

The Roman Gask series tower at West Mains of Huntingtower, Perth & Kinross

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with a contribution by S Ramsay

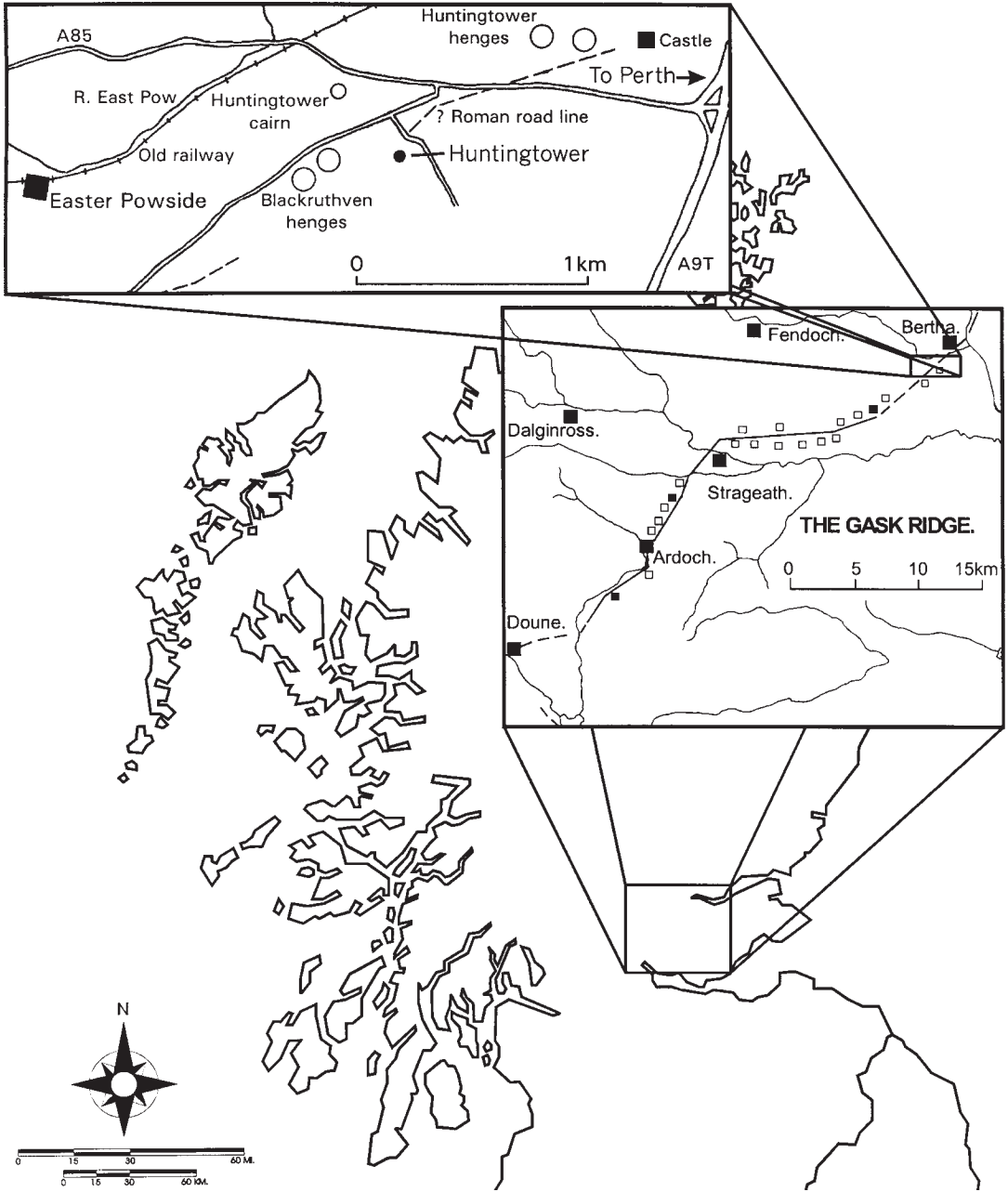
ABSTRACT

Excavations by the Roman Gask Project at the supposed Roman tower of West Mains of Huntingtower confirmed the site's identity and revealed a tower which seems likely to have had more than one structural phase. Little absolute dating was obtained, but the tower is assumed to belong to the Flavian Gask series, of which it is currently the northernmost member. Its multiple phasing is in keeping with results found on a number of the more southerly Gask towers in recent years, albeit the evidence on this site is less clear cut.

INTRODUCTION

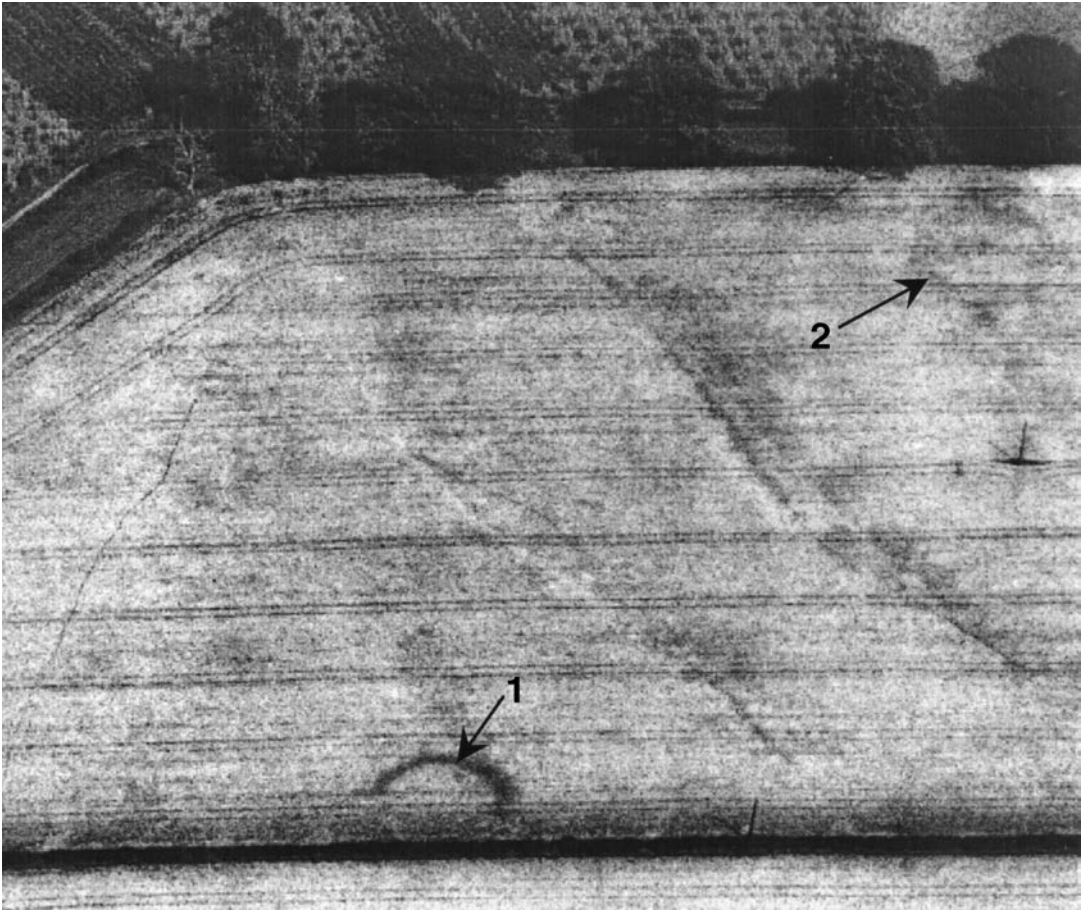
Huntingtower lies at NGR: NO 071 247 (illus 1), 1.25 km to the south-west of Huntingtower Castle, to the west of Perth. The site was discovered from the air by the RCAHMS in 1985, as a penannular ring-ditch with a single entrance break on its north-western side, and has since reappeared in subsequent seasons, notably 1988 and 1992 (illus 2, arrow 1). It stands near the 50 m contour, at the crest of a steep scarp on the southern side of the Almond valley, with superb views in all directions except the south, where the ground continues to rise, albeit much more gently. The immediate surroundings contain a significant concentration of prehistoric monuments, notably the henges of North Blackruthven (NO 068 246) and Mains of Huntingtower (NO 082 251), and the large Huntingtower tumulus (NO 069 249), but the site has been proposed as a Roman Gask series watchtower since its discovery (Maxwell, cited in Frere 1986, 371) and this did appear to be the most likely interpretation. Its form appeared right for this northern part of the system where the towers have only a single ditch, and its entrance faces the line of a double pit alignment (NO 072 248 — NO 082 250) which runs along the base of the same scarp (c 70 m to the north) which probably represents a series of quarry pits marking the course of the Roman road from the Gask Ridge to the fort of Bertha on the Tay. The site would have had almost this entire sector in view from the full likely height of a Roman tower, including the fort (at a range of c 3.18 km) and, if confirmed, it would be the northernmost Gask tower yet found. It had also shown no central pit or cist from the air and so was unlikely to represent a barrow. Nevertheless, there were difficulties in accepting such an identification from the aerial evidence alone, not least the small size of the cropmark. For this would suggest an external ditch diameter of only 15–16 m.

