

# Dalginross and Dun: excavations at two Roman camps

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## ABSTRACT

*This report describes limited excavations at two Roman camps. The excavation at Dalginross, near Comrie, uncovered an entrance of the Stracathro type and showed that the camp was of two phases of construction. The excavation at Dun, near Montrose, comprised only a narrow, 2 m wide, strip across the whole camp and the only archaeological features identified were the enclosure ditches. The excavation was arranged and financed by Historic Scotland.*

## DALGINROSS (NN 776 208)

### INTRODUCTION

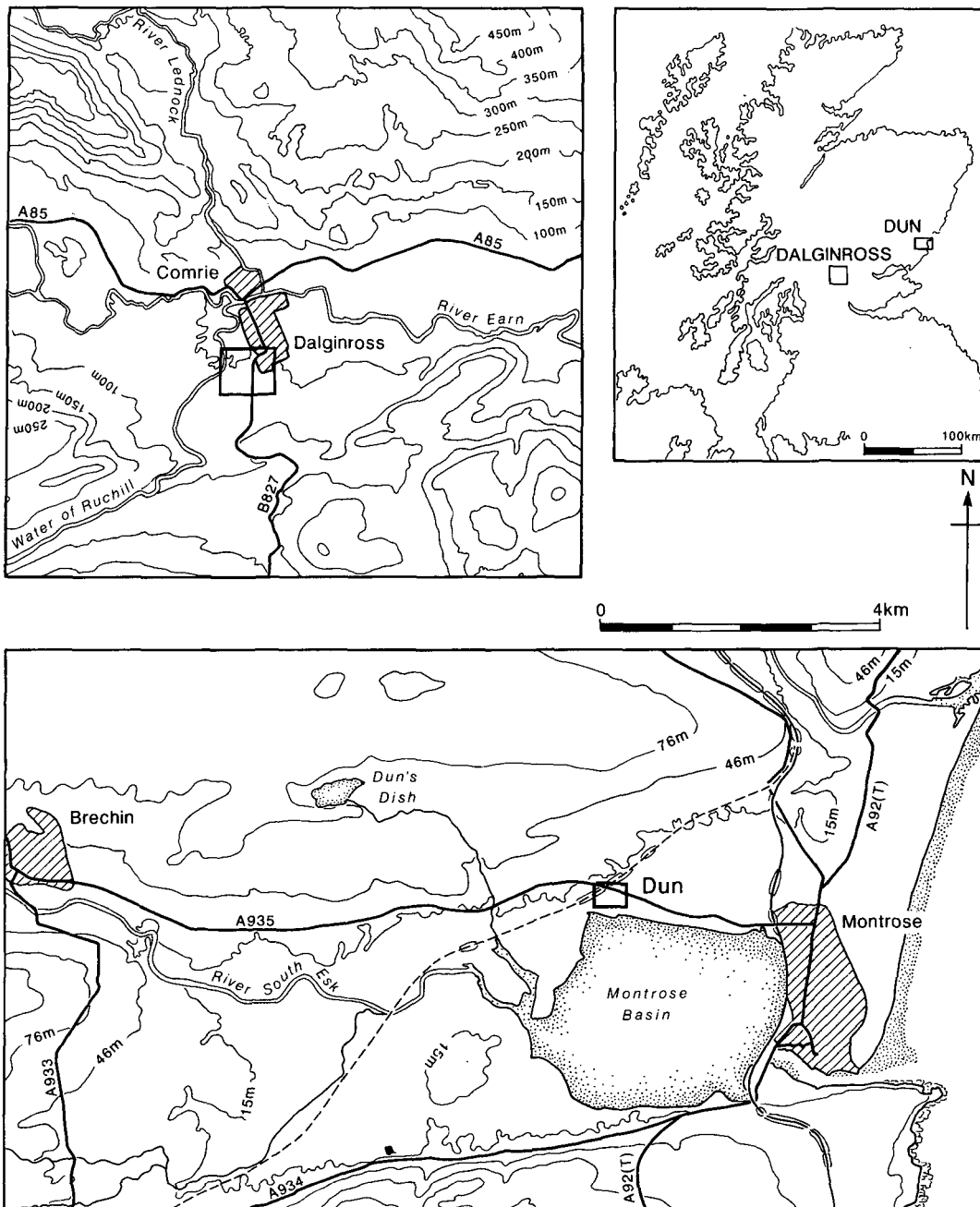
Aerial photographs of Dalginross, Tayside, show a temporary camp, 9 ha in area with a Stracathro-type entrance, to the south-west of a modern housing estate (Maxwell 1981, 30). They also reveal the presence of an auxiliary fort, set within an annexe or outwork 4 ha in extent. The sites were described, as upstanding monuments, by Roy (1793), but have since been reduced to cropmarks. A section through the area within the outwork was excavated in 1961 by Robertson (1964). Turf was identified in the backfill of the ditch and a metalled surface was also exposed within the outwork, 10 m north of the ditch.

In 1990, when the west entrance of the camp became threatened by a housing development, a two-week excavation was undertaken on behalf of Historic Scotland. The row of pits visible in the camp interior, identified by Hanson (1978, 142, 149) as a potential source of valuable dating evidence, lay outside the threatened area.

