

## Some excavations on the line of the Antonine Wall, 1957–80

L J F Keppie\* and D J Breeze†

with contributions by James Barber, G Finlayson, N McCord, I MacIvor, J Frances Murray, C H H Scobie, J J Walker and J J Wilkes

### ABSTRACT

Report of 15 small excavations and four watching briefs which led to the definition of the Wall line in three places and new information concerning the structure, building and history of the Wall elsewhere. In particular: the full width of the ditch, 12 m, can now be seen to apply only over the central sector; a demarcation line in the stone base has been detected; the rampart at Tollpark underwent major repair and a unique, and inexplicable, stone platform was attached to the base.

### INTRODUCTION

Parts i and ii are numbered separately, each list running in geographical order from E to W, as in an earlier paper published in these *Proceedings*, which reported on similar work carried out between 1973 and 1976 (Keppie 1976, 61–80). In order to help differentiate the separate entries on the map (fig 1), the numbers relating to part i are placed in a circle while those in part ii are in a square.

Copies of the original reports, together with supporting documentation, of nos i, 1–7 and ii, 3–12 are held in the Hunterian Museum, University of Glasgow, together with the small finds from Garnhall, Westerwood and Carleith, with copies of the documentation in the National Monuments Record for Scotland. The records and finds from nos ii, 1 and 2 are in Falkirk Museum. This paper completes the publication of all such excavations on the line of the Antonine Wall sponsored by the Scottish Development Department Ancient Monuments Branch, or its predecessors, up to 1980.

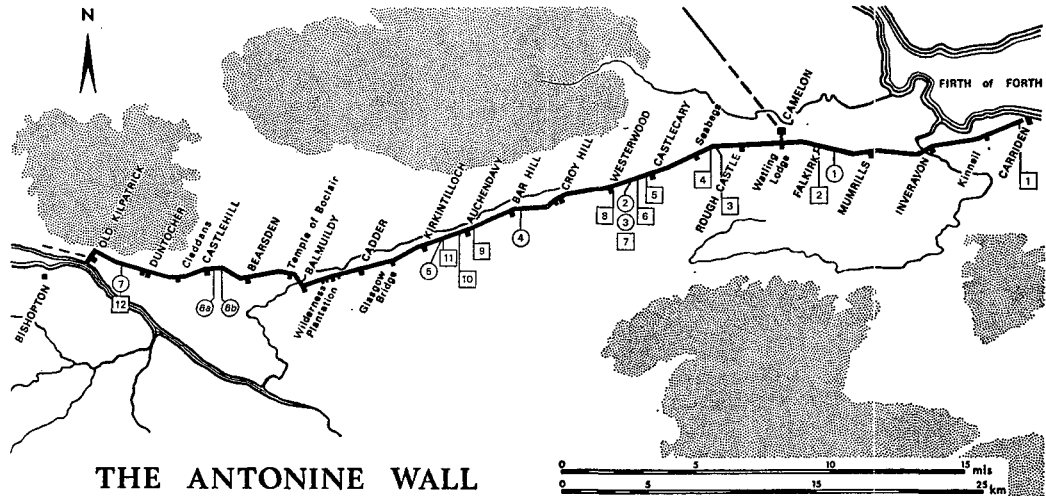
(i) 1957–69

Edited by David J Breeze

The following seven excavations were carried out between 1957 and 1969 at the request of the Inspectorate of Ancient Monuments, acting on behalf of the Ministry of Works or its successors. The reports were all produced promptly and have since lain on departmental files. However, it seems appropriate to publish the reports as they all include evidence relating to the line, structure or history of the Antonine Wall. The reports have been edited to exclude extraneous matter,

\* Hunterian Museum, University of Glasgow.

† SDD (Ancient Monuments), 3–11 Melville St, Edinburgh.



## THE ANTONINE WALL

FIG 1 The Antonine Wall: location of excavations and watching briefs. The numbers in circles refer to part i, those in squares to part ii.

such as the cost of the week's work at Bar Hill (23 shillings). A note in brackets at the end of each entry directs attention to later relevant material or provides information on the later history of the site.

### 1 *Beancross/Dollhouse* (NGR NS 925795 and 929794)

N McCord

Early in 1965 a main drain was cut in the vicinity of the line of the Antonine Wall (Macdonald 1934, 116; Robertson 1979, 46-7) in the low valley just W of Polmont. Although these works cut into the accepted line of the Wall, the contractors did not detect any trace of ditch or wall. The area was further affected by the cutting of a new road, which destroyed a stretch of the supposed line of the Wall in the Beancross/Dollhouse area. A short excavation was undertaken in April 1965 to see if any traces of the Wall could be found in the areas which remained unaffected by the digging of the drain but which would be cut through by the proposed road. Two possible areas were available, which included the supposed line of the Wall, one between Beancross and the Polmont Burn, and the other E of Dollhouse, where the ground begins to rise to Cadger's Brae. In both cases the area available was restricted to a narrow strip between the road and the line of the new drain, the drain having encroached upon the accepted line of the Wall particularly in the eastern of the two areas. In both areas trenches were cut across the available space, but no trace whatever was found. The negative nature of the results was especially clear in the western area, where a trench 2 m deep was cut right across the line of the Wall as shown on the OS map; the section here was consistently barren of structural traces, and the cut went down into quite clean heavy clay. Although no positive conclusions can be drawn from these results, it might be regarded as a distinct possibility that the accepted line of the Antonine Wall is not entirely accurate in the stretch between Polmont hill and Mumrills.

(The line of the Antonine Wall immediately S of Beancross was confirmed during a watching brief in June 1973 (Keppie 1976, 63), but the line of the Wall between here and the W shoulder of Cadger's Brae, where Macdonald found the stone base in 1913 (Macdonald 1915, 135), and which was confirmed by excavation in the next field to the E in 1960 (Steer 1961, 323), remains uncertain. DJB).

### 2 *Tollpark* (NS 770777)

I MacIvor

The lands of Tollpark are now owned by the Cumbernauld Development Corporation. The area is zoned by the Corporation for industry, and in order to lay out their sites the Corporation desired to know

the limits of the Roman antiquities. The Corporation wished to establish a supply of cooling water for the industrial zone, and to erect a water tower on the high ground known as Hag Knowe. The Corporation's proposals required excavation to establish the line of the Military Way and to determine the nature of the remains on Hag Knowe itself.

*Military Way* Sections were taken across the presumed line of the Military Way as shown in aerial photographs in the possession of the Ordnance Survey. These sections were made on each of the hedge lines in the lands of Tollpark, where the line of the Military Way is seen on the aerial photographs to be dissociated from the line of present tracks.

In the two easterly trenches a scatter of stones was observed at a depth of about 15 cm below the surface. No firm cobbling was seen here, and only a light scatter of stones was seen on the supposed line further to the W. The supposition must be that the Military Way has been scattered by ploughing, and that the stone-scatter appears more clearly on the aerial photographs than it does in excavations.

*Rampart* A section 1.3 m wide was dug across the rampart near the tentative site for the water tower. The kerbs and cobbling of the rampart were found, traversed by a culvert. The cobbling was covered by about 60 cm of turfwork in good preservation. The turfwork showed the same marked colour distinctions that were found in 1957-9 on the rampart at Rough Castle (MacIvor *et al* 1979, 100). There were only about 15 cm of plough soil above the distinct lines of turf.

But the section also revealed a feature which had not hitherto been noted on the line of the Wall. The kerbs of the rampart were about 4.42 m apart, the standard width of the rampart foundation. To the S of the kerbs was a line of large undressed stones forming a face 76 cm to the S of the S face of the rampart, and blocking the entry to the culvert. The southerly line of stones was placed at a level 30 cm higher than the level of the setting of the S kerb and stood on top of a mass of tumbled turfwork which in turn lay above a black turf line presumably contemporary with the laying of the kerbs. The turfwork of the rampart ran up to the southerly line.

The southerly line of kerbs indicates a drastic rebuilding of the turfwork of the Wall. The continuity of turf lines from the southerly line northwards over the body of the rampart cobbling suggests a major demolition of the rampart structure. The tumbled turfwork on which the southerly line of stones stands suggests destruction or at least collapse of the rampart turfwork, and argues against the incompleteness of the turfwork of the rampart in the first stage of building.

### 3 Tollpark (NS 770777)

J J Wilkes

Trial excavations were undertaken in September 1964 to discover further information about the additional kerb along the S side of the Antonine Wall located in an earlier section (above p 231).

The additional kerb was found to extend for 30 m. Both on the E and the W its termination was abrupt and no structural relationship with either the turf or stone of the Antonine Wall was noted at any point. Throughout the length of this additional kerb the original S kerb of the Wall was discovered intact. The feature is clearly of the Roman period since it is closely aligned with the S kerb, its southern face being 1 m beyond the S kerb, while laid at a slightly higher level (about 15-30 cm). It appears to have been intended to strengthen this section where the turf may have been unstable on a southward water-logged slope.

A curious and unexplained feature was a gap in both the N and S kerbs of the Wall a short distance E of the end of the additional kerb. On the N side the kerb was missing for a distance of 17 m and on the S side the interval was 11.7 m. Trenches in the middle of this gap revealed no traces of either turf or stone of any kind, 46 cm of humus lying directly on orange boulder clay. On the E side of this gap a stone surface extended westward from the end of the Wall kerb both on the N and S sides. A similar stone spread was discovered S of the S kerb 7.5 m further to the E.

No finds were made.

(Similar repairs to the kerbs of the Antonine Wall base have now been discovered at other sites, in particular Bantaskin, Falkirk (Keppie 1976, 75-6) and Garnhall, Castle Cary (see below pp 237-9). For later work at Tollpark by Dr L J F Keppie and Mr J J Walker see below pp 239-40. DJB)

4 *Bar Hill* (NS 813762 to 708761)

C H H Scobie

Work was carried out on Bar Hill from 29 July to 3 August 1957 in order to try to determine the exact position of the Roman Wall and Military Way, so that the young trees which had been planted over the remains by the Forestry Commission might be removed. The work took considerably longer than was initially anticipated due to the depth at which the Wall foundation lay, to the fact that the foundation had been disturbed or removed at several places, and to a failure to trace some of the old sections dug by the Antonine Wall Committee in the 1890s (GAS 1899).