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ILLUS 1 West Mains of Huntingtower: location map (Based on the Ordnance Survey map © Crown copyright)

This is much the same as another suspected Roman tower, Peel, about 1 km to the east which, although unexcavated, has recently been the subject of a resistivity survey by the writer; but it is still 6–7 m smaller than the average for the Gask series (22.01 m) and at least 2.5 m smaller than the 18.44 m ditch at Westerton tower (towards the southern end of the line), which had been the

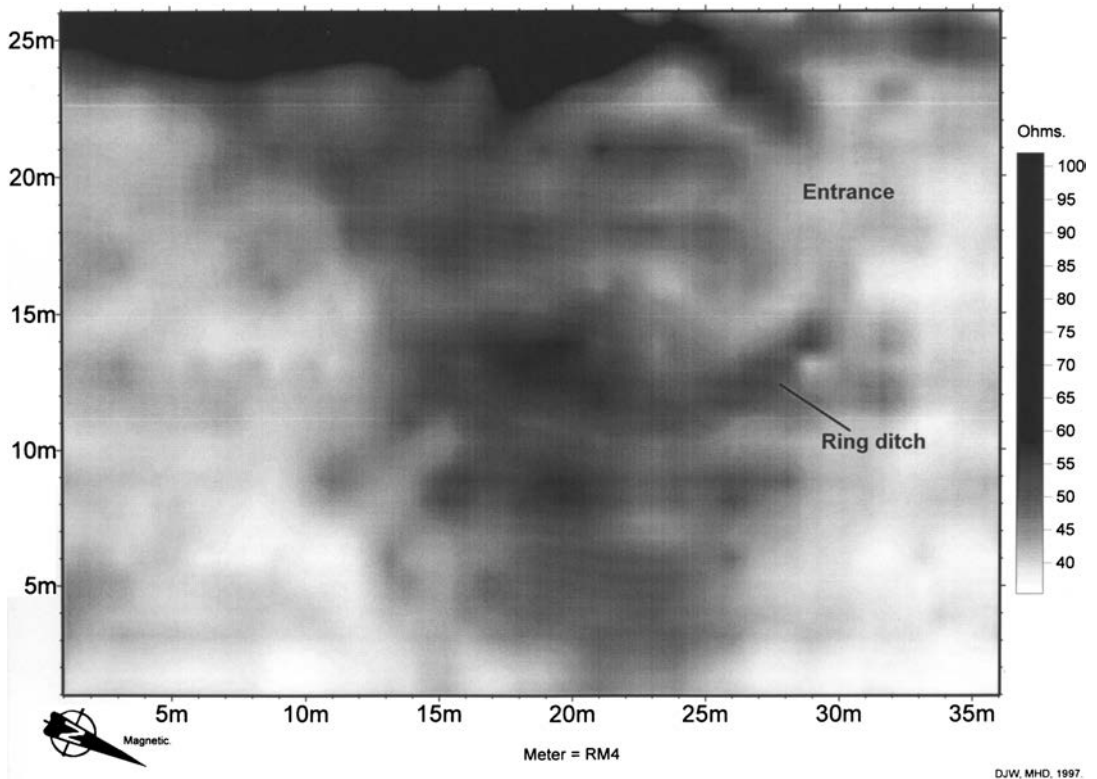


ILLUS 2 West Mains of Huntingtower from west (bottom) (AP C1421 *Royal Commission on the Ancient and Historical Monuments of Scotland* © Crown copyright)

smallest known site on the system hitherto (Hanson & Friell 1995). Indeed, it is even slightly smaller than the inner ditches of some of the more southerly double-ditched Gask towers. On the other hand, the site is dramatically smaller than the surrounding henges, which are all about 60 m in diameter, and so further work appeared necessary to test the site's nature and history.

RESISTIVITY SURVEY

To obtain additional morphological data, a resistivity survey was conducted in 1997. The ring-ditch and its entrance gap showed clearly on the resulting plot (illus 3), although there appeared to be a marked weakening, if not quite a complete break in the southern part of the ditch, opposite the entrance, which had also been visible in some aerial photographs (illus 2). The impression of small size, gained from the air, was confirmed, with the ditch again measuring only c 16 m in external diameter, but the survey did produce one surprise. For despite the fact that the site has consistently shown from the air as a positive cropmark, the ditch appeared as a series of high readings in the resistivity plot, rather than as low readings as is more usual. This phenomenon



ILLUS 3 Huntingtower resistivity, enhanced

is far from unknown, however, especially on sites where the ditch backfill is more free draining than the natural subsoil or where it contains a significant quantity of stone, and the background resistance of the field as a whole is unusually low. There was no trace of an upcast mound outside the ditch, although this may well have been completely ploughed away, and again there was no sign of a central cist.

