

III

Excavations at Vallum Causeways on
Hadrian's Wall in the 1950s*Brenda Heywood and David J. Breeze*

SUMMARY

The existence of original causeways under the visible and secondary causeways over the Vallum ditch south of MC 23 (Stanley Plantation), MC 30 (Limestone Corner) and MC 42 (Cawfields) was investigated through excavation. No original causeway was found at MC 42; the excavations at MCs 23 and 30 were not carried down deep enough to locate evidence for a possible earlier causeway. There was no original gap in the south mound of the Vallum at any of the three milecastles. A small gap in the north mound was found at MC 23; it was later blocked. No evidence of metalling on the south berm was uncovered south of either MC 23 or 42 in the area excavated. The cumulative evidence suggests that the earlier theory that travellers passed along the south berm, crossing the Vallum ditch at a milecastle, will no longer hold; possibly travellers moved along the north berm. The composition of the mounds was recorded and the existence of kerbs, either of turf or stone, noted. At Stanley Plantation it was observed that the secondary gaps in the mounds are not opposite each other, but cut slightly oblique. The marginal mound to the west of MC 42 causeway was investigated and two fragments of late second-early third century East Gaulish samian ware were found in a secondary dump over the northern edge of this mound. An inscription on a thin slab found close to the MC 42 causeway may be a Vallum building stone.

INTRODUCTION

THE RELATIONSHIP OF THE VALLUM to the milecastles of Hadrian's Wall was investigated in 1935 and 1936 when the existing causeways across the Vallum ditch south of MC 50 TW (High House) and MC 51 (Wall Bowers) were excavated (Simpson *et al* 1936; Simpson and Richmond 1937). South of MC 50 TW a track passed along the south berm, but was cut off from the south by a continuous south mound. A track led from the south berm across the Vallum ditch *via* a splayed, original causeway, revetted in stone and provided with an east-west culvert at the ditch bottom; then it passed over the north berm and so to the Turf Wall milecastle. At a later stage this causeway was largely removed, modification 1, only to be replaced by a wider secondary causeway, involving the reduction in height of both berms and the piercing of the south mound by a secondary metalled track. At a third stage, modification 2, the secondary causeway was blocked by an embankment on both the north and south lips of the Vallum ditch, so that no access was allowed to the milecastle at this point. At MC 51 (Wall Bowers) an unusual profile for the ditch south of the gap in the north mound beyond the milecastle south gate led to the assumption that an original causeway had

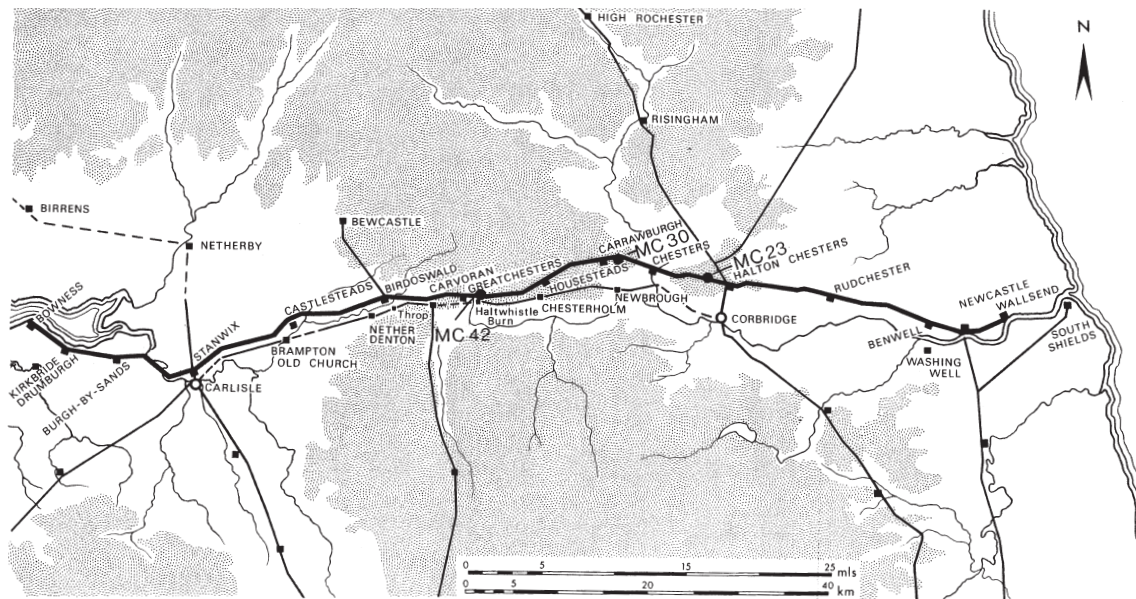


Fig. 1 Hadrian's Wall showing the location of MCs 23, 30 and 42.

been removed. This area was later filled with turves to create a secondary causeway. The second modification found at MC 50 TW did not appear at MC 51. (Modifications 1, 2, etc are referred to as phases 2, 3, etc below.)

The existence of a track on the south berm at both of these sites led Eric Birley to suggest in his handbook for the 1949 Pilgrimage of Hadrian's Wall that the location of the Vallum had been dictated by the pre-existence of a service road or track (Birley 1949, 24). Birley himself sought such a track in sections across the south berm close to MC 34 (Grindon) and MC 36 (King's Hill). A track was discovered near MC 34, underneath the marginal mound. At MC 36 the berm was of solid rock, obviating the need for metalling. By 1961, Birley's service road theory was restricted to metalling only being provided in areas where the subsoil was soft (Birley 1961, 122-3). Nevertheless, the theory was thus propounded that lateral traffic along the Vallum could gain entry to the service track at a fort, proceeding thence along the south berm to a milecastle, where there was a causeway across the ditch.

Since the excavations at MC 50 TW and MC 51 it had seemed reasonable to suppose similarity of treatment south of milecastles elsewhere along the Wall. The first writer, in the course of her PhD thesis on the Vallum undertook a small investigation at the existing causeway opposite MC 30 (Limestone Corner) in September 1951, and a larger excavation in 1952 at MC 23 (Stanley Plantation) (Swinbank 1954, 202-5, 341, 465-6 and 206-19, 344-8, 467-85 respectively). These two excavations are published here for the first time.

The results of the work at these two sites being inconclusive, the first writer returned to examine MC 42 (Cawfields) in 1958. The report on this excavation is included here. The second writer's role has been to help bring this report to publication.

MC 30 (LIMESTONE CORNER)

THE VALLUM CAUSEWAY

The visible causeway exhibits the familiar 'depression' of the north and south berms noted elsewhere *per lineam valli*. Here the Vallum is cut through solid basalt rock in a most noteworthy manner. The rock is clearly visible on the surface northwards of the north lip of the Vallum ditch, so as to preclude the existence of road-metalling. *A priori* reasoning suggests that the causeway here is not an original one. If the Vallum ditch had been originally interrupted to leave a causeway, such a causeway would have been composed of solid basalt. Moreover, because the Vallum ditch lips stand so high on either side, one would expect the stratum of rock to proceed quite flat and level across the Vallum ditch. It would certainly not exhibit the boat-like curve which the existing causeway displays.

THE EXCAVATION

The first trench was placed to cover the junction of the north-eastern edge of the causeway with the natural rock of the north lip of the Vallum ditch. The north lip at this point is a clearly cut vertical face of rock. After a thick layer of topsoil, a loose, cleanish, beige-coloured soil was reached. On top of this and in it for at least 1.5 m (5 ft) down the ditch (measured from the top of the north lip) whin boulders were closely packed. It was clearly not a natural deposit of boulders. The whin stone forming the north lip continued vertically downwards showing unmistakably that if the structure was a causeway at all it was not an original one. The soft, light-coloured material tapered gradually off towards the east though stretching at least into the plantation. Any hope of discovering the eastern edge of a causeway whether original or secondary had to be abandoned.

The possibility remained that this filling of the ditch with boulders and soil represented a wider replacement of an original narrower structure as the first modification at MCs 50 TW and 51 were interpreted. It was therefore determined to dig a small trench approximately in the centre of the causeway to find out whether a stump of rock denoting an original causeway had been left, as was the case at MC 50 TW though in different material. A small trench, 1 m (3 ft) wide by 1.07 m (3½ ft) long was cut in the centre where the rock, clearly apparent on the surface of the north lip, would either be cut through to form a ditch or project to form an original causeway. The rock, roughly in line with the north ditch lip, descended abruptly, clearly demonstrating the fact that no original causeway had been left in the ditch. As in the first trench, the ditch was filled with smallish stones, boulders and softish brown soil, surmounted by a 150 mm (6 in) layer of modern cinders, for a depth of at least 760 mm (2½ ft) below ground level. The top of this brown stoney filling was far from looking like a metalled roadway.

CONCLUSIONS

Two alternative explanations may be offered:

- (a) that the filling represents a secondary causeway created at some time after the original cutting of the ditch. This seems a possibility, but the lack of suitable road-metalling over the causeway itself somewhat detracts from the argument.

- (b) the filling represents a crossing, one of the series thrown across the Vallum ditch to mark a formal obliteration of the earthwork as an obstacle, thus having no direct relationship to the milecastle whatsoever, though left in position when the milecastle was re-occupied. Although it is the approximate position for such a crossing, it stands much higher than do other crossings present in the ditch in this area.

One important problem was left unsolved — had an original causeway ever existed across the ditch at this point? Certainly no trace of one was discovered but on analogy with the projection of the original subsoil left at MC 50 TW it is still possible that the remains of an original rock causeway may exist lower down the ditch. A solution to this problem was not pursued since owing to the extremely rocky nature of the locality excavation entailing the removal of large blocks of stone, through foot after foot of such blocks, was at the time a physical impossibility. One consideration seemed to weigh emphatically against the existence of an original causeway. Why should the Romans remove a causeway of solid rock — a process not of the easiest kind as anyone who knows the district will realise — only to replace it by a much less substantial causeway of soft soil and boulders? That a similar procedure occurred at MCs 50 TW and 51 is evident, but its simplest explanation, viz. to facilitate the later construction of the Stone Wall, does not apply at MC 30.

MC 23 (STANLEY PLANTATION)

As it was possible that the remains of a causeway existed lower down at MC 30 (Limestone Corner), an investigation was undertaken at MC 23 (Stanley Plantation) in 1952. This site seemed more likely to produce the necessary results, since the Vallum and its causeway were here very well preserved and there was less risk of encountering huge stones.

THE SITE

The position of MC 23 is a clearly marked grassy plateau in the pasture immediately east of Stanley Plantation. The Vallum runs close behind the Wall at this point and is in a wonderful state of preservation. The south mound of the Vallum, immediately opposite the milecastle causeway, had not been removed, though a slight depression in it, rather west of the centre line of the causeway, seemed to signify the presence of small gap. It was noted that this depression fell in the position of a gap of the familiar crossings system. Moreover, an examination of the crossings system throughout the pasture to the east, showed that all the crossings cut across the Vallum obliquely, so that the south mound gap was invariably slightly west of its opposite number in the north mound. This fact has never been noticed before. The north mound at the causeway has been virtually obliterated, presumably by the ploughing of this field to the north of the Vallum. The causeway itself is a good example of those visible throughout the course of the Vallum opposite milecastles. The south berm had been considerably depressed, and the Vallum exhibits a concave contour from north to south. The causeway represents a substantial filling of the Vallum ditch, though the bridge or effective roadway of the causeway was scarcely more than 4.7 m (15 ft) wide, and on either side of it the filling tapered gradually down towards the bottom of the Vallum ditch. The east-west limits of the causeway have not been precisely determined but the causeway must cover a distance of 18 m (20 yds). Although the marginal mound is in good condition to the east, it did not reach the area investigated close to the causeway.