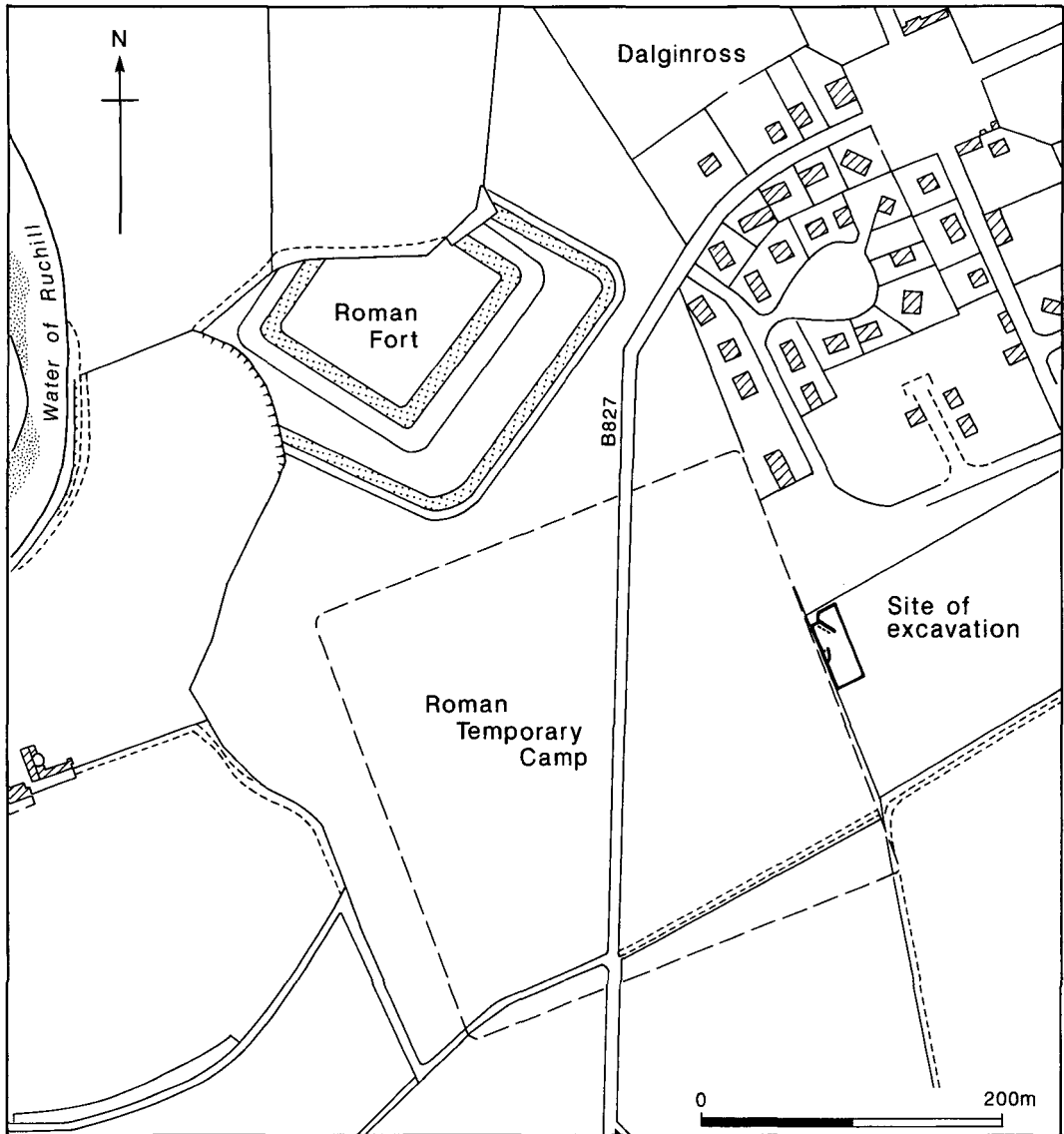
### THE EXCAVATION

An area measuring 54 × 22 m, in the north-west corner of the field containing the proposed building site (illus 2), was stripped by machine down to the subsoil of fluvio-glacial gravel and silt. With the exception of a small part that could not be excavated, owing to the presence of an electricity pylon, this area incorporated all of the monument threatened with destruction (illus 3). A collapsed dry-stone dyke was present along the west field boundary, marked by a