In addition to the main site, one 1992 aerial photograph (illus 2) has shown what appears to be a second ring-ditch, c 150 m to the east of the first, at NO 073 247, just inside the eastern boundary of the same field (illus 2, arrow 2). A second resistivity survey conducted here could detect no sign of a buried ditch, however, which would suggest that the feature is very slight in nature, as would the fact that it has only ever shown once from the air. Indeed, close examination of the air photograph would suggest that the mark may consist of a double line in places and so it could represent nothing more than a tractor manoeuvre. Nevertheless, there are faint indications of a dark mark in the centre of the feature, which might possibly be a cist.

EXCAVATIONS

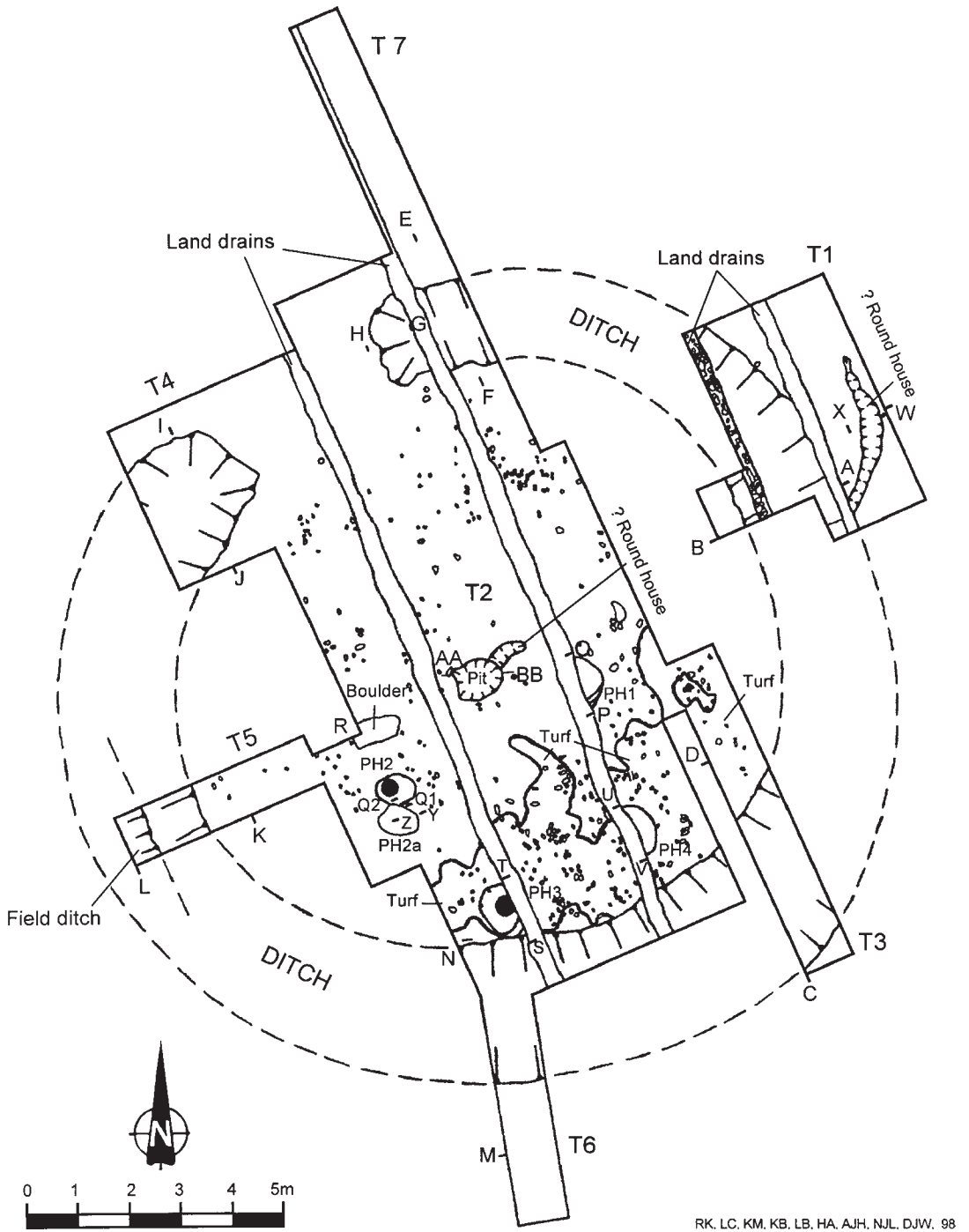
In view of the doubts cast over its Roman identity by aerial photographic analysis and the resistivity survey, the site was excavated in July 1998, following a brief reconnaissance dig in November 1997.

DITCH

The ring-ditch was examined by means of one partial and five full sections (illus 4 & 5) while other parts of the circuit, including the entire entrance area, were opened in plan. In all cases, the ditch proved to have the normal Roman military V-profile although, as is common on the Gask line (Hanson & Friell 1995, 505; Woolliscroft & Hoffmann 1997, 569), there was little sign of an ‘ankle-breaker’ sump except in section M–N (illus 5, this section does not cut the ditch at a right angle). As with all of the Gask towers excavated to date, no sign of any timber palisading could be detected, either inside or outside the ditch, despite a careful search, although such structures are known from other Roman towers in Britain (eg Woolliscroft & Swain 1991, 22–5).

