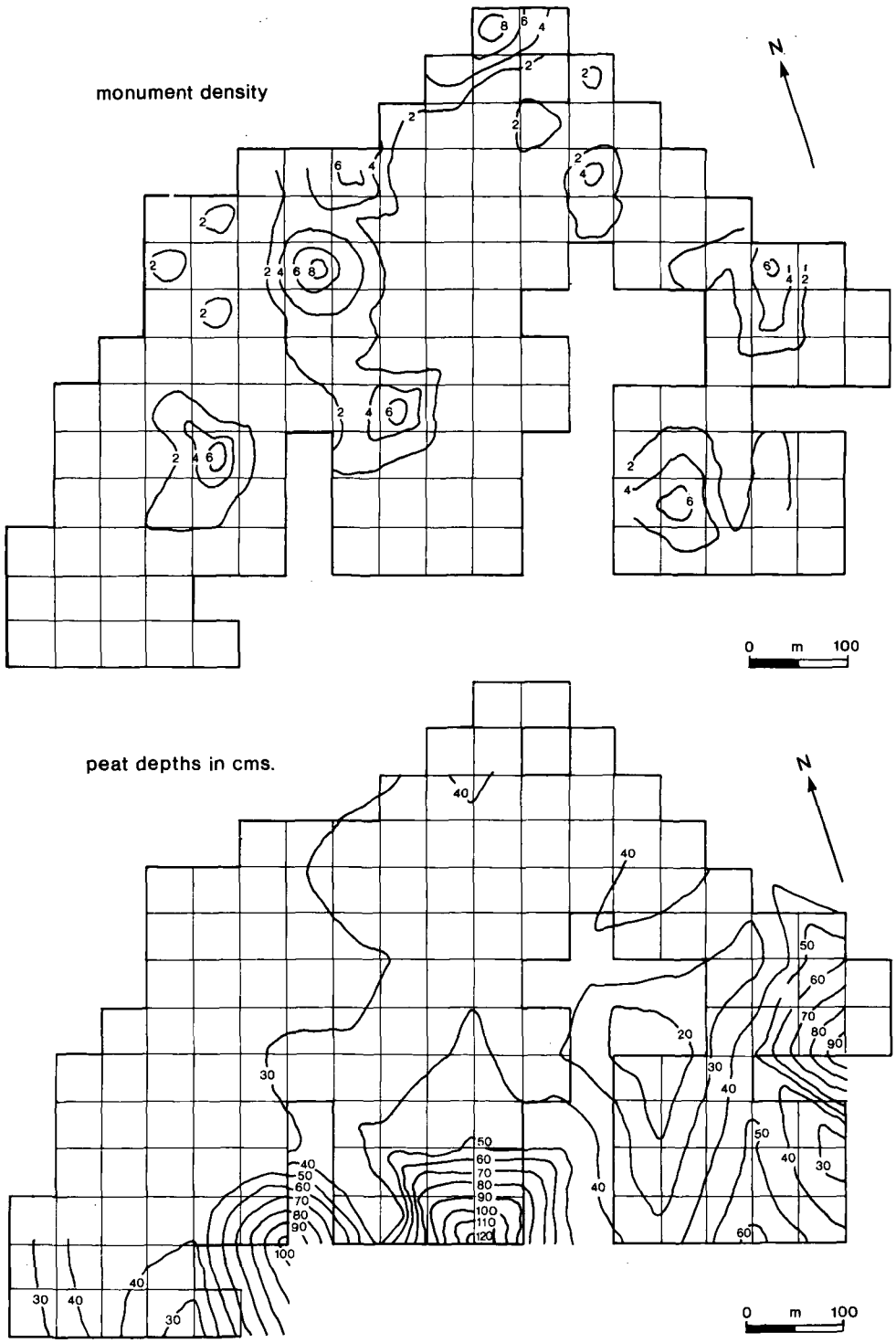
ILLUS 2 Sites known prior to the 1982 survey

the information contained on them was produced, illustrating the positions of the monuments within the landscape (illus 3). Of the 140 surveyed squares, a total of 183 monuments was contained within 68 squares, a mean of 2.7 sites per square with a range of 1 to 8. Expressed in terms of the total area surveyed, the density of sites is in excess of 500 per sq km.

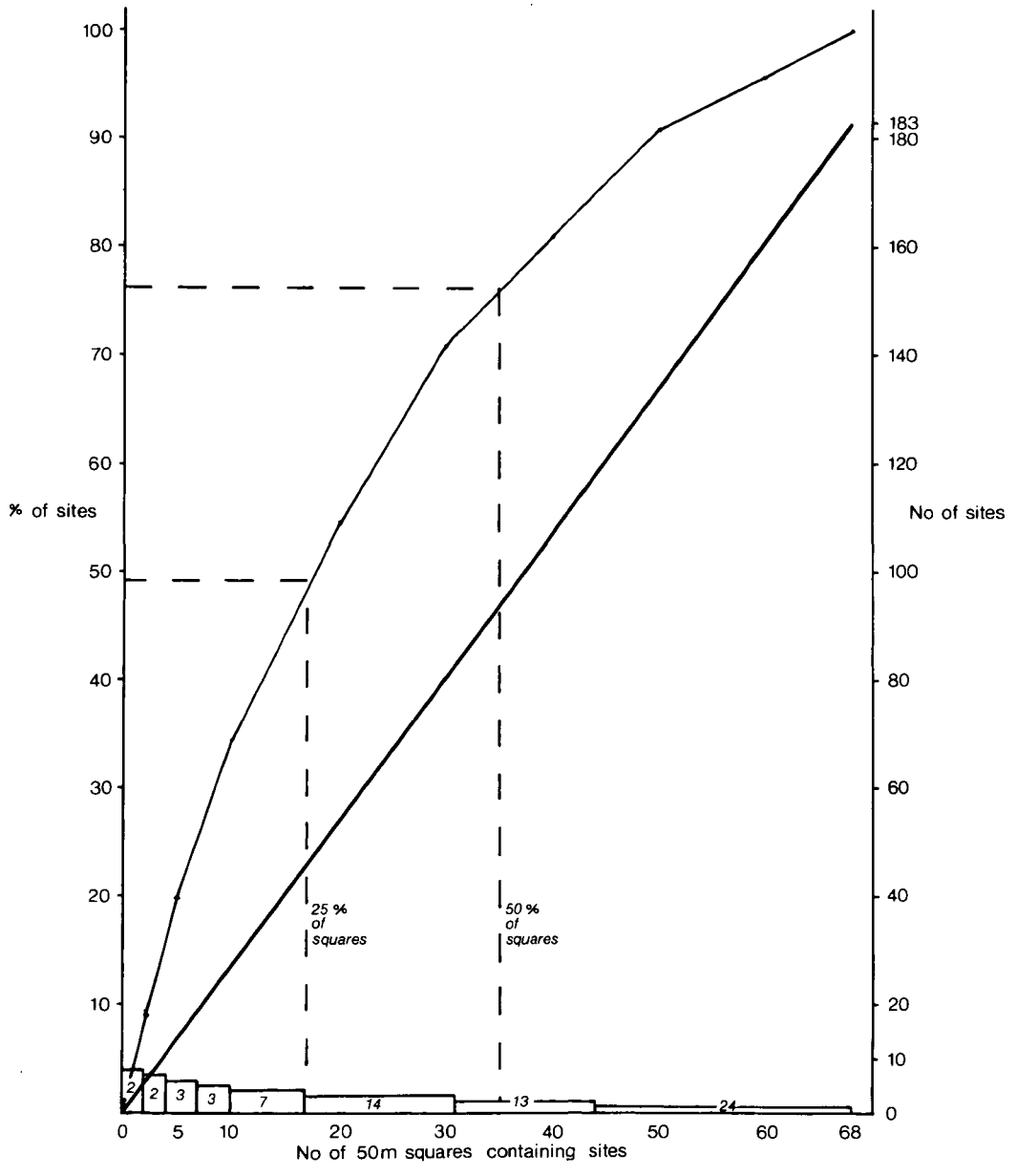
The numbers of sites per 50 m square is represented on the monument density diagram (illus 4) which renders these values as contours at intervals of two sites per 50 m square. The depth of the peat over the survey area was also recorded and contoured (illus 4). Areas of deep peat can be seen to correspond with areas of low monument density and may, therefore, overlie or mask archaeological features. This would explain some of the apparent gaps in the survey record, especially at the southern edge of the surveyed area. Only in those areas where the peat is exceptionally deep (in excess of 1.25 m) could the Forestry Commission ploughing proceed with no immediate threat to the probable underlying monuments. Taken individually, none of the sites surveyed would merit preservation. It was the landscape as a whole, or at least large units of it, which was considered to be of importance. On these grounds, it might have been argued that all of the surveyed area should have been preserved; however, some of the peripheral squares were devoid of sites and the area as a whole was larger than would normally be preserved in forestry



ILLUS 3 Monuments recorded by the 1982 survey



ILLUS 4 Peat depth and monument density recorded by the 1982 survey



ILLUS 5 Monument density plotted against 50 m survey squares indicates the permutations in the selection of areas for preservation

areas at that time. The preservation of blocks of land containing monuments seemed to provide a compromise solution. Theoretically, 50% of the squares could have been retained with the loss of only 25% of the sites; or retention of only 25% of the squares would have lost approximately half of the sites (illus 5). In practice, it was not quite this simple, since retention of only scattered squares containing large numbers of sites would have made the afforestation of the area unreasonably difficult. The areas which were to be preserved are identified in illus 2.

Brief forays into the ploughed area to the north of the grid showed that many more monuments were present, and had been affected by the ploughing, than were indicated by the Ordnance Survey record, as large numbers of small cairns and stretches of field walls were revealed in the sections afforded by the plough furrows.

EXCAVATIONS IN 1983

The likely sale of the whole Kilearnan plot of land and the consequent possibility of losing the protected areas prompted a five-week excavation in late July and August 1983. Due to the number of monuments involved and the time allocated to the project, this was treated as an extension of the sampling exercise begun in 1982. It was intended, with minimal excavation, to retrieve as much information as possible about the sites on the hillside in terms of form, dating or date range, and the environment current during their use. Where possible, it was decided to investigate both ploughed and unploughed versions of the same type of monument, comparing the results to assess whether future excavations of already ploughed sites should be considered. The excavation strategy was devised by John Barber but due to ill health he was unable to undertake the project himself. The sites excavated or surveyed during the 1983 season are shown in illus 6.

MAIN PEAT PROFILE

POLLEN ANALYSIS

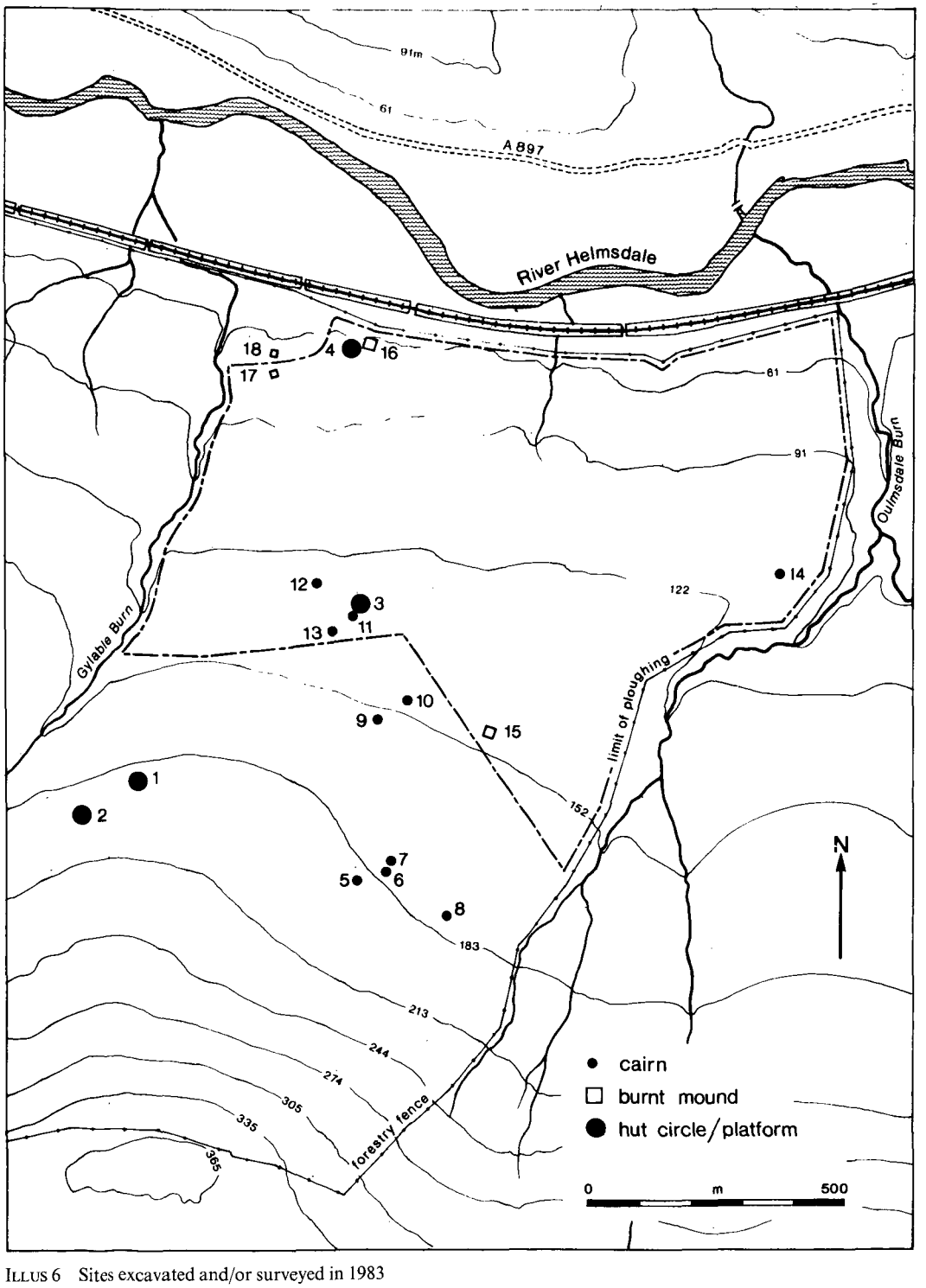
At the end of the 1982 survey the peat was sampled at the deepest point towards the east of the area close to the Oulmsdale Burn. A sample column was taken using monolith tins on a cleaned section, 1.15 m deep, overlying grey gritty clay. It was analysed after the 1983 excavation with the aim of providing a background record of changes in the vegetation and environment within the vicinity of the site. The following is a summary of the results.