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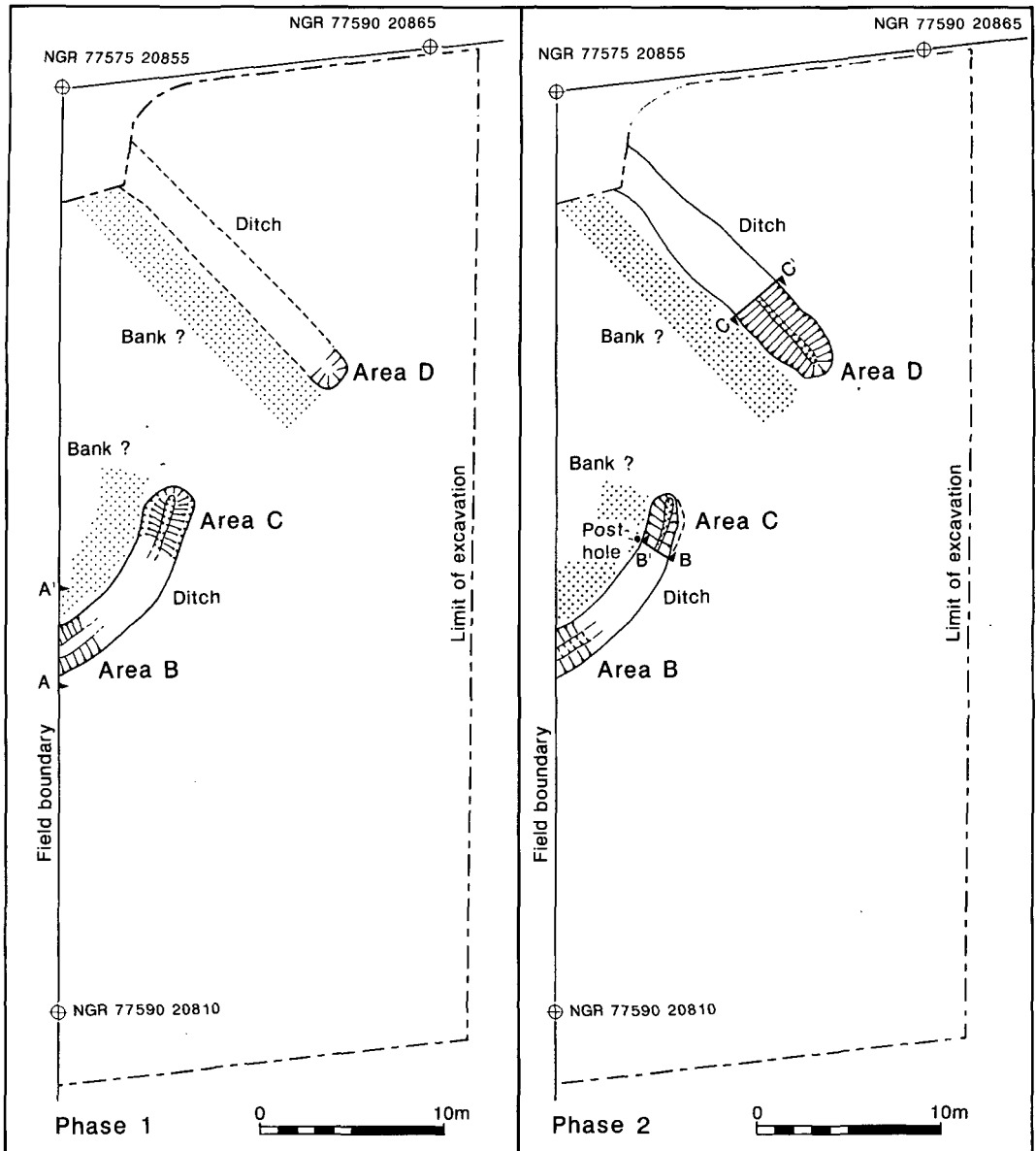


ILLUS 1 Location of Dalginross and Dun Roman camps (cf illus 2 & 5)



ILLUS 2 Dalginross: site plan. (Based upon the Ordnance Survey map © Crown copyright)

wire fence. Special care was taken to strip as close to this fence as possible for two reasons: first, the main line of the camp ditch appeared from the aerial photograph to run along the field boundary and, secondly, it was hoped that plough damage to the site might be less severe beneath the dyke. On mechanically removing the topsoil, the two external extensions to the main ditch of the camp (one curved and one straight) were immediately apparent (illus 3); they had formed the outer portions of a complex 'clavicula' protecting the entrance. (The curving arc of the bank that is known from Roy's drawing to have extended across the direct



ILLUS 3 Dalginross: Phase 1 and Phase 2 excavated features

line of access into the interior, thus providing further defence in depth, lies outside the area excavated, to the west of the field boundary.)

Several features, visible both inside and outside the entrance after the removal of the topsoil, proved on excavation to be either of modern or natural formation. Excavation of the area beneath the collapsed stone dyke revealed the presence of a very eroded bank immediately to the north of, and inside, the curved segment of the ditch protecting the

entrance. However, none of the main ditch of the camp was revealed and it can therefore be concluded that it lay on the other side of the fence. Two sections (Areas B & C) were excavated through the curved ditch, along with a single section through the straight ditch (Area D). Area A, to the south of the curving ditch, comprised the excavation of a pit which produced modern pottery at its base; it will not be referred to further in this report.

#### AREA B

This area was cut so as to provide a continuous section of the bank and ditch.

#### The bank (illus 3 & 4)

The bank (F22) survived to a height of 0.23 m above the earlier ground surface and to a width of 1.45 m, although it was cut by a modern pit on its north side. The bank material was grey/brown stony loam, much disturbed by root activity (F22). It sealed a buried soil of two horizons. The upper horizon was a banded layer of dark and light grey clayey silt containing small stones, less than 10 mm in diameter (F23). The lower horizon was a grey/brown stony loam (F24).

#### The ditches (illus 3 & 4)

The primary cut (Phase 1) had an 'ankle-breaker' profile, V-shaped with a vertical-sided slot along the bottom (illus 4). It was 1.9 m wide and cut to 1.8 m below the old ground surface, with its sides pitched irregularly between 40 and 60 degrees. The 'ankle-breaker' slot was 0.2 m wide and 0.3 m deep. The only surviving fill of the primary cut was a deposit of dark grey loam (F17) with lenses, interpreted in the field as a collapse or dump of turves from the rampart (Carter, below).