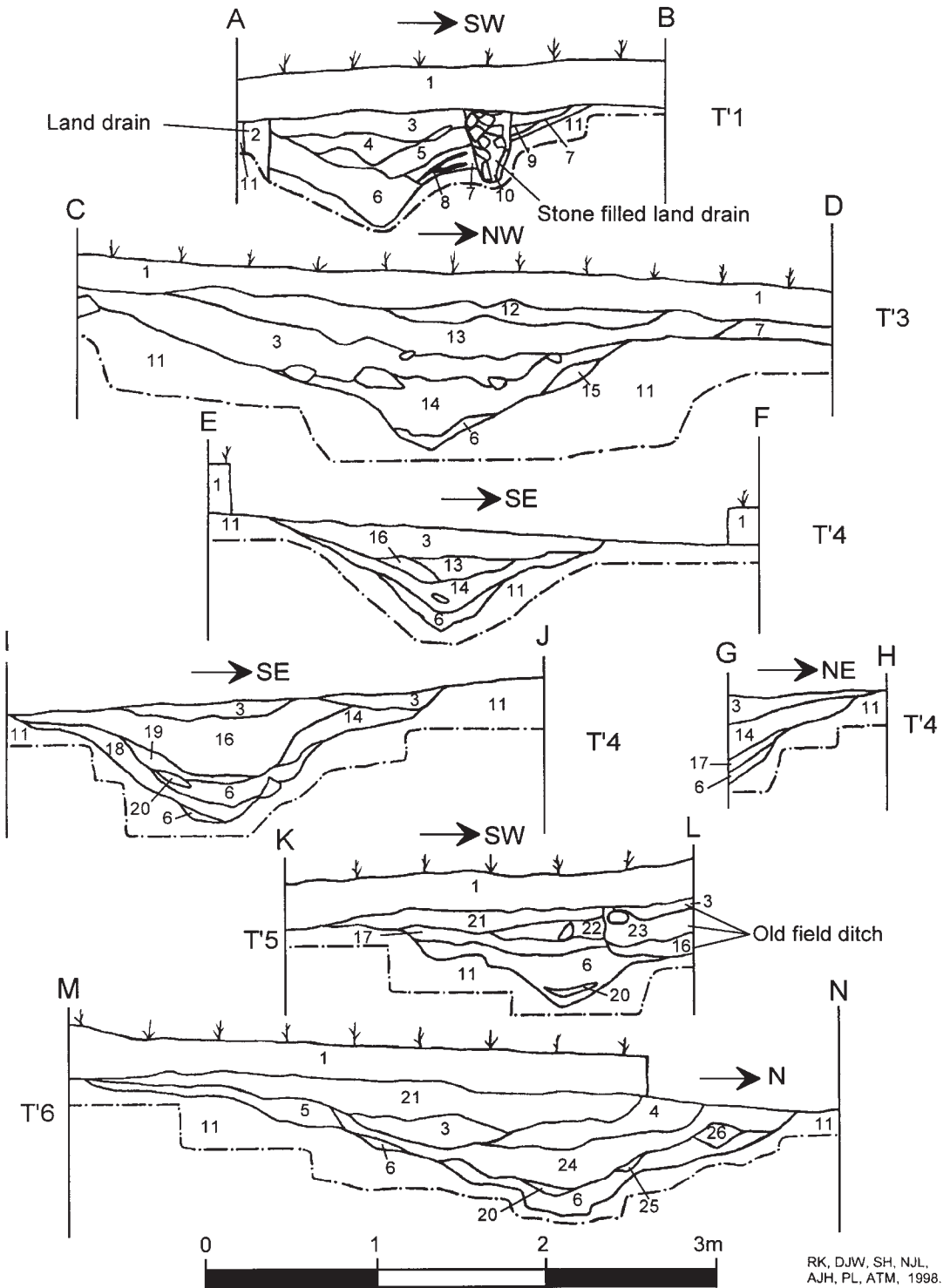
Form The ditch ranged from 0.64 m to 0.92 m deep (averaging 0.76 m) and from 2.14 m to 2.88 m wide (averaging 2.45 m). Its average external diameter was 16.2 m and it enclosed an internal area with an average width of 11.3 m. In the west it passed under the modern field boundary at the end of Trench 5, which was dug only as far as the hedge root line (illus 4). The hedge passed over the ditch with no visible sign of a dip in its line and the remains of an old field ditch (now completely filled in) were located (illus 5, section K–L, layers 3, 16 & 23), running parallel to it and cut into the upper fill of the ring-ditch, all of which suggests that the site was totally obliterated as or before the present field system was laid out. The ditch circuit was reasonably circular, but not perfectly so, as there was a slight flattening of the north/south (entrance) axis, which at 15.87 m externally was almost 0.6 m shorter than the 16.44 m east/west axis. There was also a marked widening of the ditch towards the southern end of the site, which gave the internal area a still more oval form at 10.96 m in diameter through the entrance axis, but 12.1 m across the east/west axis. The entrance butt ends were relatively square, with little prior narrowing, a common feature on the Gask (eg Woolliscroft & Hoffmann, 1998, 446), if less usual on other Roman military sites, but they shallowed at a relatively gently angle of c 35 degrees (illus 5, section G–H). The entrance break was 3.22 m wide and produced no sign of post-holes or other gate structures. Nor was there any sign of a metal track leaving the site through the entrance although, as this part of the site was badly plough damaged, any evidence for such a track could have been destroyed.

Fills The ditch showed a reasonably consistent fill pattern, with the bulk of the upper fills consisting of free-draining loams, which might explain the ditch’s relatively high electrical resistance. The southern area, however, contained rather more clay and turfy material which would tend to be rather less free draining. This was probably the reason for its weak resistivity response, although it would not explain why this part of the ditch has also shown poorly from the air, especially when we remember that the ditch is actually more substantial here. In all cases, the ditch held relatively thick layers of primary silt and silty loam up to 0.46 m thick (illus 5, section C–D), some of which were topped by or contained black humic layers, representing buried vegetation (a sample of one of the latter (sect M–N, layer 20) was collected for pollen analysis, see below). This would suggest that the ditch had lain open and silted naturally for quite some time. It had then been filled to a level which may have lain slightly above the modern subsoil surface, since some layers (e.g. sect I–J, layers 3 & 16) would appear to have been truncated by ploughing. This does not, however, necessarily imply a deliberate process, for the upper fill layers are almost uniformly more homogenous, less clearly defined, flatter and better spread out than is usually the case with dump deposits. In particular, a number of the sections yielded material with a high turf content, presumably derived from the site’s internal rampart (see below), notably sections A–B and M–N (illus 5) but, although section A–B did produce one small deposit of pure turf, with its grass lines still showing (layers 7 & 8), the majority of this material had already been mixed with loam by the time it entered the ditch, all of which would suggest that the bulk of the backfill had been worked in accidentally, through plough action.



RK, LC, KM, KB, LB, HA, AJH, NJL, DJW. 98

ILLUS 4 Huntingtower: plan of excavated features



ILLUS 5 Huntingtower: ditch sections

Re-cut? The ditch showed few signs of having been re-cut or cleaned out while in use, although the two separate silt layers in section I–J (both marked 6) separated by a layer of clay (layer 18) might just be signs of a re-cut. There was also some external evidence to suggest that the ditch may have been widened at some point during its service life, at least in the south, for a probable demolition (and thus secondary) deposit in one of the internal post-holes (PH3, see below) had been cut into slightly by the ditch lip, although not on the line of the drawn section, (illus 5, section M–N). If this does represent a re-cut, then the work involved has removed all traces of earlier siltation deposits and so must have destroyed the entire original profile. The alternative would be to suggest not only that the ditch is a secondary feature, but also that the site had stood for some considerable time before it was dug, and although there is a certain amount of evidence to suggest that Roman towers may have had their interiors constructed before their ditches, presumably for convenience (Woolliscroft forthcoming), such a long delay, while not impossible, might appear somewhat unlikely.