Zone 1 Initially, the pollen diagram records an open woodland with a grass-dominated ground vegetation and with some disturbance and probably cultivation nearby. This corresponds with mineral inwash to the site, so both the pollen and the sediments indicate some exposed soils within a lightly wooded landscape.

Zone 2 Disturbance then declined and ground vegetation cover became complete, with peat or peaty podzol formation and some transport and deposition of this organic material to the site, as woodland and particularly alder increased.

Zone 3 A period of undisturbed birch and alder woodland followed, with completely stable soils, but probably increasing waterlogging at the site and rapid *in situ* accumulation of peat within the woodland. The decline in birch and alder was gradual, with grasses, sedges and Sphagnum suggesting a wet and increasingly open environment, although without soil disturbance or erosion. Such a change could be a natural consequence of increased peat depth and impeded drainage restricting tree growth, or may have resulted from increased grazing pressure.

Zone 4 The final disappearance of the trees coincides with a major change to heath-dominated vegetation, and also with the appearance of charcoal, so this would appear to be a result of burning. Since that time the heath has changed to the grass-heath of the present, possibly in relation to improved drainage.



ILLUS 6 Sites excavated and/or surveyed in 1983

RADIOCARBON-DATED PEAT

A sample from the first predominantly organic layer of the main peat column gave a radiocarbon date of 1550–850 cal BC (GU-1792). The change between Zone 1 and Zone 2 was dated to 1130–820 cal BC (GU-1791), and that between Zones 3 and 4 to cal AD 1260–1420 (GU-1790). The environmental record of the peat profile, therefore, only extends over the last 3000 years. Prior to the onset of organic accumulation at the site there is little available evidence of the earlier environment and vegetation.

Charcoal within the basal clay was identified as pine. Although this sample was very small and there is no accompanying pollen spectrum, the fact that pine was the predominant tree type further inland up the Helmsdale valley at Upper Suisgill before 3000 BP suggests that there may have been some pine woodland on the hills above the Kilearnan site. Clearance of this by burning may have been complete whereas it was partial and temporary at Upper Suisgill (Barclay 1985).

All radiocarbon dates from the project are set out in Table 1. These were calibrated by Patrick Ashmore using the dataset INTCAL98 (Stuiver *et al* 1998) and Oxcal 2.18 (Bronk Ramsey 1995).

HUT CIRCLES

Of the hut circles on the hillside four were investigated: two of these, Huts 1 and 2, remained unploughed (illus 6). Hut 2, which was outside the proposed preservation areas, appeared on the ground as a fairly classic hut circle; while Hut 1, which was contained within a protected area but had already been damaged by the marking out of a forestry ride, seemed more like a hut platform (illus 7).

HUT 1 (NGR: NC 9470 1735)

This hut was recorded by the Ordnance Survey in 1976 (illus 2, no 31c), when it was said to be set into a gentle slope and measure 10 m by 9 m internally, with its walls spread to 2 m broad. Some outer revetting stones were present and its entrance was in the east. Before excavation in 1983, the hut appeared as an oval platform with a dished interior and a small bank on the north side where a few large stones protruded through the heather and grass vegetation. The supposed entrance showed clearly as a break in its eastern side. The dimensions were generally as stated above. The ditch marking one side of a forestry ride had cut across the bank and platform on the west side (illus 7). The ditch was up to 0.3 m deep.

The undisturbed east half of the site was chosen for excavation (illus 8). The hut was found to have a thin covering of peat, generally less than 0.1 m. The wall varied from 1 m to 1.4 m in thickness and consisted in the main of an outer façade, comprising a line of closely spaced angular stones, within which were smaller angular stones. There was no continuous inner façade. Nowhere did the wall exceed 0.8 m in height, the south wall being especially insubstantial. The north wall façade was in places three courses high, formed of large angular blocks up to 0.85 m long. It acted as a revetment to earthen bank material which was topped by other stones.

To the south and east of the hut, the outer façade stones were set into a surface (F108) of closely spaced angular stones up to 0.15 m in length, which continued to the edges of the trench. This layer contained more stone than would be expected in natural soil and the same feature or something very similar was present in a soil test-pit which was dug 5 m south of excavated area. The fact that the southern portion of the wall line had similar stones within the façade, forming a core to the wall, made it seem more likely that this was a prepared surface. Other patches of small angular stones lay beneath the larger wall stones

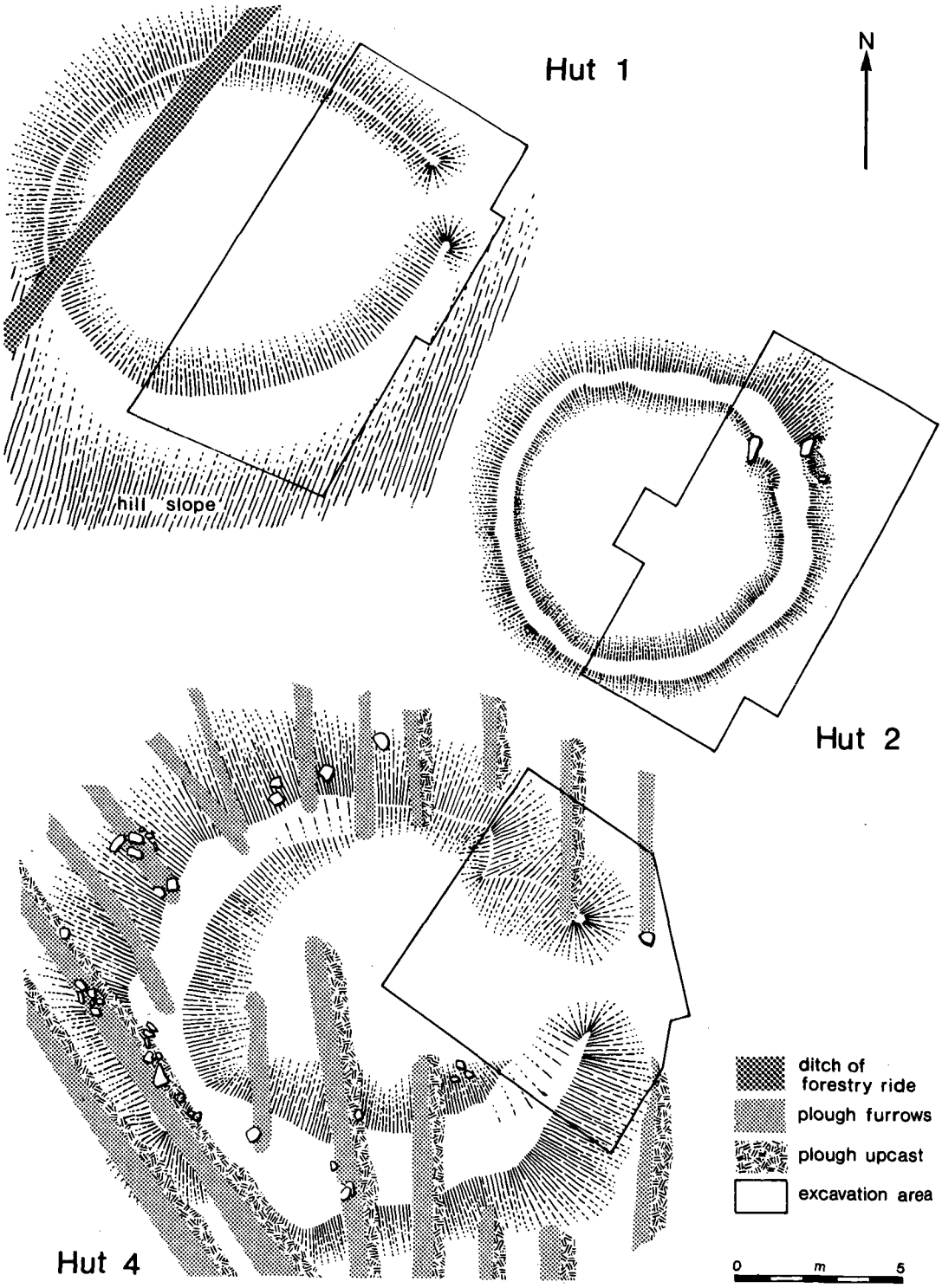
TABLE 1
Radiocarbon dates

Context	Lab code	Yrs BP	Calibrated dates one sigma	two sigma
Main peat column				
Basal peat	GU-1792	2990 ± 135	1400–1020 BC	1550–850 BC
Zone 1/Zone 2 interface	GU-1791	2810 ± 60	1050–840 BC	1130–820 BC
Zone 3/Zone 4 interface	GU-1790	655 ± 65	AD 1280–1400	AD 1260–1420
Hut 1				
Charcoal-rich floor deposit (F151)	GU-1920	230 ± 55	AD 1530–1950	AD 1490–1950
Hut 2				
Charcoal-rich soil spread around hearth area (F223)	GU-1919	2935 ± 65	1260–1020 BC	1380–930 BC
Hut 3				
Charcoal in interior soil layer (F405), post-dating abandonment of the hut?	GU-1917	2645 ± 100	970–550 BC	1050–400 BC
Hut 4				
Charcoal from sediment (F539) in the interior: an occupation layer?	GU-1918	1640 ± 85	AD 260–540	AD 220–620
Cairn 12				
Charcoal-rich soil layer (F416) within the cairn	GU-1916	3380 ± 105	1860–1520 BC	1950–1400 BC
Site 15: burnt mound				
Charcoal from a deposit (Phase 2) within the central pit	GU-1914	2815 ± 60	1050–860 BC	1150–830 BC
Charcoal from dumped (Phase 2) mound material	GU-1921	2820 ± 85	1110–830 BC	1260–810 BC
Charcoal from basal fill of the central (Phase 3) pit	GU-1912	2660 ± 95	980–590 BC	1050–400 BC
Charcoal from dumped (Phase 3) mound material	GU-1913	2750 ± 80	1000–820 BC	1130–790 BC
Hearth deposit (Phase 4) overlying the abandoned mound	GU-1915	510 ± 60	AD 1320–1450	AD 1300–1490