THE EXCAVATION (FIGS. 2–10)

It was too much to hope that the causeway could be extensively excavated because of the small amount of labour and time available, while earlier excavations in Cumberland were thought to render complete excavation unnecessary. Selective rather than extensive excavation was therefore undertaken.

Phase 1 (Figs. 3–7)

THE DITCH

The ditch beneath the existing causeway was not excavated beyond a depth of some 1 m (3 ft) below the Roman ground level. The southern slope of the ditch was found to be cut through pinkish-yellow boulder clay on top and solid freestone rock beneath. The northern slope of the ditch was cut through pinkish-yellow boulder clay. What was originally mistaken for a stump of undisturbed subsoil, jutting out beyond the southern face of the rock-hewn ditch slope, was found to overlie a grey-black filling. Its unusually suspicious position will be explained below. No apparent sign of an original causeway was discovered.

THE NORTH MOUND

A thorough investigation of the north mound produced the necessary, though rather slender, evidence for the presumed original state of affairs. Trenches cut across the north mound revealed a most unusual feature which had already been found connected with the southern. Precisely where a gap in the mound had been expected there was a single course of masonry revetting either side of the virtually demolished north mound, representing a clearly continuous mound over which no sign of metalling could be discovered. The revetment continued on the south side of the north mound for some 13.4 m (44 ft), and seemed plainly original work (fig. 3).

All the evidence seemed to combine to prove that no original causeway and no north mound gap had ever existed, until a final trench was cut along the centre of the north mound opposite the existing milecastle causeway. At MC 51, not only had the edges of the north mound been revetted in turf, but also the ends of the mound on either side of the gap; if therefore an original gap had existed in the north mound at MC 23, it might be expected that the original ends of the mound on either side of the gap would have been revetted too, whether in turf or stone. The final trench in the north mound, XII, was designed to cut across any such evidence of revetment. The north mound has been practically ploughed away, and it is most fortunate that what slight evidence remained was found, since it completely changed the probable interpretation of the excavation.

The trench was 5.49 m (18 ft) long and approximately 760 mm (2½ ft) deep. It proved practically impossible to distinguish mound material from topsoil. Signs of turfwork appeared at the bottom of the trench. In the centre, for some 2.3 m (7½ ft), a single fairly thick black line marked the old turf-line. Then, on either side, the black line thickened and divided into a number of small black lines (fig. 4). In short, as may be seen from a study of the accompanying section of the trench, traces of turf revetment were discovered on either side of a small gap of not more than 2.44 m (8 ft). The gap was undoubtedly unusually small, and the evidence for it unusually slight, but it seems certain that an interpretation of the section as a

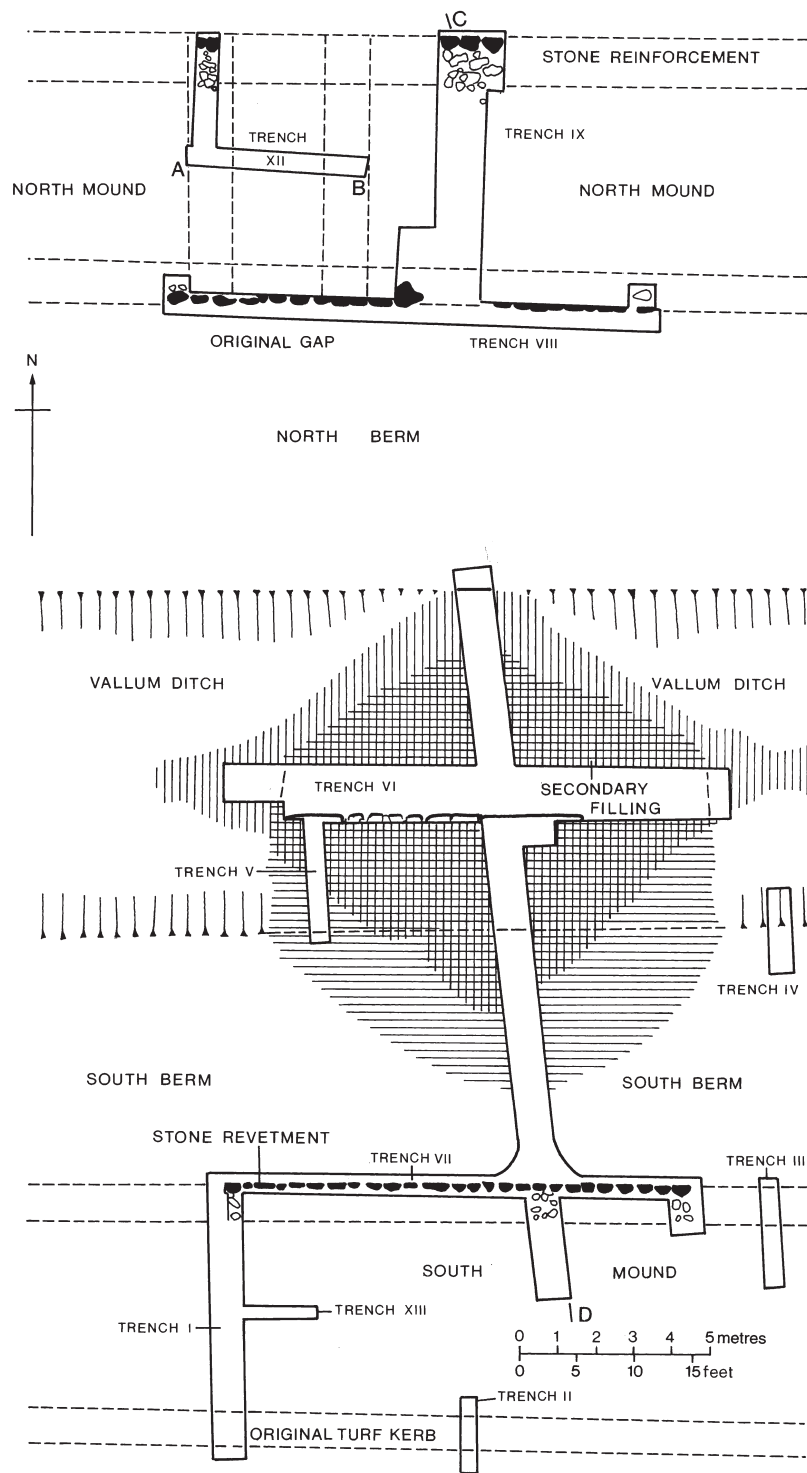


Fig. 2 MC 23. General plan of main features and showing the position of north-south section, fig. 8. (1:200)

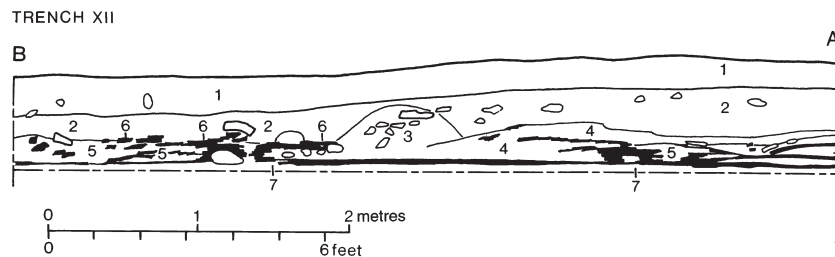


Fig. 3 (left) MC 23. Stone revetment on the south side of the north mound in Trench VIII looking west.

Fig. 4 (below) MC 23. North mound, east-west section looking south, showing the gap. (1:50)

KEY

1. topsoil
2. mound upcast (sand, hard brownish/yellow material)
3. yellow crumbly clay
4. greyish yellow material
5. grey humus
6. turf-work
7. grey subsoil



gap between two turf revetments is correct. The evidence from MC 51 was similar, though the gap there was as wide as 5.18 m (17 ft). A small trench at right angles to and on the north of the section along the centre of the north mound showed the fairly thick lamination of the western turf revetment northwards for nearly 1 m (3 ft), at which point it began to disappear. Clayey material lay upon it, representing secondary mound upcast. Then the stone core of the stone revetment appeared, its face being 760 mm (2½ ft) to the north; it seemed to destroy the turf kerbing. The structural sequence seemed clear: firstly, turf kerbing; secondly, yellow upcast obliterating the kerbing and associated with the stone revetment.

The question of the relative date of the stone revetment of the north mound was further investigated (fig. 5). The existence of the turf cross-kerbs in the north mound proved the stone revetment, representing a continuous north mound, to be secondary work. Five small trenches were dug to confirm this evidence. Some 22 m (24 yds) to the west of the causeway site small trenches were cut over the north and south edges of the north mound. The northern



Fig. 5 MC 23. Stone revetment on the north side of the north mound in Trench IX looking south: the south revetment here had been ploughed away (see fig. 2)



Fig. 6 MC 23. The south mound of the Vallum in Trench I showing the turf revetment on the south edge.

trench produced neither turfwork nor stone and no convincing mound upcast. The south trench exhibited stone revetment. As far west as the field-wall allowed, two more trenches were dug, and they told a clear story. Turf-work revetting the north edge of the mound was discovered; on the southern edge, though no turf-work was visible, stonework had been placed upon 60 mm (2½ ins) of yellow mound upcast. That the stone edging of the northern edge of the north mound was secondary was thus proven, and that of the southern edge likely. A final trench, some 99 m (108 yds) east of the site, cut over the southern edge of the north mound, showed not only rough stonework set upon 76 mm (3 ins) of yellow upcast, but also the remains of turf kerbing immediately to the east of it. The trench showed clearly how the stone edging replaced original turfwork. It seems that where the turfwork was removed, the yellow mound upcast has spilled forward and the freestone revetment placed upon it.

THE SOUTH MOUND

The north mound at Stanley Plantation seems to have been kerbed in turf along its northern and southern edges as well as on each side of the gap. The south mound presents a quite different picture: it is clear from surface indications that this mound, which is quite well preserved at this point, has never been totally breached. It may be assumed to have been originally continuous, as indeed it still is. But to confirm surface evidence a small trench, II,

was dug to cover its southern edge, roughly in the centre of the slight depression in the mound. Even here the yellow upcast stood to the height of 300 mm (1 ft) and gave no indications of road surfacing over it. Moreover, a fairly shallow laminated layer of black and grey, abutting on to the yellow upcast and stretching at least 1.83 m (6 ft) to the south, was clear evidence of the turf-kerbing of the mound (fig. 6). Two important facts emerged: firstly that the south mound had originally been continuous, and secondly that its southern edge had been kerbed with turf.