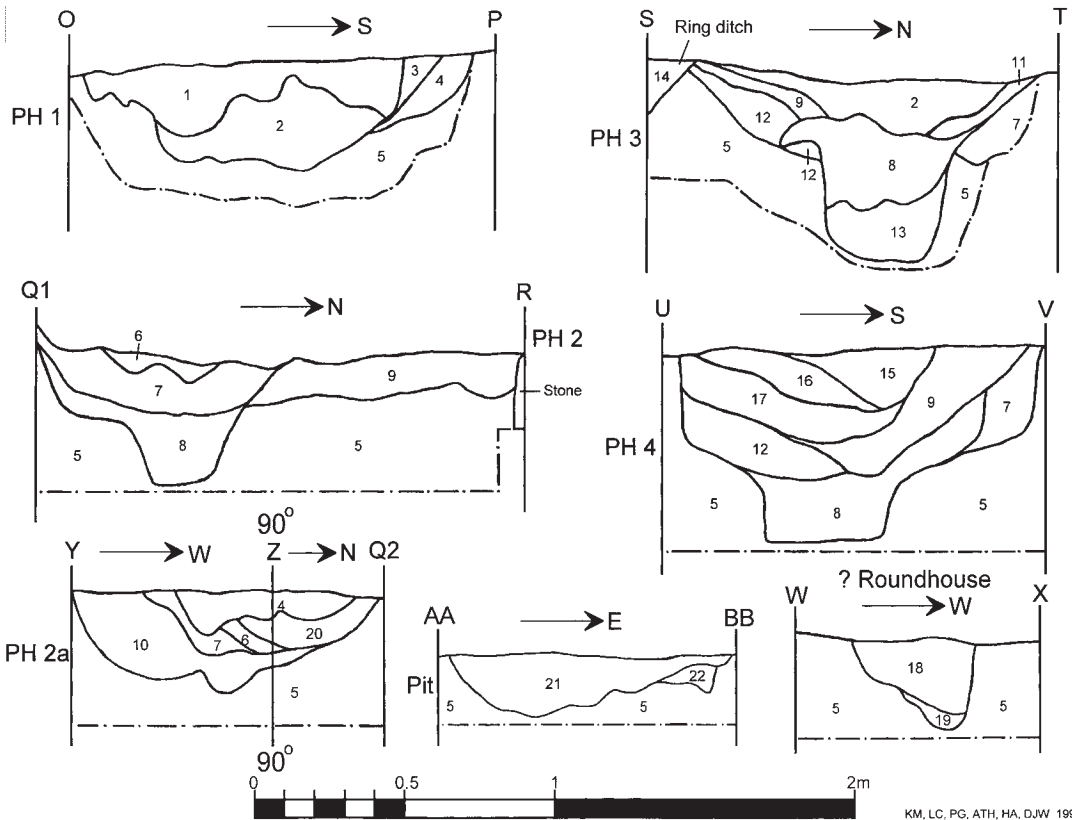
Exterior Recent excavations at the Roman tower of Garnhall, on the Antonine Wall located a rectangular timber building immediately outside the ditch entrance, which was presumably associated with the installation (Woolliscroft forthcoming). To investigate the possibility that such buildings might be found on other tower sites, a 5 m long slot (illus 4, Trench 7) was excavated outside of and at right angles to the ditch immediately to the east of the entrance. No archaeological features were uncovered, however, and time did not allow the excavation of a similar trench to the west of the entrance.

INTERIOR

About 70% of the internal area was opened and yielded a number of features, of which the most important were four large post-holes, up to 1.3 m in diameter. All but one of these had been cut by modern land drains and only three of the four still contained recognizable post-pipes (illus 4, PHs 2, 3 & 4) but these suggested that substantial timbers of up to 0.39 m in diameter had been used, set up to 0.6 m into the ground, when measured from the top of the modern subsoil. Together, these posts would have formed a four-sided structure which does seem most likely to have been a Roman tower and at roughly 12 sq m its size is about average for a Gask tower. The structure is, however, somewhat unusual in two respects. Firstly, it has been built right at the rear of the enclosure, and slightly to the west of the entrance centre line, with one post (PH3) set immediately inside the ditch inner lip. Secondly, its shape takes the form of a fairly regular trapezium. Its southern and northern sides are almost exactly parallel but, although the eastern and western sides were of similar length, at around 3.2 m (from the post centres) and its diagonals are both around 4.8 m, the southern side is over 1 m shorter than the northern, at 3.1 m (as opposed to 4.3 m), possibly to allow it to fit into the curve of the ditch.

Post-holes

PH1 Almost all of the post-holes showed signs of phasing, rebuilding, and demolition. PH1, the north-east corner, should, strictly speaking, be described only as a pit since it was bisected by a modern land drain slot which had destroyed any sign of a post-pipe, assuming that one had ever existed. Nevertheless, its dimensions were comparable with the other post-holes and its identification does appear at least probable. The drawn section (illus 6, section O–P) was created by partly emptying the land drain slot in the hope of getting as close as possible to any former timber's location whilst at the same time doing minimal additional damage to the surviving archaeological deposits. The feature survived as a saucer-shaped pit, 0.77 m wide and 0.35 m deep, filled mainly with a layer of brown sandy clay (layer 2), but this layer may have been cut into at some point by a layer (layer 1) of grey/brown loam, since, although it had a most irregular top



KM, LC, PG, ATH, HA, DJW 1999.

ILLUS 6 Huntingtower: feature sections (Key: 1. grey/brown loam; 2. brown/grey sandy clay; 3. buff sandy clay; 4. orange/yellow sandy clay; 5. natural red/orange clay; 6. brown/buff sandy clay; 7. red/brown sandy clay; 8. red/orange clay with sand; 9. pale orange sandy clay; 10. buff/red sandy clay; 11. orange/brown sandy clay; 12. orange/red sandy clay; 13. disturbed red/orange clay with sand; 14. grey silty loam with turf; 15. brown loam with clay; 16. grey/green turf; 17. red gritty clay; 18. pale grey turf; 19. red/brown silt; 20. soft red sandy clay; 21. grey/buff sandy clay; 22. grey/pink sandy clay.)

surface, it was well consolidated and appeared to have gained this shape by being dug into rather than through uneven dumping. This feature had, however, cut into an earlier pit, which had been filled by a layer of orange sandy clay (layer 4) topped with a layer of looser, buff sandy clay (layer 3). Very little of this primary feature had survived (0.16 m wide and up to 0.17 m deep), but it did appear that layer 3 had itself been cut into layer 4, if only because layer 4 became narrower with depth, whereas almost all natural and artificial deposition processes tend to produce layers which widen with depth. It is probably possible to argue that only a single structural phase is present here, with layers 3 and 4 representing the post-hole itself while layers 1 and 2 belong to a demolition event. Nevertheless, the impression gained in the field was of a minimum of two structural phases with layers 4 and 2 representing the two building periods and layers 3 and 1, two successive demolitions and, given its poor preservation, there can be no guarantee that layer 3 did not represent yet a third structural phase since demolition pits on a timber structure that is to be rebuilt can often also act as the post-holes of the successor structure.