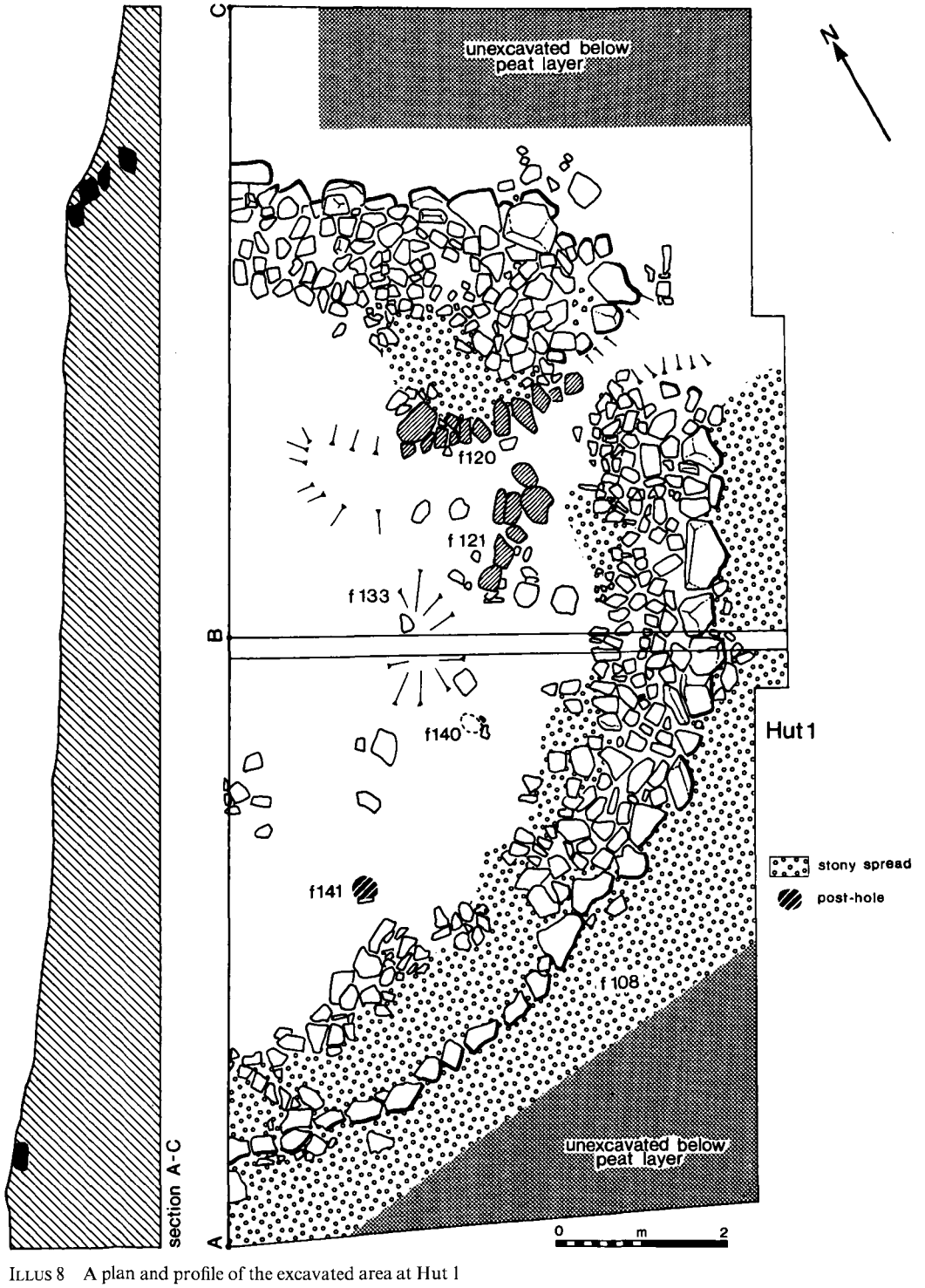
and were occasionally present within the interior. These generally formed less even surfaces than those externally, but may have been laid at the same time. North of the entrance a stony layer was also present, but here the stones tended to be larger and less densely packed.

The entrance was 0.6 m wide at its narrowest point. It was marked by a large stone on its north side at the end of the façade. To the south side the wall edge was not clear. The terminals were not noticeably swollen or expanded. A linear group of 13 angular stones (F120) extended into the interior of the hut. This line was 2.3 m long and seemed to form an internal division within the hut; the stones varied in size from 0.15 m to 0.55 m. Similarly a line of five stones (F121), 1.6 m long, led into the hut from the entrance area.

The interior produced only one convincing post-hole (F141), 0.23 m wide, 0.13 m deep and lined with small stones. A further possible post-hole (F140) proved unconvincing on excavation, being 0.20 m wide and 0.03 m deep, with no packing stones. This feature, however, would have occupied a position within the most likely post-ring circuit, assuming that the hut was roofed.



ILLUS 7 Huts 1, 2 & 4 pre-excavation, showing the extent of ploughing and areas to be excavated



ILLUS 8 A plan and profile of the excavated area at Hut 1

Several thin layers and lenses of organically rich silt and charcoal were located within a depression in the hut floor (F133) and had also built up against the north wall. These layers were up to 0.18 m deep and formed an almost level surface. They yielded chipped stone and pottery in addition to charcoal, and may have been the product of erosion and deposition within the hut subsequent to abandonment. Erosion had also affected the peat which eventually developed over the site, as mineral bands were included within its thickness.

Interpretation, finds and date

The lack of a hearth and convincing evidence for roofing in the excavated portion of this hut makes its interpretation as a domestic structure somewhat tenuous. The date is also problematic. Hut 1 was built on an area with coarse-textured parent material in which a podzol had developed. The coarse texture and lack of an iron pan ensured that the site was particularly dry, preventing the development of a deep peat from which pollen analysis — and hence an approximate terminal date for use of the hut (when compared with the long column) — might otherwise have been available. Samples of the charcoal-rich wash layers from the hut interior were examined for pollen but their content appeared to be fairly recent in origin. A date was obtained from the most charcoal-rich floor deposit (F151) of 1490–1950 cal BC (GU-1920), confirming the probable non-contemporaneity of these layers with the occupation of the site. The finds, however, comprising 30 pieces of flint, chert, quartz and jasper, and 22 pottery sherds which had fine quartz and/or mica inclusions in addition to organic temper, do lend weight to its interpretation as a prehistoric domestic structure. The stone finds included waste flakes and chips but there were also core rejuvenation flakes, used flakes and recognizable tool types present, including borers and scrapers (illus 19).

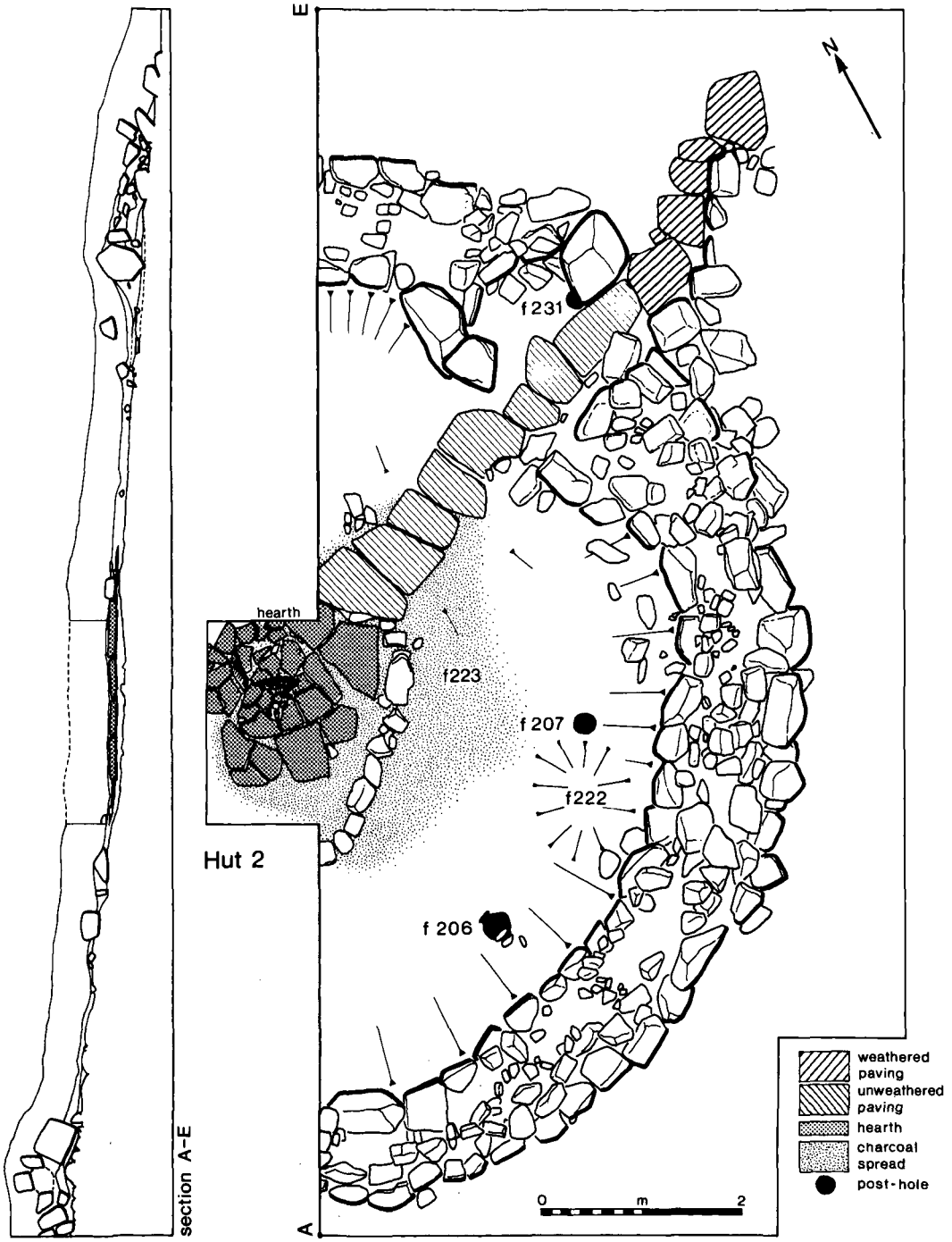
HUT 2 (NGR: NC 9460 1727)

This site was recorded by the Ordnance Survey in 1976 as one of a settlement of three hut circles on a shelf on the hillside (illus 2, no 31a). It was said to have an internal diameter of 7 m with its wall spread to 2 m broad all round, and its entrance in the south-east arc. Before excavation in 1983, despite a thick covering of heather, the site appeared to be dished internally. Large granite blocks coincided with a slight depression in the circuit of the bank indicating the presence of an entrance in the north-east quadrant rather than in the south-east as stated above (illus 7).

As with Hut 1, a trench was laid out over the east side of the site including the presumed entrance. The site was quite wet at the time of excavation and peat cover was up to 0.4 m deep. Its removal revealed that the stonework forming the hut was fairly undispersed (illus 9). Only on the north or downslope side had much damage occurred and this was restricted to a spillage of angular blocks to the inside and outside of the structure and within the entrance passage.

The internal diameter proved to be c 8 m. The wall comprised a core of closely set stones and soil, in the main contained by an internal and external façade of upright, tightly spaced blocks with a loose rubble infill. In the exposed circuit the wall faces were generally only one course high. Given the limited amount of spillage, it seemed unlikely that the masonry had stood much higher than the 0.8 m to which it survived.

At the entrance, which was 0.6 m wide by 2 m deep, the wall width increased, on the north side by as much as a metre. Two large boulders marked the terminal of the wall façades on the north side of the entrance, and between these two stones was a concave wall of upright stones creating a small cell off the entrance passage. A post-hole (F231), 0.3 m wide by 0.2 m deep, was located at the base of the terminal stone of the outer façade. This feature may have held a doorpost. A line of flagstones passed through the entrance in either direction. Those to the outside were noticeably weathered, having powdery softened upper surfaces and rounded edges, while those internally, although worn, showed no sign of decay. The external



ILLUS 9 A plan and section of the excavated area at Hut 2

flags were bounded on their south side by a single line of upright blocks extending from the south terminal of the hut wall.

Inside the hut, the flags extended towards the centre where a possible hearth was composed of similar flags; these showed no discoloration but much cracking and pitting. Several fragments were set vertically and the whole hearth area lay beneath the level of the final slab of the pavement. The hearth was apparently bounded by a kerb of rounded stones (these were exposed only on the south side), although a heavily charcoal-flecked soil (F223) extended beyond this.

Two possible post-holes were recorded, both indicated by areas of darker soil. One (F206) was 0.3 m wide by 0.2 m deep, with packing stones in the fill; the second (F207) was 0.25 m wide by 0.18 m deep. Other possible post-holes also showed up as darker patches of soil and appeared to form an arc approximately concentric with the wall at a distance of 0.5 m from the inner façade. On investigation, however, these proved to be only a few centimetres deep with ill-defined edges and were not accepted as post-holes. Another internal cut feature was an oval pit (F222), 1.5 m long by 0.6 m wide and 0.3 m deep, filled with a very compacted layer of rotting sandstone pebbles beneath which was a very greasy, gleyed loam.

Overlying these features, most of the hut interior — beneath the peat — was covered with a grey, sandy silt (F203). Six of the flagstones protruded through this layer and a dense, fibrous root mat lay between the basal peat and these slabs, but within the entrance and at the hearth the surfaces of the slabs were concealed by the sandy silt. This layer was probably a soil that formed from inwashed material and existing floor deposits after abandonment of the hut. Previous to the formation of this layer, lensed deposits had filled a hollow directly inside the north wall of the hut. Dark stripes within these layers were probably due to humic soil having washed in to fill cracks in the dried surface of an area susceptible to ponding. The only finds from the site were recovered from these 'derived', post-abandonment deposits.

Interpretation, pollen analysis, finds and date

When compared with Hut 1, this structure appears to be more probably a domestic structure, although in this case the finds comprise only a few chips of flint, quartz and jasper, and two serrated flakes, and do not aid this interpretation. As with Hut 1, the physical evidence for roof-support posts is slight, although here the differential weathering of the paving implies that the flagstones in the interior were protected from the elements by a roof.