The northern edge of the south mound was revetted neatly by one course of regular roughly dressed freestones. It was immediately opposite the existing milecastle causeway that this phenomenon first came to light. This stone kerbing was traced both east and west until a stretch of 12.5 m (41 ft) had been uncovered (cf. north mound). It was quite remarkable to note that it existed for the width of the existing milecastle causeway and ceased at precisely the point where the Vallum ditch recommenced on either side of the causeway. The stonework looked convincingly original. It merged with the yellow upcast of the south mound and moreover was placed immediately above a distinctly black line representing an old turf line. This was cut through but it was clearly a single line of decomposed turf, and not a compressed turf revetment on which the stonework had later been superimposed. How high the stone revetment had originally been is a matter of pure conjecture. Usually only one course of it remained, but on the northern edge of the south mound two courses were discovered at one point. No road metalling was discovered at all on the south berm for the whole width of the causeway. This evidence confirms that of the small trench covering the southern edge of the Vallum mound opposite the depression. No Roman roadway has ever passed over the south mound, and thus the explanation of the depression as part of the crossings system is reinforced.

A section cut across the south mound, at the western terminal point of the stone revetment, proved of great interest for its light on the composition of the Vallum mound (fig. 7). The mound was 6.4 m (21 ft) wide and at its highest point approximately 760 mm (2½ ft) in height above the Roman turf level. The old turf line appears as a black layer, varying up to 60 mm (2½ ins) in thickness throughout the section, clearly distinguishing the mound upcast above it and the clean light-grey humus below it. The mound upcast (2) was of solid yellow pebbly clay, plainly dug from the Vallum ditch. The southern edge of the mound was distinctly kerbed by turves of roughly 76 mm (3 ins) thick (5). The kerbing extended for 1.22 m (4 ft) to the south and beyond that, for another 1 m (3 ft), traces of turves were apparent in a greyish material mixed with crumbled yellow sandstone (6). This may represent spill from the mound, and the southern edge of the turf work proper is taken as the southern edge of the mound.

Immediately north of the turf-kerbing was a heap of rough, loose freestones forming part of the mound upcast. This is the first feature of its kind to be found in the mound upcast. It was apparent in both sides of the section. That it is not of structural significance but rather an isolated fortuitous feature seems obvious, since the earlier trench covering the southern edge of the mound only 3.66 m (12 ft) to the east did not exhibit a similar feature. Perhaps the constructors of the Vallum mound deposited in a heap in the mound a number of stones collected either during the digging of the ditch or found lying around on the site. The feature is of interest but of no special significance.

Next, the section demonstrated the relationship between the stone-facing and the mound. The large terminating stone of the revetment was placed immediately above the old turf line.

TRENCH I

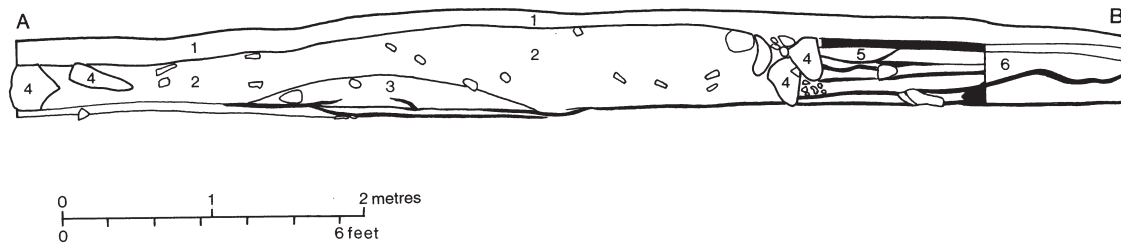


Fig. 7 MC 23. Section across the south mound looking east showing the two revetments in Trench I. (1:50)

KEY

- | | |
|--|---------------------------|
| 1. topsoil | 4. stones |
| 2. upcast mound (pebbly, crumbly yellowish clay) | 5. turf-kerbing |
| 3. greyish material | 6. mixed yellow sandstone |

Sticky yellow clay seemed to hold it firmly *in situ*. Behind the facing stone was a core of relatively small loose stones mixed with yellow mound upcast. No difference could be detected between the mound material at this point and in the centre of the mound, except that amongst the stone coring it seemed slightly less compact and solid. There was no indication of a revetment in turf earlier than the existing stonework. No evidence has so far been found on the south mound to prove that the masonry is secondary. Just beyond both the eastern and western terminal points of the northern stone facing, no revetment of any kind was discovered and no vestiges of an earlier turf-kerbing having been removed could be detected. Further, a small trench 112 m (130 yards) east of the causeway showed a rough stone-edging on the north edge of the south mound, and no sign of turf-work. Hitherto, all evidence suggests that the stone revetment of the northern edge of the south mound is original. Yet identical masonry revetment on the north mound can be demonstrated to be secondary. Nothing more can be said concerning this apparent inconsistency of the evidence.

A final unusual feature must now receive comment. Slightly north of centre of the section a low mound was detected, of light-grey material above two thin black lines (3). This low mound, clearly turf-work and humus, stretching for approximately 1.83 m (6 ft) across the mound was completely overlaid by the yellow mound upcast. This too is a new feature so far unparalleled elsewhere on the Vallum. A trench was cut at right-angles to the section through the feature, for 2.29 m (7½ ft) eastwards. The material gradually disappeared as it was traced eastwards. It may represent a small heap of unwanted turves, perhaps taken from the surface of the Vallum ditch, thrown where the south mound was to be constructed and almost immediately covered by it.

Phase 1 of the Vallum south of MC 23 may be summarised thus. The south mound was continuous and was revetted on its southern face by laid turf-kerbs, whilst its northern face may have been revetted in stone. A narrow gap had been left in the north mound, which was kerbed in turf. No evidence for an original causeway was found and no indications of metal-ling or cobbling were discovered in the immediate area of the causeway.

Phase 2 (Figs. 8–10)

THE DITCH AND CAUSEWAY

The first modification involved the construction of a causeway that is still visible. The nature of the secondary crossing was exhibited by a trench from the north berm to the south mound, roughly over the centre of the causeway, and by a second trench cutting the centre trench at right angles to determine the width of the causeway (figs. 8 and 9). The causeway depths were not penetrated. It was composed of light-grey silty material mixed with large yellow sandstones (fig. 9). Where this material came from is a matter of conjecture since it is clearly not mound material thrown back into the ditch.

The northern ditch slope, cut in yellowish boulder clay, could easily be distinguished. The northern berm and lip were considerably higher than the southern. It became apparent that the difference in height between the north and south lips was accounted for by the fact that the north berm and lip had not been cut away or depressed when the existing causeway had been formed, while the south berm had been reduced in height towards the north. Evidence for the depression of the southern berm and lip was remarkably clear. The original turf line, mentioned in connection with the southern stone revetment stopped suddenly on the south berm 2.13 m (7 ft) north of the revetment. It was plain that north of this point the surface of the berm had been removed, involving the complete disappearance of the old turf line. The depression also accounted for another puzzling feature. The southern lip of the ditch, cut largely through rock, was discovered about 3.05 m (10 ft) north of the line of the ditch lip as exemplified on either side of the causeway, a fact which had suggested a projecting stump of original causeway still *in situ*. The lip of the rock projection was traced almost to the limits of the western cross-trench, *i.e.* for a distance of 7.92 m (26 ft), clearly a little too broad to represent the stump of an original causeway. The drawn section readily provides an explanation. The south lip of the ditch has been so reduced in height that the rock cutting in question would originally have been some 1 m (3 ft) down the ditch slope, and not the lip itself. Thus it is, understandably, considerably further north than the original line of the southern lip of the ditch.

The stump of boulder clay, clearly visible in the photograph (fig. 10) projecting slightly in front of the southern rock-cut slope of the ditch, was partially cut away, and was found to overlie dark material explicable as ditch silt. Beneath this the rock continued in line with that on either side. Yet the clay is quite different from the normal causeway filling and similar to natural subsoil. It may be explained as the clay from the south berm shovelled just over the ditch lip when the berm was depressed.

The surface of the secondary causeway does not appear to have received any special treatment even in the centre. No real road-metalling existed over it, but merely a fairly compact layer of small, irregular, yellow sandstone cobbles. This metalling, if such a description is permissible, ceased abruptly where the northern ditch lip was reached, and on the south at the approximate position of the original ditch lip. No metalling existed on either berm. The surface of the causeway only was cobbled, and this point betrayed the secondary character of the causeway before excavation took place.

Whether the creation of the causeway affected the north mound is not only uncertain but unascertainable, in view of the poor preservation of the mound. The original gap may, however, have been inconveniently narrow to serve the existing wide causeway. Nor must it be forgotten that the north mound gap was not situated opposite the centre of the existing

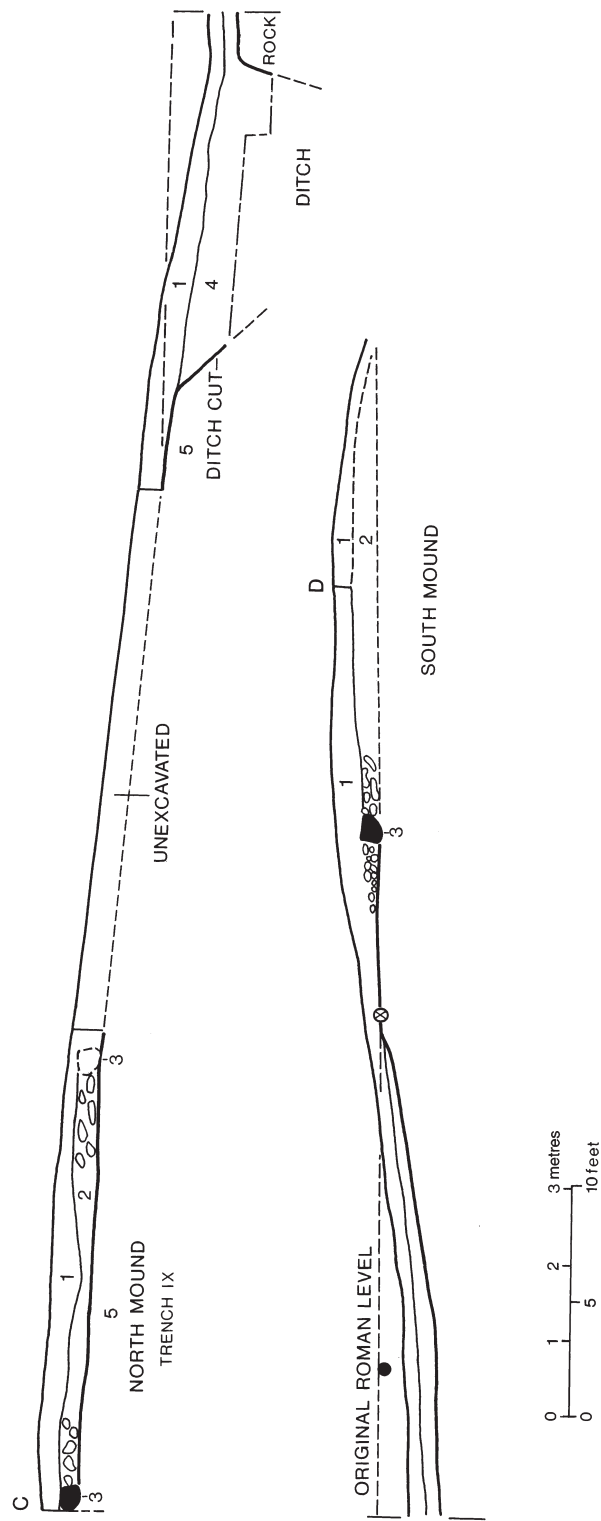


Fig. 8 MC 23. North-south section across the excavation. (1:100)



Fig. 9 MC 23. Vallum ditch looking south, showing the rock-cut south lip and secondary filling of the causeway.



