

## Excavation at Lintshie Gutter Unenclosed Platform Settlement, Crawford, Lanarkshire, 1991

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with contributions from I Banks, C Dickson, T Pollard & H Smith

### ABSTRACT

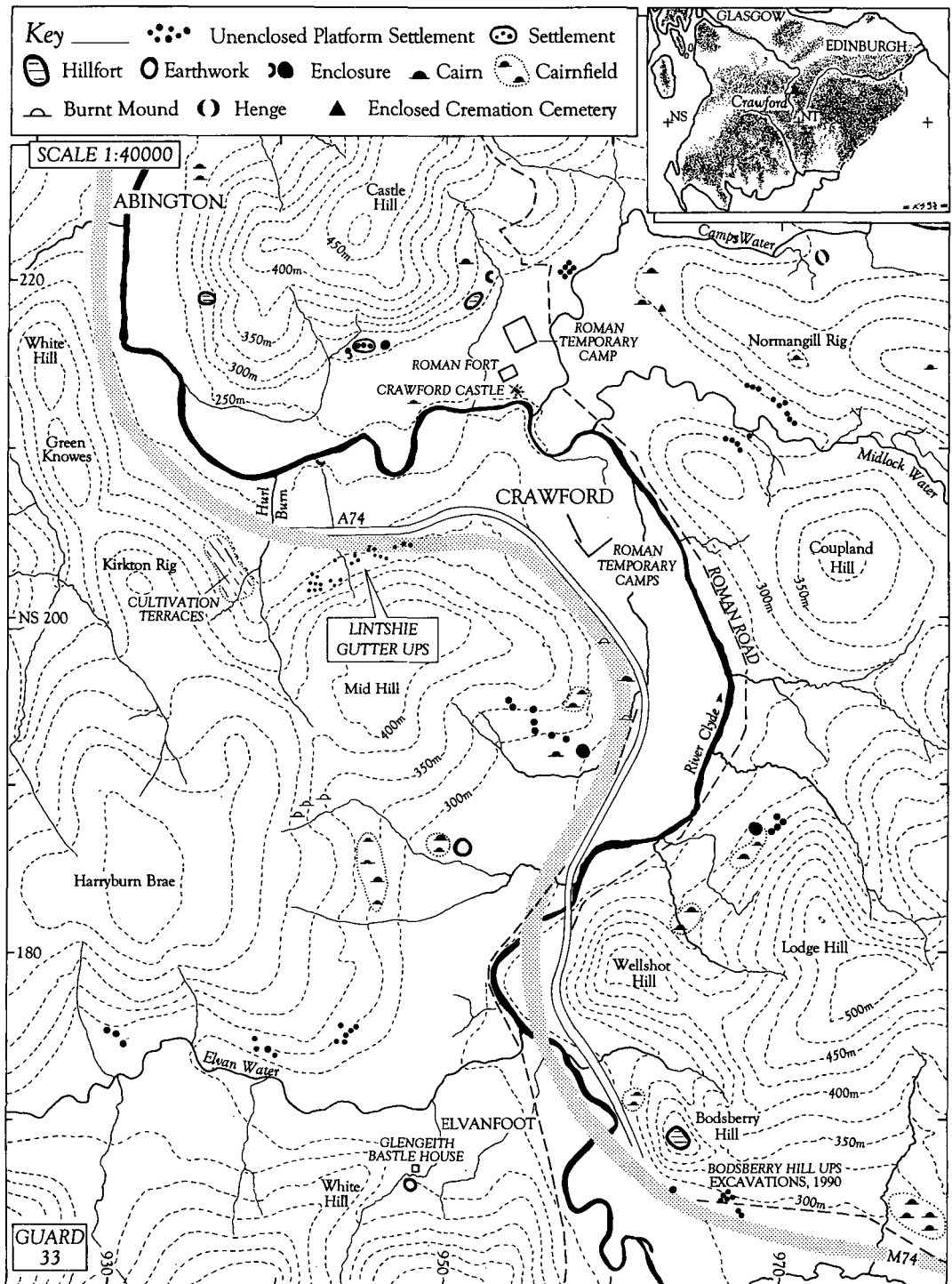
*Rescue excavation at this Bronze Age field monument near Crawford, Lanarkshire, organized by Historic Scotland ahead of the M74/M6 motorway construction, and financed by Scottish Office Industry Department (Roads Directorate), has revealed a variety of platform structures indicative of some degree of differential use of the buildings. Radiocarbon results obtained from four of the platforms suggest an occupational history running from a possible Late Neolithic date through to the Middle Bronze Age period. An intensive and sustained period of settlement on this north-facing hillside is also indicated from the repair and rebuilding phases recorded on most of the excavated platforms. A large and important domestic Bronze Age pottery assemblage was recovered, which included some vessel types previously found on funerary sites. Environmental data collected from extensive sampling revealed evidence of local woodland exploitation and cultivation of barley in association with the settlement.*

### INTRODUCTION

The unenclosed platform settlement, as a form of later prehistoric open settlement, has received relatively little attention by way of excavation since the publication of George Jobey's work at Green Knowe, Peeblesshire (Jobey 1980a), over a decade ago in these *Proceedings*. Since then a much broader distribution beyond the valleys of Lanarkshire and Peeblesshire (Jobey 1980b) has been recognized (eg Gates 1983; Higham 1986, 87), with examples also being identified in the south-west of England (Gibson 1983). In addition recent excavation on the slopes of Bodsberry Hill (Terry 1994), only 5 km south-east of Lintshie Gutter (illus 1), has extended the radiocarbon dating of this settlement type back into the early second millennium BC (calendar date). Thus the first major research opportunity for some time to examine substantial parts of an unenclosed platform settlement was eagerly undertaken by Glasgow University Archaeological Research Division in response to the M74 road development. This rescue work was funded by Scottish Office Industry Department (Roads Directorate) and managed on their behalf by Historic Scotland.

The Lintshie Gutter settlement (NGR NS 944203), near the head of the Clyde Valley (illus 1), lies along the 300 m OD contour and is typical in its form and river valley setting of this type of settlement in upper Clydesdale and Tweeddale. However, atypically, it is situated on a north-

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ILLUS 1 Lintshie Gutter: location map and surrounding monuments. (Based on the Ordnance Survey map © Crown Copyright)

facing slope (Jobey 1980b, 13). A total of 31 platform stances were identified terraced into the hillside, with an additional platform coming to light as a result of excavation. The platforms extended 510 m to the east and 220 m to the west of the small seasonal burn known as Lintshie Gutter (illus 2), and would appear to represent the full extent of the settlement. Those platforms (totalling 17 on resurveying) on the unimproved grassland to the west of Lintshie Gutter were surveyed and published under the name of Hurl Burn (the burn to the west) by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS 1978, 82–3), and mention was made of the platforms on the improved ground to the east. Ancient Monument lists held by Historic Scotland at the time of excavation record the site under the name of Boghead after the small farmstead on the opposite side of the roadways.

Traces of cultivation terraces are recorded below the platforms to the west of Lintshie Gutter (National Monuments Record of Scotland: NS 92 SW 28). However, there appears to have been some confusion with earlier records. Angus Graham (1939, 314) records the presence of cultivation terraces about 200 yds (183 m) east of Hurl Burn and 300 yds (274 m) above the road (referring to the old Carlisle road through the village). But these co-ordinates, even allowing for minor error, are more in line with the position of the platforms. Certainly, if observed from the road (Graham 1939, 289), the linear arrangement of the platforms could easily be construed as cultivation terraces, especially at a time before the general recognition (RCAHMS 1967) of the unenclosed platform settlement as a monument class. Hence later observations of the site, recorded in the National Monuments Record of Scotland, have rather unwisely cited the various humps and bumps of the unimproved ground below the platforms as evidence of this terracing and therefore introduced a field system contemporary with the platforms. Unfortunately this misidentification of a field system has found its way on to Ordnance Survey maps.

The arrangement of the platforms in a series of three tiers was confined largely to the close groupings at the far west end of the settlement, with the others to the east exhibiting a more random placement along the contours (illus 2). However, a distinct cluster of eight platforms (2–9), with an additional platform coming to light by excavation, was present at about the mid-point of the settlement. All but one of the platforms appeared to be constructed in the same way: the rear part was formed by digging into the hillside and the front by throwing the excavated material forward to form an apron, thus creating a level stance for building. However, on excavation, house platform 5 was shown to differ slightly in its method of construction (see below). The depth of the rear scarp and extent of protrusion of the front apron was largely dependent on the degree of slope of the hillside and the size of the platform surface. The large platform (12), on the steepest part of the slope, amply demonstrated these factors. All the Lintshie Gutter platforms were of circular form, although a build-up of hillwash at the back of the platform surface had masked their original shape. A variety of platform sizes were represented, ranging from 8 m to 16 m across the preserved surface, with most falling in the 12–15 m range, well within the normal limits for examples recorded in Lanarkshire and Peeblesshire (Jobey 1980b, 13). Flat, featureless and reasonably level platform surfaces were exhibited by all the platform stances with the exception of three examples (illus 2): two of these (16, 26) had remains of a collapsed stone bank around their circumference under light vegetation, and the third (30), at the far west end of the group, had a slight raised bank of stones around its front edge. However, whether these banks represent a later reuse of prehistoric house platforms or original stone structures will have to await future testing, for this excavation was concerned with the platforms on the east side of the Lintshie Gutter burn affected by the new motorway construction.

This development resulted in the excavation, or part excavation, of eight platform stances (1, 5, 6, 7 (2 platforms), 8, 13 & 14) and the examination of other remains in the line of the road,

including possible further house platforms and the remains of an old field dyke. Five main trenches A–E (illus 2) were opened over the platforms and potential house platform remains, with three smaller subsidiary trenches excavated during the course of the excavation in order to answer specific questions as they arose. A policy of excavating an area around the platform stances and between close-knit groups was adopted in order to check for evidence of activities beyond the immediately visible remains.

Subsequent to the completion of the excavation part of this project, soil was removed by the road-building contractors on land adjacent to the A74 on the west side of Hurl Burn for the construction of a pipe-storage yard. This work was monitored archaeologically by RSK Environmental Ltd, who reported no archaeological findings (D Maynard, pers comm).

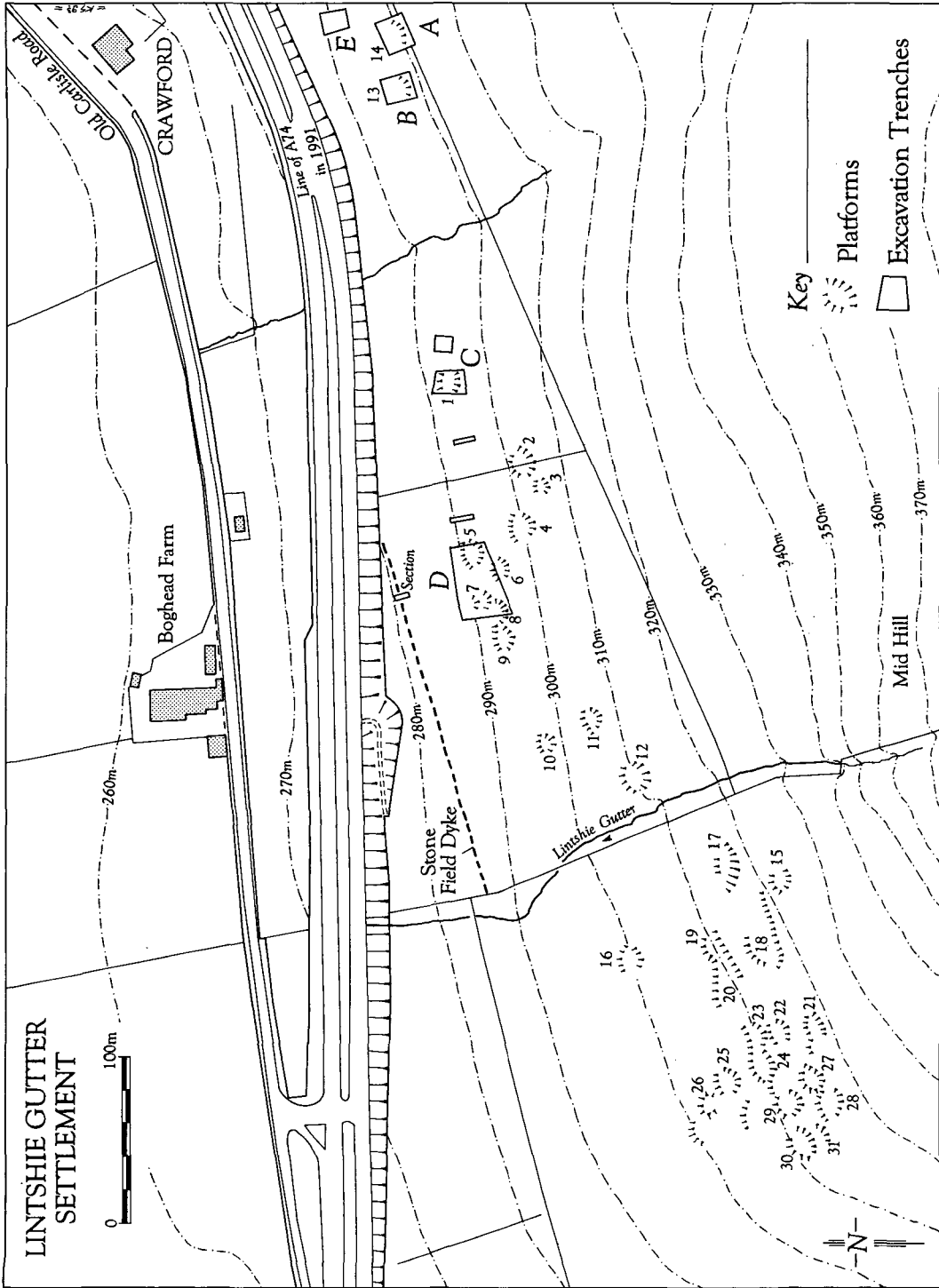
## BACKGROUND

This settlement on its north-facing slope has a commanding view across the Clyde valley, with the river, the main drainage system, currently meandering some 500 m north of and 60 m below the site. The prominent hills of this area, commonly exceeding 500 m OD, have largely restricted the principal lines of communication (both ancient and modern) to the sides of the flood plain of the Clyde. Not only do the main Glasgow to Carlisle railway and road follow this route, but also the earlier Roman roads converge south of Crawford and follow a similar route. At the time of excavation the main A74 road (at its closest point to the platforms) passed some 60 m north of the site in a cutting. No other visible development, apart from plough improvement to the land east of Lintshie Gutter, appeared to have taken place in the excavated area of the site since antiquity.

Lying on the slightly less steep lower slopes of Mid Hill, the settlement overlies Ordovician shales and greywacke parent rock (Grieg 1971). The thin covering of slope soils on these hillsides (of the Ettrick Association) are predominantly peaty podzols with some peaty gleys and humic iron podzols. However, brown forest soils are present below the Lintshie Gutter settlement towards the valley floor (Macaulay Institute for Soil Research 1:250,000 sheet 7). This decidedly marginal agricultural land (of Class 5 land capability) currently supports a pastoral regime, with improved grassland in the valley bottom, and rough grazing on the hillsides. Upstanding field monuments, such as the Lintshie Gutter settlement, survive only on the valley sides, while lower down on the fertile valley floor intensive cultivation in historic times has ploughed out sites such as the Roman temporary camps at Crawford, which are now only recognizable as cropmarks.

The numerous later prehistoric sites (illus 1) surviving above the 260 m contour include unenclosed platform settlements and cairns, associated with Bronze Age exploitation of these hills, and later enclosed Iron Age homesteads, larger settlement enclosures, and defended settlements or hillforts (RCAHMS 1978). The immediate area about Crawford is rich in archaeological remains of all periods. Further platform settlements and cairns are found along the Midlock Water behind Crawford village, and to the south at Stoneyburn. Burnt mounds (recently discovered) and a cairn group at Stoneyburn were also excavated in advance of the M74 road development (Banks 1992; 1995). A group of Iron Age settlements and later enclosures cluster about Richie Ferry on the north side of the valley opposite the Lintshie Gutter settlement, and bona fide cultivation terraces, identified by Graham (1939, 314), survive on the east slopes of Kirkton Rig to the west of the site. On the lower terrace above the valley bottom lie the Roman auxiliary fort and temporary camps near the medieval motte and stone tower of Crawford Castle.

The limited excavation of unenclosed platform settlements in upper Clydesdale and Tweeddale has not precluded discussion of this distinctive monument type in the broader study of settlement in the last two millennia BC (eg Jobey 1985; Higham 1986). In fact, Jobey's work and



ILLUS 2 Platforms and excavation trenches

radiocarbon dating of the Green Knowe settlement in Tweeddale (Jobey 1980a), after initial excavation by Feachem (1961), proved the catalyst for the wider recognition of unenclosed settlements, where before there was a dearth of recognized settlements in northern Britain in the second millennium BC. However, while excavation (eg Jobey 1983; Coggins & Fairless 1984) and survey (eg Gates 1983) over the last decade has greatly increased our knowledge of Bronze Age upland settlement, fundamental questions concerning the date range and the chronology of unenclosed platform settlements still remain to be answered (Terry 1994, 51). In addition the restricted location of unenclosed platform settlements to the heads of valleys (in upper Clydesdale and Tweeddale), apparently isolated from evidence of tillage (Halliday 1985), has led to the suggestion that these settlements were associated with the practice of transhumance in the Bronze Age (Stevenson 1982, 191; Halliday 1985, 238).

Thus, in determining the excavation objectives, a high priority was given to ascertaining the date, duration and intensity of settlement, together with information on the farming practices and land use associated with the platforms.

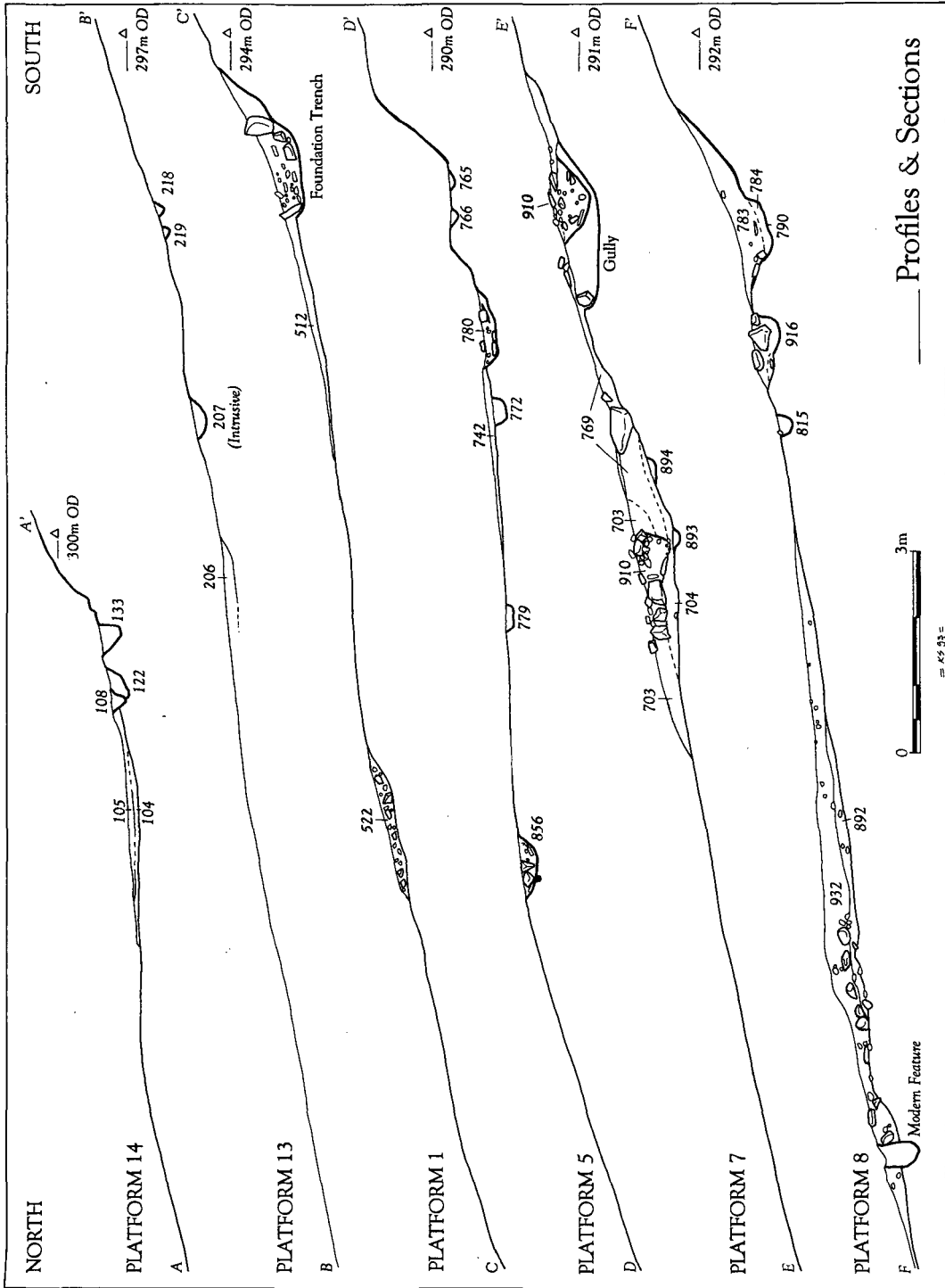
## THE EXCAVATION

A total of eight platforms, together with other field anomalies (including possible prehistoric house platforms), were investigated in five main areas of trenching A–E (illus 2). Topsoil was removed by careful machining, and in total an area of 2810 sq m was subject to archaeological excavation. Preservation was variable and largely depended upon the depth of cut for the rear terracing of the platform (illus 3). The front edge of all the excavated platform stances was truncated to some extent due to the improvement of the land by ploughing. A strategy of sampling all archaeological features for botanical remains by flotation was followed where possible, and phosphate and magnetic susceptibility samples were taken over the better-preserved platform surfaces.