*The Wall* Altogether five of the Antonine Wall Committee's trenches were re-opened, and nine new trenches were cut. The kerb of the Wall was only located in five of the new trenches, however, so that in all the line of the Wall was checked at a total of ten points. In the Antonine Wall Committee's No 1 and No 3 sections both kerbs of the Wall were located, but in all other sections only the N kerb was uncovered.

The Antonine Wall Committee's No 1 section at the edge of the wood, in front of the gamekeeper's cottage (now in ruins), was easily found. The kerb stones were intact at either side of the Wall base. The Antonine Wall Committee's No 2 section was not located. Some mistake or misprint must have been made in the Report, for it is 72 ft from the No 1 section to the stone dyke, and not 101 ft as the Report states (GAS 1899, 86). (All measurements in Table 1 were made from the E side of the trenches). What was presumably the Antonine Wall Committee's No 3 section was located; it tallies with the description given in the report (GAS 1899, 91), but again the Report's measurements seem to be at fault, though this time only by a small margin. Most of the kerb stones seem to have been lifted and then replaced, and so cannot be relied on to give an accurate line. The Antonine Wall Committee's No 4 section was not located. Sections 5, 6 and 7 on the shoulder of Castle Hill were located, re-opened and, after the line had been marked with pegs, were closed again.

TABLE 1

The location of the trenches is indicated in the following table of distances:

From AWC's No 1 section	to stone dyke	22 m
stone dyke	to (a)	46 m
(a)	to (b)	6 m
(b)	to (c)	14 m
(c)	to AWC No 3	13 m
AWC No 3	to (d)	42 m
(d)	to (e)	24 m
(e)	to (f)	12 m
(f)	to turn in Wall	38 m
turn in Wall	to (g)	80 m
(g)	to (h)	41 m
(h)	to (i)	17 m
(i)	to AWC No 5	12 m
AWC No 5	to AWC No 6	20 m
AWC No 6	to AWC No 7	16.5 m

Ten new trenches were dug from the now ruined Bar Cottage to the NW side of Castle Hill. Trench (a) encountered a layer of dark hard-packed gravel just below the surface. In this layer were a number of stones, including one fair-sized one. The attempt to dig through this layer was abandoned. It may have been at one time a road (though from the position this is unlikely) or it may be a spreading of material from the nearby dump of mineral refuse. Trench (b) also encountered this layer, and no attempt was made to dig further. Trench (c) encountered a little dark gravel, but was then dug through rampart material which seemed to contain a large proportion of clay. Lying on the subsoil were two stones, one large and roundish in shape, and another smaller at a slightly higher level. These may have once been part of the foundation but clearly they were never kerb stones, and they were not in position.

The kerb, represented by two stones roughly squared and laid in line, was located in trench (d). Behind them, there appeared to be the usual type of rough pitching. The kerb was again located in trench (e). Three kerb stones lay in position but then there was a gap of about 1 m from which both kerb stones

and pitching had been removed. The kerb was resumed by another stone, just visible in the W end of the trench. In trench (f) the foundation was intact, and two kerb stones were uncovered. Trench (g) was opened before the exact line of the Wall had been determined, as the probe revealed the presence of a large piece of stonework. This proved to be a single large stone lying at an angle. When the exact line of the Wall was determined, this trench was found to lie clearly to the N of the line. The stone, by its size and shape, may well have been a kerb stone. If this is so, the foundation must have been disturbed at this point, and the stone must have slid downhill a little. The kerb, represented by two kerb stones, was discovered intact in trench (h). In trench (i) two kerb stones were found, but a gap at the E end of the trench seemed to indicate that there had been some disturbance and that a kerb stone had been removed.

Pegs were put in at the ten points where the kerb was located and it was found that the Wall runs very much as indicated in Sir George Macdonald's map (1934, Pl XXIV A). From the Antonine Wall Committee's No 1 section it follows a straight course westwards over the first ridge of Bar Hill and down into the hollow. The foundation is presumably lost in the gullies which cut across the line here. The Wall then veers slightly to the left until the shoulder of Castle Hill is reached, when it curves round to take the best advantage of the high ground. The Antonine Wall Committee found that in each of the three full sections they cut on Bar Hill (Nos 2, 3 and 4), the foundation was 4.3 m wide.

*The Military Way* Unfortunately work on the Wall took up most of the available time, and only a few trial cuttings were made on the presumed route of the Military Way. These were made just to the NE of the circular enclosure through the northern part of which Sir George Macdonald (1934, 149) indicates that the road passes. Two small trenches encountered a gravel surface. A third trench was cut to the N of these and the gravel was again found. On digging through it a number of stones were found, but they appeared to thin-out at the N end of the trench. Then came about 15 cm of soil, followed by another layer of hard-packed gravel covering a stone bottoming. This lower layer also seemed to come to an end in the trench. Another trench cut a little further to the N failed to locate either of the two layers. Thus it would seem that we have to deal with two roads separated from each other by a long enough time for 15 cm of soil to accumulate. But this must be checked by further digging before any conclusions can be drawn.

Mr McLaren of Bar Farm tells me that there is a hard surface leading from a point directly to the S of the S gate of the fort, which it is impossible to plough: this would seem to be a road issuing from the fort (cf Macdonald & Park 1906, 27).

##### 5 Hillhead, Kirkintilloch (NS 662742)

James Barber

Excavation at selected points on the N side of Hillhead Road, Kirkintilloch, from 9 to 14 June 1958, was necessitated by the imminent redevelopment as a housing estate of an area which the Antonine Wall was known to traverse, but where its exact course had never been determined. The excavations were both less extensive and less revealing than had been hoped, since at the points examined nothing remained of the Wall's stone foundation.

What was established, however, was the line of the Antonine ditch: this was checked at two points. In trench 1, both its lips were defined; in trench 2, only the southern margin. The alignment thus confirmed by excavation corresponds very closely to that inferred by the Ordnance Survey Officers from surface indications still, for that matter, legible today – a pronounced dip in the land along the northern end of the field immediately W of Cleddans farmyard, which continues, though less perceptibly, into the gardens adjacent on the W. On the other hand, the line suggested by Sir George Macdonald (1934, Pl XXIV) is now manifestly erroneous.

Little new was discovered about the internal archaeology of the ditch itself though, as exposed in trench 1, it seems to conform to the 6.15 m standard recorded at Duntocher, rather than to the 12.3 m width hitherto regarded as the norm. A feature nowhere previously reported was the stepping of the edge of the ditch, visible especially at the southern lip in trench 1; it is most unfortunate that it was impossible to follow this disquieting hint of incompleteness into the lower filling of the ditch. In both trenches, instead of a level berm, the natural slope of the boulder clay seemed to have been deliberately accentuated down to the southern edge of the ditch proper. Too little of the primary silting was reached to permit any discussion of its nature, and no relics of the Roman period were recovered.

The line of the Wall can be assumed, broadly speaking, to have followed that of the ditch, from

whose southern edge it is rarely over 9.2 m distant; berms of 30 m and more have indeed been recorded, as at Croy Hill, but these were apparently due to exceptional circumstances inoperative in the Hillhead Road sector; though, just in case, trench 1 was extended far enough S of the ditch to cover all but the widest known berm. Faint traces of disturbed turf work were in fact observed in trench 1 at about the 'normal' distances S of the ditch; and it may also be significant that, in both trenches, an approximately 4.3 m wide rise in the natural was noticed – again more or less at the 'normal' distance in from the ditch. Were these perhaps stretches of the natural subsoil long preserved by the Wall's stone foundation from the ploughing which gradually wore away the surrounding land, and ultimately dispersed the cobbling itself?

(A similar northerly fall of the berm has now been noted by Dr L J F Keppie at Bantaskin, Falkirk (Keppie 1976, 72) and at Garnhall (see below p 238), while at Bearsden the subsoil on the correct position of the destroyed Antonine Wall rampart was noticeably harder than the ground to N and S (Breeze 1974, 7). In 1963 at Cleddans the ditch was found to be 9.7 m wide and at least 3.5 m deep (*Discovery Excav Scot* 1963, 29). DJB)

#### 6 *Thorn and Castlehill, Bearsden* (NS 533724 and NS 529726–526727)

G Finlayson

In February 1960 excavations were carried out on the presumed line of the rampart at Thorn, Bearsden, and on the presumed line of the rampart and ditch at Castlehill, Bearsden, to confirm the line of the Wall in advance of building operations.

a. *Thorn* The excavations were started at Thorn, where the plan was to establish and peg out the S kerb of the Wall as far W as Iain Road. The ground here lies on a considerable slope, and, at the top of this, two trenches were dug across the presumed line of the Wall. No traces of either kerb, nor of the stone cobbling, could be found in one, but in the other the S kerb was revealed in good condition, 33 cm below the surface. There was also a considerable amount of cobbling, but no N kerb could be found. The amount of cobbling found, however, indicated that the Wall must have been rather wider than 4.3 m at this point. By means of probing and small trenches, the line of the wall was checked at nine points W of this, on the slope of the hill. In seven of these trenches, the S kerb appeared in reasonable condition and in the other two the core remained intact. In further trenches W of this however, no trace of either kerb or of the cobbling could be found. Once the points at which the Wall had been found on this stretch had been pegged out, the line was seen to turn more sharply than had been supposed; the bend to the N as it came down the hill was very marked.