Hut 2 is constructed on what is now a very wet site. The soil is a well-developed peaty podzol and the impervious iron pan, coupled with the thick (0.3–0.4 m) peat layer maintains this wetness. Since the iron pan seems to run below rather than be cut by the archaeological features in the hut, it almost certainly post-dates its construction. Before development of the iron pan, the soil would have been freely drained and the site much drier.

A block sample including peat, occupation surface and underlying sediment was taken from the baulk, in the vicinity of the hearth, for pollen analysis. Immediately beneath the flagstone level was pollen of birch, hazel and alder woodland, with a little heather, grass and some ferns. There was no sign of burning in the form of charcoal, or any herbs indicating broken ground. Thus the hut was probably built in a wooded environment. The samples adjacent to the flagstone level, contemporary with its occupation, show a slight reduction in birch and hazel and an increase in grass and sedges, with only a slight increase in heaths. Herbs of disturbed habitats appear and bracken increases as ferns decline. Samples overlying the flagstones indicate a steady but major decline in woodland and replacement by heath, culminating in the growth of blanket peat.

The deposits at flagstone level had relatively low alder values, combined with fairly high grassland representation, which suggested a correlation with the findings at the base of the long peat column (bracketed by radiocarbon date ranges of 1550–850 cal BC and 1130–820 cal BC).This proposed dating for the use of the hut was tested by obtaining a radiocarbon date on

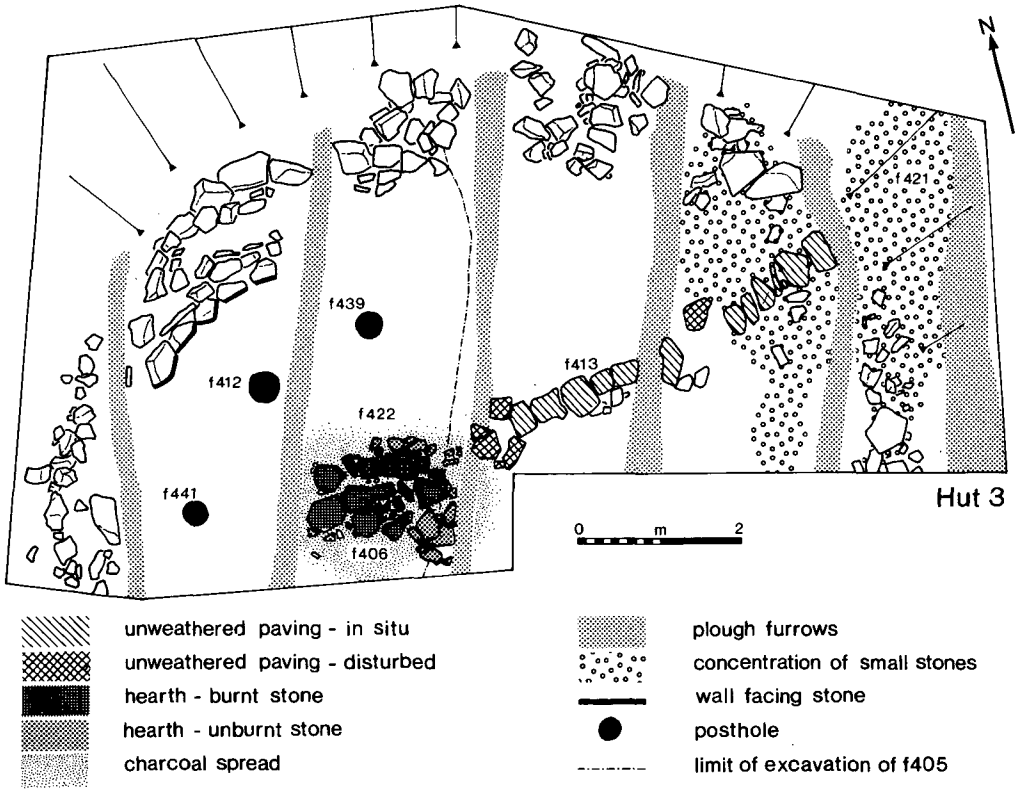
charcoal from the spread around the hearth area (F223). The result of 1380–930 cal BC (GU-1919) was very satisfactory and places the hut in the mid to later Bronze Age.

HUT 3 (NGR: NC 9502 1775)

This monument was recorded by the Ordnance Survey in 1976 as one of a group of four poorly preserved hut circles within a field system on a broad shelf of the hillside (illus 2, no 30b). A possible entrance was observed in the south-east arc. After ploughing, this monument had become totally unrecognizable on the ground and thus could not be compared in plan with the other examples shown in illus 7.

The north half of the hut was stripped of peat, up to 0.27 m deep, and was found to be corrugated by plough furrows 0.2 m deep (illus 10). The ground sloped away from the hut walls on all sides giving the impression that the site stood on a higher knoll of ground. The wall itself comprised stones up to 0.6 m long but was badly preserved. Only a few *in situ* facing stones were defined. It would seem, however, that the internal diameter of the hut was approximately 9 m. The patchy condition of the wall could not be wholly attributed to ploughing, although this had of course caused much damage. It may have been that the wall was in a ruinous condition before it became covered by peat, hence its poorly preserved appearance to the Ordnance Survey fieldworkers.

A pathway of slabs (F413) extended from a gap in the wall within the north-east arc, running west from there to an area of slabs (F406), positioned off-centre in the interior. These were slightly reddened and



ILLUS 10 A plan of the excavated area at Hut 3

cracked and appeared to have constituted a hearth. A concentrated area of small stones reminiscent of cobbling (F421) extended through the entrance to the interior, flanking the pathway of slabs for c 2 m. Around and under the slabs was a dark brown silt (F422) containing many charcoal flecks. A mid brown silty sand (F405) covered the rest of the interior to a depth of 0.15 m. Due to shortage of time, this layer was removed from only the west side of the hut, where three post-holes were revealed, all cut into natural subsoil. These measured, variously, 0.25 m wide by 0.15 m deep (F441), 0.3 m wide by 0.2 m deep (F412), and 0.3 m wide by 0.1 m deep (F439).

Interpretation, pollen analysis, finds and date

This structure, although badly damaged, is comparable with Hut 2 in having a hearth and paving slabs. It does not seem likely to have been furnished with two entrances, so the possible entrance in the south-east arc suggested by the Ordnance Survey may simply reflect pre-peat damage to the wall line. Although there was only time to completely excavate one quadrant of the interior, the locations of the three post-holes provide the firmest evidence found on any of the hut sites for an internal ring of roof-support posts.

Amongst the finds from this site (illus 18 & 19), six sherds of pottery included a base sherd and three rims; in addition there were finds of flint and jasper. A bone fragment was tentatively identified as a rib, but was too damaged to assign to species.

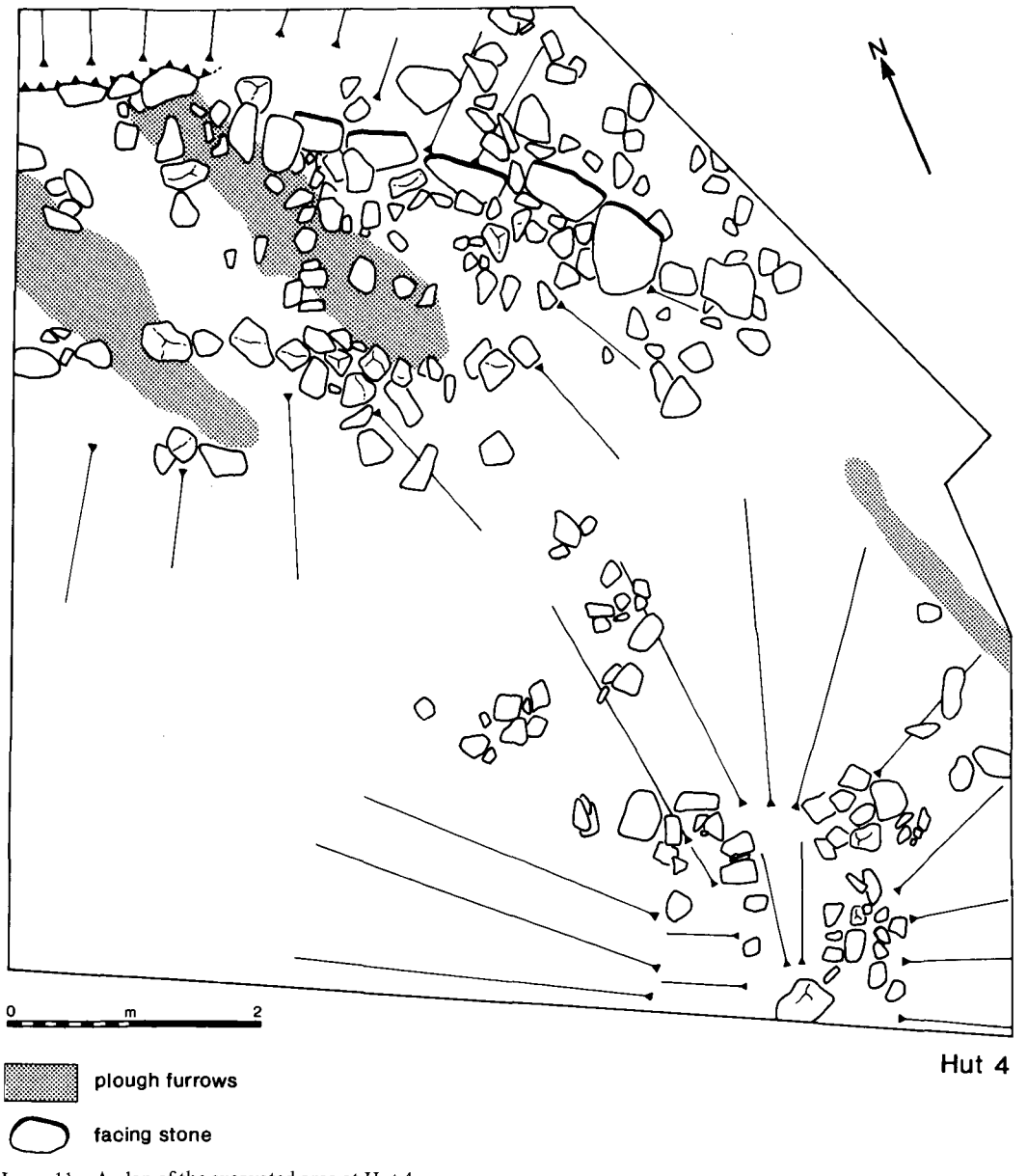
A sample for pollen analysis taken from immediately under the flagstones was characterized by grasses, plantains and herbs. The sample also had 50% hazel pollen suggesting the presence of this pollen locally. Evidence of local cultivation and a fertile environment are broadly indicated. When compared to the Hut 2 sequence this result shows most similarity to the flagstone level, apart from a prevalence of hazel here and birch there. Such differences could simply reflect ecological variations over the distance, in excess of 500 m, between the circles.

Unfortunately, the charcoal-flecked soil (F422) surrounding the hearth did not produce enough carbonized material for radiocarbon dating (this would have compared directly with similar material from Hut 2 which was dated, above). Instead, a date was obtained from the layer (F405) which sealed the post-holes and which was presumably a post-abandonment 'derived' deposit. The date obtained was 1050–400 cal BC (GU-1917); this may represent a *terminus ante quem* for the occupation of this hut and does not contradict the pollen evidence.

The small number of pottery finds all had talc inclusions. The rim forms represented were either flattened or internally bevelled.

HUT 4 (NGR: NC 9507 1818)

This hut occupied a small spur. It was recorded by the Ordnance Survey in 1976 (illus 2, no 53; illus 6) when it was described as circular with an internal diameter of 9.5 m, with a peat-covered stone wall spread to 3 m and standing to a maximum height of 0.4 m. The entrance was said to be in the east. Before excavation it was noted that the bank was least substantial on the uphill or south side, the interior was dished, and the ground fell steeply away from the north wall. Vegetation cover was of heather in the interior and grass over the bank. The hut had been ploughed and this had caused scarring both internally and across the bank. Animal damage in the form of burrows was also quite severe. Stones protruded through the turf cover on the wall and were also visible in the plough furrows (illus 7). Due to the large size of the hut and shortage of time it was decided to concentrate excavation work in 1983 on the north-east quadrant which included the entrance (illus 11).



ILLUS 11 A plan of the excavated area at Hut 4

The hut wall was found to be 2.4 m wide. It was constructed of three sizes of stone: an outer line of large stones up to 0.7 m long; piled haphazardly against and partly over this, smaller stones 0.2–0.3 m; and, defining the inside face of the wall, a line of stones 0.3–0.4 m long. No paving slabs were located, but a compacted path-like depression ran into the hut interior from the entrance. No post-holes or other internal structural features were found, but shallow depressions in the floor were evidence of activity within the hut, as was a flint flake (illus 19). A single pottery body sherd with profuse talc inclusions was found outwith the hut.