PH2 The situation at the building's north-west corner remains ambiguous as two almost separate pits were located. PH2 (illus 6, section Q1–R) was an oval-shaped pit 0.84 m in diameter and 0.42 m deep, from the modern subsoil surface. It contained a clear post-pipe (layer 8) which was 0.23 m in diameter at the

point at which the section was cut, although, as this may not have been across the pipe's centre line, it may not reflect the timber's true diameter. The post appeared to have been dug out by means of a cut entering the pit from the south. Once backfilled, however, PH2 had been cut by a second pit (0.33 m deep), PH2a (illus 6, section Y–Z–Q2). This pit had not appeared during the cutting of the PH2 section. It was only discovered during a small trench extension on the final day of the excavation, and the quarter section, which was all that time allowed, failed to find a post-pipe within the feature. Nevertheless, the possibility exists that this was a second post-hole and, if so, it may represent not one but two more structural phases, since the original pit appeared to have been cut by a secondary feature made up of layer 7 (and, less probably, layers 6 and 20), the bulk of which may lie behind the cut section and which had itself been disturbed by layer 4, which may be a demolition deposit. It should be stressed, however, that it is equally possible that this feature was unconnected with the tower, especially as another (albeit shallower) non post-bearing pit was found a little to the north-east (illus 4), immediately in front of the building (see below).

PH3 In the south-west corner was a more straightforward feature (illus 6, section S–T). Like PH1 it had been bisected by a land drain, whose slot was partly emptied to provide the excavated section, but this time only a single clear structural phase could be detected. The pit was 1.2 m in diameter and 0.58 m deep, and contained a post-pipe (layers 8 & 13) which had held a timber with a diameter of at least 0.36 m. As in PH2, the post may eventually have been dug out via a cut from the south, now represented by layers 2, 9, 11 and 12, although the depositional processes involved in these layers were less clear cut, and no earlier or later pit phases could be seen with any certainty. The pit had cut a layer of sandy red orange clay (layer 7), the remains of which lay to its north, but this may well have been a weathering product of the natural subsoil and, although the layer did not reappear on the other side of the post-hole, it was difficult to be certain that its deposition had been artificial. There is, however, one hint that later phases may have gone undetected because, as already mentioned, the putative demolition feature had been cut into by the site's main ring-ditch (layer 14), presumably during a re-cut or cleaning operation, and it does seem rather unlikely that the ditch would have been maintained after the internal building had been abandoned. That said, it is difficult to say where such a later phase might have been, because although the area has been damaged by the land drain slot, this was not wide enough to have destroyed an entire post-hole of a size comparable to those found elsewhere on the site.

PH4 In the south-east corner, PH4 (illus 6, section U–V) was again sectioned via a bisecting land drain slot and proved to be 1.2 m in diameter and 0.6 m deep. This feature proved to have rather more clear-cut evidence for multiple phases. The most obvious pit in the section was formed by layer 8 and contained a post-pipe for a timber of at least 0.39 m in diameter, but this feature had itself cut through a layer of brown sandy clay (layer 7) which, unlike the similar deposit in PH3, had clearly been dug into the natural subsoil and so might represent an earlier pit. Whatever the case, however, the timber from the visible post-pipe had certainly been removed, possibly again via a slot cut from the south, and the resulting demolition pit had been filled in (layer 12), after which a second (or possibly third) pit seems to have been dug (layer 9). No post was seen in this feature, although its near V-section could be taken as a sign that the excavated section may have just clipped the surviving edge of a post-pipe which had otherwise been destroyed by the land drain. This secondary pit had eventually been dug into in its turn, this time from the north (layers 15, 16 & 17), presumably during the site's final demolition. The alternative to an interpretation as a multiphased post-hole might be to suggest that several unrelated pits had been dug in exactly the same spot in different periods and, although not impossible, this explanation would appear rather less plausible.

No fragments of burned timber or other structural material were found on the site so the fate of the demolition products is unknown. Moreover, the damage caused to the post-holes by the demolition phases and land drains meant that it was not possible to determine whether the timbers used had been round or square in section, although all of the visible post pipes were flat bottomed and unchoked.

Central pit

Almost exactly in the middle of the inner area, just to the north of the building, and slightly to the east of its centre-line, a shallow sub-circular pit was uncovered 0.95 m in diameter, but only 0.23 m deep at most and with a saucer-shaped section (illus 6, section AA–BB). At first, it was hoped that this feature would provide a parallel for the possible ladder platform outside the Gask tower of Westerton (Hanson & Friell 1995, 505), or even a post-hole, since its position would provide a more regularly shaped tower than PH1 (albeit one orientated well to the west of the ditch entrance break) but, although two complete quadrants were emptied, no structural elements could be located within it. The pit cut into an earlier feature which might have been a roundhouse foundation (see below), so that it could represent a demolition feature. It could, however, have been nothing more than the mark left when a substantial boulder was removed from the field, possibly a similar stone to the c 1 m by 0.5 m by 0.5 m example found 1.25 m to its west.

Rampart

The overall state of preservation became progressively better towards the southern end of the site and here a band of turf, 50–100 mm thick and up to 4 m wide, had survived (albeit plough damaged) inside the ditch lip, which was interpreted as the remains of an internal rampart similar to those found on most of the better-preserved towers on the Gask Ridge proper (eg Robertson 1973, 19 & 22) and, more recently, on the more southerly Gask tower of Blackhill Wood (Glendingning & Dunwell cited in Keppie 1998, 377–9). This feature was missing further north, but the greater plough damage to that sector, allied to the presence of turf deposits in the ditch fill in Trench 1 (illus 5, section A–B) meant that it may simply have been ploughed away elsewhere. Because the tower itself was set so far back within the enclosure it must, inevitably, have had at least its southern uprights set into this rampart, since there is otherwise no room for the latter to have passed between the post-holes and the ditch. This is highly unusual for a Roman tower, where the main structure was usually placed centrally or just to the rear of centre within the interior but, although almost all of the other Gask towers follow this norm (Christison 1901; Robertson 1973; Hanson & Friell 1995; Woolliscroft & Hoffmann 1998), there is one other exception in Greenloaning which lies almost as far to the rear (Woolliscroft & Hoffmann 1997, illus 4 & 6). No trace of an internal rampart had survived at Greenloaning, however (although the results from Blackhill Wood make it appear more than possible that this is simply the result of plough damage), and the only real parallel that the writer has been able to find is the highly unusual (and somewhat controversial) tower site at Easton, near the Solway Firth in Cumbria (Higham & Jones 1985, 27f).

Metalling

Underlying the turf layer, and only within the building interior, patches of gravel were found set into the surface of the natural clay subsoil. These were badly plough damaged, but just enough survived to make it reasonably certain that they were patches of artificial surfacing, rather than a natural phenomenon. The occasional pebble was uncovered elsewhere on the site, although both the topsoil and the natural clay were remarkably stone free, but even in the areas which had been protected from the plough by the rampart turf, these were never set into the clay in a recognizable layer. This would suggest that the building interior had been surfaced, while the rest of the internal area had not. This is in keeping with the situation at a number of Roman towers both on

the Gask (Glendinning & Dunwell cited in Keppie 1998, 377–9) and elsewhere (Maxwell 1976, 36 & fig 2), although at least one of the Gask towers, Greenloaning (Woolliscroft & Hoffmann 1997, 570), is known to have had most if not all of its interior surfaced and here too the surfacing seems to have been set into the subsoil rather than an original ground surface.