The line of the Wall, E of the initial trenches, was found at only two points. There had clearly been disturbance here, and the foundation had disappeared over a fairly large area. In the first trench, the N kerb was found at a depth of 18 cm; the S kerb had disappeared. However, in a further trench E of this, the S kerb was found in good condition, 53 cm below the surface. All other attempts to find the S kerb in this area failed, and all that could be done was to peg out the supposed line of the S kerb by means of projecting the points already found.

b. *Castlehill* After this, work was started at Castlehill. The plan here was to peg out the S kerb of the Wall, and the N edge of the ditch, across the two fields E of Castlehill farm. Work was started at the W end of the field nearer the farm. A trench was dug across the supposed line of the ditch – which does, in fact, appear quite clearly on the ground – and of the Wall, in the hope that this would reveal both the S kerb of the Wall, and the N edge of the ditch. The N edge of the ditch could not be clearly defined, although a slight darkening was apparent in the yellow clay subsoil. The blue clay began 42 cm below the surface and sloped to a depth of 48 cm. The distance from this S edge of the ditch to the possible N edge was 12.3 m. To the S of the ditch no conclusive signs of the Wall could be found. Neither kerb stone could be established definitely, but there was a certain amount of stonework, which may have been cobbling.

Owing to the failure to find the Wall at this end of the field, a second trench was dug at the other end, 16 m W of the boundary hedge which runs approximately N–S. Here, the N kerb of the Wall was found, 28 cm below the surface. 2.4 m W of the boundary hedge, a third trench was dug to find the S kerb of the Wall. This appeared 1 m below the surface. Between these kerbs, however, and the westernmost part of the field, where the first trench had been dug, no sign of the Wall could be found. Also near the boundary hedge, a fourth trench was dug to establish the southern edge of the ditch. Again the blue clay appeared, sloping down into a yellow clay subsoil, starting 18 cm below the surface.

On the line of the S kerb, and 5.2 m E of the boundary hedge, a fifth trench was dug, revealing a further stretch of the S kerb, 25 cm below the surface. One further trench was dug in this field to find the S kerb; this was done on the line of another hedge transversing the field. The S kerb appeared here, almost on the surface. Unfortunately, extensive probing suggested that there was little more of the stone foundation to be found.

(Both housing estates were constructed following the excavations, and at both sites the line of the Antonine Wall was preserved, undeveloped, within the estates. DJB)

### 7 *Carleith* (NS 483729)

L J F Keppie

The line adopted by Sir George Macdonald for the Antonine Wall between the farms of Wester Duntiglennan and Carleith placed the Roman frontier about 25 m N of Beeches Road, Duntocher, and its western continuation, the bridle path immediately S of Carleith Farm (Macdonald 1915, 95; 1934, 178). In 1955-7 investigation on this line in field no 449 by Professor Anne Robertson proved negative, but trenching close to Beeches Road itself located the hollow of the ditch, so confirming earlier antiquarian reports of its course (Robertson 1964, 188).

Later proposals for housing development in the field immediately W of that examined in 1955-7 afforded a further opportunity to check Macdonald's findings. In January 1969 trenching by a squad of DOE labourers under the supervision of Professor Robertson close to the SW corner of the field (no 445) failed to locate the rampart or ditch, and investigation of the more northerly line proposed by Macdonald was similarly unrewarding. Given the desirability of establishing the alignment of rampart and ditch more precisely thereabouts, a further week's trenching was arranged by Professor Robertson in May 1969, with the kind permission of Mr A Torrance of Carleith Farm, and carried out by the author with the aid of sixth formers from Daniel Stewart's College, Edinburgh. Attention was directed to field no 443, immediately S of Carleith farmhouse.

The ditch was successfully located in the SE corner of this field; its S edge lay 9 m from the S limit of the field, and the ditch itself had a width of 5.56 m, the second narrowest measurement ever reported along the Antonine Wall. It was evident that the Wall itself must underlie the bridle path in the field to the S. The ditch had been cut into natural sand, and its sides and lips revetted with pink clay, in which numerous small cobbles had been embedded, presumably to prevent slippage. Excavation of the ditch was carried to a depth of 1.6 m, when prolonged rain prevented further digging. Two layers of fill were observed: sandy brown soil overlying a dark grey clayey silt. There were no small finds.

(In the mid 1970s the E half of Field 443 was sold for housing development. Through the efforts of the Inspectorate of Ancient Monuments, house building was held back from the line of the ditch, which was later grassed over. The alignment of the rampart and ditch at Carleith was confirmed by excavation in 1970-1 and 1980 (below, p 242).

### (ii) 1977-80

L J F Keppie

Described below are the results of 12 small-scale excavations and watching briefs undertaken along the line of the Antonine Wall between January 1977 and November 1980. Of these, nine (nos 1-5, 8-11) were carried out by the author at the invitation of the Ancient Monuments Branch of the Scottish Development Department, in response to 'rescue' threats; the others were 'research excavations' undertaken for a variety of reasons.

The work at Tollpark and Carleith (below, nos 7 and 12) was supervised jointly by the author and Mr James Walker; the work at Philpingstone Lane, Bo'ness and at Howgate, Falkirk (below, nos 1 and 2) jointly by the author and Mrs Frances Murray. Another joint excavation with Mrs Murray at Kemper Avenue, Falkirk, which began as a routine search for the Wall in an area where

its course was disputed, produced unexpected results of wider significance: a separate report appears immediately after this paper (pp 248–62).

1 *South Philpington Lane, Bo'ness* (NT 012813)

L J F Keppie and J F Murray

In November 1980, in advance of a housing development on waste ground at South Philpington Lane in Bo'ness, trial trenching took place in search of the Antonine Wall, c 200 m SW of its presumed starting point at Bridgeness. Current OS maps, on the authority of Sir George Macdonald, show the Wall climbing SW from the Bridgeness promontory almost to Philpington Lane, then turning sharply to the W towards Grange School and Grahamsdyke Road. This alignment was based on the discovery of the edges of the ditch in a field c 100 m W of Philpington Lane (Macdonald 1925, 280; 1934, 100).

Excavation in 1980 on this supposed line proved entirely negative. Work was considerably hampered by the foundations of now demolished houses bordering Philpington Lane on the N and associated building debris. However, access to the undisturbed natural sand and gravel was obtained at a sufficient number of points to preclude the presence of the ditch in the area examined. The search was extended N of the supposed line for a further 25 m without success; it was evident that the ground contours had been altered by the dumping of industrial waste materials at various times. Pottery manufacture here or nearby in the 19th century was evidenced by the recovery of kiln furniture, spacers, and wasters (C W McNay's Bridgeness Pottery was established in 1886 and closed sometime in the 1950s.) It may be thought likely, therefore, that the Wall and ditch ran along somewhat higher ground to the S of Philpington Lane, outwith the area examined in 1980, and turned NE towards Bridgeness promontory, near the junction between the Lane and Harbour Road. It must be remembered, however, that the precise location of the terminal point of the Wall on the River Forth remains a matter of some doubt.

2 *Howgate, Falkirk* (NS 885798)

L J F Keppie and J F Murray

In November 1979, three days of excavation took place on the presumed line of the Antonine Wall and ditch in the Howgate district of Falkirk, just S of the town centre, in advance of redevelopment. Attention was directed first to sloping ground E of Cockburn Street where houses fronting the street had recently been demolished and the ground landscaped. Modern disturbance proved to be least at the top of the slope (next to Pleasance Gardens), where a mere skin of rubble and refuse overlay undisturbed natural buff sand. However, as the excavators moved downhill, the evidence of modern disturbance increased. A strip of ground 60 m N–S was comprehensively trenched, but no remains of the Wall or ditch could be found. Some fragments of green glazed medieval wares, a Warwickshire trade token of 1793, and a fragment of a Roman hexagonal glass bottle were recovered from topsoil.

This lack of success prompted investigation of vacant ground W of Cockburn Street (outwith the redevelopment zone), through which both Wall and ditch were also believed to pass. Here the level expanse of grass proved to conceal compacted rubble from a building which once stood on the site; two of its walls were plotted during excavation. Attempts to locate remains of Roman date had to be abandoned.

The course of the Antonine Wall in Falkirk has never been established in detail (see also below, p 254). The alignment adopted by OS maps rests partly on observations of half a century ago, and partly on topographical considerations. To the E of Cockburn Street, remains of the stone base were located in 1913 in the garden of Rosehall (Macdonald 1934, 124); W of Cockburn Street, the presence of 'forced soil' under a villa on Arnothill was held by Macdonald to determine the position of the ditch (1934, 125). Further W the stone base was accidentally exposed in the garden of Mayfield, by the blowing down of a large tree about 1930. In Macdonald's westward projection of the Wall line from Rosehall to Arnothill no allowance was made for possible deviations occasioned by local topography. While it is possible that all traces of the Wall and ditch have been removed by modern disturbance in the areas investigated in 1980, it would not be hard to imagine that the Wall veered slightly to the S at Cockburn Street, and so lay clear of the development area. Interestingly, there is a pronounced dip in the garden wall of an adjacent sandstone villa to the S of the area investigated in 1980, which may offer a better clue to the alignment of the ditch hereabouts.



### 3 *Seabegs Motte* (NS 824798)

A wide tract of derelict land close to the former site of Bonnybridge Canal Railway Station is to be rehabilitated by Central Regional Council. Included in this project is the regrading of uneven ground immediately S of Seabegs Motte, which overlies the upcast mound on the N side of the Antonine ditch, and utilises the ditch itself as part of its S defences (Smith 1934, 59; RCAMS 1963, no 180).

In 1977 the position of the S lip of the Antonine ditch was established at four points, and its S face followed to a maximum depth of 0.65 m. The ditch had been cut into a subsoil of sandy gravel. There was no evidence of recutting by the Motte builders, but excavation in 1977 did not penetrate to the medieval layers. There were no small finds of Roman or medieval date, but some large lumps of iron slag recovered from the ditch may be refuse from adjacent foundries (cf Smith 1934, 64). No attempt was made to locate the N lip of the ditch, which is masked by the spread of the Motte mound.