Interpretation and date

The method of wall construction at Hut 4 was similar to that found at Hut 1. The limited area of excavation did not extend far enough into the interior to ascertain the presence or absence of a hearth. An occupation layer (F539), however, did produce enough charcoal for a radiocarbon date of cal AD 220–620 (GU-1918). Hut 4 would seem to be an Iron Age construction, therefore, perhaps 1000 years later than Huts 2 and 3. It was in use at a time when the pollen record shows undisturbed birch and alder woodland with rapid peat growth. Perhaps the siting of this hut on a spur overlooking the valley is significant in that the focus for any farming activity had by this time been forced off the hillside and onto the valley floor.

CAIRNS

Examples of unploughed and ploughed cairns (illus 3, 6, 12 & 13) were chosen for excavation on a largely random basis, though an attempt was made to sample those with apparently differing surface morphologies. Half-sections through all the cairns investigated were drawn, but recording in plan was limited to unploughed examples. Cairns 5–10 were peat covered and unploughed; Cairns 11–14 were all within plough areas and had been damaged to greater or lesser extents prior to investigation.

CAIRNS 5–14

Cairn 5 was an elongated oval shape. Removal of the peat revealed a stone core measuring 5.3 m east/west by 4.2 m north/south and 0.8 m in height. Tumble from this cairn was the most extensive of any of those excavated. To the north it extended 1.2 m from the core. The average stone size was 0.2 m by 0.15 m. A soil layer under the cairn produced a flint chip, a flint flake with edge damage and a serrated quartz flake.

Cairn 6 was of dome-shaped form. Removal of the peat revealed a stone core 4.6 m north/south by 4.2 m east/west and 0.85 m in height. Half of the stone incorporated in this cairn was over 0.2 m in diameter.

Cairn 7 was one of four cairns located during the 1982 survey which appeared to straddle a lynchet. The stone core was 3.8 m east/west by 2.7 m north/south and 0.5 m in height. The underlying soil produced a piece of flint flake debitage. Although superficially exaggerated by the peat cover, the lynchet was identifiable as a distinct break of slope running east/west beneath the stones.

Cairn 8 was an example of a cairn with low elevation, having a stone core only 0.4 m in height.

Cairns 9 & 10 were found to be much smaller than they had first appeared when clad in peat. The stone core of Cairn 9 was 3 m wide and 0.6 m in height. The core of Cairn 10 was 2 m wide and 0.5 m in height.

Cairn 11 was in a ruinous condition due to extensive animal damage, in addition to ploughing. It had large stones round the eastern and northern sides which may have constituted kerbing, but these did not extend into the section. Loose soil layers were incorporated in the cairn.

Cairn 12 stood out from the other cairns in having compact mineral soil right to the surface of the stone layer, indicating that it was of deliberate stone and soil construction. A charcoal-rich layer within it (F416) may originally have been topsoil, partly burnt by a bonfire, with both soil and charcoal being scooped up

together and incorporated in the cairn. This cairn produced a flint chip, a piece of flint flake debitage and a single pottery sherd with quartz and mica inclusions; this was almost certainly from the body of a fairly coarse, comb-ornamented Beaker (illus 18). Unfortunately, the sherd was an isolated find and no human remains or other indications of a disturbed burial were located. A sample from the charcoal-rich layer (F416) produced a radiocarbon date of 1950–1400 cal BC (GU-1916).

Cairn 13 could not be fully assessed but was certainly one of the larger examples. The stone core measured 5.25 m north/south and 0.7 m in height; it was untypical in being sealed by a layer of sandy soil before being covered by peat. This cairn was recorded by sketches and photographs only and is not illustrated here.

Cairn 14 was a representative of the group of cairns recorded by the Ordnance Survey in 1976 (illus 2, no 47). These had all been ploughed to greater or lesser extents. A plan was made of the whole group during the 1983 season when 27 cairns were recognized. Unlike most of the other cairns investigated, large weathered granite boulders protruding through the subsoil at this point indicated the probable reason for the location of this cairn.

Interpretation, pollen analysis and dating

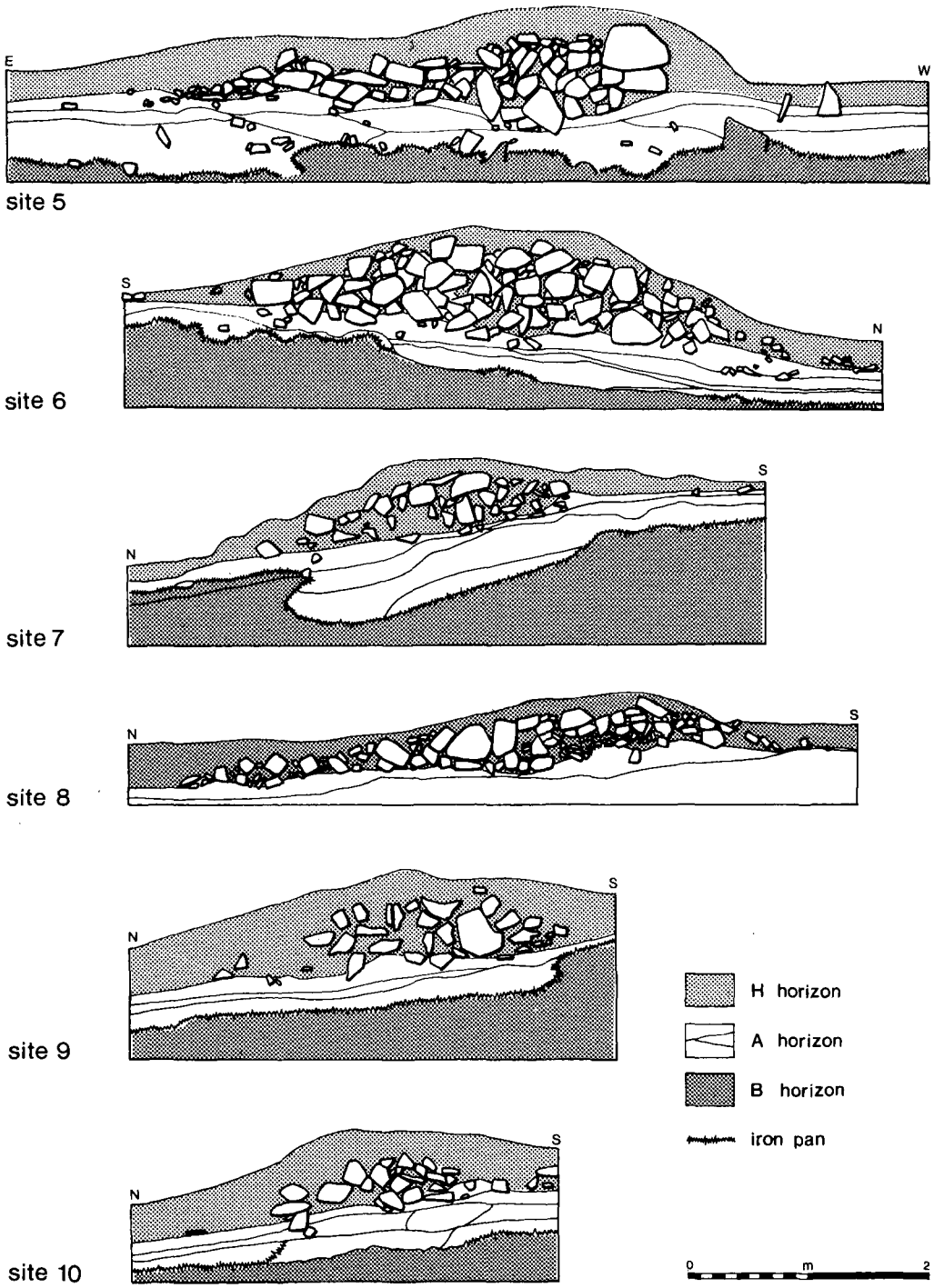
The majority of the excavated examples were simple clearance cairns. Their presence suggests land-use other than grazing, although the gathering of surface stone into cairns may also have aided grass conservation. Arable farming requires the additional removal of subsoil stone. Although there were no true buried ancient land surfaces beneath the cairns, there were underlying relic podzolic A horizons. The absence of peat and undecomposed tree roots beneath the cairns suggests that they were built when soil conditions were much better than today, with the soil being either a brown earth or a podzolic, and that this 'better' soil persisted for a considerable period after their construction.

The soil underlying Cairns 5–8 was sampled for pollen analysis, as was the overlying peat. The pollen spectra from under Cairns 6, 7 and 8 recorded very small quantities of alder, suggesting that it must have been absent from the immediate landscape. These ground surfaces, therefore, most probably pre-date the base of the main peat profile, when alder became co-dominant with birch in the adjacent area. Alder was better represented in the sample from below Cairn 5 and so a slightly later date than that for the other cairns is indicated. The pollen spectra of the peat cappings over the cairns indicate that they also can be ascribed to the beginning of the main profile.

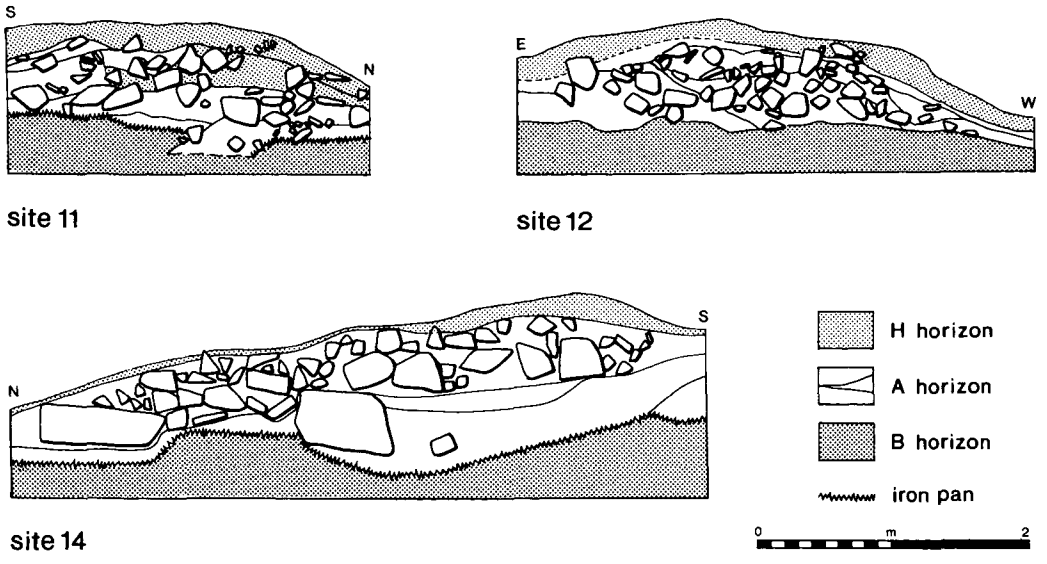
The main pollen column showed that the indicators of disturbed ground were greatest in Zone 1, with plantains up to 2% and the vetch, dock, dandelion and chickweed families all virtually continuous. Cereal-sized grass pollen appeared suddenly and reached 4% in the upper part of Zone 1. Ordinary grass pollen was also at higher levels in the first part of Zone 1 than at any later time, including the present day. Cereal pollen grains became sporadic in Zone 2 and the pollen of the daisy and vetch families disappeared suggesting cultivation had lessened or was further removed from the site of accumulation.