The presence of this metalling raises a number of questions about the exact relationship between the tower and the turf rampart, for nothing was found to suggest that the tower itself had any form of side cladding to keep its interior turf free. The provision of such cladding is often assumed in reconstructions of Roman timber towers (eg Breeze 1982, 64, fig 9) and would certainly seem sensible on the Gask, given the vagaries of the local climate, for it would have created a usable interior space inside what would otherwise have been an open timber framework. Such assumptions can be dangerous, however, and the only positive evidence for such cladding on the Gask is a quantity of burnt daub and carbonized hazel twigs from Shielhill South (Woolliscroft & Hoffmann 1998, 456) which might represent the remains of wattle-and-daub panelling, although even then it might well derive from an upper storey. Nevertheless, the presence of such cladding does seem very probable at Huntingtower (albeit it must be stressed that it is very far from proven), partly because without it the interior would have been filled with rampart turf, which would have made it extremely difficult to gain access to the main structural uprights to perform the rebuilding operations we have already witnessed, and partly because there would seem to be very little point in providing the tower with a metalling interior surface only to cover it with turf work. The latter argument could be met by suggesting that the rampart might have been a secondary feature and this is not impossible, but it does seem rather more likely that the tower interior would have been kept permanently clear, if only to provide a certain amount of accommodation and/or cooking space on site. All archaeological traces of such cladding could easily have been removed by demolition and the plough and the fact that almost the entire tower area was found to be covered with turf could well be explained as slump and plough spread since the site's abandonment. Indeed it may even stem from the demolition process itself, since at least one Gask installation, Midgate (Woolliscroft 1993, 306f), has shown signs of having its rampart deliberately slighted on abandonment.

POTTERY

A single piece of mica dusted pottery was found in the plough soil in the site interior close to PH 1. This was examined by A T Croom and R McBride of South Shields Museum, who describe it as 'probably Roman'. If so, it would constitute the only datable find from the site.

EARLIER FEATURES

No structures demonstrably later than the ring feature were uncovered apart from the filled in, but obviously modern, field ditch (Trench 5) already mentioned, but there were two, apparently earlier features on the site. Both took the form of small gullies c 0.4 m wide and 0.29 m deep which were curved in plan, as if to form parts of two separate circles, or sub-circles and both of which contained a homogenous fill of pale yellow/buff turfy clay. The first, and largest, of these features was found in trench 1 (illus 4 & illus 6, section W–X, layer 2), immediately outside the ring-ditch and on an interception course with it. Sadly, however, the point at which the arc would have intercepted the ditch had been destroyed by a modern land drain but, as the gully could certainly not be picked up again cutting into the ditch fill on the other side of the drain, the ditch

is almost certainly later. The second, much shorter, feature was found in the centre of the ring-ditch interior, where it was cut by the small pit, just to the north of the internal building (illus 6, section AA–BB layer 22), which has already been mentioned. Only c 0.7 m of this second gully could be traced, so no other stratigraphic relationships could be established and the pit which cuts it is likewise not linked stratigraphically with any other feature. Nevertheless, both gullies shared an almost identical, non symmetrical V-section with one near vertical face on the interior side of the curve and one much more gently sloping (30–40 degrees) face on the exterior.

DISCUSSION

Despite the lack of stratified datable finds there seems little reason to doubt that the ring feature and its internal timber structure do represent a Roman Gask series watchtower. The post-hole structure is comparable to other Gask system towers even if its shape and (to a lesser extent) its off-centre position are unusual. The ditch's V-profile is fully consistent with Roman military work, while its width and depth are comparable to those of others on the Gask, albeit its diameter is unusually small (the possible parallel at Peel notwithstanding). Certainly the site has no obvious analogue in the archaeology of any other period. The primary aim of the excavation, given this confirmation, was to investigate the possibility that the posts might show the same multiple structural phases that both the writer and the Centre for Field Archaeology have found at the three towers of Greenloaning (Woolliscroft & Hoffmann 1997), Shielhill South (Woolliscroft & Hoffmann 1998) and Blackhill Wood (Glendinning & Dunwell cited in Keppie 1998, 377–9).

As has long been known, the Gask towers fall into two main groupings. The southernmost four on the line — the three just mentioned as well as Shielhill North (St Joseph 1976, 22) — all share a common factor in that they are surrounded by a double ring-ditch, while those further north, the vast majority, have only a single ditch. The fortlets also follow these groupings, with Glenbank, currently the southernmost Gask installation known, having a double ditch, whilst, further north, Kaims Castle and Midgate have only one. The consistent discovery of multiple structural phases on the southern towers had obvious implications for the dating of the Gask System and especially for estimates of its likely service life. According to Tacitus' *Agricola*, the earliest the Romans can have been operating in this area is AD 79/80. At the same time, great stress has been placed on the fact that although a number of coins of AD 86 have been found in northern Scotland, there are no certain examples for AD 87 (Hobley 1989). Both years saw surges of coin importation into Britain and so the absence of AD 87 coins has led to the conclusion that the area must have been abandoned before the AD 87 issues arrived, in other words, in AD 86 or early to mid AD 87. Moreover, it is tempting to question whether the Gask itself can have been in use for the whole of even this short period because there have been doubts as to whether the system would have been occupied at the same time as the line of so-called Glen blocking forts (including the Inchtuthil legionary fortress) further north. Consequently, a belief has grown up that the Gask may have been an extremely ephemeral system, occupied for perhaps as little as a season or two (eg Breeze 1982, 65). The evidence for multiple structural phases at Greenloaning, Shielhill South and Blackhill Wood, however, presents a serious challenge to this short chronology model. For it does seem somewhat unlikely that timber towers with posts of up to 0.4 m in diameter would have required rebuilding once, and in two cases possibly even twice, in such a brief time-scale unless they were built of very shoddy material indeed. Our structural evidence would, therefore, seem to argue for either a longer occupation, perhaps lasting the full span of the known Flavian occupation, if not longer (the somewhat scanty coin evidence notwithstanding),

or for multiple short occupations, separated by such short abandonment intervals as to be archaeologically undetectable, as none of the sites, including Huntingtower, have presented recognizable abandonment horizons between phases.

To date, there have only been two flaws in this picture. The first has already been alluded to: the possibility of shoddy building materials being used, for the Romans are sometimes known to have employed less than ideal timber species, such as alder, in their military buildings, although even these might have been expected to last for approaching a decade (Hanson 1978, 296). Sadly, we have only a poor understanding of the materials used in the Gask towers because for the whole of the 20th century the only probable fragment of a structural timber ever to be both found and analysed on the system derived from a poorly documented 1901 excavation at the tower of Raith (Christison 1901, 28), but this, at least, was identified as oak, which does suggest that quality timber was in use on at least parts of the line. In 1999, however, S Ramsay expanded this picture on behalf of the Gask Project by subjecting two small scraps of carbonized wood from the tower of Roundlaw to a species analysis. The material was found during Robertson's 1972 excavations at the site and is known to derive from one of the tower's northern post-holes (Robertson 1973, 27), but although the find spot made it seem all but (although not totally) certain that this wood represented structural material, it had never previously been studied. The two fragments proved to be of hazel and oak and, although this is hardly absolute proof, it would seem to add further support for the idea of a tower design using oak main timbers with hazel-based wattle-and-daub side cladding.