S of the Motte, the stone base of the Antonine Wall proved to have been much disturbed. The area was converted for allotments in 1917, and 'tons of stones' are reported to have been carted away at that time (Macdonald 1934, 131). A sequence of deep gullies and pits, together with structural debris, suggested the presence of bomb shelters, presumably dating from 1939-45. That any fragments of stone base had survived was a tribute to its solid construction. The N kerb was traced over a distance of 5.5 m, together with portions of the rubble core. The kerb stones, at a depth of 0.1 to 0.35 m from the modern surface, were carefully dressed, though smaller than the norm; slight traces of turfy material were observed immediately overlying the kerb. The berm between the stone base and the ditch was 8.4 m wide. Elsewhere in the zone examined in 1977 all trace of Roman stonework had been removed. A marble of hard red clay, of the type found on many Roman sites, was recovered from among topsoil.

### 4 *High Bonnybridge* (NS 822797 to 825798)

In March 1979 four days of excavation took place in appalling weather on disused industrial land at High Bonnybridge (just W of no 3 above), to establish the line of the Wall and ditch prior to redevelopment. After some difficulty, both were located, on a line c 6 m S of that shown on large-scale OS maps. It soon became clear that the whole area was much disturbed over the years by factory and foundry building, and dumping of industrial waste. In almost every trench a thick layer of solidified clinker and slag lay directly over the natural gravel. It was possible to locate the stone base only in the W half of the redevelopment zone, at a depth of 0.8 m from the modern surface. The kerbs had been removed, but enough of the core remained to indicate that its width when complete was not less than 4.57 m (15 ft). Close to the W boundary fence, the S lip of the ditch was located. However, over much of the site the ditch seemed to have been cut away during levelling for the construction of foundries and associated concrete platforms. At one point, close to the E boundary of the site, where the original ground surface was accessible, layers of ditch fill were encountered in one test pit. From the angle of the layers the trench had been laid out over the N half of the ditch. Some trial trenching was carried out S of the Wall line in case the missing Seabegs fort should prove to lie in this area, but without result.

### 5 *Castlecary Brickworks* (NS 785782)

During redevelopment of the former brickworks W of Castlecary viaduct, watch was kept for the Wall and ditch, on an alignment established by excavation many years ago (Macdonald 1934, 136), but no remains were observed. It must be likely that prolonged industrial use has obliterated all trace of the Roman frontier. Nevertheless one small length of ditch survives at NS 787782, close to the new access road.

### 6 *Garnhall* (NS 782780)

The Cumbernauld and Kilsyth District Council has been considering a proposal to convert the newly disused farmhouse of Garnhall 1 km W of Castlecary into a museum and interpretive centre for visitors to the Antonine Wall. A week-long excavation in March 1977 in fields N of the farmhouse exposed areas of the stone base, defined the edges of the ditch, and located possible traces of the Military Way, with a view to eventual display to the public.

The stone base, which lay (as often) a little below the crest of a north facing slope, was exposed at three points over a distance of 70 m (fig 2). It lay at a depth of 0.25 to 0.3 m from the modern surface, and was in a commendable state of preservation, except that the N kerb was lost over almost the entire area examined; at one point only, where the N kerb had survived intact, the base was 4.3 m (14 ft) wide.

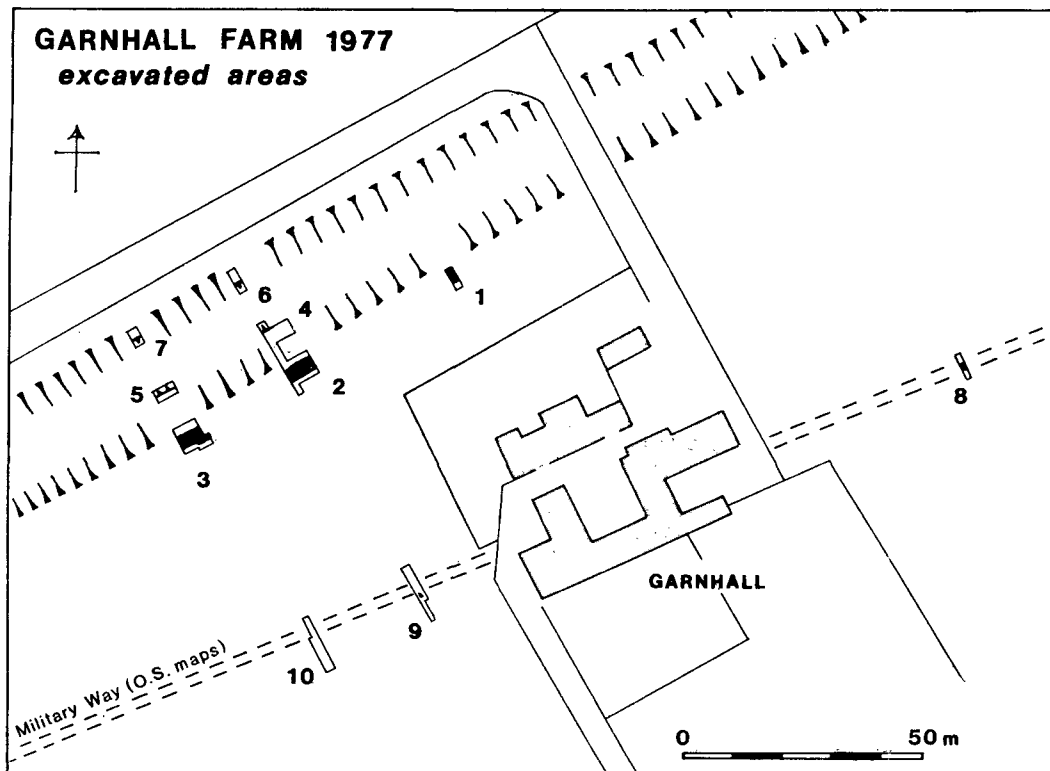


FIG 2 Garnhall Farm, 1977: excavated areas

Above the core 0.2 m of turf superstructure was observed. Detailed examination of the layerings established that the turf blocks (each now compressed to a thickness of 0.04–0.05 m) had measured 0.5 m N–S by 0.3 m E–W.

Several interesting features were revealed. In Area 1 and over the E part of Area 2, the core of the stone base was made up of unworked natural boulders and pebbles, the latter often forming a very thin layer. However, in the W part of Area 2, and throughout Area 3, the core was made up of cut and often jagged sandstone blocks (pl 10a). The change-over from one type of material to the other was marked by a neat dividing line, indicative perhaps of the activities of different work-squads (fig 3). This is the first time that such a demarcation line has been detected (see below, p 248).

In Area 1 the ground had been terraced in preparation for the construction of the stone base. A shelf 0.1 m deep had been cut below the S half of the base, extending S of the S kerb for a distance of 0.5 m. Evidence was found of a rather makeshift repair to the S face of the rampart superstructure in Area 3. Lying parallel to the S kerb, at a height of 0.3 m above its S edge and overlying 0.35 m of slipped turfwork, were two rows of large unworked boulders, with an overall N–S width of 0.75 m (pl 10b).

The ditch too was examined. The visible hollow proved to give a false impression of its proportions. The S lip was found to lie much further down the slope (ie to the N) than might have been expected, and the berm (which had a width of 7.5 m) itself angled sharply downwards, almost certainly following the natural slope of the ground. Both the N and S lips were located at several points, giving widths of between 12.3 and 12.7 m (40–41 ft). No attempt was made to obtain a complete section, but the uppermost layer of fill was a yellowish-brown sandy soil. Both lips were marked by edging stones. Evidence from Area 5 suggested that a line of cobbles had been set along the S lip at intervals of between 0.8 and 1 m. Along the N lip much larger boulders were used: one was excavated in detail (Area 7) while others were detected by probing and by surface observation at intervals of c 5 m. In Area 7 the boulder was flanked by smaller stones; there may have been an almost continuous line of stones along the ditch edge.

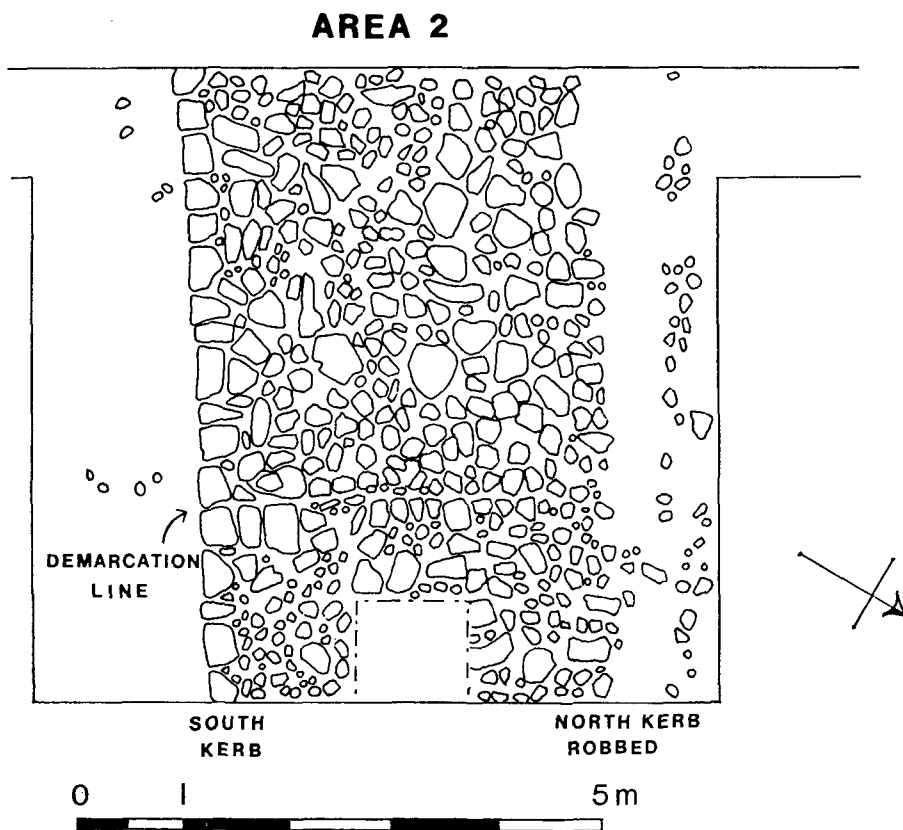


FIG 3 Garnhall Farm, 1977: Area 2, showing demarcation lines between work squads

The upcast mound N of the ditch was briefly examined. It was of hard purplish clay, presumably dug out of the ditch, and contained numerous small stones; the mound formed a direct continuation of the N face of the ditch, serving to heighten it artificially. The large boulders on the N lip of the ditch could, as suggested to me by Mr H B Millar, have served primarily to prevent this upcast material slipping back into the ditch. Undoubtedly the building of the frontier line at Garnhall had resulted in a change in the natural land-contours. The wall itself was placed a little below the crest of a north-facing slope, with the ditch some way lower down. Originally the ground had continued to fall away to the N, but the dumping of the upcast on the N side of the ditch created an artificial hump which has lasted until the present day.