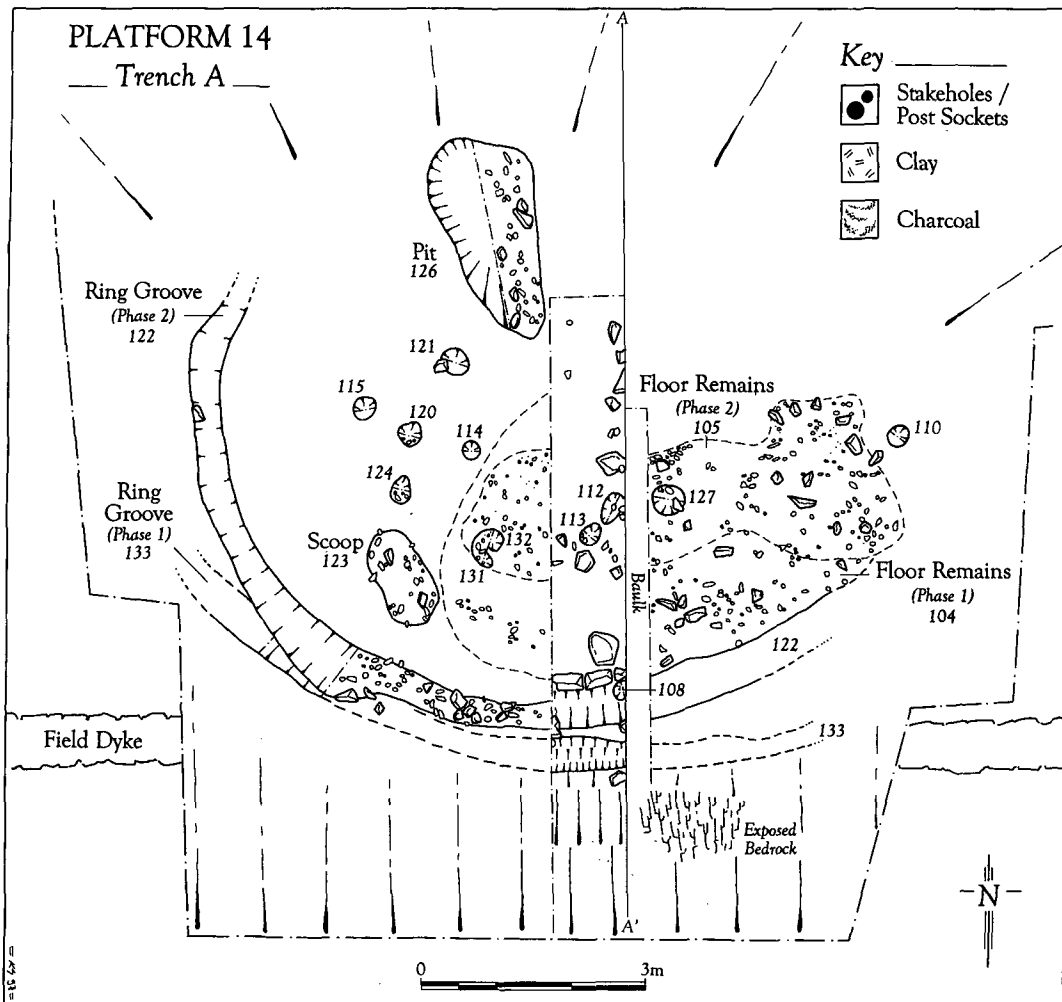
### PLATFORM 14: TRENCH A (ILLUS 4)

Prior to removal of the topsoil this platform appeared as a slightly levelled stance terraced into the hillside. The rear of the platform was overlain by a dry-stone wall that formed part of the present field system. Two phases of building were preserved at the back of the platform, partly protected under the field wall. Towards the front erosion had removed all but the deepest features as well as any evidence for the front apron.

The rear scarp for the platform was created by a fairly steep cut about 1.0 m deep, partly cutting through outcropping bedrock. A primary ring-groove (133) ran along the base of this cut, and was itself cut along part of its inner edge on a slightly different alignment by a later ring-groove (122). Both ring-grooves rapidly petered out from a maximum preserved depth of 0.34 m as they curved towards the front of the platform. Various post-holes, between 0.06–0.18 m deep, were found within the projected circumference of the two phases of ring-grooves, but even allowing for truncation of features a post-ring arrangement for roof support was not apparent. Five of the post-holes (112, 113, 127, 131, 132) appeared to be sealed, or part sealed, beneath a surviving floor surface (105) up to about 0.04 m deep, consisting of stones and pebbles set in a dark charcoal flecked silty sand. Beneath this, and clearly cut by these post-holes, was a similar earlier floor (104/111) with more of a clay content to its matrix. This primary floor produced several sherds of pottery, and it was cut along its south-east extent by the second-phase ring-groove. At the rear of the platform a post-hole (108) containing sizeable sherds of pottery (possibly utilized as packing along with larger stones) cut the inner edge of the secondary ring-



ILLUS 3 Platform long sections



ILLUS 4 Excavation plan platform 14

groove. On the west side of the platform, beyond the surviving extent of the floor layers, was a group of five post-holes (114, 115, 120, 121, 124) forming a near diamond shape of sides 1.20 m with a slightly off-centre post. To the east a solitary post-hole (110) also survived which could not be related to the other features. Other unrelated features outside the area of surviving floor stratigraphy, but within the western circumference of the buildings, included a backfilled pit (126) and a shallow scoop (123). The pit, 0.25 m deep with a flat bottom and fairly straight sides, except to the south, contained no artefacts or other evidence of function.

#### *Interpretation: Platform 14 (Trench A)*

The two phases of building exhibited on this platform stance may be interpreted as a primary circular house superseded by a rebuild of perhaps slightly smaller proportions, to judge from the



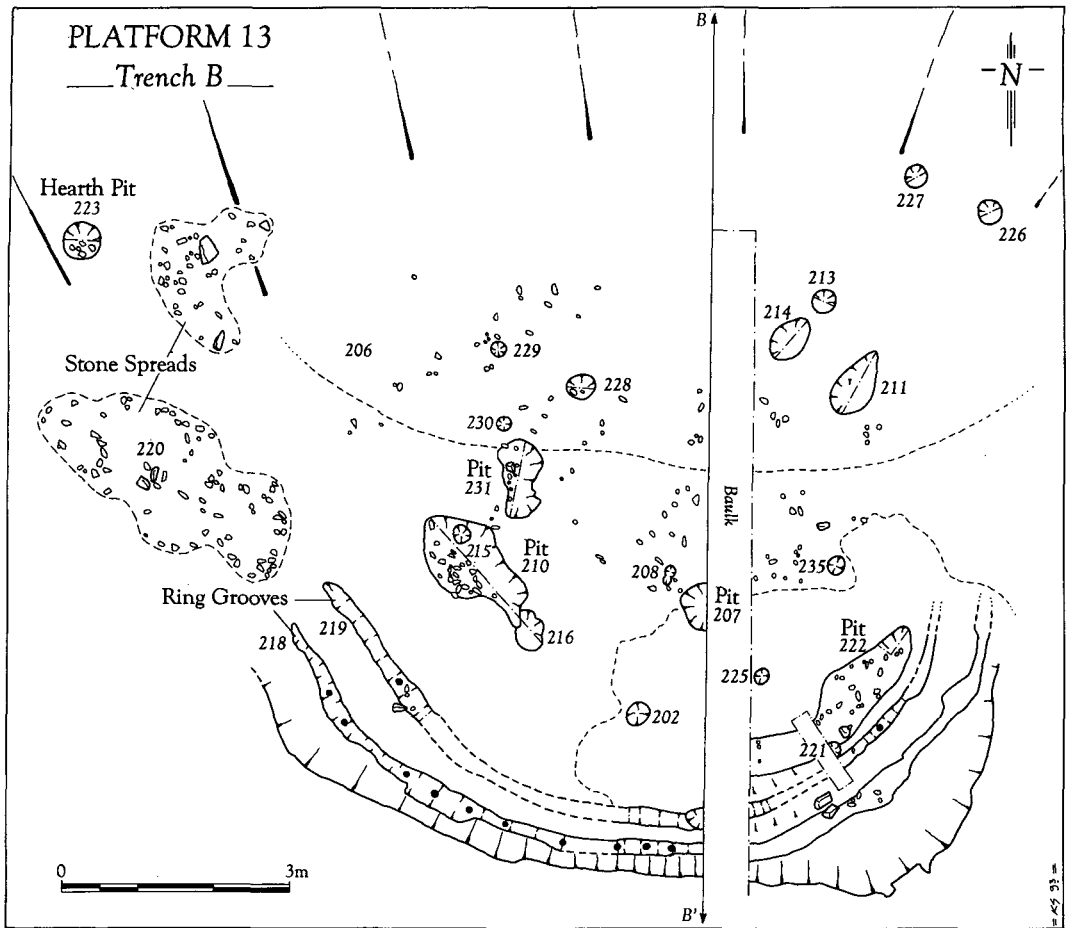
alignment of the ring-grooves. The Phase 1 house wall is represented by the slight remains of ring-groove 133, cut and replaced in Phase 2 by ring-groove 122, which can be projected to suggest a building of c 9.0 m diameter. This later ring-groove cut the earlier floor (104/111), which, although not physically related to the Phase 1 ring-groove, is likely to relate to the primary house construction. As post-holes 112, 113, 127, 131 & 132 cut the primary floor, and were partly sealed by the secondary floor (105), it would seem reasonable to associate these features with the Phase 2 rebuild. A repair to the Phase 2 building wall may be evident where post-hole 108 clearly cut the later ring-groove at the back of the house. Unfortunately the surviving stratigraphy does not allow the other features to be related to specific phases of building.

Minimal survival of the structural elements on this platform makes interpretation of the upstanding structures very problematic. There was no evidence for the entrance orientation and the surviving lengths of the ring-grooves provided no clear indication of wall construction. However, in comparison with the other ring-groove structures (cf platforms 5, 8 & 13) a wattle-and-daub construction might be envisaged. The internal post-holes did not fall into a post-ring arrangement, and reconstruction of the roof remains elusive. However, a timber-framed wall braced above head height might provide sufficient support for a conical roof with only minor internal props, although the estimated size of the house may be near the limit of this method of construction. Because of their cohesive plan, the five post-holes, 114, 115, 120, 121 & 124, may be interpreted as an internal structure, and may not, therefore, be related to roof support.

#### PLATFORM 13: TRENCH B (ILLUS 5)

This platform was cut into a slightly less steep part of the hillslope. It showed as no more than a minor elliptical scoop prior to excavation. Remains of what may be interpreted as two phases of house construction were preserved largely over the rear of the platform, with forward erosion not quite so severe as platform 14 due to the gentle nature of the slope. However, the minor terracing into the hillside had not provided sufficient protection at the rear to assure the survival of floor or occupation levels. An approximately semicircular cut formed the rear scarp of this platform, with two parallel ring-grooves cut into its lower face. Redeposited sandy material, presumably derived from the rear scarp, made up the front apron deposit (206).

The ring-grooves (218, 219), of concentric layout and maximum surviving depth of 0.10 m, were preserved only around the rear half of the building. To the east their line simply petered away; on the west side they appeared to butt end. Structural evidence of small post impressions were preserved along part of the base of these ring-grooves, and where sufficient survived in the outer groove (218) a spacing of c 0.40 m between posts was discernible. These post impressions barely penetrated the base of the grooves, but they would appear to represent blunted ends of timber uprights of 0.04–0.06 m diameter. Possible packing stones were noted adjacent to some of the post positions. A ring of posts (202, 215, 216, 225, 228, 230, 235) of slightly oval plan (4.9 m east/west and 4.4 m north/south) lay within and concentric to the line of the ring-grooves. There was a marked decrease in the preserved depths of these post-holes from rear to front of the platform, reflecting the forward erosion and truncation of features, with post-hole 202 at the back measuring 0.20 m while the foremost post-hole (228) survived only 0.07 m deep. This erosion may account for two missing post-holes on the north-east side, which would otherwise have completed a relatively evenly spaced ring of posts at c 1.5 m intervals. However, the presence of larger post-holes (including 211 with a substantial part of a pot base in its fill) outside the line of the ring at this point may have a bearing on this matter (see below). A single small post-hole (229) on the north-west side lay within, or just possibly on, the projected line of the inner ring-groove (219).



ILLUS 5 Excavation plan platform 13

Other features on this side of the platform, but certainly outside a projected circular house, were two stone spreads. The larger of these (220) respected the butt ends of the ring-grooves, and the other lay to the east side of a hearth pit (223). This shallow pit, 0.11 m deep with sloping sides and a flat bottom, contained heat reddened stones (possibly remnants of a lining), and produced sufficient charcoal, mostly of hazel and alder, to yield a radiocarbon date of  $1600 \pm 130$  BC uncal (GU-3198). Other pits, internal to the building, provided no evidence of function. A shallow irregular pit (231) amounted to no more than a scoop. Pit 210, of similar shallow profile 0.10 m deep, cut away parts of post-holes 215 & 216 and as such, although containing fragments of prehistoric pottery, would appear to be later than the house construction. Likewise circular pit 207, with two conjoining stake-holes (208) on its north-west side, was clearly a late feature, cutting a covering layer of hillwash over the rear of the platform. However, the elongated shallow flat-bottomed pit 222, of maximum depth 0.07 m, may be contemporary with the house as it respects the inner edge of ring-groove 219. A post-hole (221), located against the outer edge of this pit, was firmly chocked with stones prior to the deposit of a grey silty fill.

*Interpretation: Platform 13 (Trench B)*

The occurrence of two ring-grooves might imply two phases of house-building. However, the wall grooves do not intercut and the truncation and layout of the features have not preserved any stratigraphical evidence of building phases. The wall construction, with impressions of small posts preserved in the base of both ring-grooves, can reasonably be interpreted as wattle covered in daub, to judge from the recovery of this material in a burnt and fragmentary state from most of the trench contexts.

The wall lines appear to define circumferences of c 8.0 m and c 9.0 m diameter, if projected as mirror images over the north surface of the platform, possibly forming an oval building plan in relation to the internal post-ring. The probable position of an entrance was defined by the butt ends at the western extent of the ring-grooves, which coincided with a spread of stones. These stones run out along the contour in a slight hollow, consistent with wear requiring hardstanding. Direct access to the hearth would also be gained from an entrance on this orientation. Thus we might reconstruct a circular house of double wall construction and an internal post-ring supporting the roof, with an entrance on the west side. However, a group of large post-holes (211, 213, 214, 226, 227) on the north-east circumference of the projected wall lines creates an additional complication. From their positions these post-holes may be interpreted as an entrance, forming a passage 1.0 m wide with an extended porch. The size and shape of the inner two post-holes (211, 214), with ramps on their north-east face, would suggest that they held substantial timbers, in the region of perhaps 0.15–0.20 m diameter. These would have proved adequate to support the roof, at this point, negating the need for a complete internal ring of posts. Therefore, two entrance positions are possible, which may be attributable to two phases of building (given the two wall lines). However, there is nothing in the available evidence to contradict a double walled building with a front and side entrance. The quandary of double-wall constructions, where ring-grooves can not be clearly assigned to two phases of building (cf platforms 5 & 7) is discussed in detail later. The only features on this platform clearly of a secondary phase were the pits 207 & 210 (cutting earlier remains) and the post-hole (221) in the pit close to the inner wall groove. This latter feature possibly represented a repair to the wall, where a post had been pushed up against the superstructure.

## PLATFORM 1: TRENCH C (ILLUS 6)

A well-defined oval-shaped levelled terrace was recognized prior to excavation. Preservation of features at the back of the terrace was good where protection was offered by the infilling of the steep rear cut. But once clear of this lee, plough damage had resulted in severe truncation of the front apron deposit with minimal survival of the forward structural remains. This platform appeared not to be the stance for a timber house, but rather a stone-built, oval-shaped enclosure with non-domestic characteristics. Two smaller trenches were opened on either side of the main trench over the platform (illus 2). The first investigated a minor scoop to the east, which revealed itself as a rabbit warren; the second checked for a worn approach to the west side of the platform that may have linked it with a slight hollowed way on the east side of platform 5 (see below), and also produced a negative result.

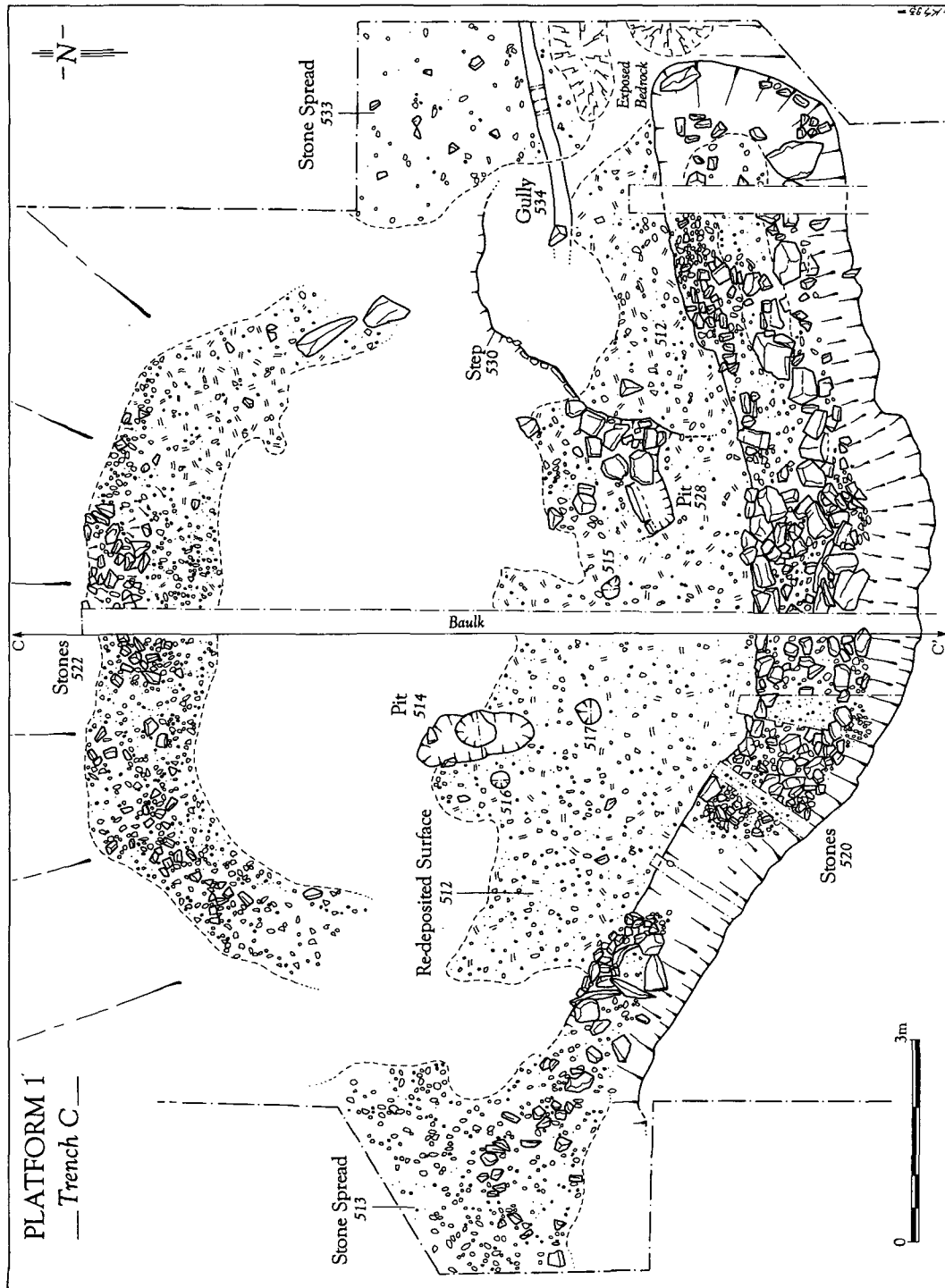
A stone and soil-packed foundation trench ran around and against the base of the terraced cut for this platform. It measured up to 0.50 m deep and about 1.5 m wide at its centre, but became shallower at its east and west extremes. To the east side of the platform, close to outcropping bedrock, a clear butt end was observed adjacent to a stone spread (533). But on the opposite west side no such unequivocal evidence was preserved, and the trench simply petered out into a spread

of stones (513). Facing stones of local greywacke, with a rubble core set in a silty clay matrix, packed much of the length of this trench, but survived little higher than the inner edge of the foundation cut. Redeposited material (512) of mixed sandy clay and gravels, almost certainly derived from the digging of the foundation trench to judge from the subsoil, was spread out over the rear of the platform to form a hardened surface, but was truncated to the fore. Very scant remnants of the base of an opposing foundation trench, mostly demarcated by a concentration of stones (522) in a clay matrix similar to the rear wall, was traced around the front edge of the platform. These stones, and the line of the forward foundation wall, petered out as they curved towards the east and west extent of the rear wall.

Internal features were few, and all were cut into the redeposited material (512). An arc of three small post-holes (515, 516, 517) ran round part of the rear of the platform, and an elongated pit (514), containing lithic debitage, lay west of centre. This pit, surviving 0.13 m deep with a scooped impression in its base, contained much charcoal, although the wood had not been burnt *in situ* (see phosphate and magnetic susceptibility report). The carbonized fragments were largely of hazel, alder and birch, and yielded a radiocarbon date of 1410±120 BC uncal (GU-3199). To the west and towards the rear of the platform were the scant remains of a small subrectangular pit (528). This was 0.05 m deep and part faced with stone slabs. A step (530), partly revetted by stones, had been cut to the east of this pit. Flat stones overlaid this step and were partly covered by a grey silt, which also filled the small pit. A shallow gully (534), 0.05 m deep with a U-shaped profile, ran in a straight line out of the trench to the east beneath the stone spread 533. Because it petered out, its starting point on the platform was difficult to determine precisely.

#### *Interpretation: Platform 1 (Trench C)*

From the remains of the wall lines an oval enclosure can be made out, measuring approximately 14.0 m by 8.0 m internally. The width and consequent load-bearing capacity of the wall foundations indicate a substantial superstructure, which was probably entirely of stone construction. Although there was little evidence of collapsed stone walls in the interior, this might easily be explained by robbing and/or plough truncation. The former may also account for the absence of large stones in parts of the rear wall foundations. Entrance to the enclosure appears to have been from the east, where the rear foundation trench butt ended. This probable break in the wall was coincident with a spread of smaller stones, perhaps representing hardstanding in the entrance way. A similar spread of stones on the west side may also hint at another entrance. But in both cases truncation of the remains has resulted in poor survival, and unequivocal evidence of entrance(s) was not preserved. However, the case for an entrance on the eastern side was supported by the existence of a gully (534) preserved under the stone spread, which might reasonably be assumed to have run through an entrance rather than under a wall. Despite the poor preservation, a stratigraphical sequence is preserved in this area. First, the foundation trench was dug out and the excavated material laid down to form a surface. This was followed by the cutting of the gully, which must have become redundant and, indeed, silted up by the time the stone spread was put down. Whether this gully linked with activities involving the small subrectangular pit (528) is unclear, although its heading may suggest a connection, and its stratigraphical position would not preclude such a relationship. The pit (528) and its ancillary contexts unfortunately provided no hint of function. Three small post-holes in an arc, at the rear of the enclosure, may conceivably be part of an internal post-ring for support of a roof. However, given the large size of the enclosure, even allowing for the forward truncation, it is perhaps surprising that no further evidence of internal roof supports was found, and the possibility of an unroofed structure might be considered.