Fig. 10 MC 23. Vallum ditch at the west side of the centre trench showing the rock-cut south slope of the ditch.

causeway. It is reasonable then to suppose that the north mound was partially obliterated, or its gap widened, when the secondary causeway was constructed. This may account for the necessity of the later rebuilding of the north mound, and the reinforcement of it by masonry revetments.

THE SOUTH MOUND

The first modification at both MCs 50 TW and MC 51 included the breaching of the continuous south mound. That the south mound at MC 23 shows no real indication of having been similarly breached has already been stressed. At all events no roadway has passed over the mound. The slight depression which is visible on the surface could hardly serve any purpose connected with the existing milecastle causeway. The suggestion has been made that it is rather connected with the crossings system. It is of interest and possibly of significance that the depression is almost directly opposite the north mound gap. The inference is that the south mound was depressed before the present secondary causeway was established. Moreover, if the breaching of the south mound during the second phase at milecastles involved the aim of obliterating the Vallum as a frontier, then the fact that a small depression existed already at Stanley Plantation may have saved the mound from complete removal opposite the causeway. It may, of course, be that the depression is contemporaneous with the secondary

causeway, and the former may be thought to constitute sufficient evidence that the Vallum here was no longer of use as a frontier. This question is of great interest in any attempt to put the structural changes at milecastles into their historical context.

Phase 3

The second modification at MC 50 TW 'represents an attempt to define once more the obliterated ditch of the Vallum diversion' (Simpson and Richmond 1937, 174). Embankments, of yellow loam revetted in stone, were raised on either side of the ditch. A similar modification did not take place at MC 51, for local reasons already discussed. At MC 23, however, a change was undertaken, involving the establishment of a continuous north mound which, in the nature of things, precluded the use of the secondary causeway. The process is evidently similar to, but not identical with phase 3 at MC 50 TW. A new north mound was virtually established revetted on either side by an edging of roughly-dressed stones. At two points, on the southern edge of the north mound, there were breaks in the continuity of the revetment, but at the larger of these a section was cut across the mound, and it showed that the southern portion of the mound had been almost entirely removed (presumably by ploughing) and the masonry edging with it (fig. 5). Yet on the north, the section uncovered an exceptionally fine stone coring and revetment, marking the northern limit of the mound. The mound was exactly 6.1 m (20 ft) wide. It was clearly intended to be continuous and reinforced by stone for at least the width of the existing milecastle causeway.

Other trenches, designed to uncover both the northern and southern revetments of the north mound, have already been discussed in connection with the secondary character of the masonry. It was clear that this secondary policy of reinforcing the north mound was not purely localised at the causeway proper, but affected the north mound, either generally or spasmodically, in this sector. It signifies also an abundance of good building-stone such as could not be obtained so easily in the central or far western sectors of the Wall.

CONCLUSIONS

Whether the stone revetment of the northern edge of the south mound may be attributed to the same policy of reinforcing the mounds generally is so far uncertain since proof of an earlier revetment of it is lacking. Despite this element of doubt, a new feature concerning the later history of the Vallum has been brought to light, demanding further attention. It has become commonplace that the Vallum, after being systematically slighted, was brought back into use. The precise character of the Vallum in its second period of history is far from clear. At MC 50 TW an attempt was made to redefine the ditch south of the milecastle. At MC 23 a different modification was undertaken producing the same effect, the restoration of the Vallum as a continuous visual obstacle. This surely must be the import of phase 3 at MC 23. Not only in the Stanley Plantation area but throughout the length of the Vallum further investigations are required, before we can fully comprehend the ramifications and implications of this general policy of rehabilitation.

MC 42 (CAWFIELDS)

In 1958 the opportunity arose for the first writer to investigate another causeway in the Stone Wall sector for Durham University Excavation Committee. The causeway south of MC 42 was

selected as a good example. The details of the excavation have not been available until this report although references to its results have been made by the excavator (Heywood 1966, 85–94, specifically 87–8, 92).

THE EXCAVATION (FIG. 11)

The Cawfields area had been studied by F. G. Simpson as early as 1908 when the gaps in the north and south mounds representing secondary crossings had been recognised but before causeways over the Vallum ditch at milecastles had been regarded as significant. Simpson's excavations were all to the west of MC 42 causeway and revealed excellent examples of the turf-kerbing of the north mound. Dr Grace Simpson has since published her father's work in the Cawfields area (Simpson 1976, 116–119, Plates IX and X and Figs. 29–40). One complete section, no 6, across the whole Vallum showed remarkable treatment of the ditch and was first published in 1940 (*JRS* 30 (1940) 164). 'It was found that the sides of the ditch had been cut back almost vertically in the bad sandy ground and were then retained by turf-work capped with clayey sand and resting on a solid base of stone four courses high' (Simpson 1976, 119, Plate X, Fig. 32). The marginal mound, at that time believed to represent the recutting of the Vallum ditch, was shown to overlie this unusual revetment of the ditch. It was thought that this condition 'extends from the farm-track leading to MC 42 as far as the macadam road to Cawfields quarry' (*JRS* 30 (1940) 164). It was hoped that the turf revetment of the Vallum ditch, based on coursed flagging might have continued eastwards to the milecastle causeway to be investigated in 1958. It was always intended to concentrate on bottoming the Vallum ditch to look for any trace of an original causeway, and on the composition of the marginal mound. This mound did not extend across the secondary causeway, as shown in fig. 11.

Trench I (Figs. 12 and 13)

Trench I was intended to investigate the south-west quadrant of the existing, probably secondary, causeway and the south berm terminating short of the south mound. The causeway appeared to have been thrown slightly obliquely across the Vallum ditch perhaps aiming for the position of MC 42. The south-west quadrant might also produce evidence which corresponded with the unusual treatment of the Vallum ditch found by Simpson further to the west. The north-east quadrant of the causeway would be investigated if time, available labour and weather permitted, but this was eventually proved to be impossible.

Trench I was initially 3.66 m (12 ft) wide where the ditch was expected — its line was visible to east and west of the existing causeway — but then reduced to 1.5 m (5 ft) wide across the south berm, to a total distance of 10.67 m (35 ft), where Trench II would take over the south mound area. Small extensions were made later to the east and to the north in the ditch area. All four sections were fully recorded.

PHASE 1A

The south lip of the ditch was fairly quickly located since it was only 610 mm (2 ft) below ground level. The ditch had been cut through various levels of subsoil from layer (20) sticky, grey clay, marking the original ground level. Overlying this were patches of bark, of silver birch, perhaps chopped down from nearby to clear the line of the south berm. Below (20) was

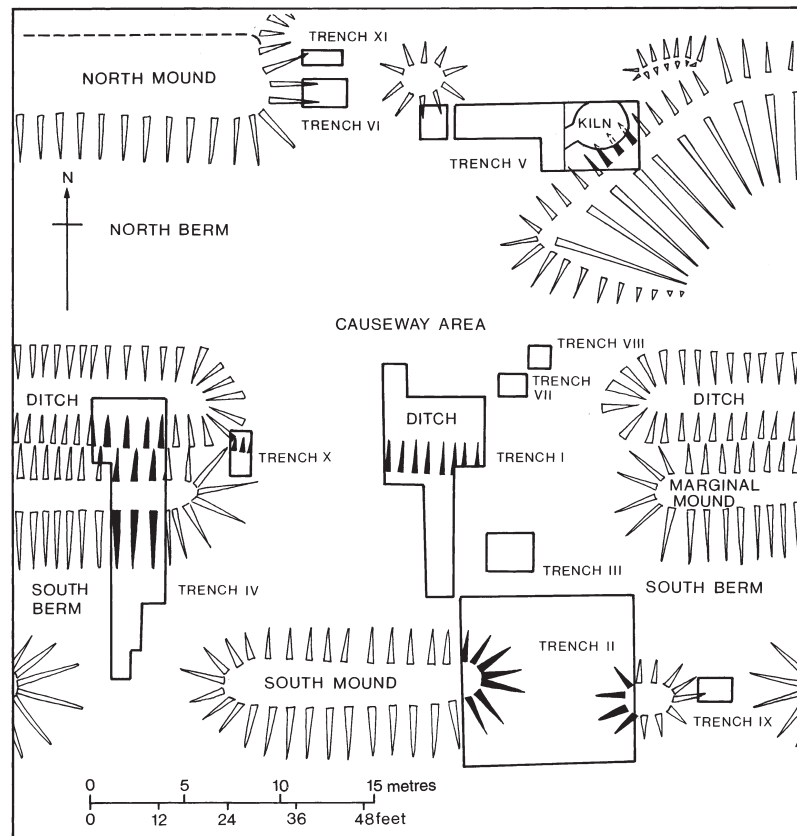


Fig. 11 MC 42. Composite plan showing the visible features (Vallum mounds and ditch), trenches, and, in Trenches I and X, the eroded edge of the Vallum ditch. (1:400)

a band of yellow-grey clay (21) with some patches of gravel and whinstone, including a large block *in situ*, a layer of peat (22) and then brown sandy gravel (14) at approximately 1.5 m (5 ft) below present ground level. The south ditch slope cut through (14), soft in patches but at the ditch bottom packed hard gravel and clay. The ditch was about 2.13 to 1.83 m (7 ft to 6 ft) deep. The east section of Trench I shows the ditch for 3.66 m (12 ft) northwards across from the lip (rather more than half the standard 6 m (20 ft) width of the ditch): its bottom was exposed for 1.83 m (6 ft) on the east section but for 2.13 m (7 ft) from south to north in the west section. The standard width across the bottom is 2.44 m (8 ft). The south ditch slope was sectioned in Trench IV also (see below pp. 114–5). In all three sections the measurements were similar, as was the angle of the ditch-slope *i.e.* c. 60 degrees in Sections 2 and 1 and in Trench IV 60–65 degrees. This angle is not so steep as was found at the Benwell fort original causeway as shown by its stone revetment (Birley *et al.* 1934). Since the north side of the Vallum ditch was not investigated in this 1958 excavation, the full width of the ditch was not ascertained here.