BURNT MOUNDS

The four burnt mounds on the hillside, sites 15–18, were all within the ploughed area. Two of these sites were first located during the 1983 season. Burnt mounds are generally taken to be cooking sites, with a pit or trough being a receptacle for water which was boiled by the addition



ILLUS 12 Sections through Cairns 5–10



ILLUS 13 Sections through Cairns 11, 12 & 14

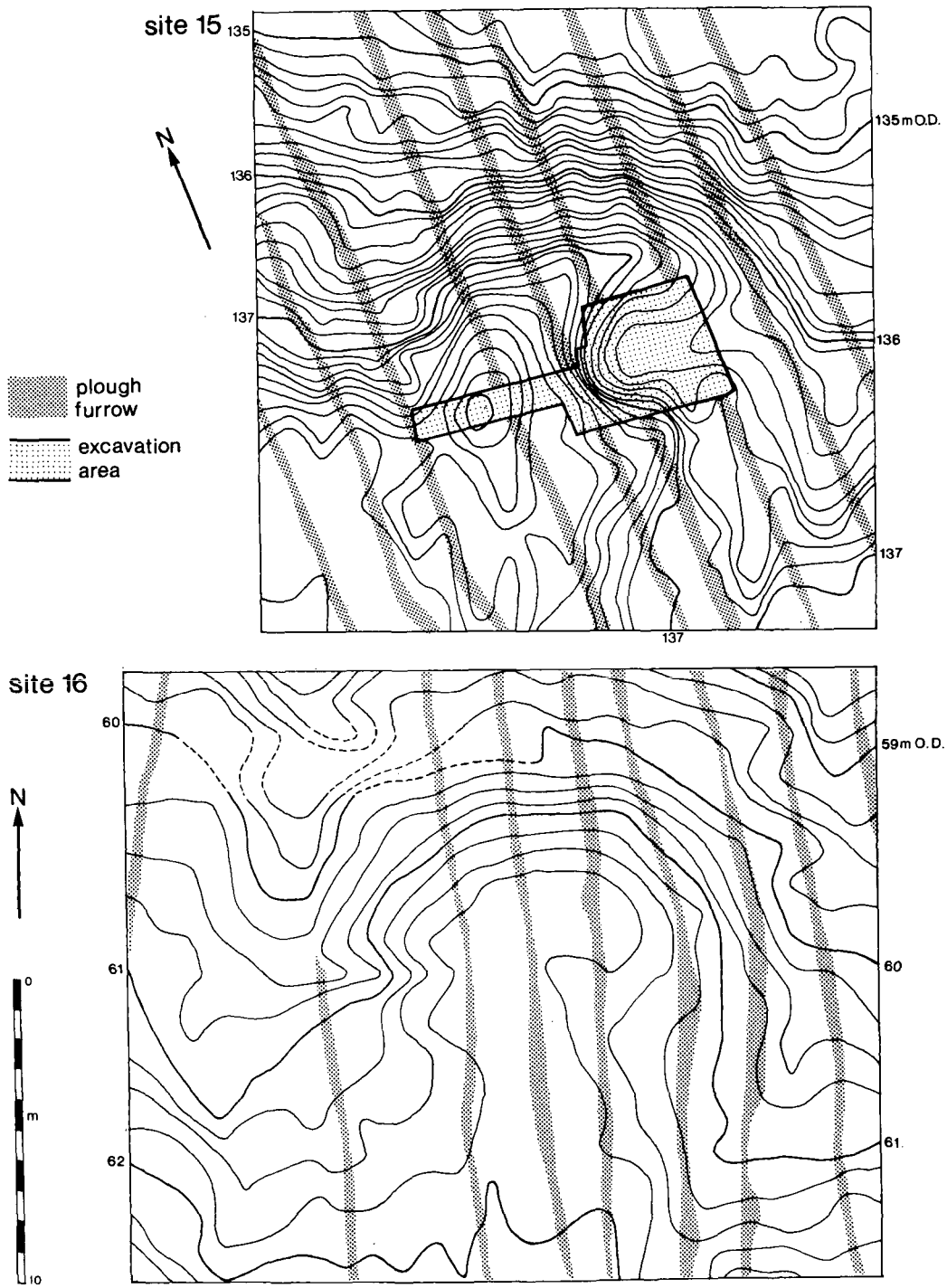
of heated stones. Subsequent clearing out of the pit for further use created the characteristic surrounding mound.

SITE 15 (NGR: NC 9534 1747)

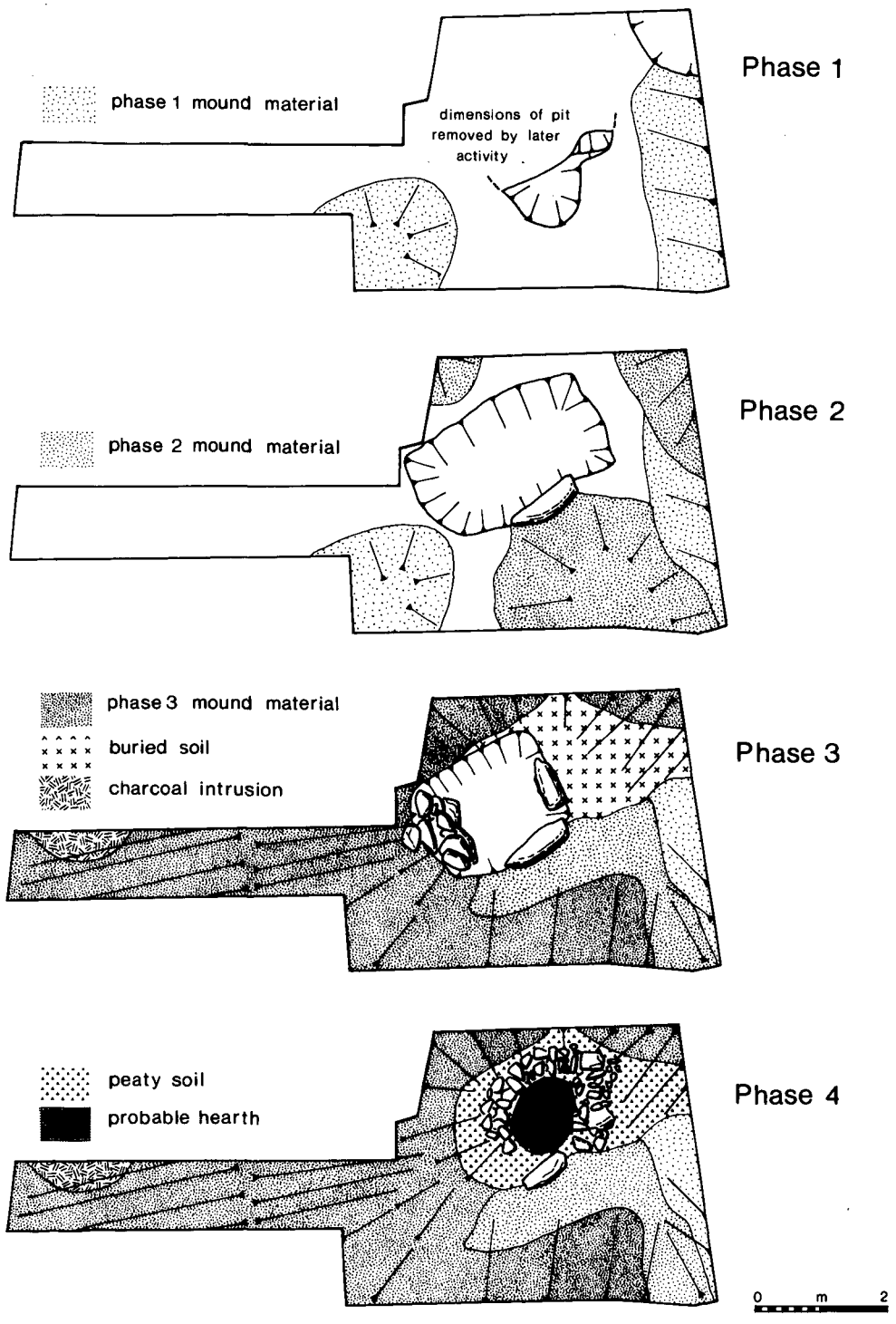
This burnt mound had been recorded by the Ordnance Survey in 1976 (illus 2, no 55). It was said to be 14 m east/west by 12 m north/south and 1.5 m high, with a depression to its east side which opened onto a dry stream-bed. During the 1982 survey the monument was recognizable as a horseshoe-shaped mound of approximately the dimensions given above. It was sited on an area of the hillside comprising free-draining stony sandy loams, with a gradient of roughly 1:10. Grasses dominated the vegetation on the mound, suggesting it was better drained than its surroundings which supported a mixture of heather and grass. The whole area had been ploughed by the Forestry Commission and the previously noted stream-bed was no longer visible on the ground, although a contour survey (illus 14) indicated a depression running approximately north/south in the correct position. Surface indications suggested that no great damage had resulted to the monument from ploughing, with only the uppermost layers disturbed, exposing angular fragments of fire-cracked stone and flecks of charcoal in the upcast.

A small-scale excavation of this mound was attempted as one element of the 1982 programme. The aims were to investigate the depression for evidence of a pit or trough and to sample charcoal-bearing layers, any buried soils and layers within the expected pit for environmental and dating purposes. Extreme weather conditions militated against completion and the investigation of this monument was continued during the 1983 season. The trench was small in relation to the size of the mound (illus 14), but the following sequence of events was derived from the area excavated in plan and the available sections (illus 15 & 16).

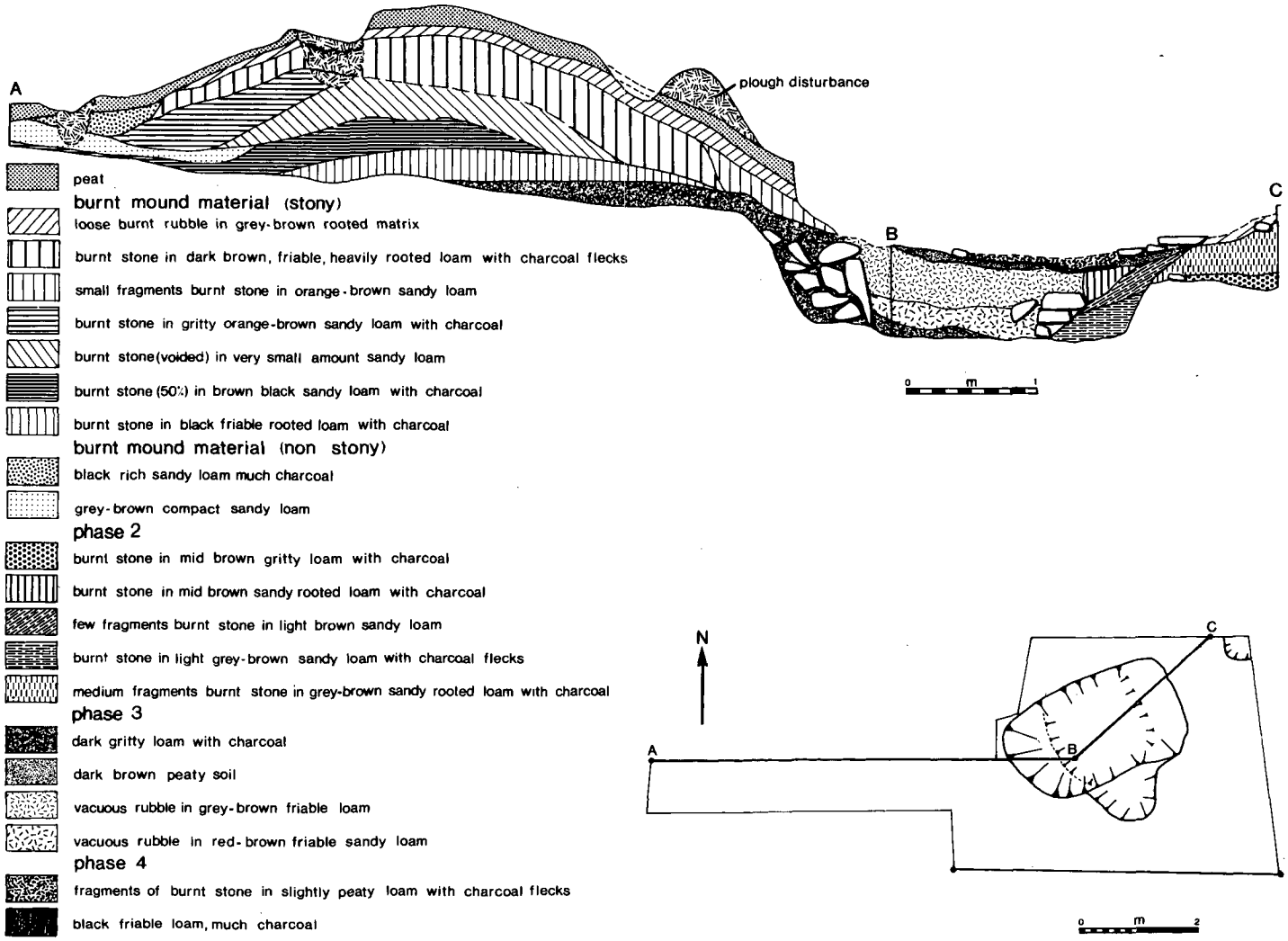
Phase 1 A pit of indeterminate size and shape was cut into the subsoil and two piles of burnt stone were heaped up on the south-east and south-west sides. A charcoal-rich deposit drifting down the hill slope in the north-east corner of the trench probably belonged to this phase of activity. The pit was partially filled from



ILLUS 14 Contour surveys of burnt mounds at Sites 15 & 16



ILLUS 15 Four phases of the burnt mound at Site 15



ILLUS 16 Section through the burnt mound and pit at Site 15

erosion material derived from the subsoil, while a brown-earth soil (loam and organic) completed the infilling and overspread the burnt stone dumps to the south and south-west.

Phase 2 The Phase 1 pit was largely destroyed by the cutting of a rectangular pit measuring 3 m by 1.5 m and 0.5 m deep with only a small portion of the earlier fills surviving on the southern edge. Where the soil which overlay these Phase 1 pit fills had been cut, the new edge was revetted by a single large sub-rectangular stone block, 1 m by 0.4 m by 0.3 m. Dumps of burnt stone were deposited on the south, north-east and north-west sides, partly sealing the soil cover and earlier dumps. Again a brown-earth soil formed over the upcasts and sealed the fills of the disused pit, which in this case comprised eroded mound material.

Phase 3 The secondary pit was re-cut and roughly revetted with boulders at the east and west sides to form a pit approximately 1.5 m square and 0.65 m deep. The southern revetment of the secondary pit, the large stone slab, was incorporated in the re-cut feature. To the east the revetting stones retained the fills of the secondary pit which had not been removed, while to the west they retained the burnt stone dump which was placed on this side. A small amount of discarded material seems to have been dumped to the north and south of the pit over existing mounds, but none was deposited to the east, giving the characteristic horseshoe shape.