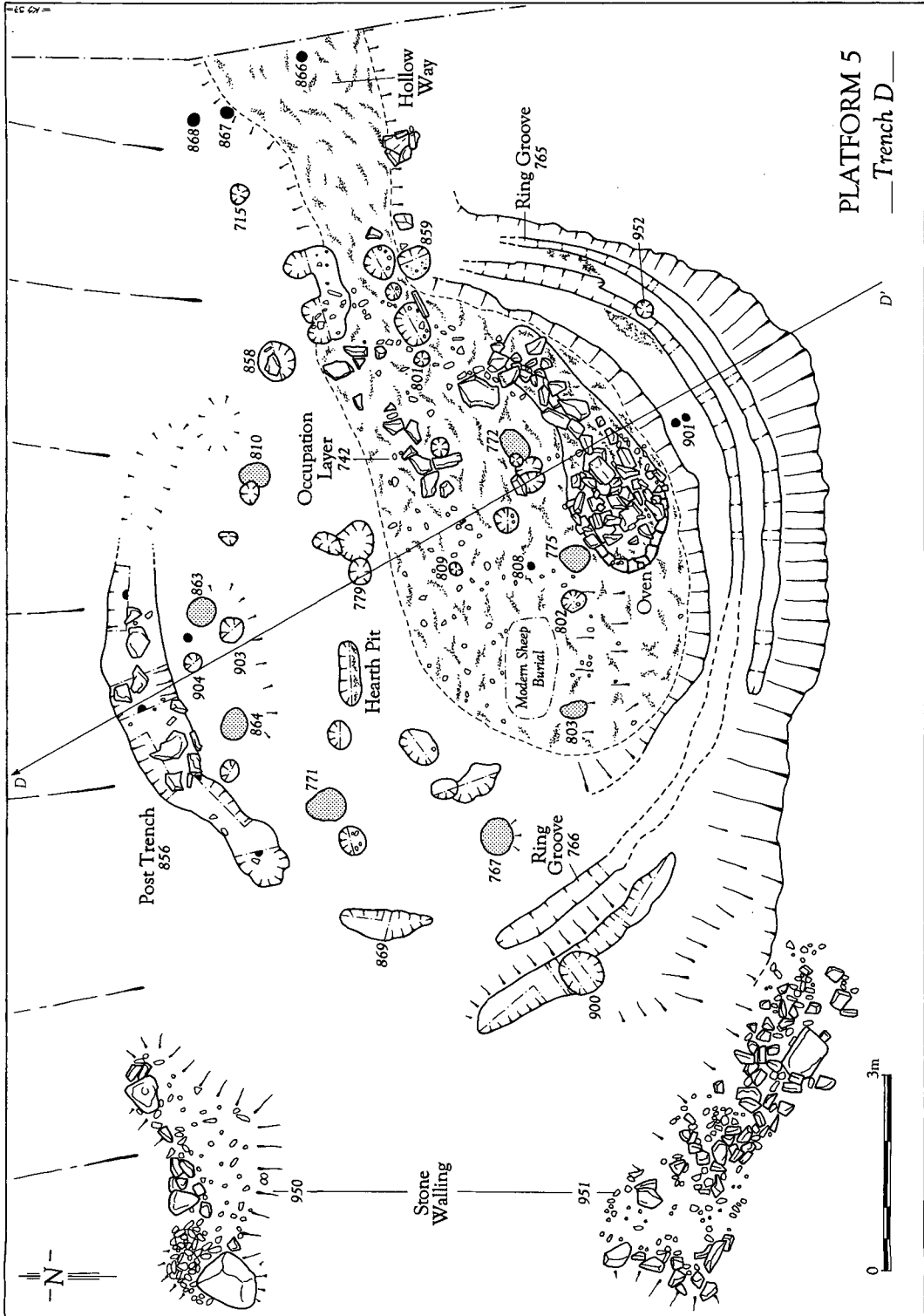
ILLUS 6 Excavation plan platform 1

There was certainly no evidence for a timber-walled house ever having existed on this platform. In fact, the post-holes, like the hearth and all other internal features, cut the redeposited material, and would therefore appear to relate to the lifetime of the stone enclosure. The enclosure could have served differing purposes from time to time, or provided shelter for a variety of activities, and this may be what is represented in the array of internal features and the minor stratigraphy recorded in the postulated east entrance. Nonetheless, none of the archaeology recorded on this platform would appear to be indicative of a domestic function for the enclosure. The lack of pottery peculiar to the excavation of this platform also does little to favour a domestic interpretation (see pottery report). In addition analysis of phosphate and magnetic susceptibility samples, taken over the better-preserved rear part of the platform (see phosphate and magnetic susceptibility report), suggests it may have functioned as a byre.

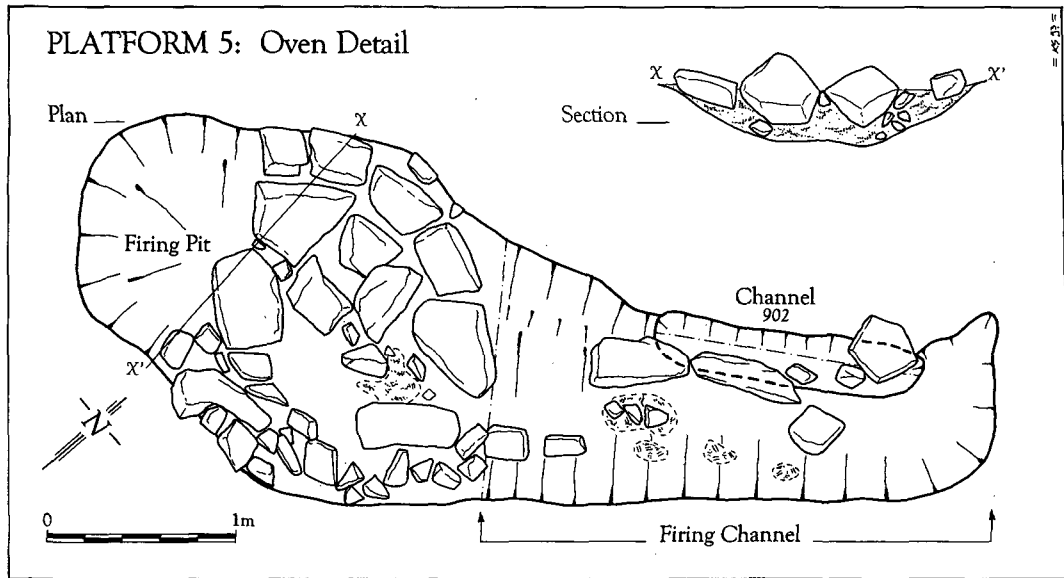
#### PLATFORM 5: TRENCH D (ILLUS 7)

This house platform was the best preserved of the excavated stances. Prior to excavation it appeared as a deep oval cut terraced into the hillside. It was constructed by scooping into the back of the slope, with no evidence for a front apron deposit. The preservation of a complete house plan can be directly attributed to this scooped construction, for on abandonment such a deep cut was soon covered by a protective accumulation of slopewash, and its non-projecting front edge suffered little exposure to the plough. The limited truncation of features about the leading edge would appear to confirm that the full width, or near full width, of this platform survived, measuring 11.0 m wide and some 16.0 m across. Arrangement of features and surviving stratigraphy indicated a series of repairs to the fabric of this house, which was circular with opposing entrances.

The steep rear cut for this platform (through shattered bedrock), c 2.5 m deep, incorporated a ledge along its base. This ledge, measuring c 1.10 m wide and a maximum 0.30 m high, accommodated the line of two parallel ring-grooves (765, 766) around the back of the platform. The grooves were spaced 0.25 m apart, with a maximum depth of only 0.03 m. The line of the outer ring-groove (765) was interrupted at its south-west point by an area of hard slightly upstanding bedrock. Their simple dished profiles preserved no evidence of individual post placements (except later insertions 900, 952). Structural remains were, however, evident from abundant charcoal and burnt daub patches in their fill, and charred spreads over the groove lines. A sample taken from the outer ring-groove of birch charcoal produced a radiocarbon date of  $1480 \pm 90$  BC uncal (GU-3200), while the sample from the inner groove unfortunately failed due to an unrecoverable laboratory error. The terminals of these ring-grooves petered out on the east side as the ledge sloped down to the floor level (before reaching the east entrance), but on the west the grooves terminated in clear butt ends. The wall line around the front of the platform was picked up in a larger post-trench construction (856). Here stone packed post-sockets up to 0.08 m deep for the blunted ends of posts c 0.10 m diameter, spaced approximately 1.50 m apart, were preserved in the base of this shallow feature. However, around the north-east circumference of the platform the trench became very shallow and its line was only just preserved in two slight depressions. Two opposing entrances on the east and west sides of the house were manifest from breaks in the wall foundations. The eastern entrance, approached by a hollow way of maximum depth 0.16 m, was flanked by opposing lines of three posts. The line on the north side extended to an additional smaller post-hole (801) on the inside. This whole arrangement created an entrance passage c 1.00 m wide. Two larger post-holes (858, 859), either side of the entrance passage, on the line of the wall, presumably carried the weight of the roof over the entrance span. External to this entrance was



ILLUS 7 Excavation plan platform 5



ILLUS 8 Platform 5, detail of oven

a single post-hole (715) on the north side, and a line of three stake-holes (866, 867, 868) running part way into the hollowed approach. The western entrance was evident from two breaks in the line of the wall, and faint traces of a slight hollow way or worn path, which ran out to the west. Entrance widths of c 0.95 m were recorded either side of a short length of featureless shallow foundation trench (869), placed in the middle of the entranceway. Short surviving lengths of drystone wall (950, 951) effectively defined the approach to the house on this side. Numerous internal post-holes were interpreted as a post-ring, with evidence of constant reuse of some of the post-pits (post-hole 772 had at least three recuts).

There was no evidence of a floor, although a greater number of smaller stones and pebbles were observed over the interior surface than in the surrounding subsoil. However, an occupation layer (742), mainly composed of rakings from the oven, had survived over the rear of the house and spread out through the east entrance. Extensively sampled, this layer contained numerous sherds of pottery, including the remains of two near-complete vessels in the east entrance (see pottery report). An oven at the back of the house was positioned between a slightly wider part of the ledge and the post-ring arrangement. This oven was constructed in an ovate pit 0.25 m deep of curved profile, with a stoke-hole or flue 2.20 m long leading off to the north-east (illus 8). The firing channel sloped down from 0.07 m to 0.16 m deep into the pit. A few patches of burnt clay adhered to the sides of the stoke-hole, and both the firing channel and pit were lined with slabs of stone. A larger stone surround to the latter survived *in situ*. A narrow channel (902), 1.20 m long, 0.17 m wide and maximum depth 0.13 m, ran along the north side of the stoke-hole beneath the stone lining, stopping short of the firing pit by 0.25 m. Flat stones were positioned over the charcoal-rich fill (780) of this oven, as if in an attempt to consolidate the loose infill. A radiocarbon assay from the oven fill, of hazel and some birch charcoal, produced a date of  $1250 \pm 50$  BC uncal (GU-3202). No burnt clay or daub, suggestive of a clay dome, was recovered



from the oven fill, and the only artefact was a piece of chert knapping debitage. The only other internal features, apart from the oven and post-holes, were a small hearth in a shallow scoop to the north-west of the centre of the building and two stake-holes (901) on the ledge behind the oven.

*Interpretation: Platform 5 (Trench D)*

A single circular timber house structure, albeit with a number of repairs, of c 9.0 m internal diameter appears to have been built upon this platform stance. However, the double ring-groove around the back of the house raises the question again (cf platform 13) of more than one phase of building, although in this case, even with two entrances, the single-wall construction about the front tends to negate the multi-phase argument in favour of an unconventional adaptation of building techniques. The narrow ledge at the back could not have accommodated a post-trench, and it may be that the rear wall was doubled to produce a similar-strength construction to the fore, although the possibility of the outer groove being added at a later date cannot be wholly dismissed. Repairs were evident to the rear walls, where later posts (900, 952) had been inserted, also the inner wall groove on the east side thickens as a result of a possible mend. Wattle-and-daub-constructed walls were evident from the recovery of this material in a burnt fragmentary state from the shallow foundation fills.

An internal post-ring, as denoted by the eight post-holes 767, 771, 772, 775, 803, 810, 863 & 864 (shaded in illus 7), makes a convincing evenly spaced primary arrangement for supporting the roof, which respects both entrances. Here it is interesting to note how possible repair post-holes (ie 903 & 904) cluster about these major posts, or partly reuse existing post-pits (ie 772 & 810). Some of these repair post-holes, presumably inserted to strengthen a sagging roof (ie nos 770, 772 recuts, 777, 810 recut & 903), show by their gently sloping edge on one side how the post may have been chocked in the roof beam and pushed from the bottom into an upright position (posts 772 recuts, 810 recut & 903 being pushed from the centre of the house, and 770 & 777 using the west entrance as pivot space). Further post-holes, including some smaller ones (808, 809), were set inside the line of the post-ring, but whether these also helped support the roof frame or had some other function is unclear. A shallow multiple post-hole (779) with up to two later insertions was positioned towards the centre of the house, and one might speculate that a series of repairs became necessary at this point. The major post-holes making up the ring, interpreted as primary, were noticeably larger and of a fairly uniform 0.20 m depth, in comparison with the generally shallower subsidiary post-holes. All could have held circular timbers in the region of 0.10–0.14 m diameter, possibly larger in some cases. As stated above, the layout of the major post-holes appears to respect both entrances, suggesting the house was originally designed with opposing access. It is also interesting to note that the post-ring is set slightly off-centre, allowing location of the oven outside its line. The somewhat unconventional plan of this building may be a product of a specialist function for the house, almost certainly and at least in part associated with the oven (see below).

The precise design of this oven, with its deeply cut stoke-hole, would appear to be a unique Bronze Age feature. Even in the Iron Age period, on a site such as Danebury in Hampshire, where a variety of oven structures were identified (Cunliffe & Poole 1991, 145–51), no direct comparison is available. At Lintshie Gutter the interpretation of this feature as a cooking oven, rather than a furnace or kiln, is based largely on the negative evidence for industrial activities in the vicinity of platform 5 (such as metalworking and potting), and upon its location in a domestic structure. Indeed no prehistoric pot wasters were identified from the entire site assemblage. Thus food cooking, perhaps also the main function of this house, would appear to be the most viable

interpretation. The only food remains found in the oven fill and in the rake-out were a few grains of charred barley (see plant remains report), which can hardly be seen as conclusive evidence of food preparation. However, a saddle quern was found in the rake-out by the east entrance. No evidence was recovered for an oven plate or for the nature of the superstructure. Whatever its internal arrangement, the oven (surely an enclosed structure given its proximity to the structural elements of the hut) was clearly cleaned out through the stoke-hole, and the rakings, from the direction of spread, removed by the east entrance. The opposing entrances in this house might also serve to help moderate the temperature while the oven was in use.

#### PLATFORM 6: TRENCH D

This platform, to the south-west side of platform 5, was not excavated as it lay at the top of Trench D (illus 2) well away from the road development. Nevertheless, as its front edge fell within the confines of the trench, topsoil was removed from the front apron, in order to confirm its archaeological nature and standard platform construction. A thin skim of sandy redeposited subsoil (presumably derived from the rear cut for the platform) survived over the forward scarp, and sealing this over the front edge of the platform was a scatter of stones, possibly remains of a laid surface. However, no further investigation was carried out, and no finds were recovered.

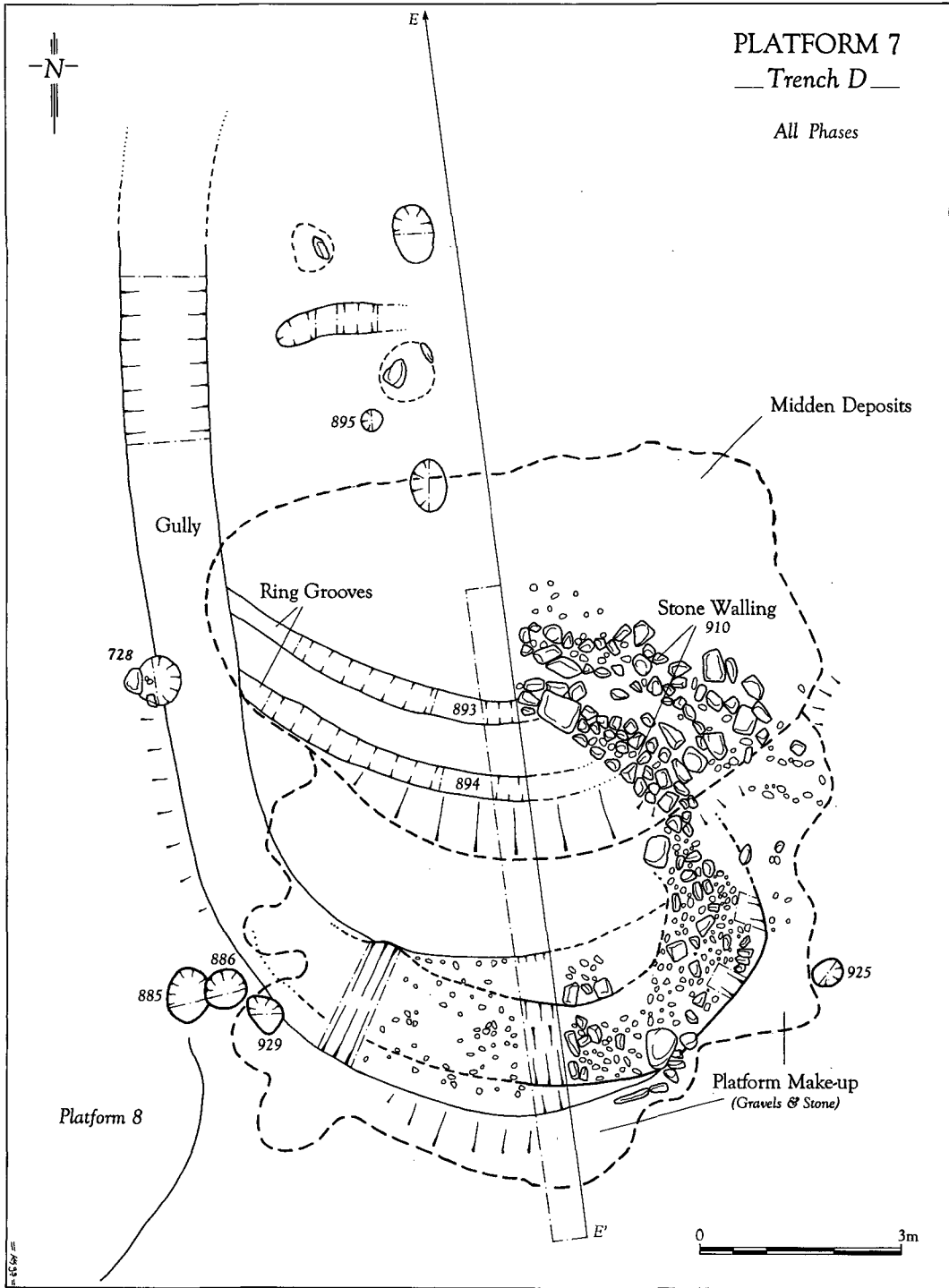
#### PLATFORM 7 COMPLEX: TRENCH D (ILLUS 9)

Before excavation, platform 7 was identified as a minor scoop on the north-east down-slope side of platform 8 (see below). However, on excavation this scoop was shown to be the front scarp of an upper platform that had been built over the back of an earlier levelled building stance. Four phases of construction could be identified (illus 10). It is possible that the later phases are contemporary with the Phase 2 structure recorded on platform 8. Severe truncation of these remains by the plough meant that much information had been lost.

The Phase 1 platform, positioned lower down the slope, was preserved as a slightly levelled area terraced into the hillside. The line of two ring-grooves (893, 894), no more than 0.05 m deep, ran round the back of this stance. A number of minor features about the approximate centre of a building(s), defined by the wall grooves, may relate to this platform structure. These features were severely truncated, with the exception of post-hole 895 (0.17 m deep), and only survived as shallow depressions. Any remains of front apron material was lost through ploughing.

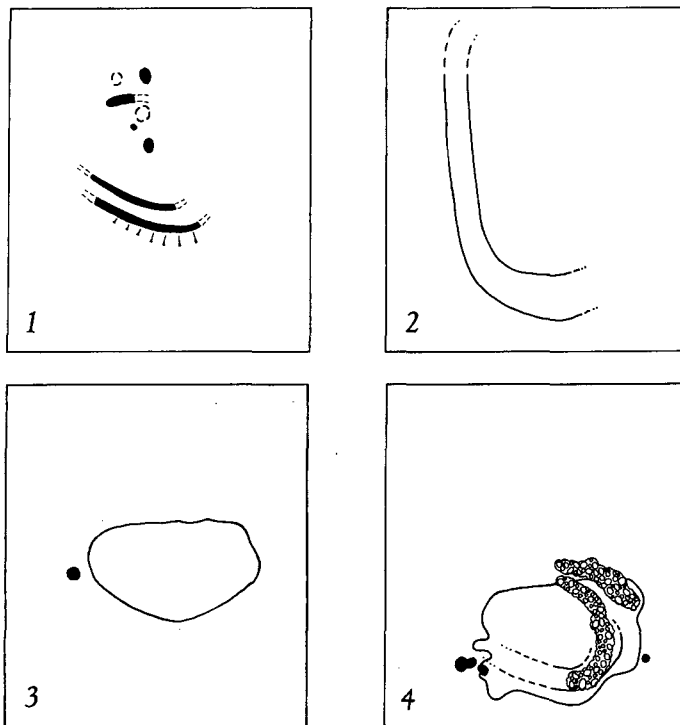
In Phase 2 the western extent of the ring-grooves was cut away by a broad flat-bottomed gully, measuring 2.40 m wide and up to 0.50 m deep at its better-preserved southern end. This feature, however, rapidly thinned out as it curved downhill and eventually petered away at its northern limit. At the top of the slope it was cut away by a wall foundation, belonging to the Phase 4 platform construction. A sterile sandy washed-in fill was observed along the surviving length of this gully, partly sealed on the east down-slope side by the Phase 3 midden deposit.

In Phase 3 the rear of the levelled stance for the Phase 1 platform, was built up by a charcoal-rich midden deposit (703, 704, 796). This midden contained large quantities of pottery, together with some diminutive fragments of burnt bone. In Phase 4 it was consolidated by a double stone wall (910), which formed the front apron structure of an upper platform. The inner wall cut the Phase 2 gully, curving back along its southern extent to create a foundation trench around the rear of the platform. A concentration of gravels and stones, part of the build-up for this upper platform, survived over the rear half of the stance. Most of the front part had collapsed and was eroding downhill. No details of a platform structure were preserved on the Phase 4 platform, apart



ILLUS 9 Excavation plan platform 7 complex

## PLATFORM 7: Phasing \_\_\_\_\_



ILLUS 10 Phase plans platform 7

from the remnant stone walling. However, an alignment of post-holes (885, 886, 929) on the south-west side of the platform respected the edge of the walling, and in the case of 929 cut the earlier gully. These might therefore be associated with this phase, possibly linking with the secondary construction on platform 8. The only other feature in close proximity to this upper platform was a single post-hole (925) to the east, but this lay in stratigraphic isolation outwith the overall phasing. A further post-hole (728), assigned to Phase 3 as it cut the west edge of the gully, may, from its close proximity to the upper platform, relate to the Phase 4 structure.

*Interpretation: Platform 7*

Phase 1 is defined by a poorly preserved primary platform with two short surviving lengths of ring-groove cut into the back. These grooves might imply a double-wall house built upon this stance (cf platforms 5 & 13), or possibly two sub-phases of building. Whatever the original situation, the arc of these grooves implies a fairly large building(s) in the region of 12–13 m diameter. No evidence of entrance orientation or arrangements for roofing was preserved in the truncated surface.

The Phase 2 gully appears to have acted as a drainage channel, although elsewhere on site there seems to have been little need to control the flow of water. Its construction would certainly

serve to enhance an already freely draining subsoil, and this may have been an important factor in activities about the lower platform, once the building had fallen out of use. Equally, however, the gully may have had a demarcation function coincident to its drainage properties. It is worth noting that the fill produced no artefacts or evidence of surrounding occupation, and this may suggest that platform 8 (slightly higher up the slope) was not a contemporary construction. There was certainly no burnt detritus in the excavated parts that might be associated with the early phase on platform 8 (see below), although, given the angle of slope, it is not improbable that this material could have been washed away or cleaned out before the gully finally silted up.