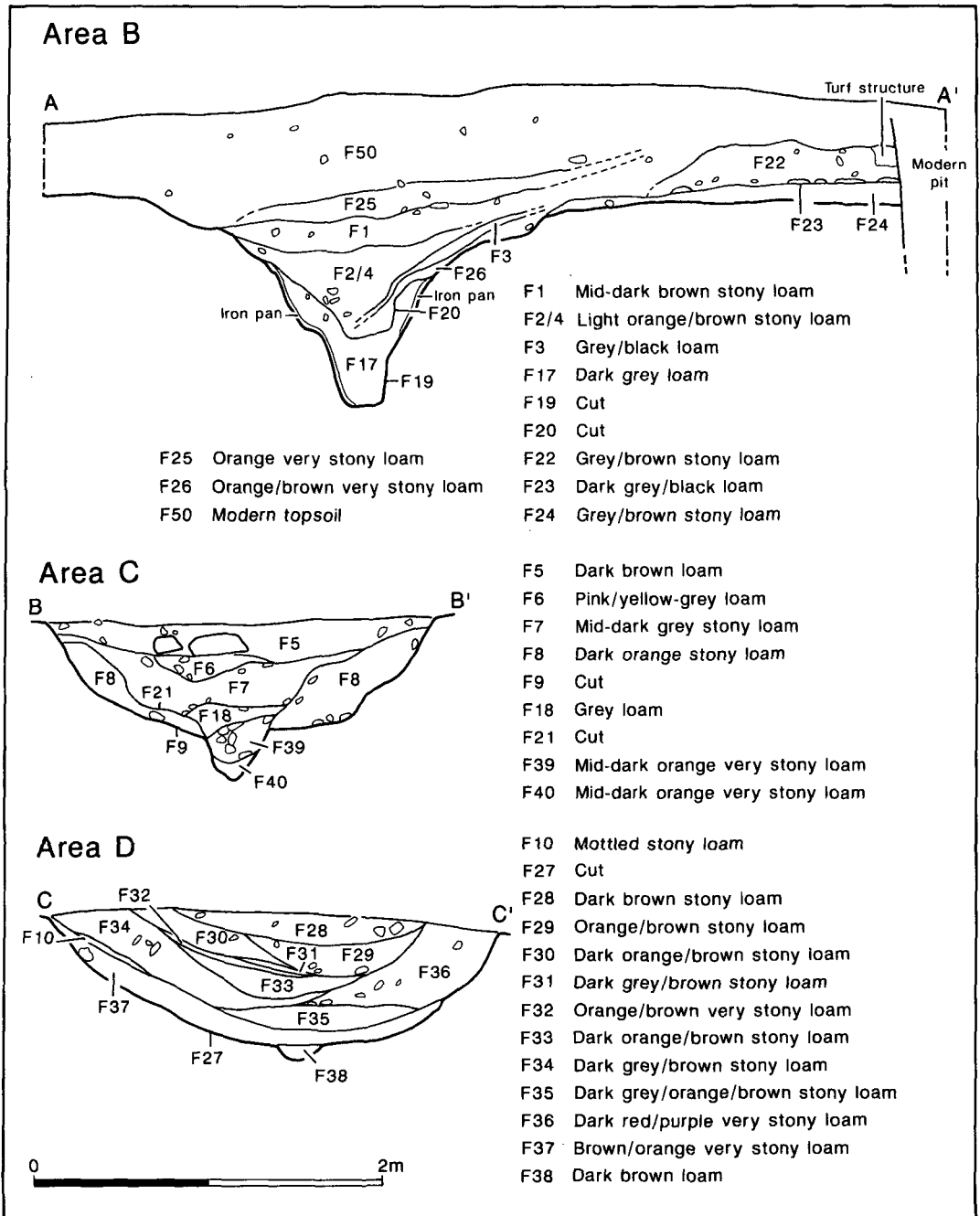
The ditch had been re-cut in the same position but to a shallower depth (Phase 2). The primary fill of the re-cut was a slip of very clean orange/brown, very stony loam (F26). Over this was a layer of grey/black loam (F3). Both these deposits were confined to the north side of the ditch. Above these were two layers of stony loam with unclear boundaries (F2/4). The colour distinction between them (F2 being of a lighter colour than F4) was probably a result of natural soil processes. They were sealed by a layer of dark brown active soil (F1), very similar to the topsoil, above which was a layer of extremely stony loam (F25). Above this lay the topsoil (F50).

#### AREA C

#### The ditches

In Area C the primary cut had a U-shaped profile (illus 4). It had sides sloping at approximately 45 degrees and was 2.2 m wide and 0.9 m deep, although its upper part had been truncated by ploughing. The 'ankle-breaker' was 0.3 m wide and 0.3 m deep. This was filled with stained, very stony loam (F40) which probably silted into the ditch, and homogeneous orange stony loam (F8), which filled the cut almost to the surface and was, therefore, probably a backfill.

The re-cut was more V-shaped with irregular sides, sloping at roughly 45 degrees. It



ILLUS 4 Dalginross: ditch sections (Areas B, C & D)

was 1.7 m wide and 0.8 m deep (illus 4). The re-cut 'ankle-breaker' was filled with an orange, very stony loam (F39). Above this was a deposit of grey loam (F18). This was sealed by two further loam deposits (F6 & F7), the colour distinction between which was probably due to natural soil processes. They in turn were sealed by the topsoil (F5).

A small post-hole was located on the west lip of the re-cut. It cut the fill of the primary ditch but was sealed by the fills of the secondary one (illus 3). It was 0.19 m in diameter and 0.35 m deep. It had an 'hour-glass' profile indicating that the post had been rocked in order to loosen it, prior to removal.

#### Area D (illus 3 & 4)

The re-cut of the straight ditch protecting the entrance was wider and deeper than the primary cut there (illus 3). The primary ditch was only identified at the terminal, where it was 1 m longer than the secondary re-cut. The primary ditch had a pronounced sub-rectangular terminal. The surviving segment of primary ditch had a V-shaped profile with sides sloping at 45 degrees, but no identifiable 'ankle-breaker'. It was 2 m wide and 0.75 m deep, although its original dimensions could not be ascertained due to truncation.