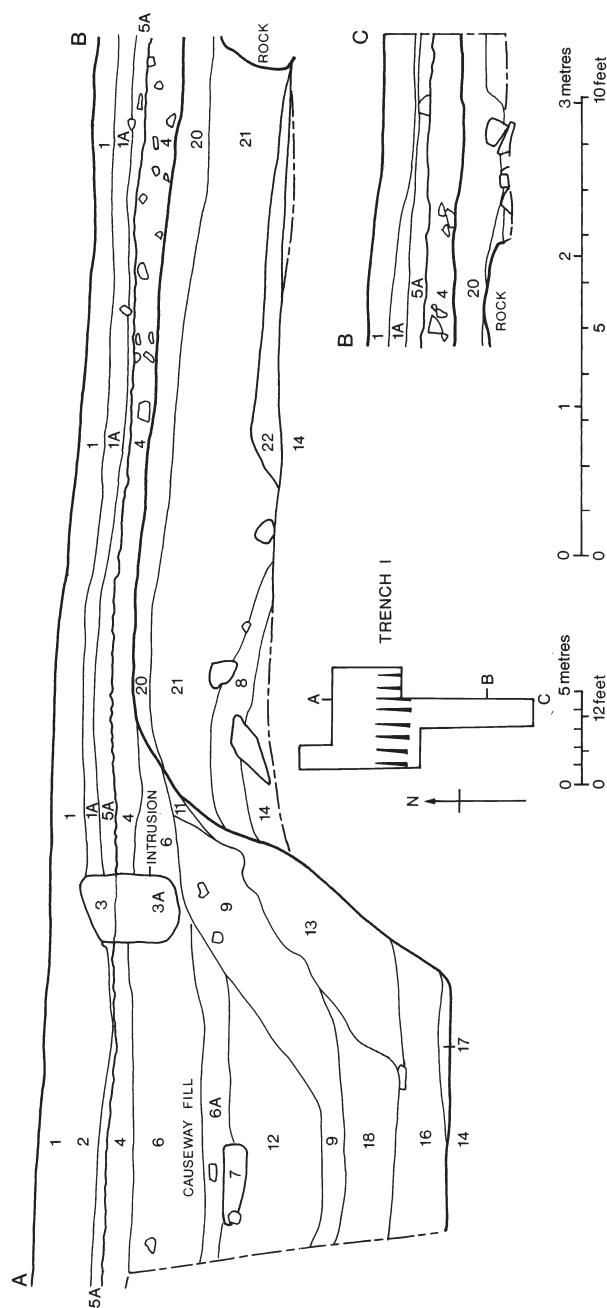


Fig. 12 MC 42. Section of the east face of Trench I. (1:50)

KEY

- | | | | |
|-----|---|----------|--|
| 1. | topsoil and brown loam | 10 & 11. | [do not appear in this section] |
| 1A. | lower topsoil | 12. | blue-grey gravel |
| 2. | peat | 13. | grey gravel |
| 3. | irregular mound of sandy soil (bits of clay, gravel and cobbles) | 14. | subsoil (brown sandy gravel merging into boulder clay) |
| 4. | road surface (mainly water-worn gravel, bits of shale) | 15. | [does not appear in this section] |
| 5A. | gravelly silt | 16. | coarse silt (reddish brown but with pieces of peat) |
| 6. | patches of grey clay, gravel, decomposing whin, some blocks of peat | 17. | peaty band (primary silt) |
| 6A. | patches of clay, but more gravel and fewer stones | 18. | fine grey silt |
| 7. | 'culvert' (flagstone) | 19. | [does not appear in this section] |
| 8. | gravel area in subsoil | 20. | grey clay with a few pebbles on surface (towards south has bark surface) |
| 9. | peat/turf blocks mixed with blue-grey silt | 21. | yellow-grey clay |
| | | 22. | peat bog |



Fig. 13 MC 42. The Vallum ditch in Trench I looking east showing the steep slope of the ditch (slightly overcut), gravelly silt, peat blocks and miscellaneous soils below the metalling.

There was no sign of an original causeway having existed across the Vallum at this point. Yet this location was chosen for the construction of a secondary causeway in Phase 2. It was of great interest that there was no lowering of the south lip of the Vallum ditch in Trench I, as was the case at MC 50 TW and MC 51 and also at MC 23 at the beginning of Phase 2.

Although Trench I covered some 6.7 m (22 ft) of the south berm no metalling or track was found.

PHASE 1B

Both the east and west sections across the ditch in Trench I and the north section linking the two show a 3-stage filling of the ditch (fig. 12). The lowest deposit was a peaty band (17), overlying the bottom of the ditch in all three sections; above that was coarse silt, reddish brown with some peat (16), about 300 mm (1 ft) thick (pp. 122–3). Then grey gravel (13) accumulated in a triangle over the south ditch-slope, as well as over (16) in the east section, whilst in the west section blue-grey silt (10) replaced (13). Next, (18) fine grey silt sometimes over 300 mm (1 ft) deep, accumulated in all three sections. These gravelly and silty deposits have the appearance of natural wash from the subsoil (14) through which the ditch had been dug originally.

PHASE 2A

Above these accumulations was a second band, up to 600 mm (2 ft) thick, represented by grey silt and peat (9), present in all three sections east, west and north. Peat blocks were clearly dis-

cernible in this artificial filling as were several fragments of wattling, wood, whinstone fragments and odd cobbles (fig. 13). Above this band, in all three sections was a layer of blue clay gravel (12), solidly packed, to a line of flat stones (7), about 1.5 m (5 ft) distant from the south ditch-slope: they appeared to be cover-slabs of a culvert running west-east close to the line of the north section. A small cutting to the north proved this to be a simple line of flagging, neither a culvert nor the start of a surface to the north of the trench. The later east extension of Trench I in the ditch-slope area showed the line of flat stones continuing for a further 1.83 m (6 ft) to the east of the section line. This flagging was still below the level of the south ditch-lip and was not associated with any usable surface across the causeway filling, but it marks the top of the second stage in the filling of the ditch, clearly an artificial one.

PHASE 2B

The third and final stage of filling, which created a causeway across the Vallum ditch brought the artificial filling up to the top of the ditch. Layer (6)/(6A)/(6B) consisted of patches of grey clay, gravel, whin fragments, limestone shale and the odd block of peat, was generally about 600 mm (2 ft) thick, and covered the line of flags (7). A clear level of metalling, up to 300 mm (1 ft) thick, road surface A (4), was laid not only over the ditch-filling but also over the south berm and was the uppermost significant level across the whole of Trench I. The road surface was only approximately 230 mm (9 ins) below the present surface. In Trench I this metalling was composed mainly of small, water-worn gravel with only an occasional medium-sized cobble, and with no good road bottoming.

Since there was not time to excavate the north-east quadrant to expose the north side of the Vallum ditch it was decided to look for road surface A (*i.e.* layer (4) in Trench I) to the east of Trench I and to the north of Trench II where this road surface had already been revealed over the south berm (below, p. 112). Thus Trench III, only 2.44 m by 2.13 m (8 ft by 7 ft) in size, uncovered a large whinstone block surrounded by road metalling (3), only a little over 300 mm (1 ft) below turf level. This proves the continuation of the secondary causeway to the east as expected.

Trench VII, only 1.22 m by 1.52 m (4 ft by 5 ft) was located about 3 m (10 ft) to the north-east of Trench I. Again a metallised surface was found, clearly road surface (3). Trench VIII, only 1.22 m (4 ft) square, slightly further to the north-east again exposed the same road surface, tailing down towards the east. Further to the north no attempt was made to look for the metallised surface until the line of the north mound was reached (Trench V below, p. 118).

An intrusion (3A), with a mound of soil above, apparently cutting through road surface A (4) of Trench I, marked one corner of a rectangular trench. As one possible interpretation was that it was for a large block of stone for a gateway placed obliquely to the Vallum ditch across the causeway, an attempt was made to find a similar feature further to the east of the causeway, but to no avail. On either side of the intrusion a layer of gravel silt (5A) accumulated, with sandy silt (5) above. These were too soft to be a resurfacing of road surface A.

PHASE 3 POST-ROMAN TO THE PRESENT DAY

Trench I produced no other structural changes. In all sections topsoil accumulated over road surface A with the existing turf above.

Trench II (Figs. 11 and 14)

Trench II was located to cover the existing depression in the south mound, possibly indicating a secondary gap, but it was obvious that the south mound had been continuous initially just as it was at MC 23. The west edge of the trench was aligned to continue the Trench I east section further across the south berm and south mound. The northern half of Trench II was designed to uncover any trace of metallised surface leading from the visible secondary causeway across the Vallum ditch and over the south berm. The southern half of Trench II might uncover any metallising in the south mound depression area.

PHASE 1A

The trench was nowhere deeper than 1.22 to 1.52 m (4 ft to 5 ft) below existing ground level, and only the northern half was taken to this depth. Roman ground level was encountered at 900 mm (3 ft) down, at deepest. The three recorded sections showed the same basic sequence: peat (10) *i.e.* Roman turf level (containing wood fragments) with, below, old humus (11) and subsoil (12). The east section contained an additional layer of grey sandy clay (13) or grey sticky clay (13a) between the peat and upcast mound: this probably represents humus-like material deposited as the lowest level of the upcast (fig. 14). At one point close to the south and west sections whinstone rock was exposed within the subsoil at the lowest limit of excavation.

Above Roman turf level (10) a continuous south mound was constructed, composed mainly of yellow and grey boulder clay (4). Although this mound was reduced to a few inches in Phase 2, and later was cut through diagonally by a relatively modern culvert, there was no complete gap. The mound upcast is standing up to 600 mm (2 ft) high and more in the three drawn sections, east, south and west. There was no obvious metallising in the south berm area contemporary with the south mound.

PHASE 1B

The Phase 1 continuous south mound was reduced in height but never completely removed to create a true gap. Indeed, Simpson found that for some distance towards the east limit of this field, the south mound remained in near pristine condition with only notches to mark the position of the intended gaps through both north and south mounds, in systematic fashion, throughout the course of the Vallum (Simpson 1976, 116–117, Plate IX). It is generally accepted that such crossings indicated that the Vallum was no longer to be regarded as a barrier when the Hadrian's Wall system was abandoned and an advance made to the Forth-Clyde line in *c.* 138–140.

PHASE 2

It is by no means certain how much time elapsed before the next positive phase in the use of the Vallum. In Trench I we have seen that a secondary causeway was thrown across the ditch, its surface metallised by road surface A (4). This metallising continued across the south berm, and into Trench II as road surface A (6). It covered a large part of the trench, including the depression in the south mound but not the higher portions of the mound on either side, and thinned out to virtually nothing south of the mound (fig. 14). This metallised surface had been