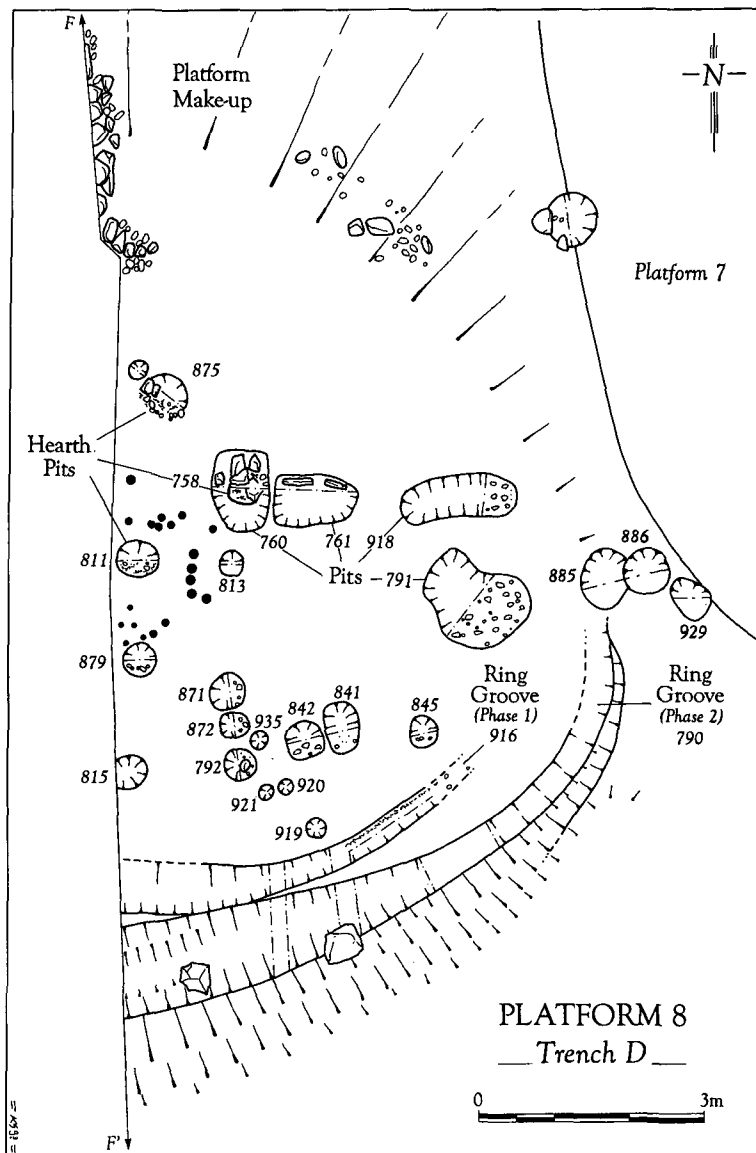
The walling consolidating the front apron of the upper platform appeared to have been constructed through the midden deposits, with midden material under the wall foundations (illus 3). This would imply that the midden was formed in the hollow left by the earlier platform, prior to the construction of the upper platform. During excavation, individual dumps were recognisable within the midden, and in some cases it was clear that large portions of pots had been crushed *in situ*, presumably from the weight of later deposits. However, whether the midden was totally built up *in situ*, or transported from elsewhere is not entirely clear, although the occurrence of the crushed pottery in discrete dumps would tend to suggest the former. Localized dumping of this material is implied by the pottery fabric distribution. This shows fabrics occurring in the midden are found again on the neighbouring platforms 5 and 8, but not on the more distant platforms 13 and 14. However, this distribution pattern could be the result of chronological development. The dumped material appears to be normal domestic waste. Diminutive fragments of burnt bone, as found in the midden, were also common to the fill of the three hearth pits (758, 811, 875) on platform 8 (see below).

There is structural evidence for a link between the Phase 4 structure on platform 7 and a later building on platform 8 (see Interpretation Platform 8). As to the Phase 4 structure of platform 7, little evidence survives beyond the wall to interpret the nature of the building. Nevertheless, a circular stone-founded construction of 4–5 m diameter is implied, which may have been a subsidiary structure to a building on platform 8.

#### PLATFORM 8: TRENCH D (ILLUS 11)

Only the eastern half of this platform was excavated in order to study its relationship with platform 7. The platform lay just up-slope to the west side of the platform 7 complex, and survived as a fairly deep cut into the hillside. Platform 9 (unexcavated), a smaller but similarly shaped stance, lay on the same contour adjacent to the west side. Two phases of house construction were evident on platform 8, although the plough truncations of much of the platform surface meant that little of the archaeology could be securely related to specific phases of building. A charcoal-rich layer, sealed beneath the front apron of this platform, may relate to the destruction and burning of the primary platform structure, although again truncation prevents a decisive connection.

Remains of a primary ring-groove (916) survived around the back of the platform, but petered out towards the front. This flat-bottomed ring-groove had a maximum surviving depth of 0.06 m and was filled with structural remnants of burnt clay and charcoal that spread out over the inner edge of the wall groove. A radiocarbon date from the larger hazel charcoal fragments in this groove of 1980±60 BC uncal (GU-3203) has been obtained. A broader ring-groove (790), of maximum depth 0.08 m, lay behind the line of the Phase 1 groove and cut away part of the outer edge of the earlier wall. A greater length of this second wall-groove survived running along the base of the rear scarp. Extensively excavated, this groove produced no structural evidence, although the widening of the feature around the back, and tips of larger stones into the upper fill



ILLUS 11 Excavation plan platform 8

(including some pottery), may suggest that timbers had been removed. Three post-holes (885, 886, 929) clustered on the east side of the platform.

None of the other post-holes (all internal) could be associated with either phase of wall line, or linked to one another stratigraphically. However, four small post-holes (919, 920, 921, 935) at the back of the platform might be grouped together as an internal divide. Large post-holes (792, 815, 841, 842, 845, 871, 872, 879) at the rear may have had a similar function, possibly also acting as roof supports. Three shallow hearth pits (758, 811, 875) lay towards the front of the platform,

with 758 recut into the top of an earlier pit. Hearth pit 875 was stone faced with a cobble base. All these hearth pits contained charcoal-rich fills with minute fragments of burnt bone; hearth pit 758 also produced sherds of scorched pottery. Numerous stake-holes were present, clustered about hearth 811, with an arc of larger stake-holes grouped around the west side of post-hole 813. Four pits (760, 761, 791, 918), with sloping sides and flat bottoms also survived at the front of the platform. All were truncated and measured a depth of 0.23 m, with the exception of 761 which survived 0.26 m deep. The two neighbouring pits, 760 & 761, appeared to have been backfilled as a single event with compact sandy soil. The other two pits contained mixed fills of charcoal-flecked soils and stones; 791 also produced sherds of pottery. In addition, pit 918 appeared to have remained open for a while, accumulating a primary dark grey silt fill 0.04 m deep.

The pits 760 & 761 and hearth pit 875 all cut the upper part of the front apron material (932). This redeposited material of a sandy loam with abundant stones, extended some 12.0 m down the slope (illus 3). It sealed a charcoal-rich layer (892) up to 0.15 m thick, which was submitted for pollen and charcoal analysis (see plant remains report). The lower reaches of the front apron deposit may be attributed to a down-slope movement of soil, and certainly appeared as tumble in the long section (illus 3). However, the extent, and surviving depth of this layer, serves to indicate a substantial forward revetment for this platform at one time.

#### *Interpretation: Platform 8 (Trench D)*

Two phases of circular building are represented by the wall grooves. The first, defined by ring-groove 916, suggests a building of c 9.0 m diameter. This had been burnt down and replaced by a second building of c 11.0 m diameter as defined by the projection of ring-groove 790. A link with the later platform 7 structure and the second phase building on platform 8 is suggested by the alignment of three post-holes (885, 886, 929) on the east line of the Phase 2 groove. Post-hole 885 survived to a depth of only 0.12 m and was cut by post-hole 886. These posts may be interpreted as one side of an entrance passage, possibly linking with the wall line on platform 7. Indeed, the relationship of post-hole 886 to post-hole 885 might suggest that the passage was a later feature connecting the two platforms, with the upper construction on platform 7 possibly being built as a secondary structure to the side of the Phase 2 building on platform 8. Unfortunately, the severe truncation about this area has probably resulted in the loss of much information pertinent to the reconstruction. Nevertheless, on platform 8 a timber-framed building with wattle and daub walls may be surmised from the burnt remains associated with the Phase 1 ring-groove, with a similar construction considered for the Phase 2 building. Main post-holes for supporting the roof (of either phase) were not discernible as a post-ring, and the architectural arrangement for the under-frame remains elusive.

A number of stake-holes set vertically in the ground, mostly centred on the hearth 811, may be interpreted as either screening around or suspension frames over the fire. The hearth pit 875 had a large flat stone placed in it, suggesting that it may have been a heated surface for cooking. The use of the pits on this platform was unclear although the two larger pits 791 & 918, from their mixed fills with some charcoal content, may have served at least in a final function as rubbish pits.

The charcoal-rich layer (892) sealed below the front apron deposit may have derived from the burning and destruction of the Phase 1 house. Some large fragments of charred roundwood (mostly of *Betula*; see plant remains report) were recovered, possibly the remains of structural timbers. If the apron was thus extended in Phase 2 (a situation which accords well with the larger projected circumference of the Phase 2 structure), then the pits 760 & 761 and hearth pit 875 which cut the front apron deposit may be assigned to the Phase 2 building.

## TRENCH E AND STONE FIELD-DYKE SECTION

Two further trenches were opened over what turned out to be much later remains. Trench E, to the far east of the settlement (illus 2), was placed over the possible remains of two neighbouring platforms, but on excavation there proved to be a modern dump of clay and stones (just under the grass). This material, up to 0.60 m deep, was deposited directly on the turf and topsoil horizon of the uninterrupted line of the slope. From its parallel alignment to the A74, with ease of access on a gentle down-slope to the road edge, it is likely to be associated with construction of the road in the 1960s.

A remnant stone field-dyke, below the line of the settlement (illus 2), was examined for evidence of a preserved ground surface, under its construction, that might have related to the platform settlement. However, a section through the better preserved part of the dyke (below Trench D) showed it to be of no great antiquity and probably, from its level of construction, part of the immediate precursor to the present-day field system.

## THE POTTERY

Helen Smith

### INTRODUCTION

A total of 486 sherds of coarse hand-made prehistoric pottery was recovered from the excavation, comprising 61 rim, 377 wall and 48 base sherds. In addition, numerous small fragments were recovered, many of these being contained within the environmental soil samples. A minimum of 26 vessels was represented, including one near-complete pot (705AC) and large portions of two other pots (703AM and 742AN). Eleven different fabric groups were identified (all stone tempered), most containing large angular rock fragments varying from 1–2 mm up to 15 mm in size. The fabrics were generally quite hard, though some had become friable, probably due to the acid nature of the local soil. The pots appear to have been coil built (some have fractured between the coils) and the surfaces smoothed by hand. The pot surfaces, which were generally grey/brown to buff in colour, had been smoothed (both interior and exterior) but were frequently broken by the coarse grits. Oxidization of the fabrics was incomplete, suggesting that firing had probably taken place at relatively low temperatures in simple pit kilns or bonfires. Many sherds had sooty deposits on one or both surfaces, possibly as a result of use as cooking vessels.

A variety of domestic vessels were represented, ranging from a few small fine-walled pots (eg 505AA) to the large bucket- or barrel-shaped vessels which formed the majority of the assemblage. The rims were either of simple flat or rounded forms.

Whilst the majority of the sherds were undecorated, a few had distinguishing features. A pinched ridge was found below the rim on one sherd (108AA). Low single cordons formed by finger grooves were present on three rim sherds (703AJ, 742AA & 783AA) and more pronounced single applied cordons were found on another rim sherd (700AL) and one wall sherd (700BA). The rim of a large vessel (703AE) with two parallel cordons was also found. Two sherds had incised decoration (rim 700AL and wall 700BA) and pierced holes were present below the rims of vessels 703AM and 742AN.

### RECORDING AND PROCESSING

All sherds were three dimensionally recorded on site and each sherd or group of sherds from a single find spot was assigned a unique letter code incorporating the context number (eg 104AA 104AB 104AC etc). Finds recovered from the environmental samples were also given unique finds codes in this way.



The charred deposits on the near complete vessels 703AM, 705AC and 742AN were sampled for plant remains by Camilla Dickson of Glasgow University Botany Department (see Plant Remains report). Samples were also taken for Lipid analysis at a future date.

The sherds were cleaned by dry brushing and sorted into individual vessels where possible.

#### FABRIC TYPES

All sherds were examined under a binocular microscope at x20 magnification. Differences in the appearance and texture of the clay matrix and the nature, size and frequency of the inclusions were noted and the fabrics were divided into 11 groups (A–K) on this basis. For each different fabric, a type sherd was selected with which to compare the remaining sherds. Samples of the major inclusions were submitted for XRD analysis (X-ray diffraction) at Glasgow University Geology Department, and the results were interpreted by Lindsay Ferguson (Glasgow University Geology Department) as being consistent with chiefly igneous rocks, with some sandstone, greywacke and quartz. All are of types which would have been available close to the site (one possible source nearby being the dyke of basalt, dolerite and other unclassified igneous rocks skirting below the 400 m contour on the western side of Mid Hill) suggesting that the pottery was of local manufacture.

*Fabric A* Type sherd 104AA. Hard. Sandy texture, rough surface, broken by grits. Pink exterior, dark grey core, grey interior. Inclusions: 20% angular mixed rock 1–5 mm. Occurs on platform 14 (Trench A), platform 13 (Trench B) and platform 1 (Trench C).

*Fabric B* Type sherd 120AA. Reasonably hard. Slightly pitted surface. Very pale buff exterior, pink core, pale grey interior. Inclusions: 10% crushed rock & mica <0.5–7 mm. Occurs only on platform 14 (Trench A).

*Fabric C* Type sherd 211AA. Friable. Rough surface broken by grits. Dark grey-grey/brown surfaces, dark grey core. Inclusions: 40% angular rock 5–15 mm. Occurs only on platform 13 (Trench B).

*Fabric D* Type sherd 505AA. Hard. Pale buff exterior, dark grey core, pale buff interior. Inclusions: 20% angular rock <0.5–4 mm. Occurs on platform 1 (Trench C) and platform 5 (Trench D).

*Fabric E* Type sherd 700AD. Hard. Interior surface broken by some grits, exterior smooth. Buff-brown exterior, grey core, grey interior. Inclusions: 30% angular rock. Occurs only on platform 5 (Trench D).

*Fabric F* Type sherd 772AA. Hard. Surfaces broken by grits. Pale buff exterior, pink-grey core, buff-grey interior. Inclusions: 30% mixed angular rock. Occurs on platforms 5, 7 & 8 (Trench D).

*Fabric G* Type sherd 700AL. Hard. Surface broken by grits. Burnt grey-buff exterior, grey-buff core, buff interior. Inclusions: 20% rounded rock 5–11 mm. Occurs on platforms 5 & 8 (Trench D).

*Fabric H* Type sherd 700AZ. Hard. Surface broken by grits. Buff-pink exterior, dark grey core, grey/buff interior. Inclusions: 20% angular rock 4–5 mm. Occurs on platforms 5, 7 & 8 (Trench D).

*Fabric I* Type sherd 742AA. Hard. Surface broken by grits. Brown/grey exterior, grey core, grey interior. Inclusions: 20% angular rock 5 mm. Occurs on platforms 5 & 7 (Trench D).

*Fabric J* Type sherd 700BF. Hard. Grey/buff exterior, dark grey core, buff interior. Inclusions: 20% angular rock 3–5 mm. Occurs only on platform 7 (Trench D).

*Fabric K* Type sherd 783AA. Hard. Rough irregular surface. Grey/brown exterior, grey core, grey/brown interior. Inclusions: 20% angular rock 2–5 mm. Occurs only on platform 8 (Trench D).

## CATALOGUE

All feature sherds are described below. The entire pottery catalogue (inclusive of plain wall sherds and fragments) has been lodged in the site archive. Position and orientation of sherds within a vessel is unknown unless otherwise stated. Estimates of vessel numbers are based on the different rim forms and fabrics present in the separate areas of excavation and represent a cautious minimum total.

*Platform 14 (Trench A)*

A total of 27 sherds (3 rim, 24 wall) and numerous small fragments were found in two different fabric types (A & B). Fabric B is unique to this platform. A minimum of two vessels are represented. Preservation on this platform was poor, except where protected by the deep cut at the rear. This is reflected in the distribution of the pottery, where the largest sherds occurred in a secondary post-hole (108) at the rear of the platform, with smaller sherds coming from the primary floor surface (104/111) and in the post-holes 120 and 121 which form part of a possible five-post structure within the west side of the house.

## 104/111 Primary floor surface (Phase 1)

104AA Rim x 1, wall x 1, fragments x 2. c 12 mm thick. Fabric A: Pink exterior, grey core, buff interior with charred deposit adhering. Out-turned rim sherd with high shoulder or carination 20 mm below rim. (illus 12.1)

111AB Rim x 1. 12 mm thick. Fabric A: Pink surfaces, grey core. Flat rim, Very small fragment found in sample A5. (illus 12.2)

## 108 Post-hole cutting secondary ring-groove 122 (Phase 2)

108AA Rim x 1, wall x 1. 9–16 mm thick. Fabric A: Pink exterior, grey core, buff interior. Plain flat rim. Irregular pinched ridge 20–25 mm below rim, running horizontally around sherd. Burnt deposit on exterior between rim and ridge. From straight-sided vessel. (illus 12.3)

*Platform 13 (Trench B)*

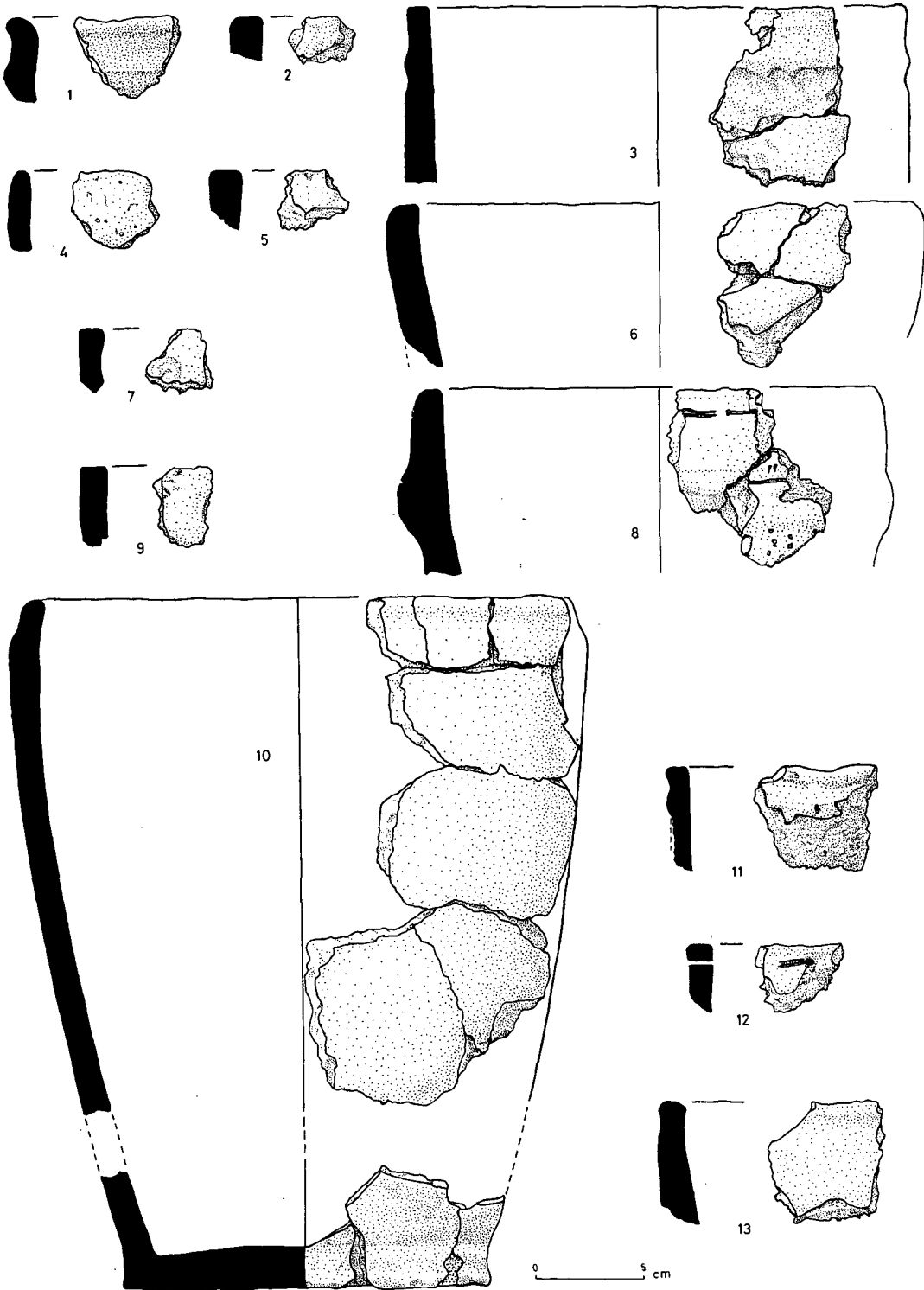
The poor preservation of this platform is reflected in the scarcity of the finds. Eleven base sherds from a single pot were found in a post-hole (211) on the eastern side of the platform. These were of a very coarse and friable fabric and it is possible that other sherds may have disintegrated. The minute fragments, recovered from a sample of the matrix of the stone spread (220) at the probable west entrance to the house, may owe their survival to their small size which enabled them to slip between the stones. Other small fragments also came from a sample of the fill (217) of pit 210 post-dating the building. Fabrics A and C only are represented in the assemblage from this platform.

## 211 Post-hole, east side of platform

211AA Base x 11 (2 conjoining). c 24 mm thick. Fabric C: Dark grey fabric (one surface missing). Very coarse with surface much broken by grits. Possible diameter 90 mm, although all indication of wall angle has been lost. (Not illustrated)

*Platform 1 (Trench C)*

Only three sherds, each of a different fabric type, were found in later depositional contexts at the base of the topsoil and hillwash covering the platform. All three sherds (1 rim and 2 wall) were small in size, and no pottery was recovered from the environmental samples or feature fills. The absence of pottery securely associated with the building would tend to support a non-domestic interpretation for this structure.



ILLUS 12 Pottery

## 505 Hillwash

505AA Rim x 1. 8 mm thick. Fabric D: Grey/buff exterior, grey core, pale buff interior. Slightly pitted surface. Plain rounded rim. (illus 12.4)

*Platform 5 (Trench D)*

This was the best-preserved platform and yielded the largest quantity of pottery. A total of 181 sherds were found (24 rim, 2 base and 155 wall) including the 'complete' vessel 705AC and a large portion of 742AN. A minimum of 10 vessels in Fabrics D, E, F, G, H and I are present. Most of the pottery is from the occupation layer 742 and from the lowest level of the hillwash (705) at its interface with 742, showing a marked concentration in the eastern entrance to the house. The central area of the house was virtually clear of pottery, with a second smaller concentration of sherds occurring in the western entrance area. This distribution might suggest that the house floor was kept reasonably clear of pottery debris. However, numerous small fragments were recovered from the environmental samples from the feature fills. The complete vessel 705AC appears to have been crushed *in situ*, perhaps when the house collapsed after abandonment.