Trenches were also cut W and E of Garnhall farm on the line of the Military Way as shown on OS maps (Areas 8-10). E of the farmhouse the Military Way has continued to serve as a farmtrack; excavation revealed a spread of cobbling 3.5 m wide and 0.2 m thick, but how much if any of this surface was Roman and what represented successive resurfacings in more recent times could not be determined. Trial trenching on the presumed line W of the farmhouse revealed only scattered stones, and no evidence of gullies which might have been expected to drain-off water from its cambered surface. Four fragments of a jar in reddish-brown fabric, one fragment of amphora, three fragments of green glazed medieval wares, and a flint point were recovered during the work.

#### 7 Tollpark (NS 770777)

L J F Keppie and J J Walker

In April 1979 four days of excavation took place at Tollpark in search of an interval fortlet or other structure on a prominent knoll, now called Hag Knowe, where, just over a century ago, the antiquarian

John Buchanan reported the remains of a Roman 'watch-tower' (1872, 472). The line of the stone base of the Antonine Wall had already been investigated over a distance of 30 m on this knoll in 1964 by Mr I MacIvor and Professor J J Wilkes, in advance of the possible construction of a water-tower to serve adjacent factories (above, p 230). In the event, the water-tower was placed elsewhere. In one of Professor Wilkes' trenches remains of stone cobbling were located behind the Wall base itself (above, p 231). In 1979 the line of the Wall base was checked at frequent intervals across the top of the knoll for a distance of 90 m. The stone base proved to have survived in excellent state for most of the length examined, with up to six layers of turfwork visible above the stonework. It was evident that repairs had been necessary to support the turf stack on its southern side. In places a line of cobbles had been laid down only slightly higher than the stone base, and 0.6 m to the S of it; elsewhere a stone 'dyke' two courses high had been erected overlying 0.15 m of fallen turf, to prevent further slippage.

No evidence for the presence of a fortlet was forthcoming. Instead, on the eastern flank of the hill, a stone platform 12 m E-W and 1.8 m N-S had been added to the S kerb of the stone base (fig 4; pl 11a). This platform, one course in thickness, was clearly a secondary feature as in places it overlay a thin layer of slipped turf. Its construction was perhaps contemporary with repair work on other parts of the hill, but the platform itself seemed too massive and too regular to constitute a repair; its purpose can only be guessed at. It did not seem to have formed the base of a turf stack attached to the Wall, as there was no trace of turfwork in the interstices of its stones or in section. On the other hand, substantial traces of burning were found on top of and adjacent to the platform, especially to the E. The platform sent out roughly-made wing walls W and E from its SW and SE corners; the latter was traced over a distance of 4.5 m. In case this platform should prove to occupy the centre of a ditched enclosure of the type revealed recently by aerial photography near Balmuildy (RCAMS 1978, 113), trenches were cut S in search of an accompanying ditch, but none was found. The possibility that the platform might have served as a supporting base for the fragmentary distance slab found on the hill in 1868 (Buchanan 1872, 472) was briefly considered during the excavation, but rejected. Alternatively the platform could have been the base of an *ascensus*, or way up to the Wall top, by means of ladders, but the apparent absence of turfwork renders this explanation less secure.

There were no small finds to suggest prolonged occupation of the hill in Roman times, so that the function of the platform must remain unclear.

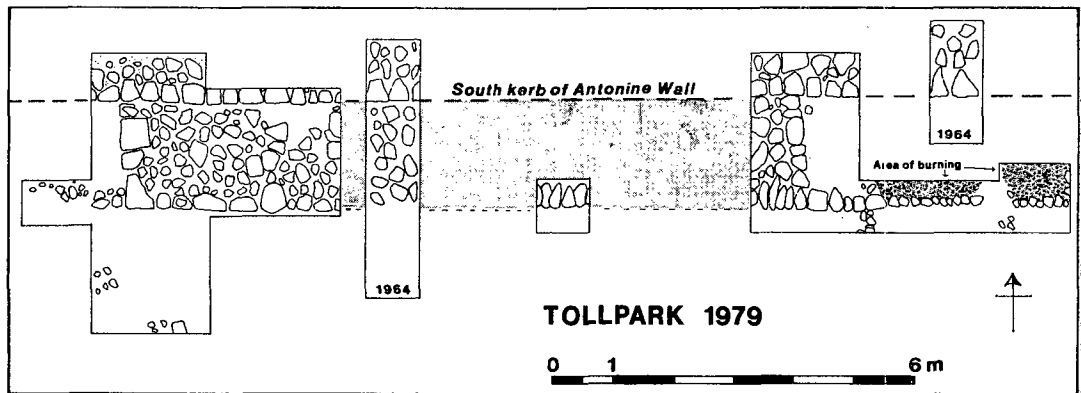


FIG 4 Tollpark, 1979: stone platform lying S of Antonine Wall

#### 8 Westerwood (NS 761774)

Westerwood farmhouse, which occupies the NE quadrant of the Roman fort, has been converted to a Jubilee Youth Camp, recently inaugurated by the Prince of Wales. (In 1964-5 areas S of Westerwood fort, where the construction of a Young Offenders' Institution was proposed, were examined by excavation (Keppie 1978, 12); the Institution was not built). A watching brief was kept on the associated building;

work, which involved replacement of the drainage and sewage system, and the demolition or renovation of barns and outhouses.

Pipelaying operations within the farmyard did not penetrate to undisturbed Roman levels. However, considerable damage was done to the surviving turf superstructure of the Antonine Wall which formed the N rampart of the fort and passes along the front of the farmhouse, just clear of its N wall. The stone base of the Wall was, however, not disturbed. Trenches dug in January 1978 for the replacement of a drain against the N wall of the farmhouse close to the NW corner revealed masonry debris, which was cleared by the author and Mr J J Walker to reveal flat slabbing and dressed stonework. The close confines of the pipe trench did not permit certain interpretation, but the nature of the structural remains, and the discovery of numerous hypocaust-brick and flue-tile fragments suggested that the trench had disturbed part of a bathhouse building. Sir George Macdonald, in his report on excavations at Westerwood in 1933, provisionally located the fort bathhouse in the NW quadrant of the fort (1933, 285), but a location within the NE quadrant may now seem more likely.

The provision of a septic tank and soak-away in the field N of the fort necessitated the cutting of a trench 0.6 m deep and 0.3 m wide across the line of the Antonine Wall and ditch at the NE corner of the farmhouse. Scattered stones were observed on the presumed line of the stone base, and the N lip of the ditch located in section 18 m to the N. Further to the N, layers of dirty clay overlying the natural over a distance of 7.9 m from the N lip of the ditch may represent the outer mound. The whole area, however, proved to have been much disturbed, and was partly overlain by an often-repaired farm track; the S lip of the ditch could not be identified. From surface observation, however, it seems likely that the ditch had a width of c 12 m, with a berm of c 6 m separating it from the N kerb of the rampart.

#### 9 *Auchendavy* (NS 678750)

In June 1980 the replacement of field drains in fields E of Auchendavy farmhouse disturbed the stone base of the Wall, which was observed c 15 m N of the B 8023, on the line shown on OS maps.

#### 10 *Bridgend (Auchendavy)* (NS 674749)

In January 1978 the laying of a sewage pipe in farmland at Bridgend, 300 m W of Auchendavy fort, necessitated the cutting of a trench across the presumed line of the Wall and ditch as they pass westwards towards Kirkintilloch. The stone base was located on the line shown on OS maps, at a depth of 0.6 m from the modern surface. It had a width of 4.3 m (14 ft). The S lip of the ditch was not observed, but its N lip was seen and plotted at a distance of 15.5 m from the N kerb of the stone base. Clearly the ditch did not here attain its full width of 12 m (40 ft); most probably we should assume a ditch width of about 9.5 m (32 ft) and a berm of c 6 m (cf Keppie 1974, 162).

#### 11 *Hillhead, Kirkintilloch* (NS 663743-666745)

In June 1980 topsoil was removed from fields at Hillhead, on the E outskirts of Kirkintilloch. By kind permission of the farmer, Mr Henderson, and the contractors, watch was kept for the stone base of the Wall in case it should be disturbed by machines scraping-down on to the natural. In the event some damage was caused to the stonework, and the opportunity was taken to carry out some small-scale excavation to check the alignment of the Wall and ditch.

The course of the stone base and ditch was plotted across two fields. In the more westerly field the stone base proved to have been already all but removed, presumably by the plough; only scattered cobbles remained, but the general course of the base could be established without too much difficulty. The lips of the ditch were located at several points; it had a width of 9.2 m. The lips had been marked by large boulders, disturbed and removed during mechanical scraping.