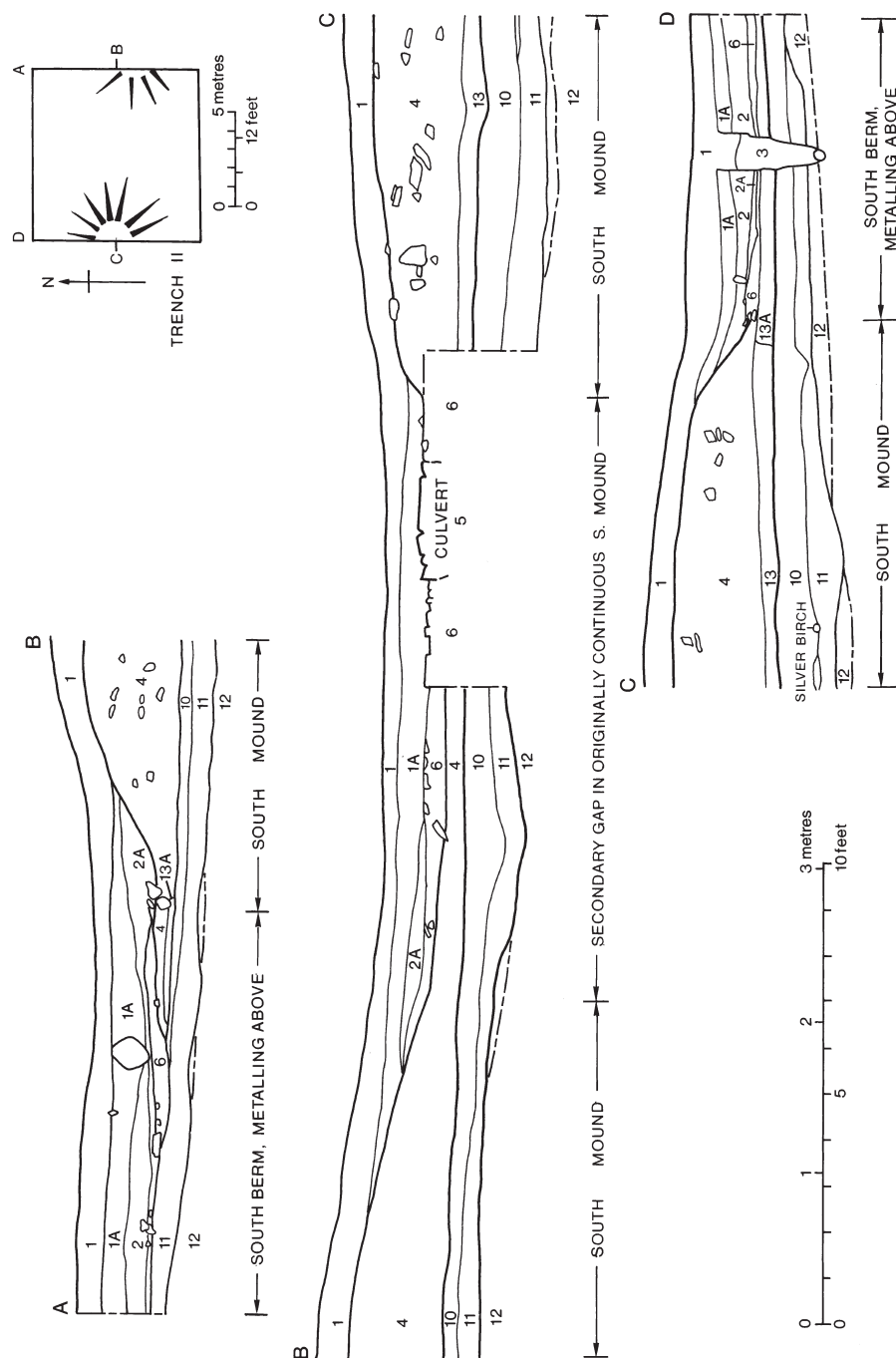


Fig. 14 MC 42. Section of the east, south and west faces of the northern half of Trench II. (1:50)

KEY

- | | | | |
|-----|----------------|------|---------------------------------|
| 1. | topsoil | 6. | road surface A |
| 1A. | peaty soil | 7-9. | [do not appear in this section] |
| 2. | grey sand silt | 10. | peat layer |
| 2A. | gravel silt | 11. | old humus |
| 3. | field drain | 12. | subsoil |
| 4. | mound upcast | 13. | grey sandy clay |
| 5. | culvert | 13A. | grey sticky clay |

cut away by the later diagonally-aligned culvert (5) and a still more modern field-drain (3) in the north-west corner of Trench II. No dating evidence was forthcoming and no obvious layer separated the two processes of depressing the south mound and the metalling of the new surface.

PHASE 3 LATE ROMAN TO THE PRESENT DAY

As in Trench I the secondary causeway fell into disuse and gravelly silt (2A) and/or grey sandy silt with flecks of charcoal (2) accumulated over the south berm area but not over the south mound. One tiny bead fragment of samian was found in layer (2A) but no other finds. It is difficult therefore to date this accumulation, which probably represents the abandonment of the Vallum in the Roman period.

Trench IV (Figs. 11 and 15)

Trench IV was placed 15.24 m (50 ft) to the west of Trench I (point A) and was initially 3.05 m (10 ft) wide covering the south portion of the Vallum ditch (which had resumed beyond the western limit of the secondary causeway of Trench I) but narrowed to 1.5 m (5 ft) wide across the south berm to the start of the south mound, to a total length of 13.72 m (45 ft). It was intended to gain a complete section across the south berm and of the marginal mound as well as of the southern half of the ditch. In the event the west section of the ditch was taken back a further 600 mm (2 ft) because of subsidence (fig. 15).

PHASE 1A

A rather undulating old turf level was clearly recognised and marked the surface of the south berm. Below this grey sandy clay (4) over grey sticky clay (4A) overlay subsoil boulder clay (5) on top of grey and rust gravel. These layers extended to the south limit of the trench, and to the north where they were cut through by the south ditch-slope of the Vallum. Towards the south end a modern gap in the south mound had removed all but a shallow remnant of mound upcast (19), about 900 mm (3 ft) wide. The gap did not fit in with the crossings system. Nor was there any obvious trace of metalling over the south berm.

The ditch-slope cut through subsoil at an angle of *c.* 60 degrees to a depth of about 2.29 m (7½ ft) and across about half the presumed width of the ditch *i.e.* 3 m (10 ft) at the top and 1.5 m (5 ft) across the flat bottom. Trench IV showed no attempt in this section torevet the bottom of the ditch-slope with flagging or turves as had been found by Simpson in his Section 6 further to the west (Simpson 1976, 119, Plate X and Fig. 32).

PHASE 1B

Although the ditch-slope remained stable, it was prone to weathering, by rain washing deposits into the ditch *i.e.* layers (14, 12, 11 and 10), either silty or gravelly as in Trench I. Layer (8) was a triangular deposit of gravel, beginning a U-shaped profile in the silting-up of the ditch, firstly by (9) sand, greyish in colour, and then, probably (7) blue grey silt with some pebbles, washed down from the slope of the ditch. It cannot be certain how high the silting-up process had progressed before the next structural phase began.

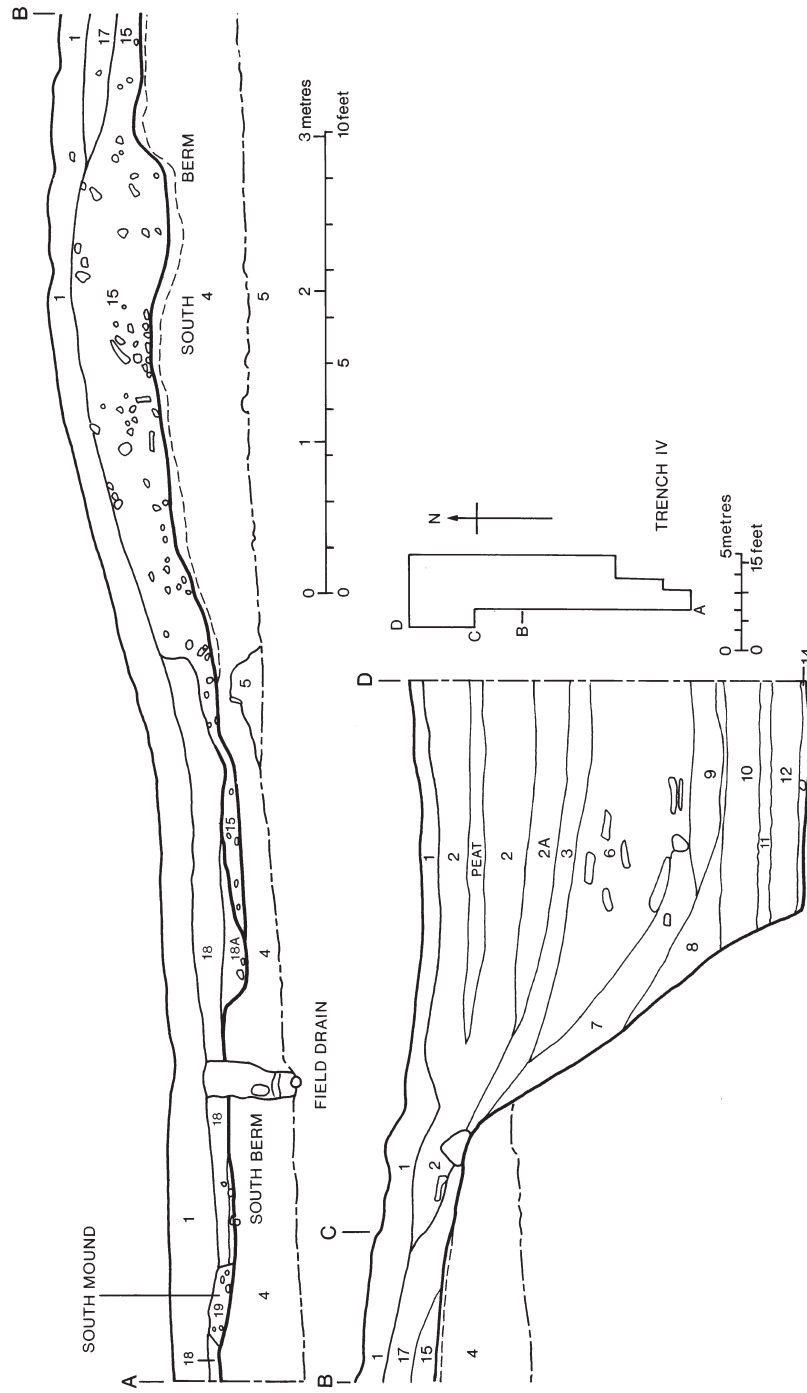


Fig. 15 MC 42. Section of west face of Trench IV. (1:50)

KEY

- | | |
|--|---------------------------------------|
| 1. topsoil and brown soil | 9. sand |
| 2. peaty fill (dried out, grey) | 10. fine grey silt |
| 2A. brown peat | 11. gravel band |
| 3. greyish silt | 12. brown sand |
| 4. grey sandy clay | 13. [does not appear in this section] |
| 5. subsoil (boulder clay) | 14. primary silt |
| 6. grey clay and peat blocks | 15. mound upcast |
| 7. blue-grey silt (sandy with pebbles) | 16. [does not appear in this section] |
| 8. gravel | 17 & 18. greyish loam |
| | 19. gravelly clay (south mound) |

PHASE 2A

The next phase appears to be a partial but deliberate filling of the ditch. The causeway in-fill of Trench I was observed extending for a short distance into Trench IV. A depression of the south lip of the Vallum ditch here was filled, firstly with grey silty material with peaty patches, then with a gravelly clay layer, 300 mm (1 ft) thick at most, filling the depression to the top of the subsoil. These two layers are reminiscent of the Phase 2A causeway fill of Trench I. Only the lower silty, peaty layer (6) extended to the west section of Trench IV.