## 700 Topsoil

700AA Rim x 1, wall x 1. 15 mm thick. Fabric F: Pink exterior, grey/pink core. Flat unbevelled rim. Black charred deposit on interior and along broken edge of wall sherd; also on exterior of rim. (illus 12.5)

700AB Rim x 2, wall x 2, fragments x 47 (rim & wall conjoin). 13 mm thick. Fabric E: Burnt brown/grey exterior with charred deposit adhering. Core and interior also brown/grey. Simple flat rim. (illus 12.6)

700AC Rim x 1. 10 mm thick. Fabric E: Buff/grey exterior, grey core, grey/brown interior. Flat rim. (illus 12.7)

700AL Rim x 1, wall x 1, fragment x 1 (rim & wall conjoin). 16–20 mm thick (varies). Fabric G: Brown exterior, pinkish core and interior. Simple rounded rim. Pairs of incised horizontal lines 10 mm below rim. Broad cordon applied at carination 45 mm below rim, demarcated at top by incised line. Occasional impressed dots above and below cordon. (illus 12.8)

700AR Rim x 1, wall x 1. 12 mm thick. Fabric D: Buff exterior, grey core, pale buff interior. Slightly pitted surfaces. Flat rim. (illus 12.9)

## 705 Interface between hillwash and occupation layer (742)

705AC Rim x 13, base x 2, wall x 108, numerous fragments. Fabric F: Buff exterior graduating to grey core and grey/buff interior. Charred deposit (sampled for residue remains) on interior and some exterior surfaces, also along broken edges of sherds. The deposit is probably contents of pot which have spilled out when vessel was crushed. Near complete bucket shaped vessel crushed *in situ*. Incurved flat rim, straight sides sloping inwards towards base, flaring out slightly 40 mm above base. Base diameter (external) c 150 mm. Rim diameter (internal) c 250 mm. Estimated height of complete vessel c 300 mm. Sherds which may be part of same pot: 700AQ, 705AD, 705AE, 742AI. (illus 12.10)

705AD Wall x 11. 10 mm thick. Fabric F: Buff exterior, grey core, grey/buff interior. Largest sherd has two incised lines (probably not deliberate decoration). Possibly part of 705AC.

## 742 Occupation layer / oven detritus

742AA Rim x 1, wall x 4. c 9 mm thick. Fabric I: Buff/grey interior, most of outer surface missing. Pinched irregular rim. (illus 12.11)

742AC Rim x 1. 13 mm thick. Fabric F: Buff exterior, dark grey core. Charred deposit on interior. Flat rim pierced by hole (4 mm diameter) 10 mm below rim. Part of 742AN.

742AF Rim x 1. 11 mm thick. Fabric H: Brown exterior, grey core, charred deposit on interior. Flat rim with pierced hole (4 mm diameter) 4 mm below rim. (illus 12.12)

742AK Rim x 1. 8–11 mm thick. Fabric E. Burnt brown interior and exterior surfaces. Plain flattish rim. (illus 12.13)

742AN Rim x 4, wall x 12, fragments x 26 (also rim 742AC). 3 rim sherds conjoin. 15 mm thick. Fabric H: Buff exterior, grey core, charred deposit on interior. Upper portion of bucket-shaped flat rim vessel (straight sides) with pierced holes (5 mm diameter) in single line 10–15 mm below rim at c 30 mm intervals. Occasional fingernail impressions below rim. Rim diameter (internal) 200 mm. (illus 13.14).

742AP Rim x 1. 10 mm thick. Fabric F: Buff exterior with charred deposit, pale buff interior. Small fragment of flat rim. From sample D34. (Not illustrated)

### *Platform 7 complex (Trench D)*

Platform 7 produced a total of 127 sherds (18 rim, 6 base and 103 wall) including half the circumference of the rim of a large cordoned vessel (703AE) and a large portion of a bucket urn with pierced holes below the rim (703AM). Small fragments were recovered from the environmental samples. A minimum of eight vessels in Fabrics F, H, I and J were recovered from this platform. The majority of the pottery was contained in the upper midden deposit 703 which had been used to build up the front of the later platform. A marked concentration of pottery was also recovered from the topsoil about the midden. The fabrics and forms were generally similar to those found on platform 5.

#### 700 Topsoil

700AH Rim x 2. Fabric H: See 703AE for description. Cordoned Urn, part of 703AE & 700AY. Also base x 1, wall x 4. 9 mm thick. Fabric H: Pinkish exterior, grey core, buff interior. Same fabric group as 703AE but unlikely to be part of that pot, as wall thickness is less and the angle between base and wall seems too steep for 703AE. (Base, illus 13.15)

700AY Rim x 1. Fabric H: See 703AE for description. Cordoned Urn, part of 700AH & 703AE.

700BA Wall x 1. 10–17 mm thick. Fabric F: Grey/brown exterior, grey core, grey/buff interior. Decorated with 3 incised diagonal lines and horizontal broken line (possibly impressed) above roughly applied flat cordon. Cordon occurs at likely carination in pot wall. (illus 13.16)

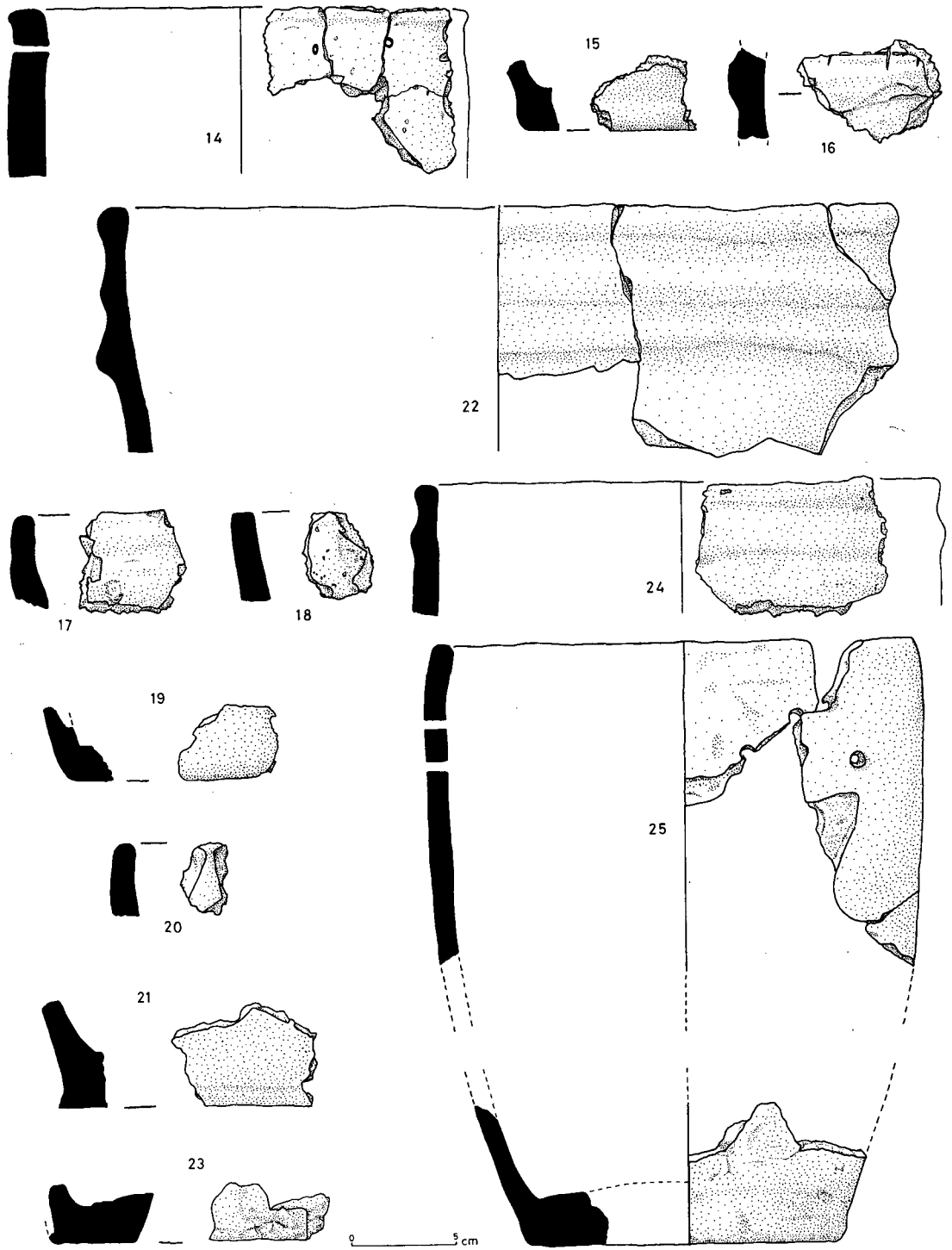
700BF Rim x 1. 12 mm thick. Fabric J: Grey/buff exterior, dark grey core, buff interior. Charred deposit on lower half of interior. Simple flat rim. (illus 13.17)

700BI Rim x 1. 9–12 mm thick. Fabric F: Pinkish buff exterior, grey core and interior. Simple flat rim. (illus 13.18)

#### 703 Midden deposit (upper layer)

703AC Base x 1, wall x 5. Base 18 mm, wall 13 mm thick. Fabric F: Buff exterior, grey core, buff interior. (illus 13.19)

Also Rim x 1, wall x 2. 10 mm thick. Fabric H: Pink exterior graduating to grey core and grey interior. Simple flat rim. (illus 13.20)



ILLUS 13 Pottery

703AD Base x 2. 22 mm thick. Fabric F: Buff exterior, grey core and interior. (illus 13.21)

703AE Rim x 2, wall x 2 (also 700AH Rim x 2, wall x 4 & 700AY Rim x 1). All rim sherds conjoin. Fabric H: Exterior varies from pink to brown/grey, grey core, greyish brown interior. Simple rounded rim. Upper cordon 20 mm below rim, possibly formed by finger groove. Lower cordon 50 mm below rim applied at carination. Forms about half the circumference of the rim of a large vessel with two parallel irregular cordons forming a 'collar' c 70 mm wide. (illus 13.22)

703AF Base x 1, wall x 1, fragments x 20. Base 20 mm thick, wall 12 mm thick. Fabric F: wall has buff exterior, grey core, charred deposit on interior. Base has surfaces missing, grey core. (illus 13.23)

703AJ Rim x 1, base x 1. 9 mm thick. (Impossible to verify as parts of a single vessel) Fabric F: Buff exterior, grey core, buff interior. Flat rim with finger groove and slight cordon 20 mm below rim. Angle of wall on base sherd has been lost. (Rim, illus 13.24)

703AM Rim x 8, base x 2, wall x 4, fragments x 38. Fabric H: Pink exterior, grey core. Charred deposit on interior. Rim sherds conjoin. Straight sided bucket shaped pot, flat rim. Three pierced holes (5 mm diameter) with traces of a fourth on one side of upper part of pot. Upper pair of holes c 25 mm below rim, lower holes c 50 mm below rim. Rim diameter (internal) 230 mm, base diameter (external) c 145 mm. Estimated height 250–300 mm. (illus 13.25)

### *Platform 8 (Trench D)*

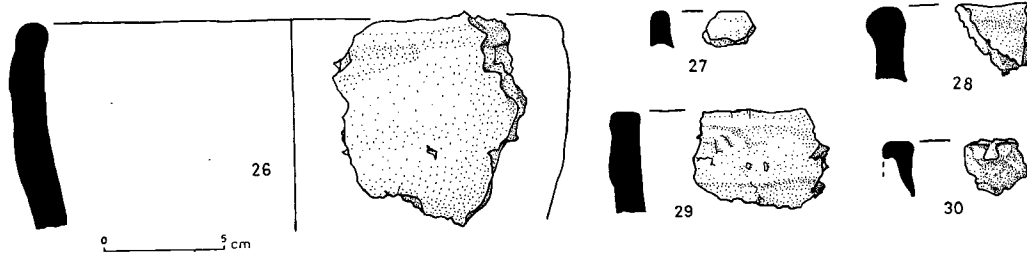
Only half this platform was excavated and this may account for the small quantity of pottery recovered; only 47 sherds were found, comprising 7 rim, 1 base and 38 wall. Some minute fragments were also found in the environmental samples from the occupation contexts. Other sherds were recovered from the hearth pit fill 723, the fill of pit 791 and from the upper disturbed fill of the second phase ring-groove 790. However, the majority of sherds came from a concentration at the rear of the platform in the lower levels of slopewash post-dating the buildings. Vessel forms and fabric types were similar to those found on platforms 5 and 7.

### 700 Topsoil

700AN Rim x 1. 15 mm thick. Fabric F: Grey/brown exterior, dark grey core. Charred deposit on interior and at top of rim. Incurving slightly rounded rim. (illus 14. 26)

### 723 Fill of hearth pit 758

723AA Base x 1, wall x 14. 12 mm thick. Fabric F: Wall sherds have buff exterior, grey core, charred deposit on interior. Base has brown interior and exterior surfaces and grey/brown core. Sherd probably burnt. (illus 14.27)



ILLUS 14 Pottery

## 725 Fill of pit 791

725AA Rim x 1. 11 mm thick. Fabric F: Buff exterior, grey core, charred deposit on interior. Rolled rim. (illus 14.28)

## 783 Upper fill of ring-groove 790 (Phase 2)

783AA Rim x 2, wall x 4. c 9 mm thick. Fabric K: Brown burnt surfaces. Flattish rim, irregular surfaces. (illus 14.29)

783AC Rim x 1, wall x 5, fragments x 4. 11 mm thick. Fabric K: Grey/brown core and interior. Outer surface missing. Charred deposit on interior. Flat rim. (illus 14.30)

783AD Rim x 2, wall x 1, fragments x 6. 10 mm thick. Fabric K: Burnt brown exterior and core. Some charred deposit on interior. Very small sherds, simple flat rim. (Not illustrated)

## DISCUSSION

The pottery found at Lintshie Gutter represents the largest assemblage recovered so far from an unenclosed platform settlement. The importance of this assemblage lies not only in the quantity and size of the sherds (generally fairly large and unabraded) but also in the diversity of vessel types recovered.

*Undecorated vessels*

The majority of the assemblage from platforms 5, 7 and 8 (Trench D) consisted of sherds from large undecorated bucket- or barrel-shaped vessels with plain flat or rounded rims eg 700AA & 700BF. Some bowls may also be present eg 700AB (illus 12.6). These types of vessels are common throughout the second millennium and have been found on sites of both funerary and domestic nature. At the nearby unenclosed platform settlement at Bodsberry Hill (Terry 1994), similar simple rounded-rim sherds were found in association with a radiocarbon date of 1410±150 BC uncal (GU-3110). Other examples of simple undecorated bucket- and barrel-shaped pots were also recovered from Green Knowe, Peeblesshire (Jobey 1980a, 86, figs 7.1 & 7.2). The complete pot 705AC (illus 12.10) from Lintshie Gutter (platform 5) is paralleled by a slightly thicker walled vessel of similar profile from Green Knowe (Jobey 1980a, 86, fig 7.3) which was associated with a radiocarbon date of 1048±124 BC uncal (GU-1013). This type of pottery has also been found at settlement sites such as Myrehead, Central (Barclay 1983), and Ormiston, Fife (Sherriff 1988), and also at the burnt mound sites of Liddle and Beaquoy, Orkney (Hedges 1975), and funerary sites such as the urn cemetery at Largs, Ayrshire (illustrated in Morrison 1968, 122, fig 2.3).

*Pierced vessels*

Holes in prehistoric pottery have sometimes been seen as a method of repairing cracks or breaks by binding the vessel (Cleal 1988, 139). This interpretation is generally given to holes drilled after the vessel has been fired, examples of which can be seen from the Bronze Age urn cemetery at Kimpton, Hampshire (Dacre & Ellison 1981). However, it is not clear whether the holes in 703AM (illus 13.25) were made before or after firing. The close spacing of the holes might indicate their



having been drilled either side of a crack in the pot wall to enable its repair by binding. This is clearly not the case with vessel 742AN (illus 13.14) from platform 5 which had a single row of perforations approximately 10 mm below the rim. In this instance the holes appear to have been made whilst the clay was still fairly soft or leather hard. The holes have been pierced from the outside, being 5 mm in diameter on the outside, generally tapering to about 3 mm or less on the inside. Some have a slightly protruding lip where the holes pierce the inner surface of the pot, indicating the relative softness of the clay when the holes were made. These holes would appear to be purely decorative as they are positioned at a point which would probably be too weak to support the pot's weight if suspended. Alternatively, it has been suggested (Savory 1980, 86) that perforations below the rims of similar Early Bronze Age pots from funerary sites in Wales could have been used to tie on covers of cloth or leather. A directly comparable vessel was recovered in a funerary context at Largs, Ayrshire (Morrison 1968, 122, fig 2.5). No examples of this kind of pot have previously been recovered from Bronze Age unenclosed settlements.

Unless a ladle was used, the obvious difficulties which pouring would present would make it seem unlikely that thin liquids were contained within perforated vessels. The presence of charred material might suggest some kind of cooking function for the pots, but equally such deposits could have been formed if the vessels were inverted over a fire for fumigation (cf Gidney 1984, 18).

#### *Vessels with raised decoration*

The pottery decorated with raised ridges or cordons falls into three different groups: ridged, finger grooved and cordoned.

*Ridged* 108AA (illus 12.3) from a secondary post-hole on platform 14 (Trench A) is a bucket-shaped vessel with a slight horizontal ridge formed by pinching the clay of the walls between the fingers. No other vessels of this type are represented at Lintshie Gutter.

*Finger grooved* From Trench D three sherds (742AA platform 5, 703AJ platform 7 and 783AA platform 8) bear low cordons formed by grooves made by the potter's fingers trailing horizontally around the pot. Other examples of this finger-grooved decoration can be seen in assemblages from the unenclosed platform settlement of Green Knowe (Jobey 1980a, 86, fig 7.5), the settlement at Dalnagar, Perthshire (Stewart 1962, 153) and the midden at Culbin Sands, Morayshire (Coles & Taylor 1970, 97).

*Cordoned* Portions of three bipartite vessels from Trench D (700AL platform 5, 700BA and 703AE platform 7) with cordons applied at carinations were recovered. The position of these cordons emphasizes the carination (an effect also seen in a large vessel from Green Knowe (Jobey 1980a, 86, fig 7.8)), creating a profile suggestive of a kind of reduced collar, comparable to the collared and cordoned urns commonly found in funerary contexts of the second millennium BC.

#### *Vessels with Incised Decoration*

Incised decoration is present on two of the cordoned sherds from Trench D (700AL platform 5 and 700BA platform 7) The suggestions of diagonally scored lines on 700BA (illus 13.16) are reminiscent of the decoration in the upper part of the large bucket-shaped pot recovered from the

settlement site at Bracken Rigg, County Durham (Coggins & Fairless 1984, 19, fig 5.1). Incised decoration was also found on sherds (some of which have cordons) from the unenclosed platform settlement at Standrop Rigg, Northumberland (Jobey 1983, 11, fig 5). As with the Lintshie Gutter examples, the incised decoration was confined to the upper part of the pots from Bracken Rigg and Standrop Rigg. This decoration, confined to the upper parts of the vessels, would tend to reinforce the connection with pottery from burial contexts, since incised decoration on cordoned urns is usually found between the rim and first cordon, an area which could also be seen to correspond to the collar on collared urns (cf Kavenaugh 1976, 320).

#### DISTRIBUTION

On platforms 13 and 14 (Trenches B & A respectively), the distribution of the pottery reflects the poor preservation of the archaeological deposits, with sherds being recovered mainly from features deep enough to escape the plough erosion. Only small quantities of pottery were found on these platforms, and the surviving sherds belong to fabric groups A, B and C. These fabric groups are unique to these two platforms at the far east end of the settlement (fabric B occurring only on platform 14), with the exception of one sherd of Fabric A in the slopewash overlying platform 1 (Trench C). Whilst it is impossible to gauge what may have been lost through the erosion, it is interesting to note that these platforms do not appear to share the fabric types found on the main excavated part of the settlement (Trench D) which lies some distance to the west. Platform 1 (Trench C), which lies closer to the main platform groups, had only three sherds of pottery, all coming from later depositional slopewash which cannot be securely related to the period of activity on the platform. The lack of pottery from this platform stance supports the structural interpretation for a non-domestic function.

Within Trench D, common fabric types can be seen to be in use, with fabrics F and H occurring on platforms 5, 7 and 8. There is no obvious correlation between vessel types and the fabrics used. On the well-preserved platform 5, the pottery distribution revealed a marked concentration in both the entrances, as if broken sherds were swept out with the domestic debris. The 'complete' vessel 705AC would appear to have been left standing inside when the house was abandoned. The large size and unabraded nature of the sherds contained within the midden deposits (especially the portions of vessels 703AE and 703AM) from platform 7 would tend to suggest that these had not been lying around for long before being incorporated within the material used to build up the front of the later platform. In the excavated half of platform 8, the pottery is concentrated at the rear of the house where the rapid accumulation of hillwash in the steep cut for the back of the platform has protected the archaeological deposits.

#### CONCLUSIONS

Bucket- and barrel-shaped pots with plain flat or rounded rims comprise the greater part of the assemblage throughout the whole period of occupation on platforms 5, 7 and 8 (Trench D) at Lintshie Gutter. These could be regarded as undiagnostic if seen in isolation, as such simple forms have great longevity (Coles & Taylor 1970). Both the undecorated pots and those with finger grooves below the rims are of a kind which would traditionally have been called flat-rimmed wares. Various attempts have been made in recent years to refine the term 'flat-rimmed ware' (eg Hedges 1975; Halliday 1985) but this unsatisfactory term still persists as a general description for these simple pot forms, usually presumed to date from the second to early first millennia BC, though often no firm independent dating is available.

At Lintshie Gutter both the radiocarbon dates and the survival of other vessel types at the site might assist in future attempts to classify the so-called flat-rimmed wares. The contemporaneous presence of the cordoned and decorated pottery (similar to that found on funerary sites) in the same or similar fabric groups at Lintshie Gutter suggests that the undecorated pots were simply part of a wider group of domestic wares, reinforcing the redundancy of 'flat-rimmed ware' as a meaningful descriptive category.

## LITHIC ARTEFACTS

Tony Pollard

### CATALOGUE

Dimensions are given in mm in the following order: length, width, thickness.

#### 500 Topsoil (Platform 1, Trench C)

500AA Chert; inner flake; grey/green; proximal end snapped; retouch and/or damage to distal end on ventral surface; retouch and possibly use wear along curved right edge; removals from both dorsal and ventral surfaces; 20x22x6; 2.8g; possibly broken knife. (illus 15.1)

500AD Chert; irregular flake/core fragment; flake scars on ventral surface; snapped diagonally at distal end; 22x14x8; 3.0g; debitage.

#### 514 Charcoal pit (Platform 1, Trench C)

514AA Chert; flake; irregular; some cortex/weathering; partial steep retouch along convex edge; 32x30x11; 9.7g; scraper.

514AB Chert; trapezoidal flake; some cortex/weathering; alternating steep retouch to end and edge; 32x30x11; 1.3g; scraper.