Phase 4 After the tertiary pit had filled with fire cracked stone and the revetment had partly collapsed, a slightly peaty soil developed within the depression. Over this, and partly revetting the latest dumped material to the north, was placed an oval stone setting, open at the south-west end and abutting the southern revetment slab of the Phase 2 and 3 pits, which still protruded slightly at this level. This represented the latest activity on the mound. Charcoal flecks within the fill of the stone setting and a patch of possible peat ash adhering to the top of the revetment slab suggested that this may have been a hearth. Fibrous peat overlay the edging stones of the southern side of this feature.

Interpretation, pollen and dating

Four phases of activity were represented on this burnt mound, three of which were connected with the heating of stone. If the interpretation of two soil formations over an abandoned site is correct, then a period of at least 600 years must have elapsed between its use in Phase 1 and its re-use in Phase 3, as such brown-earth soils may have taken a few hundred years to develop in each case. The stone revetments within the Phase 3 pit were purely structural and, even if partly robbed, could never have been watertight. If the pit was used for boiling water, it must have had a watertight lining probably in the form of a wooden trough or skins over a wooden frame, but no trace of a lining was found although corner posts were specifically looked for. The final appearance of the mound seems to be largely due to activity in Phase 3 and the amount of material dumped at this time would suggest that use continued over a longer period, or more frequently, than on previous occasions. Phase 4 is probably best interpreted as the use of the monument by itinerants who built a fire in the lee of the convenient windbreak afforded by the mound.

Pollen samples were taken from various contexts but in several cases pollen survival was negligible. Pollen in the first of the brown-earth soils comprised 50% alder, 25% grasses and 10% dandelion family. An open woodland with some grasses and herbs is indicated, not unlike and possibly contemporary with the flagstone-level sample from Hut 2.

No context from Phase 1 produced enough charcoal for radiocarbon dating, but Phase 2 was represented by two dates: 1150–830 cal BC (GU-1914) for material behind the third phase

revetment in the pit; and 1260–810 cal BC (GU-1921) for charcoal from dumped material. Two dates related to Phase 3 were also obtained. The lowest fill from the Phase 3 pit produced a date of 1050–400 cal BC (GU-1912), while charcoal within the Phase 3 dump was dated to 1130–790 cal BC (GU-1913). Phase 4, when the mound was long abandoned, was dated to cal AD 1300–1490 (GU-1915) using charcoal retrieved from the hearth.

The long time-span between the first use of the site and the third phase, suggested by the brown-earth development, cannot be corroborated from the radiocarbon results; but due to the potential problem of later charcoal washing down through the stony mound material to contaminate earlier strata, these results are not interpreted here as definite disproof.

SITE 16 (NGR: NC 9511 1820)

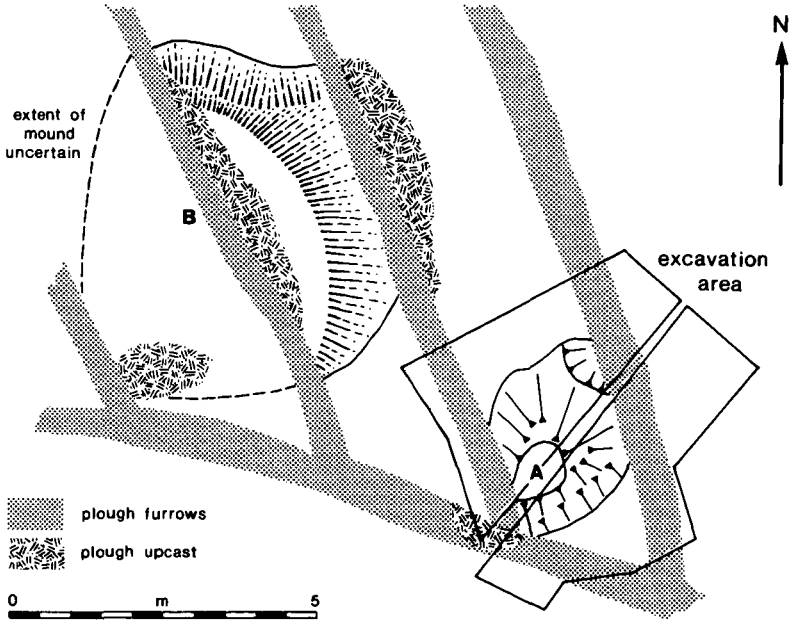
This monument was noted by the Ordnance Survey in 1976 (illus 2, no 48). It was said to be 12 m in diameter with a depression on its east side which opened onto a stream. It was recognized during the 1983 season as a platform, between the two water channels, standing roughly 1.75 m above a slope with a gradient of 1:10, at 62 m OD. The slight depression on its east side, noted above, may have represented the position of a pit, but could have been caused by stream erosion. Forestry ploughing had disturbed the surface of the mound, exposing burnt stone and charcoal-flecked soil, but had not penetrated much below the bottom of the covering peat. Vegetation was similar to that which had colonized Site 15. Excavation of this site was not attempted due to its large size, and restrictions of time and labour, but a contour survey of the mound and its immediate environs was carried out (illus 14). Thus, the site has been identified only as a burnt mound on the evidence of its form and the presence of burnt stone with charcoal-flecked soil.

SITE 17 (NGR: NC 949 181)

This site (illus 6) appeared superficially as two low mounds which would have attracted no attention, being obscured by dense heather growth, had forestry ploughing not exposed their burnt stone core (illus 17). The north-west mound (B) was 5 m in diameter and stood some 0.5 m above the surrounding terrain, while the south-east mound (A) was an oval 3.5 m by 2.5 m, rising to 0.3 m. A stream flowed immediately to the east. Investigations were limited to the south-east mound. A trench was laid out covering the full extent of this, though leaving a central baulk for reference.

A shallow peat (0.05 m) was first removed. A charcoal-rich, black, sandy loam layer was exposed in the bottom of a plough furrow which cut the east side of the mound. This proved to be the primary level, overlying natural subsoil, and may have represented an initial firing. Two dumps of burnt stone overlay this, one relating to the north-west mound (B), while the other formed the core of the south-east mound (A). Both of these dumps were contained in a similar matrix, an orange gritty sand with no charcoal content. A secondary dump of burnt stone within a matrix of bleached sandy silt overlay the first two dumps. There was no charcoal associated with this context. The proximity of the stream and the level terrain suggested that the silt resulted from flooding. To the east side of the mound at this stage in its development, three separate layers of silt probably represented further flood deposits. After this, the site was evidently used again with the final upcast comprising both rounded and fire-cracked stones. The site was then abandoned and more or less completely covered by further flood deposits. The mound in this final state (but beneath the peat) appeared as a small heap of stones, all that was visible of the final upcast, surrounded by a compact, bleached, sandy silt on the north, south and east sides.

Too small an area was examined for any detailed conclusions to be reached, but it seems likely that the two mounds A and B formed one entity which had been abandoned before it had developed into the classic



ILLUS 17 Plan of the burnt mound at Site 17

horseshoe shape. Although no pit was located, the most likely position for this would have been between the two mounds, outwith the area of the excavation trench.

SITE 18 (NGR: NC 949 182)

This monument (illus 6) had not been recorded previously and was noticed during work at Site 17. The mound was crescentic and lay some 35 m north of Site 17 on the opposite side of the same stream, where its channel was 3 m deep. A plough furrow had exposed burnt stone on the extreme east side, but otherwise the mound was untouched and obscured by heather. Large boulders protruded from the west side above the stream and strongly resembled a revetment. It seemed possible that the course of the stream had been deliberately altered at this point. This site may represent the transfer of activity from Site 17 to a position less prone to flooding. The site was surveyed and photographed, but no further work could be undertaken.

GENERAL DISCUSSION

The excavations at Kilearnan Hill attempted to shed maximum light on a large area and were concentrated on upstanding monuments. Given unlimited time and resources it would have been interesting to excavate sites completely and to investigate seemingly empty areas for non-earthfast structures, but as the project was essentially a rescue operation, circumstances did not permit this.

The damage to monuments by forestry ploughing and subsequent tree planting should not be underestimated:

> The monuments themselves provide little or no obstruction to the plough, even when standing, in the case of some earthworks, to a height of 1.5 m. The plough is capable of driving a furrow straight through them. The fate of stone-built constructions is no more secure. Low cairns are the most

> vulnerable, the plough being able to smash completely through them, spreading the cairn material along the furrow and obliterating any internal structures. . . . The extent of the damage can be said to depend upon the dimensions of the site, and a small cairn of 6 m diameter can effectively be written off the archaeological record after ploughing (Jackson 1978, 8).

All of the cairns at Kilearnan Hill were less than 6 m in diameter and the destructive action of the plough may well have obliterated a Beaker burial at Cairn 12 (of which a solitary sherd was recovered). It was fortunate to gain access to the ploughed sites such as Hut 3 quite soon after they were damaged and before modified drainage patterns affected the pollen and other environmental materials preserved in peat and other, underlying contexts. Happily, the agreed arrangements for the preservation of archaeological sites within areas of proposed afforestation have been far better since 1988 (Barclay 1992).

Over a century ago the Revd James Joass (1866, 387) observed 'I now find hut circles and associated tumuli on almost every southward moorland slope that I examine, both in Sutherland and Ross.' Every subsequent survey in these areas has added large numbers of sites to the monuments record, a case in point being the 1982 survey of the north-facing area left unploughed between the Gylable and Oulmsdale burns, which recorded 183 monuments, many for the first time. The recent publication of the Royal Commission's survey of the Strath of Kildonan (RCAHMS 1993) has usefully summarized and illustrated with distribution maps the major monument types for the River Helmsdale area as a whole. This serves to demonstrate the dense settlement of this area in the past and the former importance of areas now only lightly populated.

CHRONOLOGY

The landscape investigated by excavations at Kilearnan Hill dates from the early second millennium BC onwards, but Neolithic activity in the surrounding area is attested by the presence of long and chambered cairns, and may also be represented by the pine charcoal which washed into the soil on site before the deepest peat had started to accumulate. (All of the excavated sites' immediate environs were peat free at the time of their construction.)

Cairn 12 was the earliest dated feature, at 1950–1400 cal BC, and produced the comb-ornamented Beaker body sherd (illus 18). Although the precise position of the sherd within the vessel is uncertain, the surviving decoration appears to form part of a chevron pattern: the motif is widespread among northern British Beakers, where it most frequently occurs in broad, filled zones (eg Clarke 1970: no 492, Forglen, Banffshire; no 679, Kraiknish, Skye; no 720, Dalmore, Ross & Cromarty), or less often as a component of panelled motifs (eg *ibid*: no 287, Bridge of Allan, Perthshire). Although it is likely that the Kilearnan sherd derives from a disturbed funerary context, no traces of a burial were located. Nevertheless, the sherd adds to the relatively sparse distribution of Beaker pottery north of the Dornoch Firth (recently summarized by Henshall & Ritchie 1995, 65–6). In the light of the British Museum's programme of radiocarbon dating of skeletal material associated with Beaker burials, it is clear that the tradition had a long currency, from c 2600 to 1800 cal BC (Kinnes *et al* 1991, 39).

The clearance cairns attest to cultivation having been established on site before the long peat column began to accumulate (dated to 1550–850 cal BC), incorporating pollen associated with broken ground in its lowest zone. The stray find of a saddle quern (illus 19) in a plough furrow would indicate that cereals were grown locally, even if cereal pollen had not been represented in the long column.

Finally, the medieval period is also represented at Kilearnan. The long pollen column attests that by a period in the 13th–15th centuries (cal AD 1260–1420), woodland was declining, possibly under grazing pressure, and at some subsequent time burning was associated with a major change to heathland. The hearth constructed on the long-abandoned burnt mound at Site 15 was dated to the 14th or 15th century (cal AD 1300–1490) and even later activity involving Hut 1 produced a date of cal AD 1490–1950.