In the more easterly field, the stone base was much better preserved, though its kerbs had been largely robbed away. The base had a width of 4.3 m (14 ft), and was made up from cut yellow sandstone and natural boulders. The sandstone was in a very soft condition, and often crumbled at touch. The ditch in this field had a width of 9.1 m, and was separated from the N kerb of the stone base by a berm of 6.1 m. Along the lips of the ditch was a continuous line of small cobbles. The alignment of the Wall established in 1980 conforms at the E end of the area examined to the position shown on current OS maps, but towards the W its line is up to 18 m N of the accepted position.

12 *Carleith* (NS 480730-482730)

L J F Keppie and J J Walker

In May and August 1980, excavation took place on farmland at Carleith, on the W outskirts of Duntocher, primarily in search of a mile-fortlet, but also to establish more precisely the alignment of the Wall which had been disputed thereabouts. In 1971, investigation at Carleith by Mr E J Price suggested an alignment markedly different from that shown on current OS maps (*Discovery Excav Scot* 1971, 18; 1974, 33). Mr Price also located structures close to the Wall which it seemed advisable to investigate more thoroughly. In the event it was found (fig 5.1) that the Wall, having descended from high ground at Beeches Road, passed W along the line of the Bridle Path in front of Carleith Farm; then, after a short detour to the N, it continued W for a further 100 m. Finally, after another turn, this time to the SW, it descended towards Carleith Burn. The Wall builders had evidently experienced considerable difficulties in laying out the stone base, because of natural rock which comes close to the surface of the field over a wide area. At some points the Wall was set directly on bedrock; at others, the dips between rocky outcrops were levelled with broken stone, turf, and soil, and the base laid over this infill. Where the base passed across the tops of rocky knolls, it had largely been removed by ploughing. In the field to the S of the Bridle Path investigation was hampered by the later quarrying of rock, and subsequent infilling with rubble, both of which have substantially altered the contours of the ground surface. Further E, the stone base of the Antonine Wall survived below the Bridle Path itself, but its S kerb had been removed.

In the field W of the track to Carleith Farm, and immediately E of the track itself, the Wall base was found to have a width of 5.1 m (16 ft 4 in), but further E a width of 4.72 m (15 ft 6 in) was recorded. It must be likely that there occurred hereabouts the change-over in responsibility between the Second and Sixth Legions which is recorded on a distance slab from Carleith. The stone base itself consisted of large well-dressed sandstone kerbs, with a rubble core; here and there a skin of turfwork survived above the stonework.

As already mentioned, the Wall base was built across rocky outcrops. It may be suspected that the ditch to the N of the Wall is rock-cut both W and E of the farm track. At one point, S of the farmhouse, surface observation, supported by trial trenching, suggested that the ditch had not been dug at all, perhaps due to the hardness of the rock; but it may be noted that this apparent break corresponds closely to the proposed change-over point between the Second and Sixth Legions. No attempt was made in 1980 to obtain a section across the ditch, but it may be thought likely to have been about 5.6 m (19 ft) wide, a measurement obtained in 1969 in the next field to the E (above, p. 235) The berm between the N kerb of the Wall base and the S lip of the ditch had a width of 9 m (30 ft).

As Carleith Farm lies almost exactly 1 Roman mile W of the fort site on Golden Hill, Duntocher, a fortlet might be looked for hereabouts on grounds of spacing. Search was made firstly on low ground beside Carleith Burn where enigmatic structures, including 'a wall base 9 ft wide, which leaves at 90° the southern edge of the Antonine Wall' were observed by Mr E J Price (*Discovery Excav Scot* 1971, 18). Here it was apparent that the Antonine Wall base had been much disturbed by medieval occupation. At one point a clay floor or platform abutted on to and in part overlay the stone base; numerous fragments of green-glazed wares were recovered.

A much more likely position for a fortlet would be on a rocky knoll a little to the E and immediately S of the farmhouse (fig 5.2). As modern disturbance seemed certain to have removed all traces in the field S of the Bridle Path, attention was concentrated along the line of the Antonine Wall base, which was found to make an unexpected and apparently unnecessary double turn. At one point, just E of the turn, the presence of a rampart base passing below the Antonine Wall from S to N, and turning W to run parallel to it, was suspected (fig 5.3). Initially it was thought that this could form the internal NE corner of the rampart of the putative fortlet, predating the Antonine Wall and later overlain by it (pl 11b). Elsewhere on the knoll spreads of cobbling well to the N of the Wall itself were detected, but attempts to locate other features which might be assigned to a fortlet (a NW corner, a N gate passage, or flanking ditches) were completely unsuccessful, and there were no small finds. Nevertheless the suspicion must remain that a fortlet or other structure of Roman date once stood on the knoll. Particular attention might be focused on the true summit of the knoll immediately W of the double turn, where the stone base of the Wall itself has been all but removed by the plough and adequate space would be available for a fortlet; here only the ditch or ditches of such a site might survive.

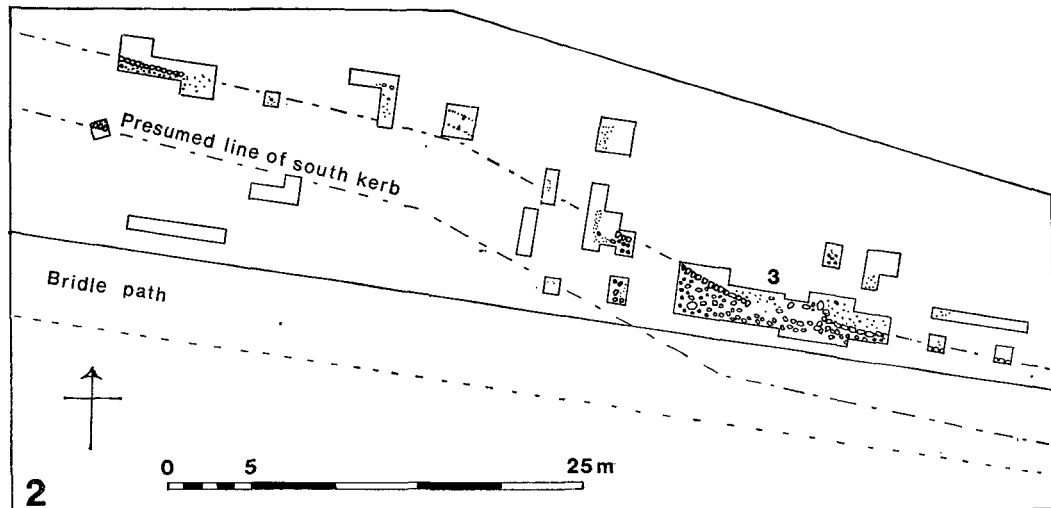
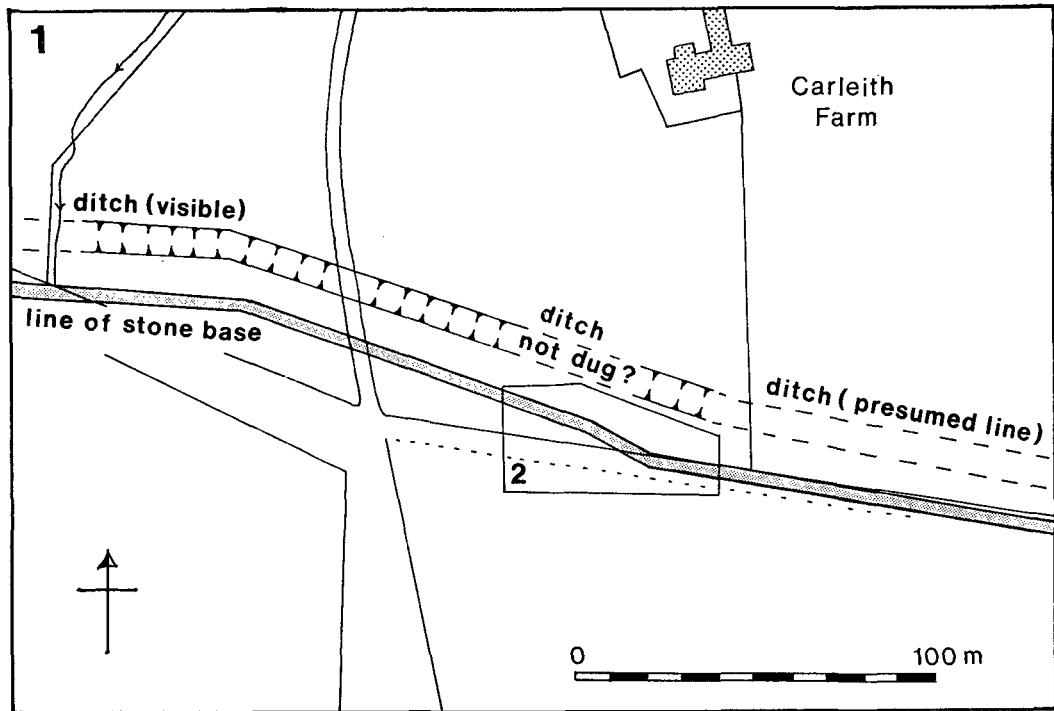


FIG 5 Carleith, 1980: 1 - General site plan; 2 - inset showing changes in alignment of Antonine Wall, E of farm track

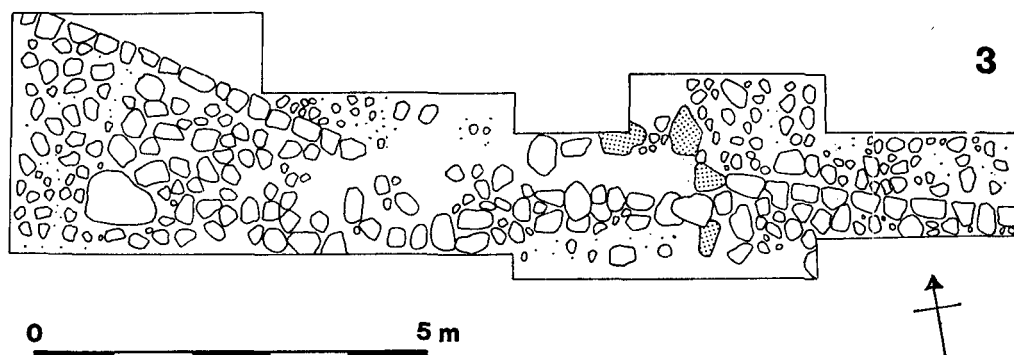


FIG 5.3 Trench plan showing possible rampart base passing below Antonine Wall rampart. Possible kerb stones of this earlier base shaded

### (iii) Discussion

by D J Breeze and L J F Keppie

The work described above has added many small but useful details to our knowledge of the Antonine Wall frontier. Much of value accrues from determining the precise position of the Wall, for example when dealing with planning applications. At Hillhead in Kirkintilloch, Thorn and Castlehill in Bearsden, and Carleith the work described has led to the precise definition of the Wall's alignment, as has that at Kemper Avenue, Falkirk (described separately below, p 248). In three places, Bo'ness, Dollhouse and Howgate, Falkirk, failure to locate the Wall in its expected position may indicate that current maps require revision.