514AC–AJ Chert: various chips and waste flakes; debitage. (514AI, illus 15.2; 514AJ, illus 15.3)

514AK Chert; retouch along 2 edges 1.3g; small scraper. (illus 15.4)

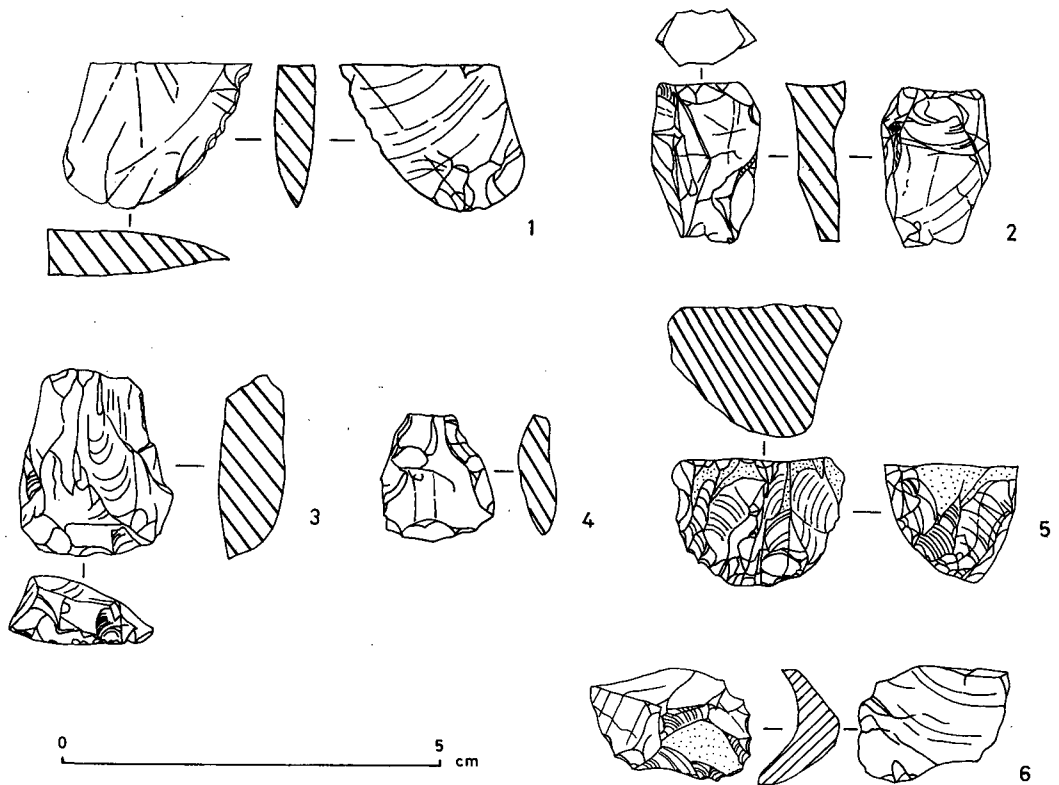
514AL Chert; flake; 5g; scraper.

514AM Chert; core with concave platform; bifacial flake removals; 20x9x8; 2.1g; worked down core.

#### 700 Topsoil (Trench D)

700AO Chert; fragment; green/grey; scars indicate multi-directional removals; 25x13x13; 4.0g; debitage from nodule reduction.

700AP Chert; flake; green grey; irregular; edge damage; snapped; 39x20x7.5; 5.0g; core trimming flake; possibly utilized.



ILLUS 15 Lithic artefacts

700AV Chert; fragment; coarse material; cortex on platform; retouch/damage to one edge at proximal end; remaining portion of edge snapped away, possibly through use; some trimming of distal end; 39x27x10; 16g; possibly rough scraper.

700BJ Chert; core; cortex on platform; diagonal cleave has produced a semicircular edge toward distal end; edge enhanced by regular steep retouch; possible edge damage over retouch scars; 17x23x29; 8.0g; core scraper. (illus 15.5)

700BK Chert; overshoot/core trimming flake; platform; negative flake scars over dorsal surface; notched retouch to right edge and distal end; use damage evident on ventral surface; 16x21x8; 1.9g; utilized core trimming flake. (illus 15.6)

741 Hillwash (Platform 5, Trench D)

741AA Chert; flake; coarse; 26x23x7.5; 4.1g; debitage.

742 Occupation layer (Platform 5, Trench D)

742AS Chert; chip; platform; 9x13x4; 0.4g; debitage.

780 Oven fill (Platform 5, Trench D)

780AB Chert; chip; 26x15x9; 15.3g; core trimming.

810 Post-hole (Platform 5, Trench D)

810AA Chert; chip; debitage.

704 Midden deposit (Platform 7, Trench D)

704AB Chert; flake; coarse material; platform; 32x34x6; 4.1g; debitage.

704AD Chert; chip; green/grey; 16x16x5; 1.3 g; debitage.

751 Matrix platform apron (Platform 8, Trench D)

751AA Chert; chip; 19x8x7; 0.7g; debitage.

783 Upper fill of ring-groove 790 (Platform 8, Trench D)

783AE Chert; chip; 19x8x7; 0.7g; debitage.

847 Fill of post-hole 871 (Platform 8, Trench D)

847AA Chert; tabular fragment; triangular section; damage to one edge; 38x27x11; 8.0g; nodule reduction, possibly utilized.

## DISCUSSION

The excavations at the unenclosed platform settlement of Lintshie Gutter resulted in the recovery of only 29 lithic artefacts. The conclusions which can be drawn from the examination of such a small assemblage are, of course, extremely limited, though some observations can be made.

The material utilized was exclusively chert, varying from green/grey to black. A large proportion of this material (19 pieces) was represented by chips and rough flakes, some of which were of a very small size. The recovery of these pieces, which represent the waste product of the knapping process, very strongly suggests that knapping took place on the site. It is probable that the raw material was local in origin, chert being found widely in this part of Scotland (Wickham-Jones & Collins 1978). The material was probably brought to the site as natural pebbles and nodules which were then reduced to produce workable cores from which flakes could be struck. The presence within the assemblage of several tabular fragments may represent this initial stage of nodule reduction. Further evidence of reduction technique was represented by a cylindrical platform core 700BJ which had undergone alteration to produce a scraper (illus 15.5). A well-worked core was also recovered from the pit (514) on platform 1 (Trench C).

Though 'formal' tool types were limited to the core scraper (700BJ) and the broken knife (500AA), which displays retouch along its edge (illus 15.1), there were further examples of secondary retouch within the assemblage. A core-trimming flake (700BK) had been retouched to produce a serrated edge (illus 15.6), and four pieces from the pit 514 displayed steep retouch which may suggest their use as scrapers. The flakes upon which this retouch has been applied vary in shape and form, a variety which may suggest the utilization of suitable pieces as and when needed, rather than the careful production and selection of regular flakes prior to their modification into formal tools.

This impression of an opportunistic and somewhat informal attitude toward the manufacture and use of lithic implements may be further evidenced by the presence of edge damage on several irregular flakes and fragments (700AP, 700AV). When struck, chert readily produces sharp edges which can be used without further modification. It should be noted, however, that without microscopic examination it is not possible to state firmly that macroscopic edge damage is the result of use and not of other factors such as post-depositional abrasion and weathering. It is also pertinent to repeat that the small nature of the assemblage makes any generalization about its overall nature extremely tenuous.

#### DISTRIBUTION AND CONTEXT

The fact that the 29 lithic artefacts were recovered from 10 different contexts indicates that the original assemblage was widely scattered across the site. However, several of these contexts can be seen to be both residual or disturbed in nature (such as midden deposits and topsoil). It cannot be doubted that the lithic material recovered, much of which takes the form of waste, represents only a small fraction of the total assemblage. The limited nature of the lithic assemblage does present a number of interpretive problems, the nature of which are emphasized by the recovery of pottery from house floors, thus demonstrating that artefacts do apparently exist *in situ*.

It may be the case that lithic materials were either removed from house floors during the use of the site, as indicated by the recovery of several pieces from redeposited midden deposits, or that lithic tools were neither manufactured nor used inside the houses. The latter hypothesis is extremely doubtful, particularly in its denial of the use of stone tools within structures. At Green Knowe, Peeblesshire (Jobey 1980a), several scrapers were recovered from hut floors, while at Bracken Rigg, County Durham (Coggins & Fairless 1984), lithic artefacts were recovered from several interior contexts. The recovery of a more substantial lithic assemblage (at least 57 pieces) from the Early Bronze Age contexts of a nearby, but not necessarily related, burial cairn at Stoneyburn (Banks 1995) highlights a further problem. Why should a domestic settlement produce so few lithic artefacts and a funerary monument so many? Lintshie Gutter cannot be regarded as the only site of its type to have produced so few lithic tools. The excavation of Green Knowe, despite the presence of lithic artefacts from two house platforms, also produced very few pieces, though again a substantial pottery assemblage was reported. If nothing else the recovery of what appear to be partial assemblages has emphasized the need to study further the processes of deposition and site formation which are responsible for the patterns of evidence revealed through excavation.

#### COARSE STONE TOOLS

Tony Pollard

A total of four utilized stones, commonly classed as coarse stone tools, were recovered from the Lintshie Gutter excavation. Though the technology involved in the modification and utilization of these pieces may not appear as refined as that associated with lithic artefacts (flint and chert etc),

they represent an important component of the tool assemblage and are of a type which would have been commonly used on a day-to-day basis.

The most substantial piece 103AA (illus 16.1), found in the hillwash over the back of platform 14 (Trench A), was of sandstone; a material readily available from river environs and fluvio-glacial deposits close to the site. The piece displays a shallow basin which has been created through consistent abrasion of the upper surface of the stone. Though this piece bears some resemblance to stone lamps recovered from various northern Iron Age sites, it is not unreasonable to interpret it as a mortar. As such it may have been used for grinding a variety of materials including vegetable matter. This process would have required the use of a grinding stone, or pestle, of which one example was recovered.

However, due to its size (90 mm by 90 mm by 54 mm) and shape, it is obvious that the recovered grinding stone 508AA (illus 16.2) was not used in conjunction with the small mortar. The piece of igneous material, from the soil matrix of the rear foundation trench on platform 1 (Trench C), had been artificially modified by grinding and rubbing across its long axis. Unlike the sandstone, this igneous rock is not found within the bedrock which forms the site's immediate environs but is present within a 10-mile radius (J Crummy, pers comm). It fits comfortably in the hand and was more likely to have been used with a larger saddle quern, of which several examples were recovered, eg 742AM.

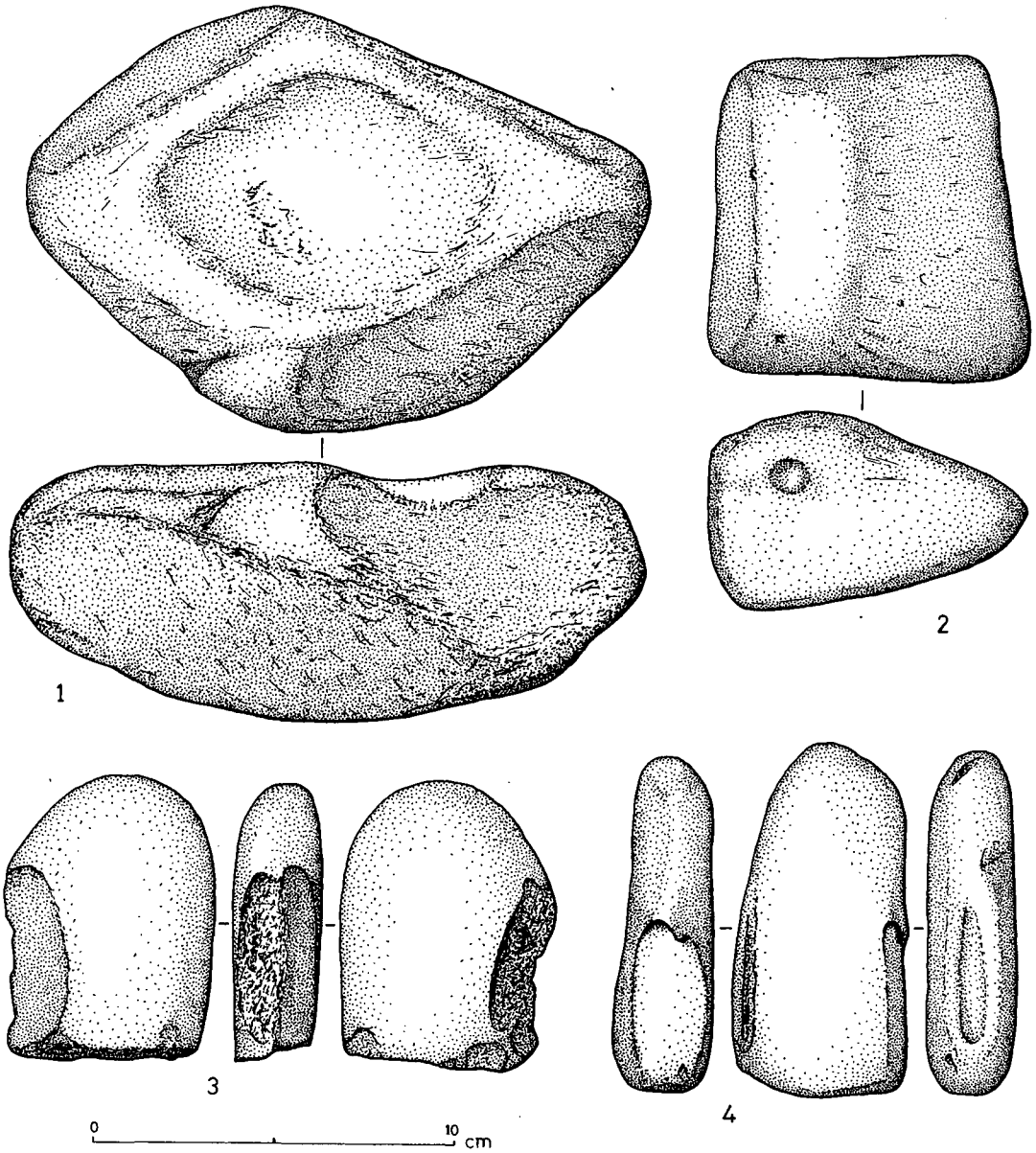
Evidence of grinding was also clearly visible on a fragment of fine-grained sandstone (742AO). This piece, (illus 16.3) from the occupation layer on platform 5 (Trench D), had been broken from an elongated stone which had previously been rounded through alluvial abrasion. One side bears a finely ground face which sits at an angle of approximately 45° to the horizontal. The surface beneath this abraded face bears irregular fracture scars, which appear to be the result of heavy percussion against the outer edge of the abraded face. This in turn may suggest that the piece had been ground specifically to create a cutting or chopping edge. Such a use of the piece may also have caused it to fracture completely at 90° to the chopping edge. The ground edge therefore appears to represent the manufacture of the tool, while the percussion scars represent its use.

The function of 513AA (illus 16.4) from the stone spread on platform 1 (Trench C), also of fine grained sandstone, is more difficult to interpret. The edges appear to have been purposefully shaped by grinding and rubbing, both ends had been smoothed while an elongated depression was worn into one side. Without microscopic analysis it is impossible to say whether this modification was due to the processes of manufacture or of use. A portion of one rounded edge had been removed, probably through the application of a heavy blow to that corner of the piece. Such action may be representative of use as a hammer stone, though traces of percussive wear were not obvious elsewhere on the piece and the presence of striations both across and along the piece is more suggestive of its use as a whetstone.

## QUERNS AND CUP-MARKED STONE

John Terry

Only two quernstones and a single cup-marked stone were recovered from the Lintshie Gutter excavation. All came from the excavation of platform 5 (Trench D). The fragment of quernstone 700AU was in the covering topsoil, and the cup-marked stone 742AL together with the near-complete quern 742AM were found in the oven rakings in the hollow of the east entrance to the house.

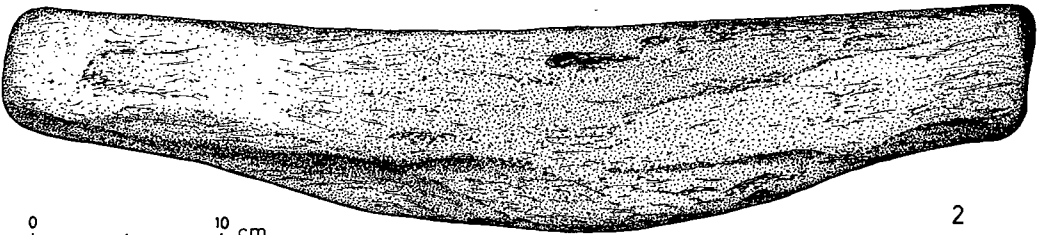
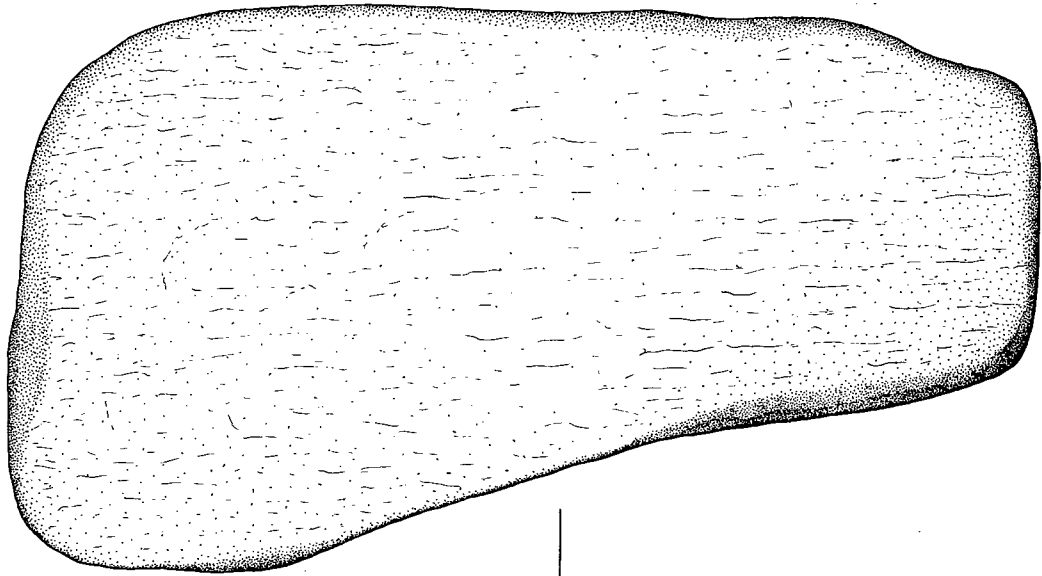
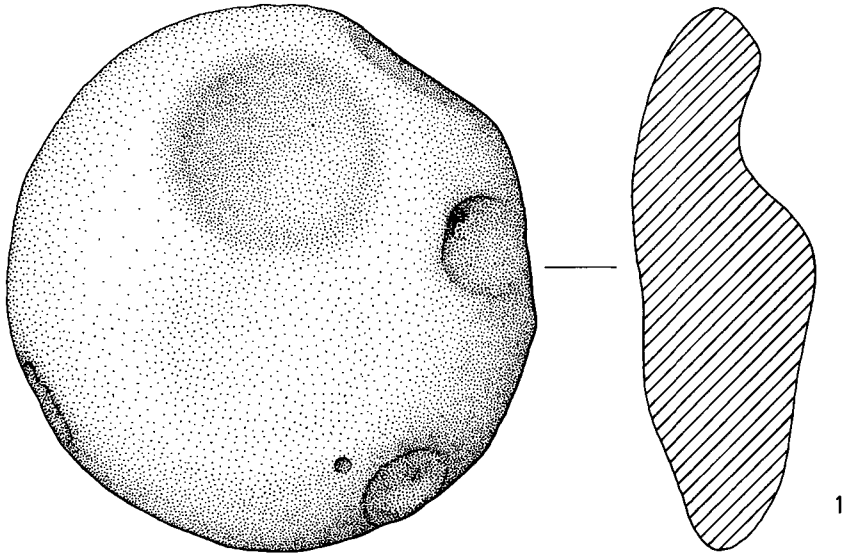


ILLUS 16 Coarse stone tools

700AU was a fairly fine-grained piece of andesitic lava. This artefact from its shape (with a flat worn surface) and abrasive properties appears to have been the broken corner of a saddle quern. The rock type has a provenance close to the site along the Southern Upland Fault (J Crummy, pers comm).

742AL (illus 17.1) was a fine- to medium-grained micaceous sandstone. It was well rounded, and water worn into a bun-shape measuring 290 mm diameter and 100 mm thick. A pitted hollow (cup-





0 10 cm

2

ILLUS 17 Cup-marked stone and quern

mark), off-centre, had been pecked into one side. Its use as an anvil may be possible, but its precise function remains unclear. The rock, available locally, is common to the Southern Uplands and Midlands Valley.

742AM (illus 17.2), a saddle quern, was the only unequivocal quernstone found during the excavation. Fashioned from micro granite, its weathered pockets of soft minerals made an ideal abrasive surface due to the hard quartz inclusions. The flat/slightly worn concave grinding surface measured 550 mm long by 300 mm wide, while its convex underside gave a maximum thickness of 110 mm. The igneous rock of this quernstone is available locally over much of the Southern Uplands (J Crummy, pers comm).

## PLANT REMAINS

Camilla Dickson

### INTRODUCTION

Almost all features were sampled as a standard 20 litre soil sample or all of the context where less survived. Flots were collected over a 500 µm sieve and residues over 4 mm were dry sorted for charcoal and other burnt plant remains. Modern roots were abundant in most samples together with rare or occasional earthworm egg capsules but modern unburnt seeds were very rare. Topsoil was examined to check for possible sources of contamination. Only occasional charcoal <3 mm in diameter and probably of wind-borne origin was found. It is therefore not considered that modern contamination is a problem. Charcoal in the lower part of the covering slopewash (not seen in the upper levels during excavation) reflects that found in the underlying archaeological features, and it may be that some mixing by earthworms occurred soon after the occupation; this biological activity may account for the abraded surface of much of the charcoal. Unfortunately the roundwood was generally so fragmentary that it was not possible to measure its diameter or estimate its age. The roundwood proportion is probably an underestimate.

The term seed is used for both fruits and seeds in this paper. The nomenclature for the wild plants follows Clapham *et al* (1987). A complete plant catalogue by context has been lodged in the site archive.

All the pottery fragments were examined for possible grain impressions. Carbon deposits of up to 5 mm in thickness on the sherds did not contain any recognizable plant material.

### THE HOUSE PLATFORMS

The identifications are set out in Tables 1 & 2. As there are no clear differences in wood usage between the six excavated platforms, they are here considered together.

#### *Ring-grooves*

The structural wood from the ring-grooves is considered first. This was preserved as charcoal in platforms 5, 8 and 13. A variety of woods was used with *Corylus* (hazel), consisting of a high proportion of roundwood, the most abundant. There were frequent fragments of *Alnus* (alder) and *Betula* (birch) and, in platform 8, occasional *Salix* (willow) roundwood. *Sorbus* (rowan/whitebeam) occurred as rare to occasional fragments. The high proportion of roundwood suggests that a wattle fence formed the basis of the house wall, fragments of associated daub were also recovered. *Corylus* and *Salix* would be deliberately selected for their long straight pliable shoots. Comments on possible woodmanship are made below.

### *Post-trench*

A post-trench construction forming the front wall of the platform 5 building produced abundant *Corylus* roundwood with frequent *Betula* and occasional *Alnus* charcoal and would also appear to be of wattle. The presence of *Hordeum* (barley) grain and arable weed seeds, presumably from the occupation, is discussed later.

### *Post-holes*

These were largely of a single fill with no evidence for post-pipes preserved. Earthworm activity may largely be responsible for this state of preservation and clear evidence of individual post-hole history has been blurred. However, quantities of charcoal in most post-holes may suggest that at least some were burnt *in situ*; that from post-hole 802 (platform 5) included large fragments of *Betula* charcoal. A primary deposit was recognized in two of the post-holes but its contents were similar to the other fills. Post-hole fills were examined from some forty contexts from platforms 1, 5, 8, 13, and 14. *Betula* and *Corylus* were the most abundant woods and most of the fills from platforms 5 and 8 included *Corylus* roundwood. *Alnus* was present in about half the fills, *Sorbus* in seven, *Quercus* (oak) in five and *Prunus avium/padus* (wild cherry/bird-cherry type) in two fills. As the proportions are similar to those from the ring-grooves, where preserved, it seems probable that this burnt material is largely of structural remnants. *Quercus* wood is a notable addition but its sparseness generally is discussed later. Rare *Calluna* (heather) was noted from three fills, presumably from use in the houses. Occasional grains of *Hordeum* and associated arable weeds were noted in fills from platforms 5 and 8 and may derive from occupation debris.