The second concern was that, until now, all of our evidence for multiple phasing had come from the southern double-ditched towers and, given the extreme paucity of dating evidence from the whole of the tower chain, there could be no guarantee that these shared exactly the same history as the rest of the line. We might, for example, have envisaged a situation in which the southern end of the system was built first and then later (possibly considerably so) extended, or, less easily, one in which the southern part of the line remained in use for some time after the rest was abandoned, although that would offer a much poorer explanation for a change in site design. There was thus a need to establish once and for all whether the northern towers showed similar signs of phasing. The problem was that although there were tantalizing hints, notably from Midgate, where a fortlet and possible tower occupied almost the same site (Woolliscroft 1993, 302–7), and Westerton, which had two posts in the same post-hole (Hanson & Friell 1995, illus 3 & 503–7), there was no irrefutable evidence. Huntingtower would now appear to have gone some way towards changing this, albeit the evidence is a little more ambiguous than one might prefer. Its post-holes do appear to show signs of two structural phases along, once again, with at least tenuous evidence for a third, and so we may at least begin to talk of a fairly unified history for the entire frontier and probably a longer one than had previously been thought.

During the excavation a sample of black humic material was taken from Trench 6 (illus 5, section M–N), layer 20, for pollen analysis by S Ramsay of the University of Glasgow. The material rested immediately on top of the ditch's primary silt, which means that Ramsay's report (Appendix 1, below) should pertain to the local environment during the tower's service life. This suggests an open landscape well suited to tower-based surveillance and the use of visual signalling techniques for communications with Bertha. The only significant tree species present was alder, which is unsurprising given the proximity of the rivers Pow Water and Almond, along whose banks the species can still be seen.

Finally, the date and function of the two gullies remains unknown, except that they represent the earliest detectable activity on the site. Indeed, as they were extremely difficult to see in plan and there was insufficient time to try to trace them with sections, even their full extent may

not have been found. Nevertheless, they would appear to be consistent with round (or at least sub-round) groove houses. Their asymmetrical V-profiles would be well suited to a role as construction slots for relatively light post- or stake-founded structures, as the timbers could be stood against their vertical side and then fixed in position by backfilling. The fact that none of the features could be followed around a complete circle might argue against such an identification but, given the difficult conditions, it is probably not conclusive. Certainly similar features are common elsewhere on prehistoric and particularly Iron Age sites and two almost identical grooves were found recently by the writer underlying a somewhat enigmatic, but probably Roman, site further to the south-west on the Gask at Cuilburn, near the fort of Strageath (Woolliscroft & Hoffmann forthcoming). If this identification is correct it begs questions regarding Roman/native interactions on the Gask and, specifically, it raises the possibility that native farmers might have been forced out of their homes to make way for Roman military installations. All that can be said in this case, however, is that there is no evidence either way, although it might be thought significant that no burning was found in association with these structures, which may thus have been long abandoned when the tower was built.

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APPENDIX 1

POLLEN ANALYSIS FROM HUNTINGTOWER

Susan Ramsay

During the excavation at Huntingtower the excavators sampled primary silt from the bottom of one of the ditches for possible pollen analysis. As the ditch was cut into boulder clay it was hoped that the damp conditions may have been favourable for pollen preservation. Although one pollen sample is far from ideal it was hoped that at least some environmental information would be derived from the pollen of this basal deposit.

Method

The sample of soil from Trench 6, layer 20, was treated using standard pollen preparation techniques as outlined in Moore *et al* (1991), with a hydrofluoric acid treatment used to remove the mineral component. A pollen count of greater than 500 grains was made using a magnification of x400. Pollen identifications were made using the keys and photographs in Moore *et al* (1991) and the pollen reference collection held in the Hopkirk laboratory, University of Glasgow. Vascular plant nomenclature follows Stace (1997). The term Coryloid covers both hazel (*Corylus*) and bog myrtle (*Myrica*) pollen but at this site it is thought that the majority of this pollen will be from hazel. A sum of total identifiable pollen and spores was used to calculate the pollen

percentages and unidentifiable pollen was also expressed as a percentage of this pollen sum, although not included within it.

The results of the analysis are shown in Table 1.

TABLE 1

Huntingtower: pollen percentages

TAXON	COMMON NAME	Layer 20 Section M–N Trench 6
TREES		
<i>Alnus</i>	alder	22.3
<i>Betula</i>	birch	1.4
<i>Quercus</i>	oak	+
SHRUBS		
Coryloid	hazel / bog myrtle	16.2
<i>Salix</i>	willow	+
HEATHS		
<i>Calluna</i>	heather	20.9
HERBACEOUS		
Apiaceae	carrot family	+
<i>Aster type</i>	daisy type	+
<i>Filipendula</i>	meadowsweet	+
<i>Galium type</i>	bedstraw	+
Lactuceae	dandelion type	+
<i>Plantago major</i>	greater plantain	+
Poaceae	grass	27.8
<i>Potentilla type</i>	cinquefoil	+
Ranunculaceae	buttercup	2
<i>Sinapis type</i>	mustard type	+
<i>Succisa</i>	devil's-bit scabious	+
SPORES		
Filicales	ferns	1.2
<i>Polypodium</i>	polypody fern	+
<i>Pteridium</i>	bracken	+
<i>Sphagnum</i>	bog moss	1.9
Total pollen count (TP)		507
Unidentified (% TP)		154.8

(+) indicates less than 1%

Discussion

The pollen result obtained from Huntingtower must be treated with caution, being a single soil pollen sample and hence subject to many interpretative problems. In particular it can be seen from the results that there was one and a half times as much unidentifiable pollen present as identifiable pollen. This suggests that there may be extensive differential preservation of pollen types and hence a biased pollen spectrum. However from the results obtained it would appear that the pollen preserved in this primary ditch silt is representative of an open grassy landscape, perhaps used for grazing animals although ribwort plantain (*Plantago lanceolata*), the classic grazing indicator, is not present. The only major tree present is alder (*Alnus*) with only a slight representation of birch (*Betula*) and oak (*Quercus*). This suggests the majority of the woodland was growing in damp areas, perhaps along river banks and that the native wildwood of the area

had already been cleared by this time. Hazel (Coryloid) is relatively abundant, perhaps as a managed resource and high values of heather (*Calluna*) indicate significant areas of heathland vegetation in the vicinity. These results are very similar to those obtained from pollen analyses of turves from the Roman road at Parkneuk Wood thus lending more weight to their validity.

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