Measurements for the stone base of the Wall were obtained at Auchendavy (4.3 m), Garnhall (4.3 m), Hillhead (4.3 m), Tollpark (4.42 m), Kemper Avenue, Falkirk (4.45 m) and Bonnybridge (at least 4.57 m), all within the normal allowance. At Carleith it was 5.1 m wide W of the farm track, but further E only 4.72 m, indicative perhaps of the change-over in responsibility between the 2nd and the 6th legions attested on a distance slab from Carleith (Collingwood & Wright 1964, no 2204).

The superstructure of the Wall possessed its normal turf-built character at Garnhall, Tollpark and Carleith, but at Kemper Avenue, Falkirk it consisted of earth with turf revetments, the normal method of construction E of Watling Lodge.

The width of the ditch was determined at a number of points. At Garnhall it was 12 to 12.3 m wide, at Westerwood probably c 12 m, at Hillhead it was 6.15 m (as revealed in 1958), and 9 to 9.1 m (as revealed in 1980) c 300 m further E. It may be noted that a change-over between the 6th and the 20th legions occurred thereabouts (Collingwood & Wright 1964, nos 2184-5). At Auchendavy the ditch was probably c 9.5 m wide, at Carleith it was 5.56 m, but at Castlehill a width of 12.3 m is reported. In general the evidence confirms a narrowing of the ditch W of Bar Hill (Keppie 1974, 156-8). The measurement at Castlehill is by far the widest reported W of Bar Hill, but as some dubiety surrounds the location of both ditch-edges this measurement cannot be accepted without confirmation. At Kemper Avenue, Falkirk a width of 8.55 m was shown by excavation. The full width of 12 m now only applies over the central section of the Wall, between Falkirk and Bar Hill, a distance of about 19 kms. At Carleith there was some evidence that a short stretch of ditch had not been dug-out at all, as at two points on Croy Hill and one on Bar Hill. The



presence of edging stones along the ditch lips was detected at Hillhead and Garnhall. Also at Garnhall it was noted that there was no break in slope between the N face of the ditch and the upcast mound.

More was learnt about repairs to the Wall base and superstructure. At Tollpark excavation in 1964 (confirmed by that in 1979) revealed an additional kerb added to the S side of the stone base (at a distance of 0.7 to 1 m from the existing kerb) over an area of at least 30 m, overlying tumbled turfwork and blocking entry to a culvert through the base; the rampart was then rebuilt to the broader gauge. At Garnhall the repair also overlay fallen turfwork. Similar repairs are known elsewhere on the Wall, in some instances associated with culverts (Keppie 1976, 75–6). At Bantaskin, Falkirk a culvert was blocked when the N kerb of the rampart was dismantled and replaced on a new alignment, while at New Kilpatrick Cemetery, Bearsden, it appears that the base was widened to the E thus blocking entry to a culvert. It seems possible that these repairs were necessitated by water action undermining the turf stack, and this hypothesis receives some support from the appearance of repairs on the downhill side of the Wall. It is possible that the stone base was provided to try to prevent water damage to the bottom of the Wall and possibly even to allow culverts to be inserted.

It is certainly possible to demonstrate that water was a problem on Hadrian's Wall. In the first sections of the stone wall to be built, drains were provided only where clearly necessary. However, when the original turf wall was rebuilt in stone, drains were provided at regular intervals of c 6 m, irrespective of whether they were necessary (Breeze & Dobson 1978, 31). It may be presumed that the situation would be even more difficult on the turf sector of Hadrian's Wall, though as yet no drains have been noted along its length. Perhaps it was as a result of experience with drainage problems on the Hadrianic Wall, that the stone base was introduced on its successor. On the Antonine Wall they appear with some regularity, at intervals of c 15 m (Keppie 1976, 74–6). It is ironic therefore that culverts should have been the source of local damage to the Wall, requiring repair work which resulted in their elimination.

Of particular interest is newly acquired evidence of neatly edged N-S demarcation lines in the core of the stone base, at Garnhall and Kemper Avenue, Falkirk and possibly Bantaskin, Falkirk (Keppie 1976, 69). In no case do the locations correspond to known or likely change-overs in responsibility between legionary detachments, and may therefore be evidence of subdivision of the work between cohorts and centuries, as on Hadrian's Wall. At Tollpark a unique stone platform was found abutting on to the S kerb of the base, but its purpose could not be ascertained.

The Military Way was sought at a number of points (Garnhall, Tollpark, Bar Hill), but in general it had suffered badly, and all but the scantiest traces had been removed, presumably by the plough. At Bar Hill, however, one section at least encountered relatively undisturbed remains, two surfaces surviving.

The work described mainly concerned the curtain formed by the Antonine Wall, but at Westerwood a chance discovery of structural remains offered a clue to the location of the fort's internal bathhouse.

#### ACKNOWLEDGMENTS

We would like to thank Mr T Borthwick for preparing fig 1 and Mr D Gallagher for preparing figs 2–5. We would also like to thank Mr Iain MacIvor for reading and commenting on this paper. At Hillhead, the work of observing scraping operations was shared with Dr Breeze,

Mr J J Walker and Miss Deborah Haase. Permission to excavate at Philpingstone Lane was granted by Barratt Developments Ltd and at Howgate by Falkirk District Council.

Excavation at Garnhall took place by kind permission of the owners, Cumbernauld Development Corporation, and was financed by the Cumbernauld and Kilsyth District Council, which also made available a team of youngsters employed under a Job Creation Scheme, and provided the necessary tools and equipment. The Development Corporation generously made available the farm buildings as an excavation base. Thanks must go to Mr Hugo Millar, archaeologist with the District Council, who was on site throughout, and to Mr J J Walker, Dr J C Orkney and Dr N Fojut who acted as site assistants.

The work at Tollpark and Carleith was financed by the Excavation Fund of the University of Glasgow, and we are grateful to its committee for allocating the necessary funds. At Tollpark, permission to excavate was granted by the Cumbernauld Development Corporation. At Carleith we are particularly grateful to Mr A Torrance of Carleith Farm, for permission to dig on his land, and for his active encouragement.

Mr J L Davidson and his colleagues of the Archaeology Branch, Ordnance Survey, kindly discussed the results of the work, which are to be incorporated on a revised sequence of OS 25-inch sheets for the Wall line, work on which has recently been completed.

A special debt is owed to the many helpers of all ages who turned out, often in the most unpleasant weather conditions, at the bleakest periods of the year and persevered to achieve results even when success seemed remote.