### *Pits*

Hearth pit fills from platform 8 (723, 873) and platform 13 (223) contained a mixture of woods, particularly *Alnus*, *Betula* and *Corylus* with smaller quantities of *Salix* and *Sorbus*. Only the two pits from platform 8 (791 & 918) produced a few grains of *Hordeum*. There seems to have been no selection for fuel. Another pit, 210 from platform 13 (purpose unknown), had only *Betula* charcoal, but appears stratigraphically to post-date the house structure.

### *Oven fill and associated occupation layer*

From platform 5, the best-preserved house, an oven fill (780, 902) proved to consist mainly of *Corylus* roundwood, with a quantity of *Betula* and occasional *Alnus* fragments. A few grains of barley and weed seeds may represent straw used for kindling. The oven contents had been raked out forming an occupation layer (742) over the rear of the house. This was sampled from eight alternate 1 m by 1 m grids. Their contents proved similar in proportion to the oven fill. This layer continued through the hollow way of the east entrance (710, 800) indicating its removal by this route.

### *Midden and floor samples*

The two contexts (704, 796) from the midden layers of platform 7 complex contained frequent fragments of *Betula* and *Corylus* with occasional *Alnus* and rare *Salix* charcoal. A few cereal grains, probably all of *Hordeum vulgare var nudum*, were also recovered.

Floor samples from platform 14, contexts 104/111, and 105 produced some charcoal of *Betula* and *Corylus* and rare fragments of *Prunus avium/padus* and *Sorbus*. A primary (104/111) and secondary (105) floor were preserved and it is rather surprising that no evidence for cereals or weeds was found.

TABLE 1  
Plant remains, platforms 14, 13 and 1

No. of contexts	Trench A Platform 14		Ring-grooves 2	Trench B Platform 13			Wall core 1	Trench B Platform 1		Gully 1
	Post-holes 6	Floor 2		Post-holes 9	Pits 2	Stone spread 1		Post-hole 1	Pit 1	
<b>CHARCOAL</b>										
<i>Alnus</i>	-	-	1	3	1	-	1	-	1	1
	-	-	2	6	fq	-	1	-	ab	6
<i>Betula</i>	6	2	2	7	-	1	-	-	1	1
	16	46(1)	22	60	-	7	-	-	fq	5
<i>Corylus</i>	4	2	2	9	2	1	1	1	1	1
	12	40(1)	23(5)	67(9)	fq	4(1)	26(1)	3	ab	4
<i>Prunus avium/ padus type</i>	-	1	-	-	-	-	-	-	-	1
	-	1	-	-	-	-	-	-	-	3
<i>Quercus</i>	-	-	-	1	-	-	-	1	1	-
	-	-	-	1	-	-	-	13	oc	-
<i>Salix</i>	-	-	-	1	-	1	-	-	-	-
	-	-	-	1	-	4(1)	-	-	-	-
<i>Sorbus</i>	-	2	-	2	1	-	-	-	1	1
	-	3	-	2	oc	-	-	-	r	2
<b>SEEDS</b>										
<i>Galium aparine</i>	-	-	-	-	-	-	-	1	-	-
	-	-	-	-	-	-	-	1	-	-
<i>Ranunculus sect Ranunculus</i>	-	-	-	-	-	-	-	1	-	-
	-	-	-	-	-	-	-	1	-	-

TABLE 2  
Plant remains, platforms 5, 7 and 8

No. of contexts	Platform 5			Platform 7			Platform 8			
	Ring-grooves 2	Post-trench 1	Post-holes 15	Oven 2	Occupation 1	Hollow way 2	Midden 2	Ring-groove 2	Post-holes 10	Hearth pits 2
<b>CHARCOAL</b>										
<i>Alnus</i>	2	1	12	2	1	1	1	1	6	1
	fq	6(1)	42(6)	oc	5	2	7	fq	25	r
<i>Betula</i>	2	1	15	2	1	2	2	1	6	2
	fq	25	140(5)	ab	87	32	18	fq	115	42
<i>Calluna</i>	-	1	1	-	-	-	-	-	2	-
	-	1	1	-	-	-	-	-	3	-
<i>Corylus</i>	2	1	13	2	1	2	2	2	9	2
	ab	173(112)	173(69)	(ab)	133(51)	12	15(3)	(ab)	90(27)	21
<i>Prunus avium/ padus type</i>	-	-	1	-	-	-	-	-	1	-
	-	-	1	-	-	-	-	-	1	-
<i>Quercus</i>	-	-	1	-	-	-	-	-	2	1
	-	-	1	-	-	-	-	-	3	3
<i>Salix</i>	-	-	-	-	1	-	1	1	3	1
	-	-	-	-	1	-	1	(oc)	3	1
<i>Sorbus</i>	2	-	3	-	1	1	-	1	2	1
	r	-	4	-	2	1	-	oc	4	9

No. of contexts			Platform 5			Platform 7		Platform 8		
	Ring-grooves	Post-trench	Post-holes	Oven	Occupation	Hollow way	Midden	Ring-groove	Post-holes	Hearth pits
	2	1	15	2	1	2	2	2	10	2
<b>CEREAL AND WEED SEEDS</b>										
<i>Brassica rapa</i>	-	1	-	1	-	-	-	-	-	-
<i>ssp sylvestris</i>	-	2	-	1	-	-	-	-	-	-
<i>Bromus</i> cf	-	-	-	-	-	-	-	-	-	-
<i>hordeaceus</i>	-	-	-	-	-	-	-	-	-	-
<i>Chenopodium</i>	-	1	-	-	-	-	-	-	2	-
<i>album</i>	-	10	-	-	-	-	-	-	6	-
<i>Galeopsis tetrahit</i>	-	1	3	1	1	-	-	-	-	-
subg <i>Galeopsis</i>	-	2	4	1	6	-	-	-	-	-
<i>Galium aparine</i>	-	-	1	-	-	-	-	-	-	-
	-	-	1	-	-	-	-	-	-	-
<i>Hordeum vulgare</i>	-	1	3	-	-	-	2	2	2	-
var <i>nudum</i>	-	6	6	-	-	-	15	19	4	-
<i>H. vulgare</i>	-	-	-	-	-	-	-	1	-	-
var <i>vulgare</i>	-	-	-	-	-	-	-	1	-	-
<i>H. vulgare</i> s.l.	1	1	5	1	1	-	2	1	5	2
	1	12	8	6	19	-	21	58	26	18
<i>Polygonum</i>	-	1	-	-	1	-	-	-	2	-
<i>lapathifolium</i>	-	3	-	-	1	-	-	-	3	-
<i>P. persicaria</i>	-	-	1	-	-	-	-	-	1	-
	-	-	1	-	-	-	-	-	1	-
<i>Spergula arvensis</i>	-	1	1	1	-	-	1	-	2	-
	-	20	1	1	-	-	1	-	45	-
<i>Stellaria media</i>	-	1	1	1	-	-	-	-	1	-
	-	29	1	1	-	-	-	-	13	-
<b>WILD PLANT FOODS</b>										
<i>Corylus</i>	-	-	2	-	-	-	-	-	-	-
	-	-	2	-	-	-	-	-	-	-
<i>Rubus idaeus</i>	-	-	-	1	-	-	-	-	-	-
	-	-	-	1	-	-	-	-	-	-
<b>GRASSLAND/WET PLACES</b>										
<i>Carex nigra</i>	-	1	-	-	-	-	-	-	-	-
	-	1	-	-	-	-	-	-	-	-
Cf <i>Luzula</i> sp	-	1	-	-	-	-	-	-	-	-
	-	1	-	-	-	-	-	-	-	-
<i>Plantago</i>	-	-	1	1	-	-	-	-	-	-
<i>Inncaolata</i>	-	-	1	1	-	-	-	-	-	-
<i>P. major</i>	-	-	-	-	-	-	-	-	1	-
	-	-	-	-	-	-	-	-	1	-
<i>Polygala</i> sp	-	-	-	1	1	-	-	-	-	-
	-	-	-	1	1	-	-	-	-	-
<i>Ranunculus</i>	-	1	-	-	-	-	-	-	1	-
<i>flammula</i>	-	1	-	-	-	-	-	-	1	-
<i>R. sect Hanunculus</i>	-	-	1	-	-	-	-	-	1	-
	-	-	1	-	-	-	-	-	1	-

Tables 1 and 2

The upper row for each taxon refers to the number of contexts in which the taxon occurs, the lower to the number of charcoal fragments or seeds. Roundwood is included in the totals and also given in brackets. C14 charcoal fragments were not counted; their abundance is estimated on their weights.

Key to numbers of fragments: r = rare, 1-3; oc = occasional, 4-12; fr = frequent, 13-40; ab = abundant, >40

Table 1. Contexts used (P = platform): P14: postholes 110, 113, 114, 115, 120, 121; floors 104 = 111, 105. P13: ring-grooves 218, 219; postholes 202, 211, 213, 215, 216, 226, 227, 229, 235; pits 210, 223; stone spread 220. P1: wall core 508; posthole 515; pit 514; gully 534.

Table 2. Contexts used: P5: ring-grooves 765, 766; post trench 856; postholes 767, 770, 773, 775, 778, 779, 801, 802, 803, 805, 808, 809, 859, 864, 867; oven 780, 902; occupation 742; hollow way 710, 800. P7: middens 704, 794. P8: ring-groove 784, 799; postholes 793, 816, 835, 836, 838, 840, 847, 849, 870, 881; hearth pits 723, 873.

## THE LOCAL WOODLAND

Radiocarbon dates for platforms 1, 5, 8 and 13 indicate a spread of several hundred years for the settlement. The identified charcoal amounted to over two thousand fragments and there seems little difference in the proportion of each wood used throughout this period. It seems probable that the wood was used in similar proportion to that available from the local woodland. However, a radiocarbon-dated pollen diagram would be needed to ascertain whether local woodland was being progressively depleted.

The abundance of both *Betula* and *Corylus* charcoal is striking. These taxa were present in most contexts whereas *Quercus*, which has the most durable wood, was found in only seven contexts. A probable reason for its scarcity is discussed below. *Sorbus* charcoal, found in about a quarter of the contexts is probably of either *S. aucuparia* (rowan) or *S. aria s.l.* (whitebeam), but is more likely on ecological grounds to be of rowan. *Prunus avium* (wild cherry) or *P. padus* (bird-cherry) types were recorded from four contexts. All these trees will grow together in open woodland, *Corylus* and the *Prunus* species are trees of better soils. *Alnus* was present in many and *Salix* in a few contexts; it is probable that both grew in wetter areas in the valley bottom.

To interpret the low proportions of *Quercus* and predominance of *Betula* and *Corylus*, we need to consider the natural woodland of the Southern Uplands at similar altitudes. The only pollen analysed sites from the Clyde valley are two adjacent sites, at around 220 m O D, about 28 km to the north. That from Carnwath Moss (Fraser & Godwin 1955) shows a predominance of *Betula*, *Alnus* and *Corylus* with smaller proportions of *Pinus*, *Ulmus* and *Quercus*. Pollen analyses from Carstairs Kames (Dickson 1985 and unpublished) show similar proportions for tree pollen with evidence of pastoralism from the Neolithic onwards. Radiocarbon-dated pollen diagrams from Wester Branzholme at 270 m OD, 42 km to the east, and from Kingside lochs at 345 m OD, 50 km to the east, have been analysed by Tight (1987). Tight interprets the analyses as reflecting a *Betula/Corylus* woodland with *Ulmus* and *Quercus* restricted to more favourable lowland sites. It would appear then that birch and hazel were the predominant woodland trees in these upland locations and that oak trees were not at all common. Such upland birch with hazel woods are now very rare in Scotland due to extensive sheep grazing, both past and present.

As already discussed, *Corylus* roundwood was selected for wattle walling. *Corylus* and *Salix* are particularly flexible when young and growth which sprouts from stools produces many straight poles. This does not necessarily imply deliberate coppicing. Morgan (1988) points out 'the natural ability of many hardwood species to send out shoots from the stump of a tree felled for timber or clearance'. However, in order to allow a regular supply of poles for renewal of wattle house walls it does suggest the exclusion of browsing animals from at least part of the open woodland. Young hazel, oak and rowan are particularly palatable to both wild and domestic browsing animals, although shoots of all young trees are taken.

It is difficult to separate charcoal of the two tree birches, *Betula pendula* and *B. pubescens*, which sometimes grow together and hybridize in Britain; it is possible that both species are present here. *Betula* does not commonly coppice. *Betula pendula* (silver birch), however, produces long straight trunks which would be an obvious choice for posts in the absence of suitable wood of *Quercus*, although birch rots quickly when in contact with damp ground. We have no direct evidence for this use as the only structural wood which was certainly burnt *in situ* was that in the ring-grooves with a mixture of woods present. Birch wood was, however, undoubtedly used a great deal in the houses.

## CEREAL AND ARABLE WEEDS

The cereal grains are all of *Hordeum* and virtually all probably of *H. vulgare var nudum* (naked six-row barley), although much is identified as *H. vulgare* s.l. due to the generally poor condition of the grain (Table 2). A single grain however was identified as *H. vulgare var vulgare* (hulled six-row barley). The majority of cereal grains from Bronze Age contexts in northern Britain are of naked six-row barley. The only chaff fragments were of seven rachis bases (context 844) from pit 918. Grain was present in most contexts from platforms 5, 7 and 8 but only in small amounts. It is particularly surprising that the midden (contexts 704, 794) from platform 7 complex and two hearth pit fills (723, 873) from platform 8 contained so little grain. It is noteworthy that no cereal or arable weed seeds were recovered from platforms 1, 13 and 14.

A few weed seeds were found with the grain; their size range from 1–3 mm suggests that either the grain had not been sieved to remove weed seeds or, more probably, that the weeds had come in with straw and chaff which had burnt away leaving the more durable seeds. Their presence with the grain suggests that the barley was grown locally and straw was brought into the houses and accidentally burnt or used as kindling. We may conclude that cereals do not seem to have formed the most important part of the diet.

## WILD PLANT FOODS

The only remains of wild plants collected for food were rare *Corylus* nut fragments from platform 5 and a single seed of *Rubus idaeus* (raspberry) from the platform 5 oven.

## GRASSLAND AND WET PLACES

Seeds of damp and dry grassland are present in very small numbers. *Plantago lanceolata* (ribwort plantain) is particularly associated with pasture. *Plantago major* (great plantain) is a plant of disturbed habitats. *Ranunculus flammula* (lesser spearwort) is found in wet places. Such small numbers of seeds are not readily interpretable and may have been accidentally brought into the houses, perhaps with fuel.

## POLLEN ANALYSIS

A dark charcoal-rich layer (892) under the front apron deposit of platform 8 (Trench D) was bulk sampled by the excavators. A sub-sample was prepared and analysed from several small cleaned lumps of silty clay. Subsequently, 500 ml was wet sieved for larger plant remains; 200 ml was of sand and stones. 13.4 g of angular charcoal up to 25 mm in diameter, mostly of *Betula*, and other plant remains listed below were recovered.

*Alnus* (alder) charcoal

*Betula* (birch) charcoal

*Corylus* (hazel) charcoal, nut fragment

*Hordeum vulgare var nudum* (naked six-row barley) five grains

*Salix* (willow) charcoal

*Spergula arvensis* (corn spurrey) one seed

This assemblage is interpreted as the burnt remains of an occupation/destruction level, quite possibly derived from the Phase 1 building recorded on platform 8.

Analyses from humic layers such as old turf lines have pollen 'locked up in the soil' (Dimbleby 1985, 3), whereas pollen from occupation layers can be more readily subject to earthworm activity and move up and down as soil is redistributed. In this instance the very stony inorganic nature of this layer and of the platform apron above it suggests that the latter is most unlikely to have occurred. Gradual downwash of pollen with rain water can also be a possible source of contamination. Dimbleby (1985, 59–61) considered this possibility but could find no recognizable evidence of contamination by modern pollen from several examples of published work. He suggested that 'a cover of 40 cm should give adequate protection against contamination from an exposed surface above'. The depth of the occupation/destruction layer was about 90 mm, that of the apron deposit about 350 mm, at the point of sampling.

As shown in Table 3, unidentifiable pollen approaches 68%, expressed as a percentage of the identified pollen. It is not unusual for such a high proportion of pollen in soil pollen analysis to be crumpled or degraded and it is not considered that differential destruction has greatly distorted the results.

The pollen from surface samples is liable to show over-representation by local pollen and cannot therefore be directly correlated with regional pollen diagrams.

Tree pollen values are very low, under 13%, of which *Alnus* contributes 3.7% and 6.7% is of Coryloid pollen, probably of *Corylus*. *Calluna* pollen, from heathland, attains nearly 6%. Gramineae pollen provides the highest values at 38.5% with herbs such as *Plantago lanceolata*, *Ranunculus acris* group (including *R. repens* and *R. bulbosus*), *Succisa*, Compositae and *Trifolium repens* all indicate established grassland, probably pasture. Plants of open woodland are *Anemone nemorosa*, *Circaea* and *Stellaria holostea*. Filicales show high values at 31% and there is a trace of *Pteridium*. Pollen referable to the *Hordeum* group (annulus diameter 8–10 µm, scabrate surface) are probably more numerous than the 1.5% recorded as the annuli of the frequently crumpled grains of this type were not always measurable. Barley and certain wild grasses have very similar pollen (Andersen 1979; Dickson 1988) but the presence of burnt barley grains does suggest that this pollen is of barley. Pollen adhering to ears and chaff may well have been brought into the former house. There is virtually no pollen clearly belonging to arable weeds.

The analysis suggests hazel scrub with alder in wetter places and a little heathland. Pastoral farming is indicated; the absence of arable weeds may imply that arable farming was located on the flatter valley floor as at the present time.

A buried soil was pollen analysed by Hale (1994) from beneath a primary platform structure at Bodsberry Hill, 5 km to the south-east, also in the Clyde valley. *Corylus* charcoal from the primary platform structure above gave an Early Bronze Age radiocarbon date of 1410±150 BC uncal (GU-3110), within the range of those recorded for the Lintshie Gutter settlement. The similarity between the two analyses in the proportions of trees, shrubs, grasses and ferns is a striking one. It only proved possible to count 258 grains and Hale suggests that the relatively few pollen types may be the result of differential preservation. Hale's conclusion is that 'the flora ... is that of a very open, treeless, landscape of ferns and grasses with some nearby heathland and hazel scrub'.

## DISCUSSION AND CONCLUSIONS

The virtual absence of seeds from platforms 1, 13 and 14 (Trenches C, B & A respectively) is surprising although pits, floors and post-holes were all sampled.

Platforms 5, 7 and 8 (Trench D) produced evidence for local barley growing. Where burnt material was preserved in ring-grooves and post-trenches this was mainly interpreted as remnant wattle walling, probably chiefly of *Corylus* roundwood. *Betula* may have been used for posts.

The extensive sampling of most burnt features produced sufficient charcoal to suggest a



TABLE 3

Pollen analysis of context 892, occupation/destruction detritus below platform 8 front apron. Pollen expressed as a percentage of the total identified pollen including spores.

<i>Betula</i> (Birch)	1.5
<i>Betula/Myrica</i> (Birch/Bog Myrtle)	1.0
<i>Pinus</i> (Pine)	0.3
<i>Quercus</i> (Oak)	0.2
<i>Alnus</i> (Alder)	3.7
Coryloid (Hazel/Bog Myrtle)	6.4
Gramineae (Grass family)	38.5
<i>Hordeum</i> group (Barley and wild grasses)	1.5
<i>Calluna</i> (Heather)	5.8
<i>Anemone nemorosa</i> type (Wood Anemone)	+
Caryophyllaceae	1.5
Chenopodiaceae	0.3
<i>Circaea</i> (Enchanter's Nightshade)	+
Compositae, Liguliflorae (Dandelion type)	1.5
Compositae, Tubuliflorae (Daisy type)	0.7
Cruciferae	0.2
<i>Filipendula</i> (Meadowsweet)	0.7
<i>Galium</i> type (Goosegrass, bedstraw type)	+
<i>Heracleum sphondylium</i> (Hogweed)	0.3
<i>Plantago lanceolata</i> (Ribwort Plantain)	4.9
<i>Potentilla</i> type (Cinquefoil, Tormentil type)	0.2
<i>Ranunculus acris</i> group (Meadow Buttercup group)	3.0
<i>Stellaria holostea</i> (Greater Stitchwort)	0.3
<i>Succisa</i> (Devil's-bit Scabious)	0.8
<i>Trifolium repens</i> (White Clover)	0.3
<i>Polypodium</i> (Polypody)	0.2
<i>Pteridium</i> (Bracken)	0.2
Filicales (Ferns)	31.0
<i>Sphagnum</i> (Bog Moss)	0.3
Unidentified (crumpled or degraded)	67.7
Total identified pollen including spores	593
+ indicates presence but not in counted traverses	

landscape with open hazel/birch woodland, probable rowan, a little oak with wild cherries and in damper areas, alder with a little willow. The soils were better than at present and the local woodland, long since removed, would have provided suitable building materials for the wattle and daub buildings.

The single pollen sample analysis, quite probably from the earliest occupation, provided evidence of open scrub woodland and pasture.

## PHOSPHATE AND MAGNETIC SUSCEPTIBILITY

Iain Banks

### INTRODUCTION

During the excavation of the platform settlement at Lintshie Gutter, several questions arose concerning the nature of the structures built on the platforms. Two platforms carrying different structural remains were contrasted by analysis of phosphates and magnetic susceptibility.

Different questions were posed by the two platforms selected. In the case of platform 1 (Trench C), the information sought related to the function of the structure possibly as a byre. Thus, the

intention was to investigate the general levels of phosphate in the platform soils; a byre will have had very high levels of phosphate added to its soils over time with the build up of manure, and it is unlikely that a domestic structure would produce the same degree of enhancement. Additionally, the magnetic susceptibility might be enhanced from the decay of large amounts of organic matter, but not of the order of magnitude to be expected from fires, and it is now widely considered that enhancement is the result of heating rather than the fermentation of organic matter (Doggart 1983, 164). Thus, if the structure were a byre, then magnetic susceptibility levels should be of a low order.

Platform 5 (Trench D) seemed to be a straightforward domestic structure. In this case, the intention was not to elucidate the nature of the occupation, but rather to investigate the distribution of phosphates across the floor surface. The intention was to reveal any differences in activities across the floor or any structure to the disposal of waste matter. The magnetic susceptibility would be a support to any conclusions to be drawn from the phosphates and would also act as a control for the results from platform 1.

#### STRATEGY

The platform floors were sampled on a 0.5 m grid. Floor surfaces were well preserved in the case of platform 5, so that this strategy was carried out without emendation; however, in the case of platform 1, the front part of the floor surface had been removed by the plough and only the rear portion of the stance was sampled. One set of samples was collected for both phosphate and magnetic susceptibility testing.

It was resolved to test for the organic and inorganic fractions of the phosphate content within the analysis of total levels. This was mainly in order to answer the questions about platform 1. High phosphate levels substantially organic in nature would tend to suggest an origin in faecal wastes as the most likely explanation. In addition, there should be a difference in the general levels of phosphates between the two platforms should one be a byre, while there would be a good chance of significant differences in the proportions of inorganic and organic phosphates because of their ultimate sources.

#### LABORATORY PROCEDURES

In the laboratory, the samples were air-dried and sieved to 106 microns and then divided between magnetic susceptibility and phosphate analysis.

The phosphate samples were divided into two sub-samples and analysed for total levels of phosphates following Anderson's ignition method (Anderson 1976). One of the sub-samples is boiled in HCl for 30 minutes, the other ashed for an hour and then boiled in HCl. The former sub-sample will reveal the level of inorganically bound phosphates, the latter the total amount of phosphate in the soil sample. Organic phosphate levels are taken as the difference between the two amounts. Results were obtained colorimetrically at 470 nm using a blue molybdenum complex.