The re-cut was U-shaped. It was 2.55 m wide and 0.90 m deep and had a small 'ankle-breaker', 0.25 m wide and 0.07 m deep. The primary fill consisted of a dark brown loam (F38) in the 'ankle-breaker', interpreted as erosion from the ditch sides. Over this was a deep deposit of brown/orange, very stony loam (F37). This, in turn, underlay two loam deposits (F10, F35), not contiguous but in the same stratigraphic position, which consisted of irregular grey and black lenses. Two further deposits, (F34 & F36), of greyish/brown stony loam and dark/red stony loam respectively, covered these. Above them, a deposit of orange/brown, moderately stony loam (F33) appears to have gradually accumulated and then stabilized, so that a soil layer and a turf line developed (F32). Above this was a series of layers (F28, F29, F30 & F31), which were interpreted as representing 19th-century infill.

## MICROMORPHOLOGICAL ANALYSIS

(Full descriptions of the thin-sections taken from the soil samples have been deposited in NMRS)

Stephen Carter

### Introduction

Four thin-sections of soil were analysed in order to answer two questions about the excavated features: first, whether the lowest ditch fill in Area B consisted of backfilled turves; and secondly, to determine the nature and history of the soil buried beneath the bank in Area B.

Four thin-sections were prepared from samples collected in Area B. Samples of undisturbed soil were collected in 80 × 50 mm Kubierna tins and used for thin-sections produced by the Department of Environmental Science, University of Stirling. Samples 1 and 3 spanned the full depth of the buried soil beneath the bank (F22, F23 & F24). Samples 7 and 13 spanned the lowest 0.2 m of the basal ditch fill (F17). The thin sections were described using the terminology and methods of Bullock *et al* (1985).

## THE BASAL DITCH FILL

Preliminary examination of Samples 7 and 13 revealed that they both consisted of a series of approximately parallel bands of sediment, dipping steeply from south to north (the angle of dip being parallel to the adjacent ditch cut). The bands formed a repeating sequence of sediment types which, starting at the top of Sample 7, was as follows (thicknesses given below were measured perpendicular to the sediment boundaries):

- 1 Leached mineral sediment with common coarse organic material (20 mm minimum).
- 2 Leached mineral sediment with rare coarse organic material (25 mm).
- 3 Mineral sediment with abundant ferruginous pedofeatures (5 mm).
- 4 Amorphous organic matter (<3 mm, discontinuous).
- 5 Leached mineral sediment with common coarse organic material (20 mm).
- 6 Leached mineral sediment with rare coarse organic material (<40 mm).
- 7 Mineral sediment with abundant ferruginous pedofeatures (irregular).
- 8 Amorphous organic matter (<2 mm, discontinuous).
- 9 Leached mineral sediment with common coarse organic material and ferruginous pedofeatures (20 mm minimum).

Given the context of these sediments, the banding could have been created in two ways: either by the *gradual in-washing of disaggregated sediment of varying character*, or by the *deposition of lumps of sediment (in this case turves) with a pre-existing banded structure*. Several different factors suggest that the latter explanation (turves) is correct. In Sample 13, and to a lesser extent in Sample 7, the larger stones have a preferred orientation which is within 10–20 degrees of vertical. This is much steeper than the expected stable angle of rest for accumulating ditch sediments and suggests that the stones were deposited as part of an aggregated mass. The repeated sequence of sediment types could be produced by a process of gradual infilling, but a more probable explanation is that each set of four bands represents one turf. This interpretation is supported by the fact that the sequence of organic, organo-mineral and mineral bands resembles the surface layers of a stable soil profile. It is concluded that Samples 7 and 13 span parts of three turves, apparently all with organic horizons upwards, but steeply dipping. The good preservation of the stratigraphy of these turves suggests that they were still fresh and coherent when they were deposited in the ditch and had not had time to decompose.

Only one of the three turves lies completely within the thin sections (Bands 4–7 inclusive) and it is c 80 mm thick. Its upper surface is marked by the thin amorphous organic band (Band 4) which is the decomposed remains of the surface vegetation of the turf. Band 5, below it, contains common, well-preserved organic residues, in contrast to Band 4. There are two common types of residue: first, stems or roots up to 250 microns in diameter, which, owing to the lack of differentiated vascular tissue, are identified as bryophytes (mosses and liverworts); and secondly, masses of fungal spores up to 200 microns in diameter. There are a few highly decomposed roots of higher plants, and these are invaded by fungal spores. The appearance of the fungal spores in this layer, and their presence within decomposed tissues, suggests that they are resting spores of saprophytic fungi, either Plasmodiophoromycetes or Chytridiomycetes, which are common in soils (Webster 1980). Fungal resting spores probably became common only after the turves were deposited in the ditch and most of the plant tissues had been consumed. The immunity of the bryophyte stems to this attack is striking. Band 6 contains similar organic components but they are much less abundant.

Given the high degree of decomposition in Band 4, it is not possible to identify the original vegetation on the turf. One result of this decomposition is the concentration of ferruginous pedofeatures adjacent to the organic turf surface. These take the form of multiple thin iron pans and areas of more general iron impregnation; they were formed as a result of the reducing conditions created at the top of the turf during organic matter decomposition (Limbrej 1975, 311). Therefore, the lowest ferruginous band of each turf (Bands 3 and 7) was formed after its deposition in the ditch.