POTTERY

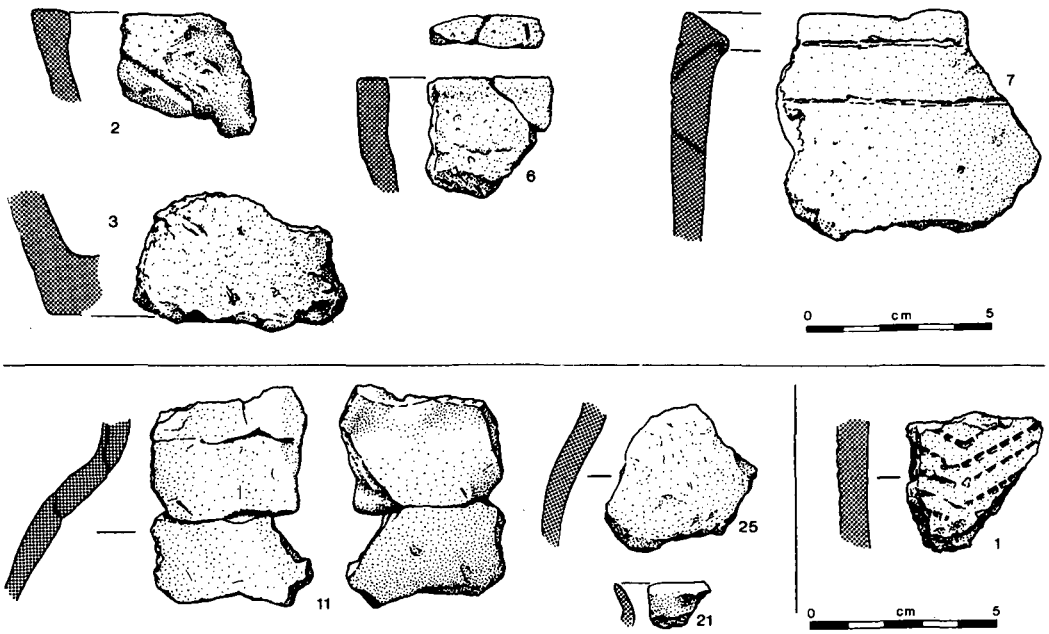
Apart from the Beaker sherd described above, a total of 29 sherds and fragments of pottery was recovered from Huts 1, 3 and 4. The most striking feature is the marked distinction between the fabrics of the pottery recovered from Hut 1 and that from Huts 3 and 4. In the case of the former, the inclusions comprise stone (principally quartz and mica) and organic tempering in varying proportions, some sherds appearing to have been tempered almost entirely with organic matter. In the case of the pottery from Huts 3 and 4, however, fragments of talc form the sole tempering agent. Following MacSween & Dixon (1998), the term talc has been adopted in preference to steatite (as used in previous reports: eg Fairhurst & Taylor 1971; Barclay 1985). The source of the talc is discussed below.

This marked distinction in fabric types is reinforced by differences in the profiles of the vessels, as several sherds from Hut 1 indicate a range of pots with a more pronounced curvature of the walls (see especially cat nos 11–13 and 25 in the project archive), and thus probably derive from a range of vessels with everted rims and more globular bodies, in contrast to the more straight-sided or bucket-shaped forms present in Hut 3. However, so few of the sherds have recognizable formal features that this point should not be over-stressed.

Turning to comparative material, the key site within the Strath of Kildonan is the complex multi-period settlement site at Upper Suisgill, where at least some variations in the ceramic assemblage could be differentiated stratigraphically (Barclay 1985, 179–85). In particular, Barclay (*ibid*, 183) noted that, as a general trend, the pottery of the earlier periods tended to have flat rims, with everted profiles tending to characterize later periods.

The general form of Kilearnan cat no 7 (illus 18), in particular, invites comparison with Upper Suisgill SF2 (Barclay 1985, 183, illus 27). Although simple rim forms, mention may also be made here of Kilearnan cat nos 2 and 6, and their similarity to Upper Suisgill SF 4–5. Although very little talc-tempered pottery was found at Upper Suisgill (fabric group A3), its occurrence in the earlier deposits may be of relevance to the date of the pottery from Huts 3 and 4 at Kilearnan. Talc-tempered pottery was also found in small quantities at Kilphedir, again associated with vessels with relatively straight profiles (Fairhurst & Taylor 1971, 75–7). The two extant sherds from Kinbrace Hill (Curle 1911; National Museums of Scotland HD 440–1) are comparable with the material from Huts 3 and 4 in terms of their fabric.

More recently, talc-tempered pottery has been found in considerably greater quantities at several of the sites in Achany Glen investigated in the course of the Lairg project (cf McCullagh 1992 and pers comm). Fairhurst & Taylor (1971, 77; quoting Wilson & Phemister 1946) noted that while steatite, or fine-grained talc, is rather rare it has been identified in small quantities in a number of different localities in Sutherland. They drew attention to occurrences in upper Strath Naver and also on Loch Shin (the latter some 50 km from Kilphedir). In their report on the coarse pottery from Lairg, MacSween & Dixon (1998) have suggested that the source of the talc there is likely to have been the series of metamorphosed ultrabasic bosses found in a belt straddling Loch Naver — possibly as far as 30 km from Achany Glen.

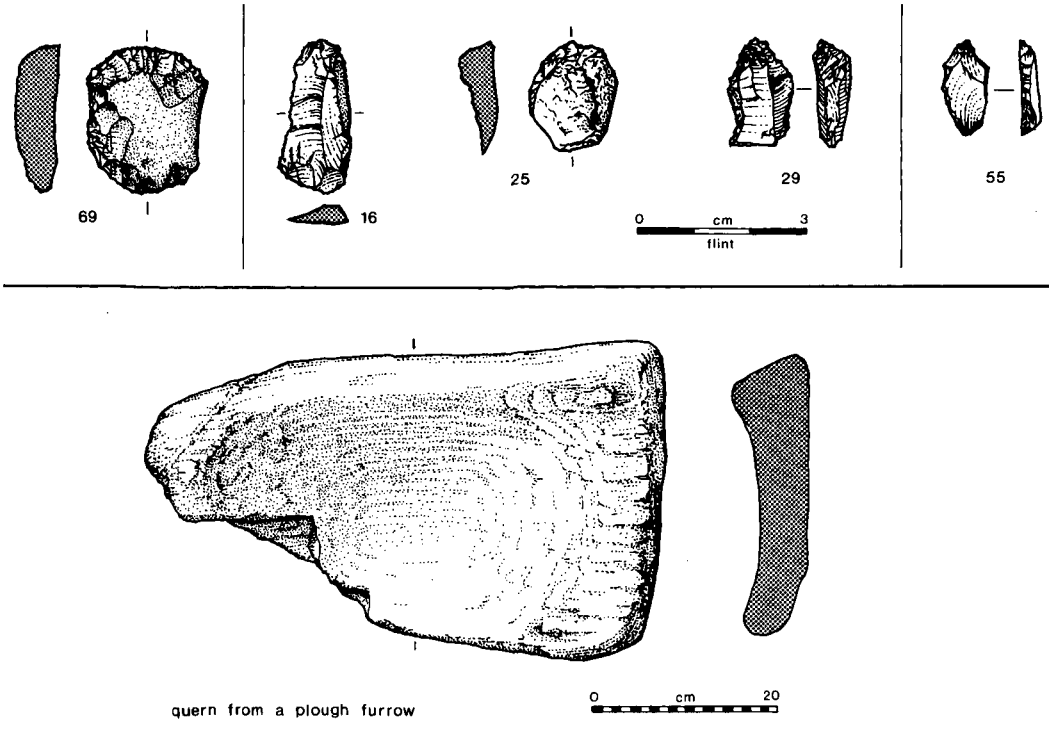


ILLUS 18 Pottery: cat nos 11, 21 & 25 from Hut 1; cat nos 2, 3, 6 & 7 from Hut 3; cat no 1 from Cairn 12

The majority of the talc-tempered pottery from Lairg derives from contexts which can be broadly dated to 1800–1200 cal BC (MacSween & Dixon 1998, 144). This is somewhat earlier than the date range suggested for the talc-tempered pottery recovered from Upper Suisgill. There, the relevant fabric group (A3), albeit comprising only a very small quantity of sherds, was assigned to the earlier periods of occupation of the site (Periods I–III), which were dated to the early to mid third millennium BP (Barclay 1985, 180–3). This would be more in keeping with the date of 2645 ± 100 BP (1050–400 cal BC) from Hut 3 at Kilearnan. There is, however, a need for caution here, as we cannot assume that talc-tempered pottery is a reliable chronological indicator, given that a technique like 'grass-marking' was once thought to be diagnostically Norse but is now thought to have been in use over a long period.

As noted previously, there are some indications that the pottery from Hut 1 may be distinguished on grounds of vessel shape as well as fabric, and in the light of the evidence from Upper Suisgill, cited above, some or all of Kilearnan cat nos 8–25 may thus represent a somewhat later ceramic group. While the size of the group and the absence of distinctive features mean that it can barely be characterized, several of the sherds do clearly derive from quite fine vessels, with walls as little as 4 mm in thickness, and sherds of thick-walled vessels are absent (none > 7.5 mm). Moreover, a number of the sherds have traces of organic deposit adhering to their surfaces, and show heat damage. Given that this small group of pottery recovered from the site may well be unrepresentative, it would be unwise to read too much into the possible absence of pots at the large, 'storage vessel' end of the range, but the evidence may just possibly have a bearing on the function of the hut circle (eg food preparation and consumption rather than storage).

The finds from Kilphedir were unavailable to Barclay in discussing the assemblage from Upper Suisgill (1985, 196), but much of the material from the site was re-found in the Department of Archaeology at the University of Glasgow in 1986, and was subsequently deposited at the National Museums of Scotland. The pottery assemblage would bear re-examination in detail in



ILLUS 19 Worked stone finds: nos 16, 25 & 29 from Hut 1; no 69 from Hut 3; no 55 from Hut 4; a saddle quern (unstratified) from a plough furrow outwith the excavated areas

the light of excavations at Upper Suisgill and Lairg: a superficial examination of the extant Kilphedir pottery suggests the presence of material which might well be of second millennium BC date in the light of the results of the Lairg project, while the presence of everted rims/globular forms (Fairhurst & Taylor 1971) suggests a broad chronological range of material comparable to Kilearnan.

In summary, the ceramic evidence would tend to suggest that the pottery from Huts 3 and 4 at Kilearnan may date to the early to mid first millennium BC (broadly third millennium BP), while that from Hut 1 may date to the later first millennium BC in the light of the ceramic sequence at Upper Suisgill.

As work on the prehistoric settlement archaeology of northern Scotland proceeds, it may become possible to characterize more successfully the plain pottery of the second and first millennia BC. For the present, however, it is clear that caution is required in using small and quite possibly unrepresentative groups of pottery as any more than rough chronological indicators, in view of the fact that superficially similar field monuments such as hut circles are often found on excavation to have considerable 'time-depth', with ample evidence for the re-use of sites and recurrent clearing out of internal occupation deposits. It is tempting, for instance, to interpret Hut 4 (which was dated to cal AD 220–620) as reused, especially since deposits outwith the circle produced a sherd of the earlier talc-tempered pottery in what could have been cleared-out floor material; but in reality, animal burrows have destroyed any relationships and so this proposal must remain pure conjecture.

ARCHITECTURE

The excavated huts at Kilearnan all seemed to be single-phase constructions, in contrast to the findings at Kilphedir Hut V (Fairhurst & Taylor 1974), at excavations on Arran (Barber 1997), at Lairg (O'Sullivan 1998) and at Rhiconich (Donnelly 1997).

The fact that the entrances to the excavated hut circles at Kilearnan were positioned in the north-east arc is interpreted as having more to do with their location on a north-facing hillside and the direction of the prevailing wind than any attempt to be different from their neighbours, as the majority of hut circles in the Strath of Kildonan area have entrances lying on the ESE arc, and most of the remainder are on the SSW (RCAHMS 1993, 12).

Individual features, such as the paving running into Huts 2 and 3 from their entrances, can be paralleled elsewhere, for example at Kilphedir Hut V and at Rhiconich. The dates of these sites are quite widely separated, however, so rather than a constructional trend, the paving here is interpreted simply as a response to circumstances pertaining at the time.

Since the excavation concentrated on upstanding monuments, post-built structures such as those found at Upper Suisgill (Barclay 1985) would not have been located unless they fortuitously underlay one of the excavated sites.

LAND-USE

The huts and clearance cairns suggest a settled farming economy whose days were numbered by the increasing acidification of the soil and the onset of blanket peat formation. At around 2800 BP, pollen evidence for cultivation was already diminishing, with vegetation cover regenerated and woodland becoming virtually continuous and undisturbed for a period of over 1000 years. It is tempting to relate the onset of peat development to a universal shift of settlement downslope (and to a certain extent this is valid, given the difference in date between Huts 2 and 4) but localized differences in drainage and soil type would always have led to a mosaic of hillslope settlement. Hut 1, for instance, seemed to be much later in date than the other houses and was sited quite high up on the hillslope. Peat formation would have led to pressure on land, however, and the direct result of this was probably the building of the broch by the Gylable Burn. This situation is paralleled throughout the Strath of Kildonan, with the closest example being at Kilphedir, on the other side of the valley from Kilearnan (Fairhurst 1971).

BURNT MOUNDS AND SETTLEMENT

The burnt mounds on site are difficult to assess in that only one of the four, at Site 15, produced any dates (and it has to be remembered that the primary phase of activity at this site was undated). The dates for the secondary phase, at 1150–830 cal BC and 1260–810 cal BC, and for the tertiary phase, at 1130–790 cal BC, imply that the use of at least this burnt mound could have been contemporary with the occupation of neighbouring hut circles. If this was the case, then it is less likely to have been merely a cooking site for hunting parties and may have been more intimately related to the workings of the prehistoric settlement in the immediate area. The burnt mounds at Kilearnan may therefore fall into Barber's class 2 (Barber 1990).

PROJECT ARCHIVE

All data retrieved from this site, including the full versions of specialists' reports, have been lodged with the National Monuments Record of Scotland.

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