The magnetic susceptibility samples were to be measured out into 15 ml volumes; however, insufficient had been collected from some survey points on platform 1, and some of these volumes were as low as 5 ml. The results from such small samples are unlikely to be valid. Fortunately, the samples from platform 5 were capable of providing the full 15 ml. Measurements were made using a Czech hand-held Kappa-meter, reading to two decimal places.

#### RESULTS AND INTERPRETATION

##### *Platform 1 (illus 18 & 19)*

The results of the phosphate survey on platform 1 (Trench C) are of interest despite the incomplete sampling. The distribution across the platform revealed high levels of phosphate across the surface, and particularly high levels were recorded in the east entrance. Unfortunately, the

phosphate survey alone is not conclusive as regards the use of the platform structure. The phosphate levels are not quite as high as might have been expected for a byre; however, support for an animal enclosure interpretation can be found in the magnetic susceptibility readings. These were all of a low magnitude apart from one high reading at the entrance to the enclosure. The levels of the magnetic susceptibility readings suggest that there was little activity on the platform likely to add burnt material to the soil. This is especially the case with the samples taken from around feature 514, originally interpreted by the excavator as a possible hearth-pit, which produced low magnetic susceptibility readings. The readings are in stark contrast to the levels across platform 5, where levels were substantially higher, although phosphate levels were roughly the same. However, taken together all of these factors may be consistent with the interpretation of the platform being a stance for a byre.

### *Platform 5 (illus 18 & 19)*

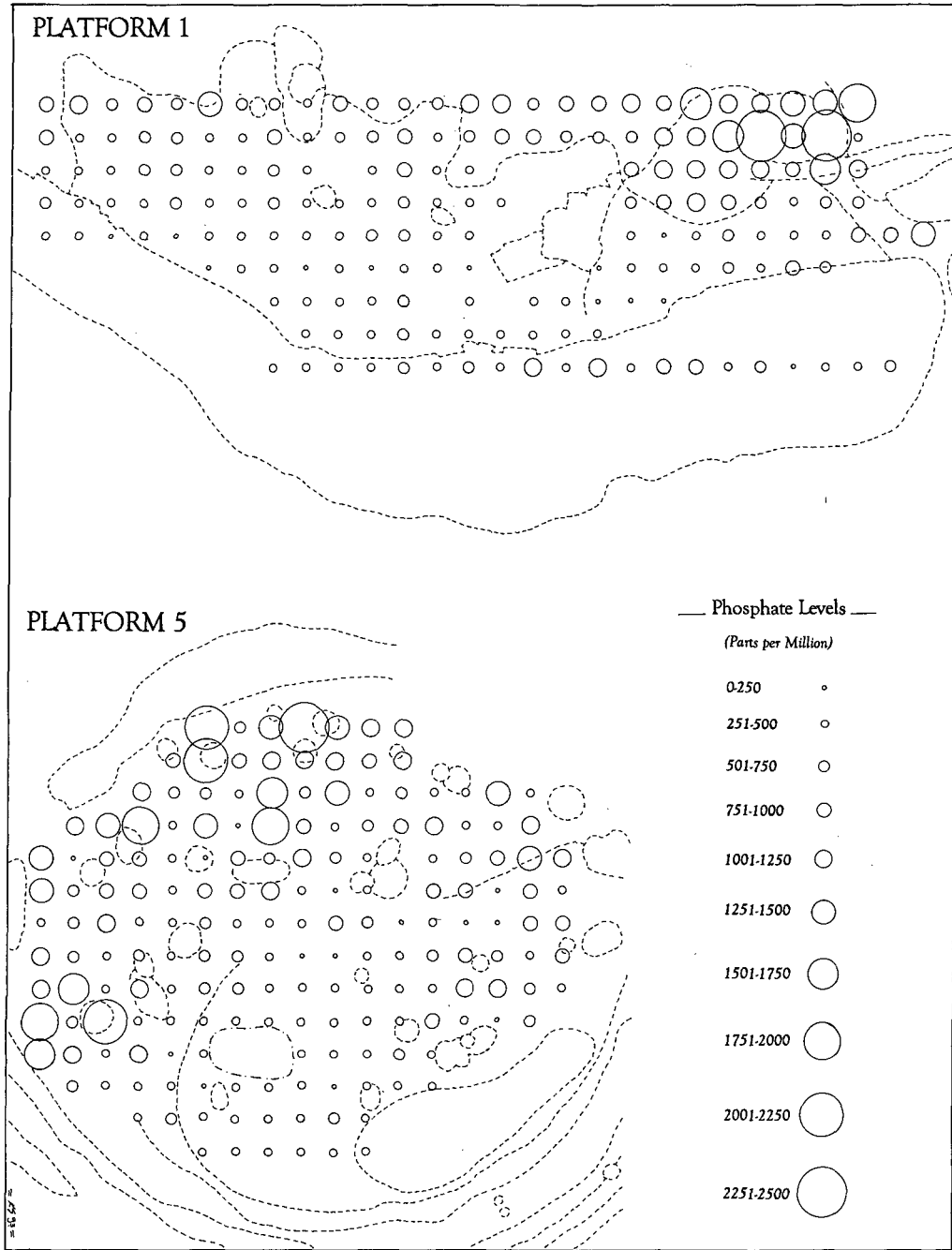
The structural remains on platform 5 (Trench D) were readily interpretable as a domestic building. Phosphate levels were generally high, with probable anthropogenic patterning. The phosphate concentrations were highest around the walls of the structure, an effect which could be interpreted as both the result of sweeping rubbish against the walls and also the decay of daub from the wattle walls. The general magnetic susceptibility levels on this platform were much higher, suggesting that there had been a high degree of burning within the structure. From this factor alone, it can be concluded that the structure is far more likely to have had fires associated with its occupation than that on platform 1, suggesting that it had been a domestic building.

However, the phosphate levels, while high, are inconclusive. Some levels were higher than those recorded on platform 1. This might be explained in terms of organic-rich material, such as reeds or rush matting, rotting on the floor, although such an explanation would require further evidence. The firmest observation that can be drawn from the phosphate analysis is that there was definitely a difference in the activities within the two platform structures in terms of the patterning of the phosphate levels. While the magnetic susceptibility indicates that there was extensive burning on platform 5, there was very little on platform 1. These results can thus support the excavator's interpretations of these two structures, as a domestic building on platform 5 and a possible use of the enclosure on platform 1 as an animal pen, and offer little opposition to them.

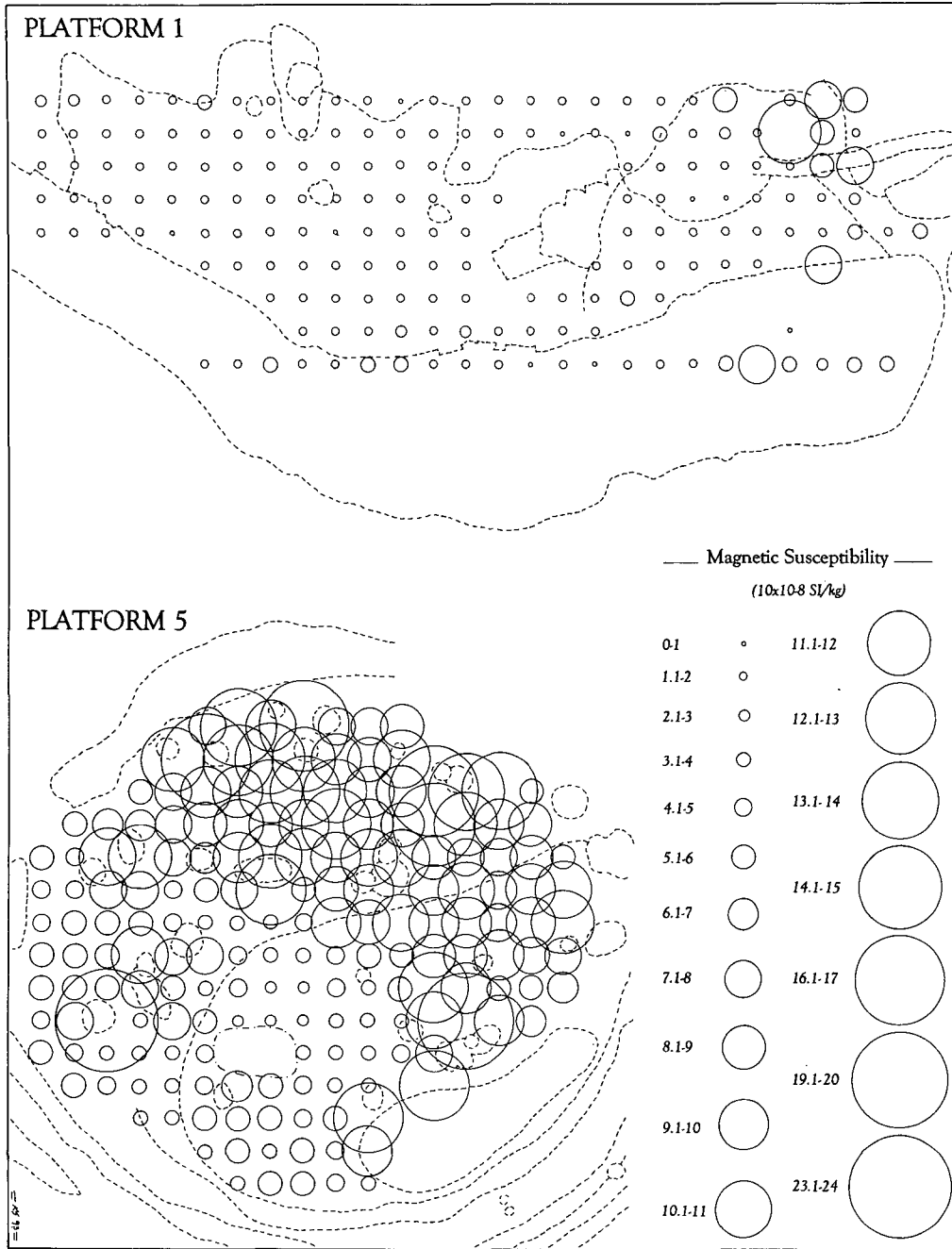
## DISCUSSION

In general all the excavated platforms were constructed in a standard way, that is by terracing into the hillside and using the excavated material to form a protruding front apron. However, as previously described, platform 5 appeared to be an exception, lacking a front apron deposit and entirely created by scooping into the hillside. This scooped method of construction was observed by Feachem (1961, 79) at the Green Knowe platform settlement in Upper Tweeddale, but it was confined to only a few examples on the less steeply inclined lower slopes.

All the ring-groove structures excavated on platforms 5, 7 (early phase), 8, 13 and 14 appear to have been roughly circular. These buildings varied in size between 8.0 m to 13.0 m in internal diameter and all had different floor plans. In most cases, especially those incorporating an internal post-ring (platforms 5 & 13), they could be interpreted as timber-framed buildings with conical roofs. The post-ring arrangement, where clear in plan, presumably carried a ring beam about a third of the way up the roof to support the roofing timbers and purlins. Where evidence of a post-ring arrangement was not clear in plan, the roof may have been carried directly on the walls, but in



ILLUS 18 Phosphate survey platforms 1 and 5



ILLUS 19 Magnetic susceptibility survey platforms 1 and 5

all cases excepting the very poorly preserved remains on platform 7 (Phase 1) sufficient post-holes were present to suggest internal props for a roof frame. No direct evidence of the roof covering was found, but thatch or turf would have served the purpose. Details of the wall construction for these buildings was more readily available, particularly for platform 13. Here individual post-impressions were preserved along part of the base of the ring-grooves. Where enough survived, a spacing of c 0.40 m was evident along the groove, with the post uprights measuring c 0.04–0.06 m diameter. This structural evidence, interpreted as wattle screens, is strikingly similar to that retrieved from the ring-groove of platform 2 second phase house at Green Knowe (Jobey 1980a, 78), even down to the common charred timber fragments of hazel (*Corylus*), alder (*Alnus*) and birch (*Betula*) found in both these grooves. With the addition of willow (*Salix*) charcoal from platform 8 Phase 1 ring-groove, there is a remarkable correspondence in the choice of wood used for the buildings of both these unenclosed platform settlements. Burnt daub fragments from Lintshie Gutter platforms 5, 8 and 13, again as at Green Knowe, indicate a coating of this material over the wattle-constructed walls. However, the ring-groove structures recorded on platforms 14 and in the minor remains on platform 7 (Phase 1) are not so readily interpretable as wattle-and-daub constructions, as none of this material was present about these contexts. Nevertheless, by analogy with the other platforms this may still be the preferred reconstruction; however, given the absence of individual post impressions in these grooves, a conjoined planked wall cannot be dismissed.

On platforms 5, 7 (early phase) and 13 at Lintshie Gutter, problems arise where two wall grooves are evident with no intercutting relationship. Two phases of building might account for the two wall lines. However, the limited stratigraphy and the concentricity of the ring-grooves on these platforms provides little evidence to support this interpretation, and the possibility of single-phase cavity-wall buildings should be considered. At Green Knowe, on a platform excavated by Feachem (1961), a double row of stake-holes defined the wall of a house with an internal post-ring. However, on the basis of further excavation at this site (where multi-phase buildings were clearly evident) Jobey cautioned against interpretation of this house as a double wall construction, and suggested the two wall lines might be attributed to more than one phase of building (1980a, 94). This dilemma of double-faced walls or concentric walls of different phase now reappears on the excavated platforms at Lintshie Gutter. It was also a consideration on the recently excavated platform at Bodsberry Hill, Upper Clydesdale (Terry 1994), although at this site the evidence for two entrances in close proximity on the wall lines supported an interpretation of two sub-phases of building (Terry 1994). However, at Lintshie Gutter, on platforms 5 and 13, there is little evidence to suggest that the two entrances were not part of the original building design. At Lough Gur, County Limerick (O’Riordain 1954), double-wall rectangular houses of a Neolithic/Bronze Age date have been excavated on Sites A and B. The walls of these buildings, defined by double rows of stake-holes, were cited as a parallel by Feachem (1961, 84), who interpreted the house he excavated at Green Knowe as a filled-cavity wall construction. This method of construction, of wattle-faced walls filled with turf or other loose material, may be a reconstruction appropriate to the Lintshie Gutter double-wall buildings, the ring-groove functioning as a bedding trench for wattle screens. Hence the excavated ring-groove buildings at Lintshie Gutter, both double and single wall (and in the case of platform 5 probably utilizing a double and single wall in the same building), can be directly compared with the Green Knowe houses, with the double-faced wall accepted as an alternative method of construction alongside the single wall.

However, two of the platform structures excavated at Lintshie Gutter (platforms 1 & 7 late phase) were clearly not in the traditional ring-groove mould. Platform 1 with its evidence of a circular stone-walled structure has already been discussed in some detail, and, while a number of

uses may be evident from its internal remains, one of its functions, borne out by the phosphate and magnetic susceptibility testing, may be that of an animal enclosure. A stone ring-bank structure of c 10.0 m diameter with high phosphate levels adjoining a Bronze-Age house at Houseledge, Northumberland, has been similarly interpreted as a stock enclosure (Burgess 1982, 4). Perhaps even more unclear in its interpretation is the late phase stone-founded structure on platform 7. Poor survival of the remains, and its construction on a gravel and stone base, precluded phosphate testing. However, given its small size (c 4–5 m diameter), its location adjoining a house-type structure on platform 8 and the unorthodox design, it is hardly characteristic of the remains of a house.

It should be noted here that none of the platform structures produced a coherent plan, and, while the circular timber-framed construction predominates, a wide diversity of building design is evident. Therefore, even if we accept that all the ring-groove structures were primarily designed as houses, their different floor plans may denote other uses or degrees of specialization. For example, platform 5, with its oven and opposing entrances, might be interpreted as a cook house, or perhaps a centre for feasting and other communal activities. Thus, while acknowledging the possibility of some degree of experimentation in architectural design, it might be concluded that the variety of platform structures excavated at Lintshie Gutter is a result of different uses of the buildings. This observation may have a bearing on social ranking and a division of skills within the community. However, the different building plans and the rebuilding observed on some of the platforms might also be attributable to different episodes of settlement, perhaps even hinting at seasonal occupation. Nonetheless, the nature of the structures excavated on platforms 1 and 7 (late phase) suggests that these are most unlikely to have been human dwellings. These conclusions have consequences for field survey identification of house platforms, estimates of population size, and the layout and workings of open settlements.

Despite this evidence for some non-house platforms at the Lintshie Gutter settlement, the number of platforms (32 in total including the early excavated phase to platform 7) would appear to indicate a sizeable Bronze Age population. Not only is the number of platforms at the upper end of the range for this type of settlement in Scotland (Jobey 1980b, 13), but the rebuild and repair of structures indicates an intensity of settlement and evidence of prolonged occupation. However, from these limited investigations it is probably unwise to assume that all 32 platforms were occupied simultaneously. There has been some discussion (cf Burgess 1980, 7) of the expansion of linearly arranged open settlements along the contour. The layout at Lintshie Gutter might suggest an initial focus of occupation around the concentration of platforms at the west end of the settlement (illus 2), with a subsequent more scattered spread to the east. The excavated evidence and the statistical limits of comparing the radiocarbon dates cannot, however, shed any light on this possibility.

TABLE 4 Radiocarbon dates

Platform/Context	Lab no	Uncalibrated date bc	Calibrated date range bc
		1 sigma level of confidence	(Pearson & Stuiver 1986) 2 sigma level of confidence
Platform 13, hearth fill	GU-3198	1600±130 $\delta^{13}\text{C}$ -26.5	2280–1530
Platform 1, pit fill	GU-3199	1410±120 $\delta^{13}\text{C}$ -26.3	1960–1410
Platform 5, ring-groove fill	GU-3200	1480±90 $\delta^{13}\text{C}$ -26.3	2011–1520
Platform 5, oven fill	GU-3202	1250±50 $\delta^{13}\text{C}$ -26.1	1609–1400
Platform 8, ring-groove fill	GU-3203	1980±60 $\delta^{13}\text{C}$ -29.9	2580–2280

The radiocarbon dates obtained from this excavation (Table 4) range between 1980±60 bc uncal (GU-3203) and 1250±50 bc uncal (GU-3202), which calibrate (Pearson & Stuiver 1986) at a two-sigma range of 2580–1400 bc cal. These dates set the occupation of the settlement broadly

within the first half of the second millennium BC (the early date (GU-3203) is discussed in more detail below). This date range is broadly contemporary with the date of  $1410 \pm 150$  BC uncal (GU-3110) obtained from the primary platform structure excavated at Bodsberry Hill (Terry 1994), only 5 km to the south-east. However, the earliest of these dates,  $1980 \pm 60$  BC uncal (GU-3203), obtained from a reliable structural context (platform 8: Phase 1, ring-groove), calibrates at a two-sigma range of 2580–2280 BC cal, which pushes the potential beginnings of the Lintshie Gutter settlement into the third millennium BC. Such an early date (with due caution to its high  $\delta^{13}\text{C}$  value) deserves further comment, and we are forced by the dearth of similar excavated settlements in the Border area to look further afield for comparable data. Excluding the far northern examples in Shetland, only two excavated Bronze Age settlements, ostensibly open, have yielded evidence of such early activity: at Machrie Moor on the Isle of Arran and, still further afield, at Knockadoon by Lough Gur, County Limerick (O’Riordain 1954). Both these sites, with evidence of continuous occupation into the Bronze Age, had timber-framed buildings incorporating some stone construction. Although unpublished in full, the Machrie Moor evidence (Barber 1982) includes a multi-phased house with All-Over-Corded Beaker sherds recovered from its lower levels, below a radiocarbon-dated horizon of  $1538 \pm 60$  BC uncal (GU-1176). At Lough Gur the picture is less clear, as the stratigraphy is not certain (Gibson 1982, 46). Nonetheless, at Site C (O’Riordain 1954, 321–84) three circular timber-framed houses were identified associated with Beaker pottery and Lough Gur Class I sherds (a variant of Neolithic pottery). Later repair phases were evident in the houses, culminating in a Bronze Age stone-walled structure and other associated lengths of walling. At Lintshie Gutter it is not possible to argue conclusively for uninterrupted settlement, although, given the nature of the evidence in a secure structural context (unlikely to be contaminated with more ancient wood), such an early foundation for the settlement may be plausible. To this end, the Neolithic activity represented by sherds of Grimston ‘bowl style’ ware under the burial cairn at Stoneyburn (Banks 1995), only 2 km ESE of the site, adds further weight to a more substantial human presence in these hills during the Neolithic than the dearth of field monuments of this period would otherwise indicate. There was no firm evidence of later periods of occupation or use of the platform stances at Lintshie Gutter, apart from a modern sheep burial recorded on platform 5 (Trench D).

In general the artefacts, and principally the pottery, recovered from the site are in keeping with a Bronze Age occupation. The size of the pottery assemblage, and its association with the radiocarbon dates, should prove a useful reference collection for future researchers. The occurrence in a domestic setting of some pottery types previously more closely related to Bronze Age funerary contexts continues a trend (cf Jobey 1980a, 87; Jobey 1983, 13) to see the strict division between domestic and funerary wares as largely false. Little evidence of the use of lithic tools survived at Lintshie Gutter and post-depositional processes have been cited as one possible cause for their under-representation. However, the wealth of pottery recovered in both residual and occupation contexts tends to contradict this explanation. Curiously, this situation is also common to the Green Knowe settlement in Upper Tweeddale (Jobey 1980a) and other unenclosed settlements of the Border area, such as nearby Bodsberry Hill (Terry 1994), and Standrop Rigg on the southern side of the Cheviots (Jobey 1983). Whether stone tools were used and discarded elsewhere (here it might be relevant to recall the concentration in the charcoal pit on platform 1) or simply played a minor role in comparison with metal implements is worth considering, although no evidence of metalworking or metal artefacts was recovered from this excavation.

Stone pounders and rubbers were represented along with quernstones and, although few in numbers, these artefacts may attest to arable practices. At Lintshie Gutter no evidence for a field system contemporary with the platforms was discovered. Although there is no evidence of cereal



cultivation in the immediate vicinity of the platforms, it would seem likely that the more fertile valley floor was used for crop production. The recovery of charred barley and other weed seeds of cultivation from secure contexts on platforms 5, 7 and 8 provides further evidence of arable farming associated with the settlement. The distribution of barley and cultivated weed seeds, confined to this group of platforms excavated in Trench D, is curious and is also reflected in the pottery analysis, where there is a division of fabric groups between these platforms and those strung out to the east. Whether this is significant, and whether it represents a division of groups and activities within the settlement, proximity to cultivated land, or different episodes of settlement with corresponding changes in land use, is impossible to verify. Nonetheless, it is clear that barley was being grown in the area and presumably formed part of the diet of the settlement at one time or another. The importance of pastoral farming is chiefly demonstrated by the pollen analysis of the burnt horizon under platform 8; given the altitude of the site on these hills, even in a climatic optimum domestic animals must surely have been the mainstay of the local economy. Birch and hazel woodland appears to have been an important source of building material, and, along with hazel scrub and heathland (evident in the pollen analysis), this woodland could have provided some shelter and food for winter grazing. The recovery of this environmental data and its implications for the local Bronze Age economy is important, for although transhumant use of these hills associated with the platform settlements has long been considered (RCAHMS 1967; 1978; Stevenson 1982; Halliday 1985), the evidence from Lintshie Gutter might serve to suggest that there is no good reason why a sedentary way of life, involving mixed farming, was not the norm, at least for a time.

## ARCHIVE

The Lintshie Gutter archive has been deposited with the National Monuments Record of Scotland, and the finds are held in the National Museums of Scotland, Edinburgh.

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