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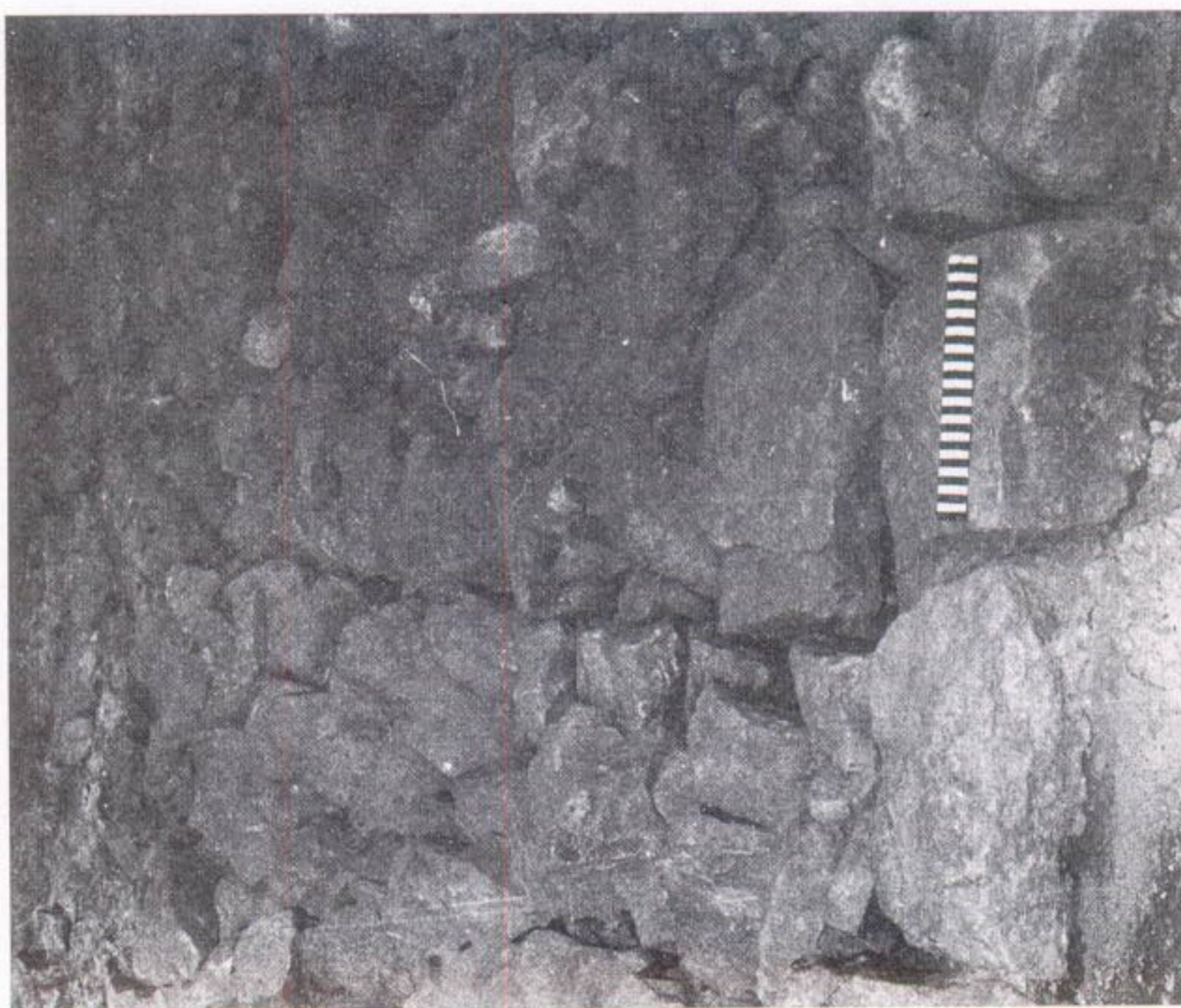
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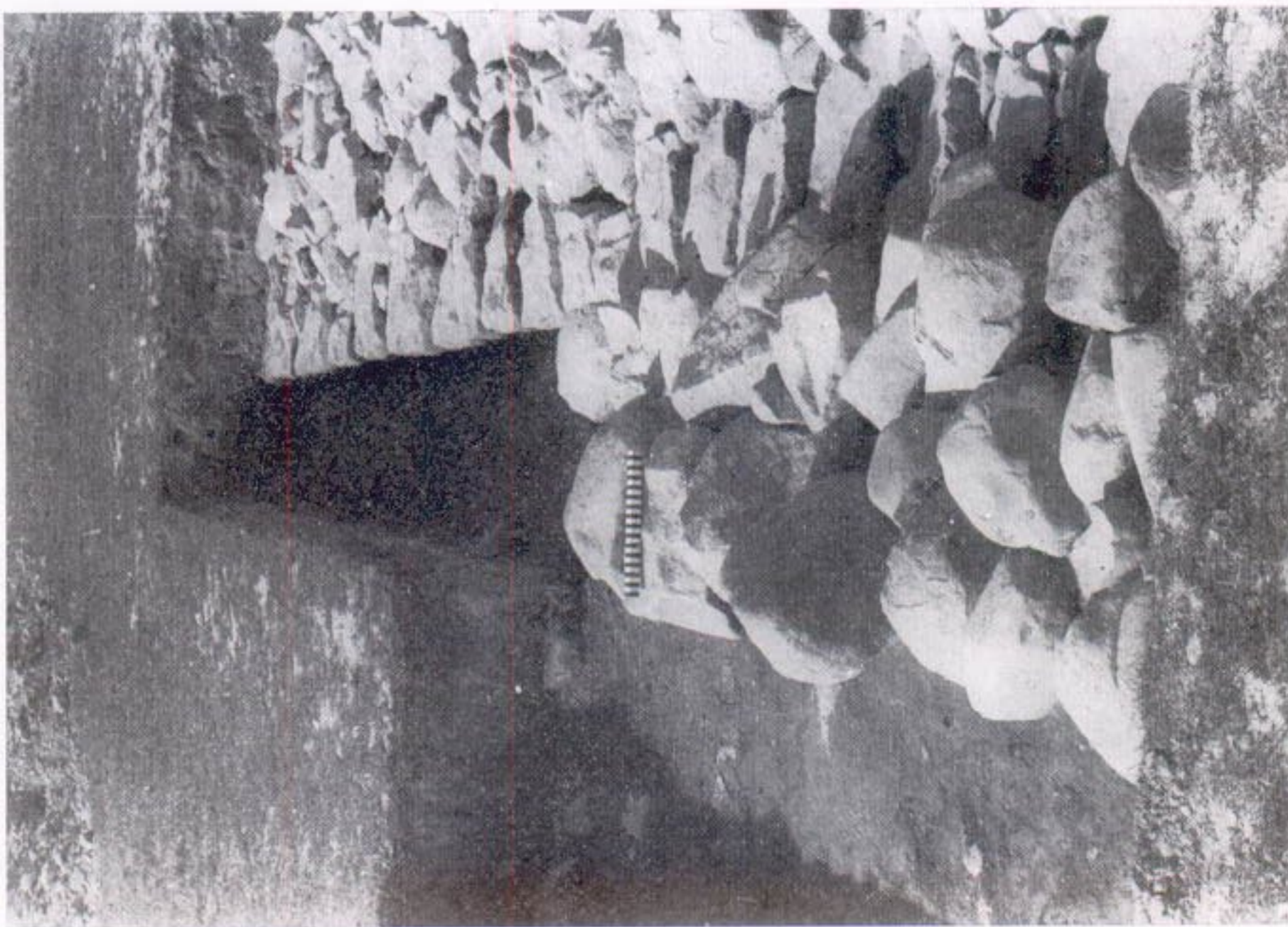
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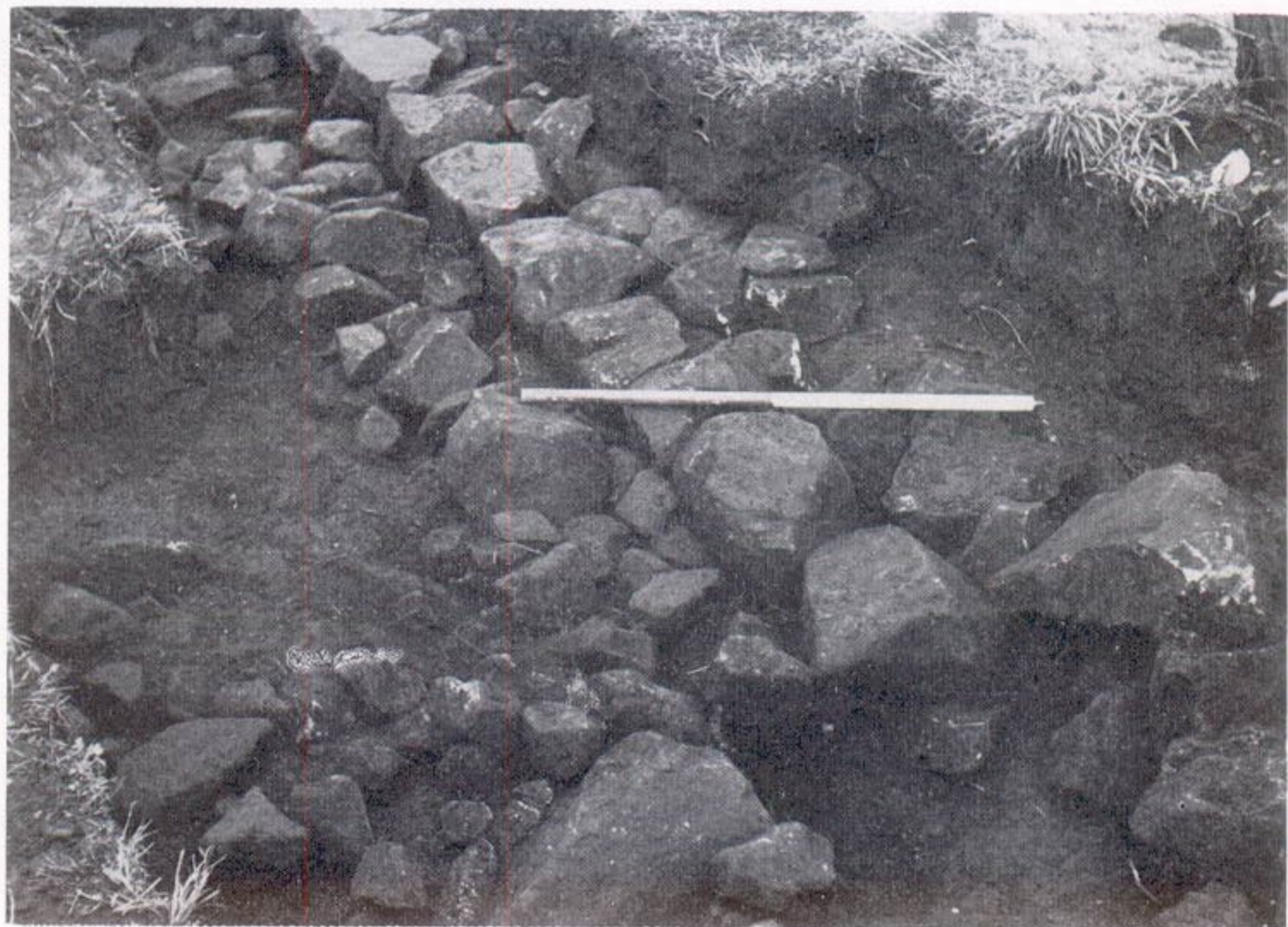
a Garnhall Farm, 1977: Stone base of Antonine Wall in Area 2, showing demarcation line (from the S)



b Garnhall Farm 1977: repair to S kerb of stone base, Area 3 (from the E)



a Tollpark, 1979: W end of the stone platform (from the NW)



b Carleith 1980: possible stone base running below N kerb of the Antonine Wall (from the W). Possible kerbstones in the foreground