In addition to the evidence for the loss of organic matter, and the formation of ferruginous pedofeatures after burial, it is clear that much of the porosity (channels and chamber voids) cuts across the turves and was therefore created after burial. These voids, which were created by roots or invertebrates, have rare thin silt coatings formed probably from sediment washing down through the turves during the later infilling of the ditch. Unfortunately, it is not possible to estimate the time necessary for these post-depositional features to develop.

Analysis of the micromorphology of Samples 7 and 13 confirms that the lowest ditch fill in Area B contained intact turves. However, it cannot be determined whether the ditch had been intentionally backfilled with turves, or whether a turf bank had rapidly collapsed into the ditch.

#### THE BURIED SOIL BENEATH THE BANK

Samples 1 and 3 (above) confirmed that the buried soil consisted of two horizons; these were a 10 mm deep surface layer with abundant organic components and a c 120 mm deep sub-surface mineral horizon.

The organic components of the buried surface layer were dominated by masses of fungal spores, like those seen in the turves described above. The few fragments of vascular tissue were also invaded by them. Bryophyte stems were again present but not as abundantly as in the turves, forming only a minor fraction of the total organic material. The larger organic fragments were concentrated in horizontal bands, separated by mineral sediment, with relatively little organic matter. The banding of what is now predominantly fungal spores presumably reflects banding in the original plant fragments on which the fungi developed.

The surface layer has a compact, almost massive structure, and rare channels are the only voids present. This structure continues into the top 20 mm of the sub-surface soil horizon, which also has indistinct horizontal banding of its coarse mineral material. Below this compacted zone, the structure breaks down into a complex of soil fragments and crumbs. The groundmass is generally rich in amorphous iron and there are no organic components.

The absence of organic components in the lower deposit indicates that it consists of soil B Horizon material; the fact that this horizon extends to within 10 mm of the soil surface demonstrates the lack of a well-formed, organic-matter-rich A Horizon. In its place, there is a thin layer with a structure typical of trampled surfaces (banded and compact). There are two possible interpretations of the A Horizon. It may be that the soil was truncated by the removal of its A Horizon, along with any vegetation, then allowed to develop a plant cover again before being trampled and buried under the bank. It is not possible to be precise about the time span involved in such a process, but the ephemeral nature of the surface organic layer suggests a few years at most, and perhaps only one growing season. The presence of turves in the ditch, raises the possibility that the soil truncation was due to turf stripping for the building of the camp. The stratigraphy of the turves in the ditch shows that they were cut thick enough to remove all organic-rich sediment from the soil surface and create the type of truncated profile seen under the bank. Alternatively, the organic matter could be turf material trampled on to the B Horizon during the removal of the A Horizon, in which case the bank may have been constructed immediately afterwards.

#### CHARRED PLANT MATERIAL (full details in fiche)

##### Sheila Boardman

Two bulk samples from ditch fills in areas B and C produced single charred seeds, identified as sedge (*Carex* sp.) and corn spurrey (*Spergula arvensis* L.) respectively. No economic plants were recovered. It is impossible to draw any conclusions about the origins of these plant remains.

## DISCUSSION

The camp evidently had two phases of construction, represented by the cutting and re-cutting of the whole length of both ditches. The ditches were backfilled with turves or undifferentiated gravel to most of their depth before re-cutting, strongly suggesting a deliberate slighting of the camp before temporary abandonment and then re-occupation. Moreover, the turves in the fill of the Phase 1 ditch had lain undisturbed long enough for them to amalgamate into a stable deposit into which the sharply defined Phase 2 ditch profile had been cut. It is tempting to accept the first interpretation of the buried soil beneath the bank (ie that it represents a truncated, regenerated and then trampled surface; Carter, above), because it may mirror the ditch sequence, but the evidence is inconclusive. The main rampart and ditch of the camp must have been immediately beyond the modern fence in Area B, and the restriction of turf to the ditch bottom at this point may indicate that turf, or a turf facing, occurred only on the main rampart, and that the short lengths of rampart inside the ditches protecting the entrance were of different construction. These probably consisted of no more than a simple mound of upcast silt and gravel. The single post-hole identified could have held one of the stakes (*valli*) that the troops carried expressly so that these could be pushed into the bank surrounding a camp.

There are several possible explanations for the two phases of construction of the Dalginross camp. It is possible that the unit based in the camp was engaged in building the fort; this, however, would not account for the reoccupation of the camp for it seems unlikely (although not impossible) that a half-built fort would have been abandoned in hostile territory. The probable slighting and re-occupation of the camp may indicate instead that it was more than simply a labour camp related to the fort, the interpretation suggested by Maxwell (1981, 31–9); perhaps a purpose other than fort building was intended for at least one of the two camp occupations. It is conceivable that the only relationship between the camp and fort is that they both utilize the same level site near a fordable stretch of the River Earn.