PHASE 2B THE MARGINAL MOUND (FIG. 16)

Although the marginal mound appears to bear the same relationship to the south berm as did the south mound (*i.e.* directly above the old turf level) it is traditionally regarded as a secondary phase in the Vallum's history (Heywood 1966, 91–93 for discussion). In Trench IV the marginal mound extended from the south lip of the ditch southwards for about 7.6 m (25 ft). It was composed of yellow upcast or brown sandy soil (15), a sample of which was analysed at the Institute of Archaeology (pp. 122–3) and found to be upcast from the ditch and definitely not silt. It rested on a stoney layer (16) which does not appear in the section (fig. 16). It was quite dense close to the south lip of the Vallum ditch but gradually thinned out to the south after about 3.66 m (12 ft) distance. A second layer, of greyish loam (17), covered the northern 1.22 m (4 ft) of the bank of upcast and did not tail down into the ditch but rather, was held up by stones on the south lip at the section. A similar layer of clayey loam (18), tapered down over the south edge of the yellow upcast (15) which composed the bulk of the marginal mound. A sample of layer (17) was analysed (pp. 122–3) and pronounced to be 'clearly silt cleaned out of the ditch'. A band of greyish loam roughly 300 mm (1 ft) thick (17) overlay the south lip of the ditch as well as the two layers described in Phase 2A which filled the depression in the south lip at that point. It follows that (17) is later stratigraphically than layer (6) which formed a substantial ditch-fill as shown in the west section (fig. 15). What cannot be deduced, however, is that the main component of the marginal mound, yellow upcast (15), is later than layer (6). Layer (17) should probably, then, be taken as a cleaning out of some part of the ditch and representing a phase in its own right, Phase 2C.

An important find was recovered from layer (17), *i.e.* a sherd of Dr. 31 East Gaulish samian. A second sherd found in the back-filling of the trench, proved to be an adjoining fragment. Grace Simpson dated these sherds to the late second/early third century.

PHASE 3 LATER ROMAN TO THE PRESENT DAY

The marginal mound was the last positive attempt to re-define the Vallum as an obstacle. The ditch in Trench IV began to fill up naturally. A layer of greyish silt (3) covered the substantial layer (6) and gradually a peaty fill (2A and 2) accumulated. From (3) a fragment of wood and a large fragment of leather boot were retrieved, and from layer (2) two more pieces of leather footwear. Over the whole section a shallow layer of topsoil accumulated thereafter, with the coarse grass prevalent in the Cawfields area covering the site.

Trench V (Figs. 11, 17 and 18)

The original intention of excavating in the north-east quadrant of the visible substantial causeway as well as in the south-west quadrant proved too optimistic, as became obvious



Fig. 16 MC 42. The trench through the marginal mound in Trench IV looking north-west and showing the stony surface on the south berm, contemporary with it.

early on. So Trench V was placed where the secondary metalled surface already found in Trench I might pass through the north mound, as was expected, and show whether an original gap had existed here, as already proven at MC 50 TW and MC 51 and at MC 23. A gap was visible on the ground (fig. 11) with a small mound (described as a *spina* at the time) to the west and then a smaller gap still further to the west before the north mound resumed its continuous line. These aims were frustrated because of the discovery of a small kiln set into the upcast of the mound thereby disturbing the earlier stratification too. The kiln had to be excavated and recorded.

PHASE 1

In Trench V subsoil, a rust-coloured, solidly-packed gravel (5), was reached in the central area, sloping slightly downwards from east to west, and investigated nowhere deeper than 1.22 m (4 ft) below ground level. To the east, the small kiln, probably medieval, cut into subsoil, at least in the flue area. Over the subsoil there was no sign of metalling: instead, towards the east, a layer of greyish gravel (6), thought to be mound upcast, was also cut through by the later kiln-flue. Some 1.83 m (6 ft) to the west, black soil and stones (7), overlay the subsoil and perhaps also represents mound upcast. If so, there cannot have been much of a gap in the north mound at this point. However, 'black soil' might suggest the residue of turf-kerbing of the mound, which Simpson had found with such clarity further to the west. So perhaps there was an original gap here, albeit narrow. At MC 23 the original gap in the north mound was 2.44 m (8 ft) at most between turf-kerbs on either side.

PHASE 2

This phase is represented in Trench I by the existing secondary causeway across the Vallum ditch, with its metallised surface road surface A (4). The same surface was traced in Trenches III, VII, VIII as layer (3) and over the south berm into Trench II as road surface A (6). In Trench V this metalling (3) (not visible in the section drawing) was only distinguished at the west end of the trench overlying black soil and stones (7) which may have been kerbing of the north mound originally. In Trench VI, further to the west, road-metalling was also recognised.

PHASE 3 LATER ROMAN TO THE PRESENT DAY (FIGS. 17 AND 18)

A. Roman levels in Trench V were heavily disturbed by the building of a small kiln set into the north mound of the Vallum at the east end, requiring extension of the trench to east and south to reveal the whole structure. The kiln was composed of Roman building stones and flagging and was very similar to the kiln found in 1951 by the first writer and set into the south mound of the Vallum at High House Paddock (Swinbank 1952, 50–4).

Here at Cawfields the internal dimensions were *c.* 2.13 m (7 ft) east-west by *c.* 1.83 m (6 ft) north-south at the section horizon. To the east five courses of masonry remained, built into the north mound upcast (layer (6) grey gravel) but only two courses on the west side. In the course of sectioning the accumulation within the kiln, roughly west-east, a shelf (4L) of two more courses set in clay was revealed reducing the interior of the kiln at base to only 1.37 m (4½ ft). A sample was taken of (4G) red lining which abutted the lowest course of the kiln wall, internally, on the east and overrode the shelf: it was non-metallurgical and proved to be siliceous fireclay (p. 123). This overlay (4H) orange band and (4J) thin grey band. Then layer (4K) charcoal, about 300 mm (1 ft) thick, and over-riding the shelf on the east indicates that the kiln had been fired, as did laminations of charcoal and twigs (4D) both inside and to the north of the flue.

The flue-walls stood to two or three courses, the south-east wall 1.83 m (6 ft) long, the north-west wall about 1.5 m (5 ft). The north-west wall clearly demonstrated the re-use of Roman stones by the inclusion of the top and *focus* of a small altar (fig. 18). The flue-channel was choked with its own debris, which we only partially removed. Sections across the flue gave the position of the kiln in the stratigraphical sequence. The uppermost level of the kiln-filling (4F) greyish-brown soil and stones, produced a small Roman inscription lying face-downwards in this demolition layer of the kiln (pp. 121–2). The dating of the use of the kiln is difficult to say, but it may have been medieval.

B. Only about 300 mm (1 ft) of stones and soil (2) and above topsoil (1) accumulated over the trench, with the coarse grass prevalent in that area covering the site. Although no sample was taken of this accumulation, samples taken from Trenches I, II and IV are reported on below and throw light on the vegetation in Roman times onwards. The indications were of 'a moorland vegetation of bracken, heather and scrub' (p. 123).

SUMMARY

The trenches have been described individually since each was to investigate a different component of the Vallum at MC 42.

Phase 1A The earthwork was of the normal design with a centrally-placed, flat-bottomed ditch separated from its north and south mounds by a berm. The south mound here was origi-

EXCAVATIONS AT VALLUM CAUSEWAYS

119

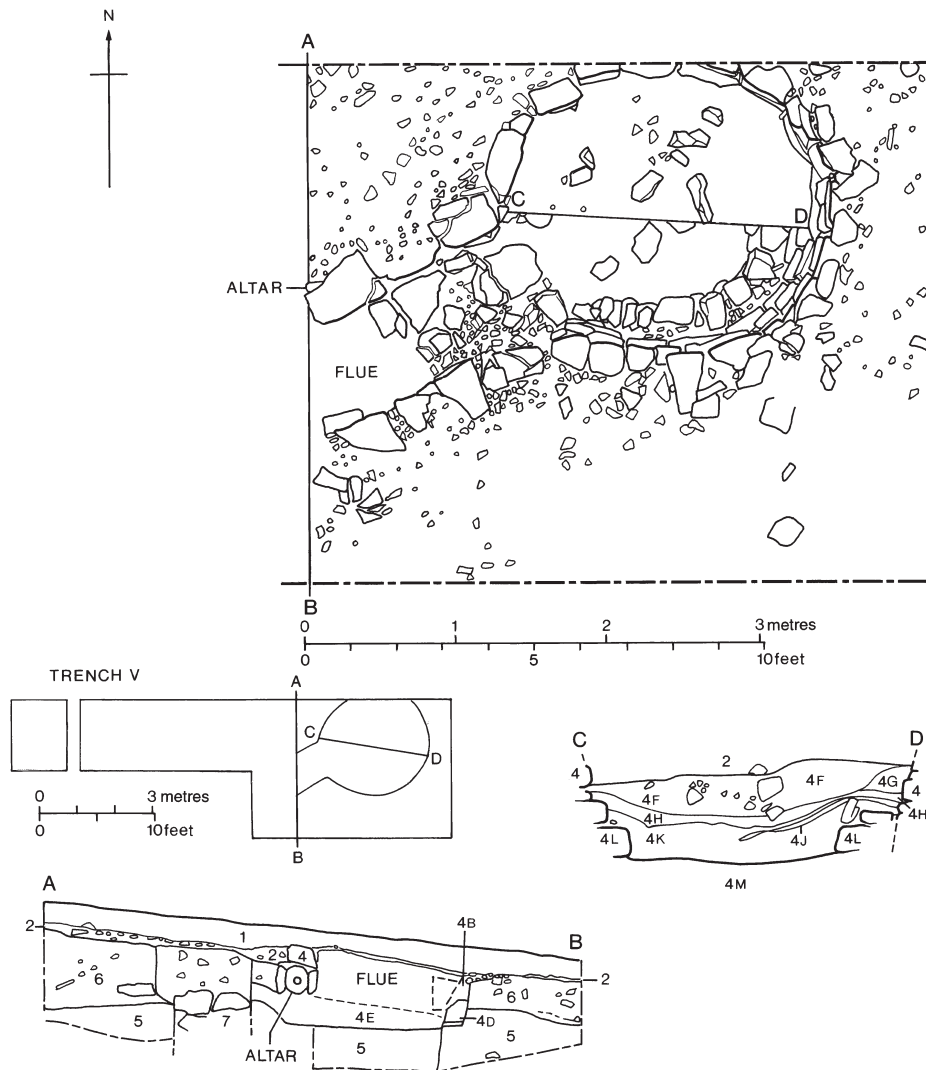


Fig. 17 MC 42. Plan and section of the kiln set into the north mound of the Vallum. (1:50)

KEY

- | | |
|--|--------------------------------------|
| 1. top soil | G. red lining (interior of kiln) |
| 2. stones and soil | H. orange band (interior of kiln) |
| 3. [does not appear in this section] | J. thin grey band (interior of kiln) |
| 4. kiln | K. thick charcoal |
| A. demolition layer | L. interior wall |
| B. grey layer (flue) | M. kiln bottom |
| D. charcoal (flue and kiln) | 5. subsoil |
| E. grey gravel | 6. mound (greyish gravel) |
| F. greyish brown soil and stone (interior of kiln) | 7. black soil and stones |



Fig. 18 MC 42. The kiln: the *focus* of the altar is visible to the left of the flue.

nally continuous (Trench II) but several breaks in it were created more recently. The north mound proved to be too disturbed for there to be any certainty about an original gap. No recognisable kerbing of either mound was found here in spite of excellent kerbing further to the west, as found by Simpson. In Trench I evidence for an original causeway across the ditch was sought but the southern half of the ditch was found to be of normal profile for a distance of 4.57 m (15 ft) beneath the secondary causeway. There was no original causeway here. In Trench IV, where the Vallum had continued to the west of the secondary causeway, the south ditch-slope was very similar in profile to that in Trench I.

Phase 1Bi All sections of the southern half of the ditch showed deposits of peaty silt and gravels accumulated along the flat-bottom and south side of the ditch, clearly the result of wash and weathering. No small finds were gleaned to provide dating evidence.

Phase 1Bii At some stage before Phase 2 the south mound, for a space of 4.88 m (16 ft), east-west, was reduced in height, but never gapped completely. This may be the result of the crossings system which systematically slighted the Vallum mounds to indicate that it was no longer a barrier, probably *c.* 138–40.

Phase 2A A wide, secondary causeway was deposited in the Vallum ditch clearly visible on the ground. In Trench I this was composed of various soils, peat blocks, gravelly silts, cobbles and stones thrown haphazardly into the ditch to bring the causeway close to the top of the ditch. Over this fill a substantial layer of metalling was laid, continuing over the south berm and into the depressed crossing area of the south mound (Trench II) but then petered out. The metallated surface of the causeway was confirmed by Trenches III, VII and VIII. The north

mound area (Trench V) had suffered too much later disturbance for any clarity, but there are two gaps in the north mound, even if signs of metalling are lacking. The ditch west of the causeway (Trench IV) also received a partial but deliberate filling, but not the upper filling layers of Trench I.

Phase 2B/C Trench IV was beyond the limits of the secondary causeway. However, a secondary phase was represented by a marginal mound which recommenced to the west of the causeway after terminating on the east side of it. The marginal mound rested on a layer of small stones close to the south lip of the ditch, and was composed of clay or brown, sandy soil and not of silt cleared out of the ditch. But a further phase was represented by such a silt layer overlying both edges of the mound. The northern layer included an East Gaulish samian sherd giving a *terminus post quem* of the late second-early third century for this deposit.

Phase 3 No further structural changes were found in Trenches I, III, VII and VIII with only topsoil and turf accumulating over the metalling of Phase 2. Three post-Roman features were present in Trench II. In Trench IV the Vallum ditch exhibited a gradual, natural filling, including a few fragments of wood and leather to attain the profile still visible today. In Trench V a kiln, built of Roman stones was set into the north mound, heavily disturbing earlier features and dating probably to the medieval or even later period. It did produce two interesting finds, the *focus* of a small Roman altar and a fragmentary inscription thought to be a Vallum stone marking a length of the north mound when originally constructed (fig. 19).



Fig. 19 MC 42. The inscription.

INSCRIPTION

Building stone measuring 325 x 200 by 60 mm (13 x 8 by 2½ ins) with part of the left margin broken-off and about half of the inscribed face flaked away (fig. 19). It reads: >[...]*SAC* |[.....]*SIS*. The stone was found lying on the demolition layer of the post-Roman kiln set into the north mound of the Vallum. Its reference number is *JRS* 50 (1960) 237, no. 10.

The slab is thin, like other inscriptions associated with the Vallum (Richmond and Birley 1937). It probably marked a length of original construction of the mound, presumably the north mound, just as centurial stones were set up on Hadrian's Wall itself, and may therefore have recorded the name of the builders of this section. The ending in ...*SIS* is unusual and may suggest an adjective implying ethnic or geographical origin. The Vallum stones may have been removed systematically when the Vallum was no longer a barrier, probably when Hadrian's Wall was replaced by the Antonine Wall.

SAMIAN POTTERY

Grace Simpson

Fragment of Dragendorff 31 from the build-up of the marginal mound. It is orange-coloured and looks like East Gaulish (*i.e.* Rheinzabern) ware and dates to the late second-early third century. A second adjoining fragment was found in the back-filling of the trench.

SOIL SAMPLES FROM THE VALLUM CAUSEWAY

G. J. Wainwright

Five samples of soils from the Vallum causeway were examined. The soils were examined for colour, PH (absolute acidity or alkalinity) content of organic matter and presence of charcoal and mineral content. The experimental results are shown in Table 1.

Table 1 Soil samples from the Vallum causeway.

Trench	sample number	description	colour*	PH	organic matter	charcoal	acid insoluble residue
I	14	brown sandy gravel	2.5 Y 5/2	4.51	6.9 mg/100 grams	+	quartz, shale, flint
I	16	coarse grey silt	2.5 Y 6/2	2.93	1.9	+	quartz, flint
II	4	'brown sandy soil' from south mound	10 YR 7/4	4.86	1.8	+	silica, quartz, shale, flint
IV	15	brown sandy soil marginal mound	10 YR 7/4	4.78	4.5	+	"
IV	17	greyish loam (silt)	10 YR 6/3	4.57	5.7	+	"

* The formula accurately describes the colour and is obtained by comparison with the Munsell Soil-Colour Chart.

The proportion of charcoal in 14 and 16 was far higher than in the other three samples, which is rather surprising in the case of 14 which is termed subsoil. This fact, together with the relatively high proportion of humus would seem to suggest that the sample received was not a fair one. That supposition is substantiated by the figures for sample 16 which are in accordance with what one would expect for a rapid silting of a steep sided ditch. The similarity of the figures for layer 4, in particular the humus content, suggests that the material was derived from the ditch and this is further substantiation of the view that 14 is not a fair sample. Examination of the acid insoluble residue from sample 15 indicates that it is of the same material as the south mound upcast (4) and is unlikely to be silt derived from the ditch. On the other hand, layer 17 which forms part of the make up of the marginal mound is clearly silt cleaned out of the ditch. The increase in humic content is compatible with the organic remains of heather and bracken blowing into the ditch before the silt was removed. Indeed, the acidity of the samples, revealed by the PH value indicates a moorland vegetation of bracken, heather and scrub.

SAMPLE FROM KILN

R. F. Tylecote

The x-ray powder pattern of this sample shows lines characteristic of α -quartz, together with those reported for $\text{Al}_2\text{O}_3\cdot\text{SiO}_2$. The material would appear therefore to contain, very approximately, 70% silica and 30% Al_2O_3 . No patterns characteristic to any other materials were detected, but I would hesitate to assert that none are present. This seems to me to show that it is a siliceous fireclay; it is certainly non-metallurgical in composition.

CONCLUSIONS

THE CAUSEWAYS

At none of the three milecastles investigated was an original causeway found, though the nature of the evidence varied (see Table 2).

MC 30 (Limestone Corner)

The excavation demonstrated that the causeway was secondary, and was formed of boulders, stones and soil, some from the berm as the reduction in level to each side of the causeway implies. It seems unlikely that an original causeway of solid rock had been removed to be later replaced.

MC 23 (Stanley Plantation)

The causeway is secondary. No earlier causeway was discovered, up to a depth of 1 m (3 ft) below Roman ground surface. An original gap was discovered in the north mound, 2.44 m (8 ft) wide, with the sides apparently revetted in turf; it was later filled in. The visible causeway is formed of silty material with large stones. Although the origin of this material is not known, some fill presumably came from the south berm which had been reduced in height close to the causeway.

MC 42 (Cawfields)

The Vallum was bottomed at the south-west sector of the causeway. The ditch at this point contained some silt. This had eroded from the south edge of the ditch which consequently lay

Table 2 Causeways at milecastles.

	original causeway	gap in south mound	gap in north mound	secondary causeway	metalling on south berm
MC 50 TW	indicated by culvert	x	✓	✓	✓
MC 51	suggested by ditch profile	x	✓	✓	✓
MC 42	no causeway	x	?	✓	x*
MC 30	not known	x		✓	
MC 23	not known	x	✓	✓	x

*metalling laid down in Phase 2 in causeway area

a little further south than when originally cut. The fill of the secondary causeway included soil and peat blocks and was provided with a metalled surface. The soil had not been removed from the south berm to help create the causeway.

THE MOUNDS

MC 23 (Stanley Plantation)

The south edge of the north mound was provided with a stone kerb, extending for 13.4 m (44 ft) and spanning the causeway area, but recurring further to the west; at one point it survived up to 2 courses high. Two trenches across the mound showed stone kerbing on the north side too. At one point further to the west the stone edging had been placed on top of yellow upcast, and at another it clearly replaced a turf-kerb. Where the original but small gap existed this was blocked not only by mound upcast but to the north and south by secondary stone edging. The north edge of the south mound had stone kerbing for 12.5 m (41 ft) and was therefore similar in extent to that on the north mound. The kerbing on the south side of the south mound remained as turf.

MC 42 (Cawfields)

The north mound had been severely denuded in the causeway area. The south mound was originally continuous and later lowered but not gapped. The marginal mound was placed on an old turf level. It was not formed of silt but of material from the ditch and rested on a stoney layer. A second dump of material on each edge of the marginal mound was of silt. That close to the south lip of the ditch contained a sherd of East Gaulish samian ware dating to the late second–early third century.

THE BERM

No road metalling was found on either berm at MC 23. South of MC 42 metalling of the south berm extended just over the depression in the south mound but no further to the south.

GENERAL CONCLUSIONS

No original causeways across the Vallum ditch south of the three milecastles were found where they were sought. At MC 23, as at MC 50 TW, a gap was found in the north mound south of the milecastle. No primary metalling was found on either berm at any of the three milecastles. This evidence casts doubt on early interpretation of the operation of the Vallum, that travellers could enter the Vallum complex at a fort, proceed along the south berm, cross the ditch at a milecastle and pass through a gap in the north mound to a milecastle. Perhaps, we can now interpret the evidence as suggesting that travellers would cross the Vallum ditch at the causeway opposite a fort and pass along the north berm to a gap in the north mound opposite a milecastle. It is, however, worth noting that metalling on the north berm has only been found in two locations and has not been specifically sought. In some ways, the north mound offers a better walk-way than the north berm and was, of course, later used in places for the Military Way. Further, a track has now been found between the Wall and the Vallum at Denton (Bidwell and Watson 1996, 33–5), while E. Birley drew attention to earlier references to a lesser Military Way (Birley 1961, 114–6). Perhaps travellers moved along such a track rather than the Vallum itself and the gap in the north mound only served to provide access to the Vallum complex for the soldiers based at milecastles.

In default of any actual dating evidence, two possible contexts might be suggested for the visible, secondary causeways. Firstly, they may be associated with the slighting of the Vallum presumed to have taken place when Hadrian's Wall was abandoned in favour of the Antonine Wall. Alternatively, they may belong to a later phase in the Vallum's history, as when a return was made to Hadrian's Wall in the late 150s or early 160s. The secondary causeways could allow access to the milecastles directly from the south. However, this was not the case at either MC 23 or MC 42 where the south mound was never fully gapped, but only depressed, as in the crossings system.

The marginal mound belongs to a positive phase in the Vallum's history, including a reuse of the earthwork. At neither MC 23 nor MC 42 does it block the secondary causeway but appears to respect its presence. This is clear, generally, from surface observations but has not been specifically looked for or checked. At MC 42 the marginal mound was of the same composition as the south mound, but overlay a stoney layer. A later dump of silt on the north edge of the marginal mound contained a fragment of samian of late second-early third century date, indicating that the Vallum continued in use to at least that date.

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ARCHIVE

The finds, manuscripts and illustrations from the excavations are in the Museum of Antiquities, University of Newcastle; copies of the drawings have been placed in H. M. Record, English Heritage, Swindon.

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