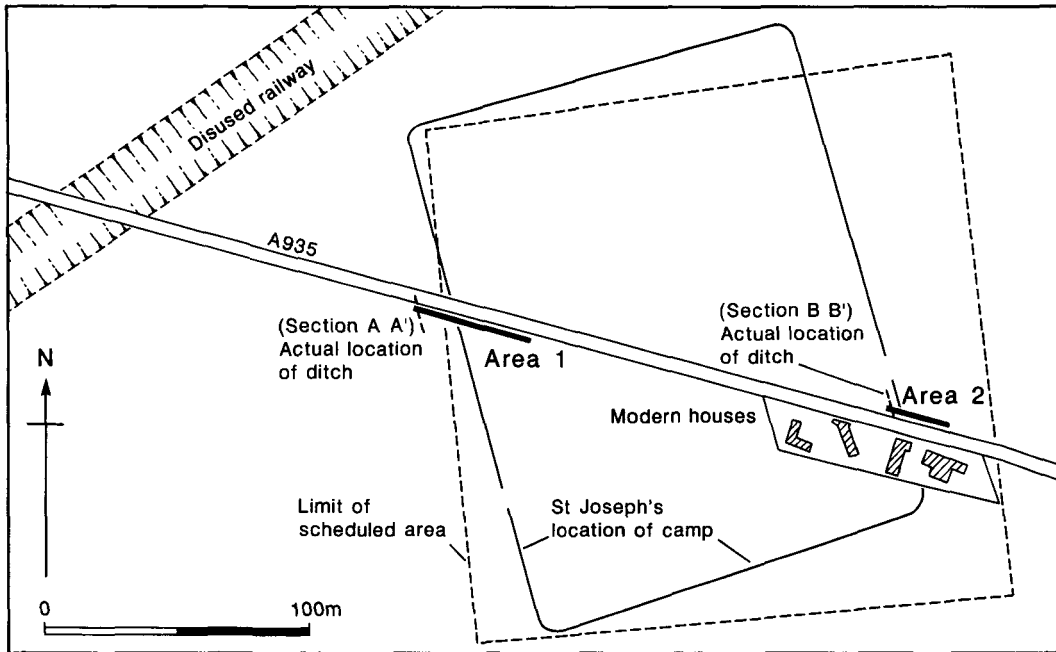
The camp had gates of the ‘Stracathro’-type, a form frequently found in Scotland, particularly north of the Forth. Camps with these entrances are sometimes thought to reflect the movements of Agricola’s forces, or his immediate successor (Maxwell 1981). However, as is often the case with excavations of Roman camps, given the absence of interior buildings, the shortness of their lifespan and the consequent paucity of artefactual and other debris, no corroborating dating evidence was recovered from the Dalginross camp.

## DUN (NO 668595)

The Roman temporary camp at Dun lies to the north of, and overlooks, the Montrose Basin (illus 1). Aerial photographs show a camp measuring approximately 200 x 150 m, together with what appear to be native structures to the north, although it is not known whether or not the two groups of features are related. In 1990 an opportunity to examine a narrow strip of the camp was presented by the replacement of the gas main along the A935. A one-week excavation was undertaken by Historic Scotland, followed by a watching brief during the laying of a British Gas pipeline.

## EXCAVATION

The intended line of the new pipe trench ran east to west, parallel to, and 3.5 m north of, the road in the east half of the camp; it was then to cross the road and run 3.5 m south of, and parallel to, the road in the western half of the camp (illus 5). Two areas were stripped of



ILLUS 5 Dun: site plan

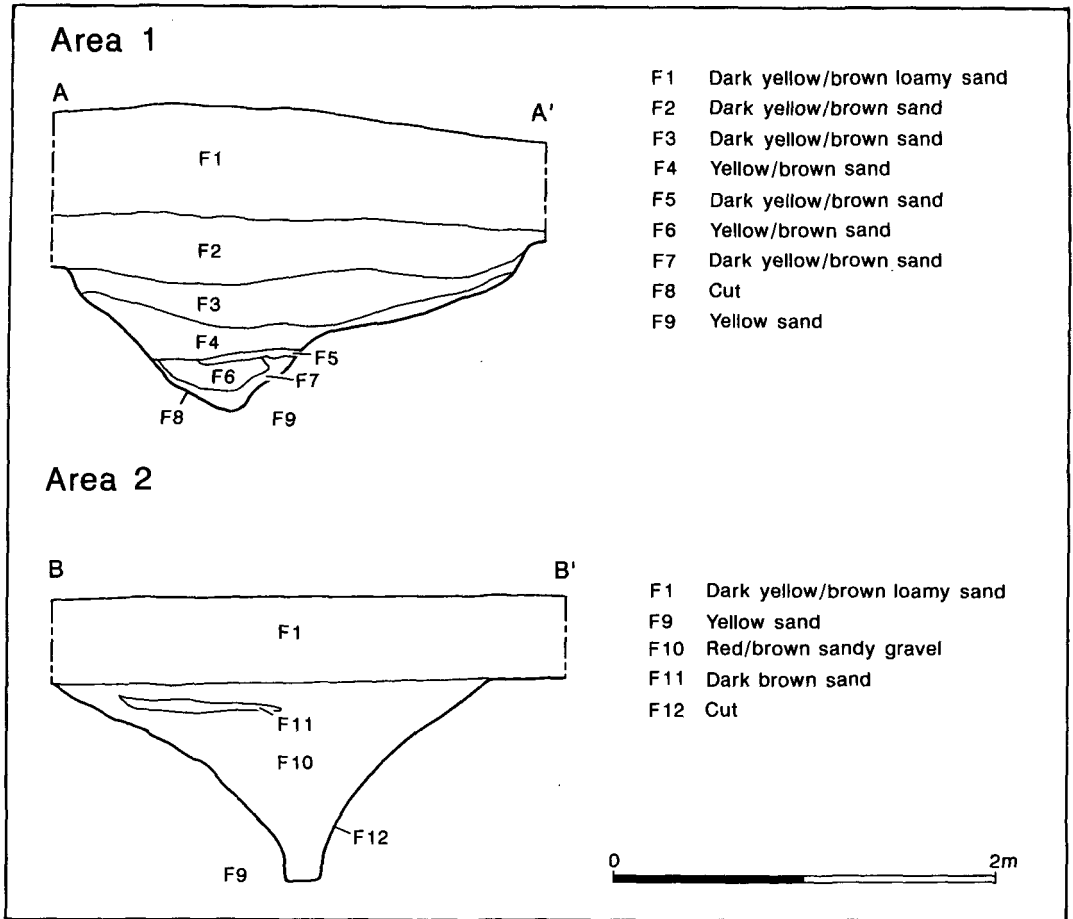
topsoil along the route of the intended pipeline. Their location and extent was intended to include the camp ditches, together with an area within its interior.

Area 1, south of the road, was 2 m wide and 32.6 m long, and was located over the presumed position of the western ditch of the camp. After the modern ploughsoil had been removed, a B Horizon showing no archaeological features was revealed. This was removed to a depth of c 0.6 m revealing a natural fluvio-glacial sand deposit with occasional lenses of gravel. The camp ditch was revealed at the west end of the cutting, some 30 m from its presumed location, and 8 m outside the scheduled area. Careful cleaning of the area did not uncover any features in the interior of the camp.

Once emptied, the ditch appeared to have an 'ankle-breaker' profile, a V-shaped ditch with a square slot at the bottom, although its shape had been smoothed by erosion (illus 6). It was truncated 0.5 m below the modern surface by a pre-modern, post-Roman ploughsoil (F2). At this point the ditch was 1.5 m wide and cut to a depth of 1.5 m below the modern surface.

The bottom of the ditch contained mixed lenses of sand and darker material, 0.2 m deep (F5–F7). This appeared to represent silting of both natural sand and topsoil into the ditch, shortly after it was cut. This probably occurred very rapidly; it was notable that during the two days of the excavation in which the ditch was open, it silted to a quarter of its depth. These lenses were covered by a homogeneous dump of discoloured sand (F4 & F5), interpreted as a deliberate backfill, truncated by the pre-modern ploughsoil (F2). The upper part of this deposit had been incorporated into the active topsoil (F1).

Area 2, on the north side of the road, was 19.6 m long and 2.7 m wide, and was intended to include the east camp ditch (illus 5). On the removal of topsoil, manual excavation was confined



ILLUS 6 Dun: ditch sections (Areas 1 & 2)

to the area of the assumed location of the camp ditch. Inevitably, however, this revealed no archaeological features because, as in the case of Area 1, the ditch was further west than assumed. The area had also been heavily disturbed by the laying of modern utility pipes. The ditch was finally revealed at the western end of the area during the mechanical excavation of the trench for the laying of the gas pipe. It was 1.27 m wide, reached a depth of 1.53 m below the modern surface, and was filled, for the most part, with a homogeneous brown sand F10 (illus 6).

### CHARRED PLANT MATERIAL (full details in fiche)

Sheila Boardman

A small number of charred barley grains, all probably from the hulled six-row species (*Hordeum vulgare* L.), were recovered from the west ditch. This is the commonest cereal species encountered on Scottish archaeological sites, although the Roman military in general seems to have had a preference for the wheats (see Dickson 1989). It is unclear how these grains came to be deposited in the ditch.

Six-row barley and emmer wheat (*Triticum dicoccum* Schubl.), as well as a single seed of fat hen (*Chenopodium album* type), were recovered from the pre-modern ploughsoil in Area 1. This is believed to date to the medieval period but it may incorporate material of different ages.

## DISCUSSION

Two trial trenches through the rampart at Dun were excavated in 1960 by St Joseph (1973, 255). One produced a sherd of samian ware dated to AD 70–90. It has been suggested (Maxwell 1981, 45) that Dun was a base from which the Roman navy supplied Agricola's armies, but in the absence of excavated storehouses, or other such evidence, it would be difficult to prove this theory. The present excavation, unfortunately, produced no data that could be used either to date or demonstrate the function of the site. It was disappointing that no internal features in the camp were revealed, despite the relatively large area that was investigated to the level of natural subsoil in Area 1. It is difficult not to conclude that continual ploughing on the site has not only destroyed upstanding features, such as banks, but also all but the deepest pits and post-holes.

The excavation did demonstrate, however, that the exact location of the camp has been mapped rather inaccurately in the past. It has been suggested (S Carter, pers comm) that the considerable depth of topsoil, c 0.5 m, covering an earlier ploughsoil 0.3 m deep, indicates a substantial accumulation of wind-blown sand over this area, possibly exaggerated in Area 1 by the proximity of the field boundary. This would explain the vagueness of the cropmark.

## DALGINROSS AND DUN: CONCLUSION

The excavation at Dun contributed little to our understanding of the site in comparison with the excavation at Dalginross. The difference in the quality of information gained from these two excavations was due almost entirely to the fact that, at Dalginross, an area had been preserved from plough-truncation beneath the field boundary. Since the majority of Roman sites, particularly temporary camps, have been subjected to ploughing, future investigations should concentrate on any undamaged area, no matter how small, as a major priority. The Dalginross project has also clearly demonstrated the importance of micromorphological analysis as an investigative tool.

The two phases of occupation at Dalginross were not suspected prior to excavation, illustrating the hazards of interpreting unexcavated sites and the potential complexity of apparently simple sites. The individuality of camps is likely to become more apparent as more are excavated, and the differences between them may be as significant as the similarities, since they may reflect the concerns of commanders at particular points in their campaigns. Therefore, each camp may represent a unique response to the military situation at a given time and place.

## ACKNOWLEDGEMENTS

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