

GREY DITCH, BRADWELL, DERBYSHIRE

1992 EXCAVATION

Preliminary Report

Grey Ditch is a singular monument in the context of the Peak District. Stated simply, it is a linear earthwork, comprising a single bank with a ditch along the northern side, which crosses the broad valley of the Bradwell Brook, north of the village of Bradwell at a point well downstream of where the brook issues from a gorge, Bradwell Dale, in the northern limestone escarpment of the White Peak plateau. In reality, however, the earthwork is more complex, for it runs intermittently from Rebellion Knoll on Bradwell Edge at the east (SK183812) to beyond Mich Low (168818) at the west, a distance of around 1600m measured straight, over which it survives in four separate straight stretches totalling at least 900m (fig 1). On

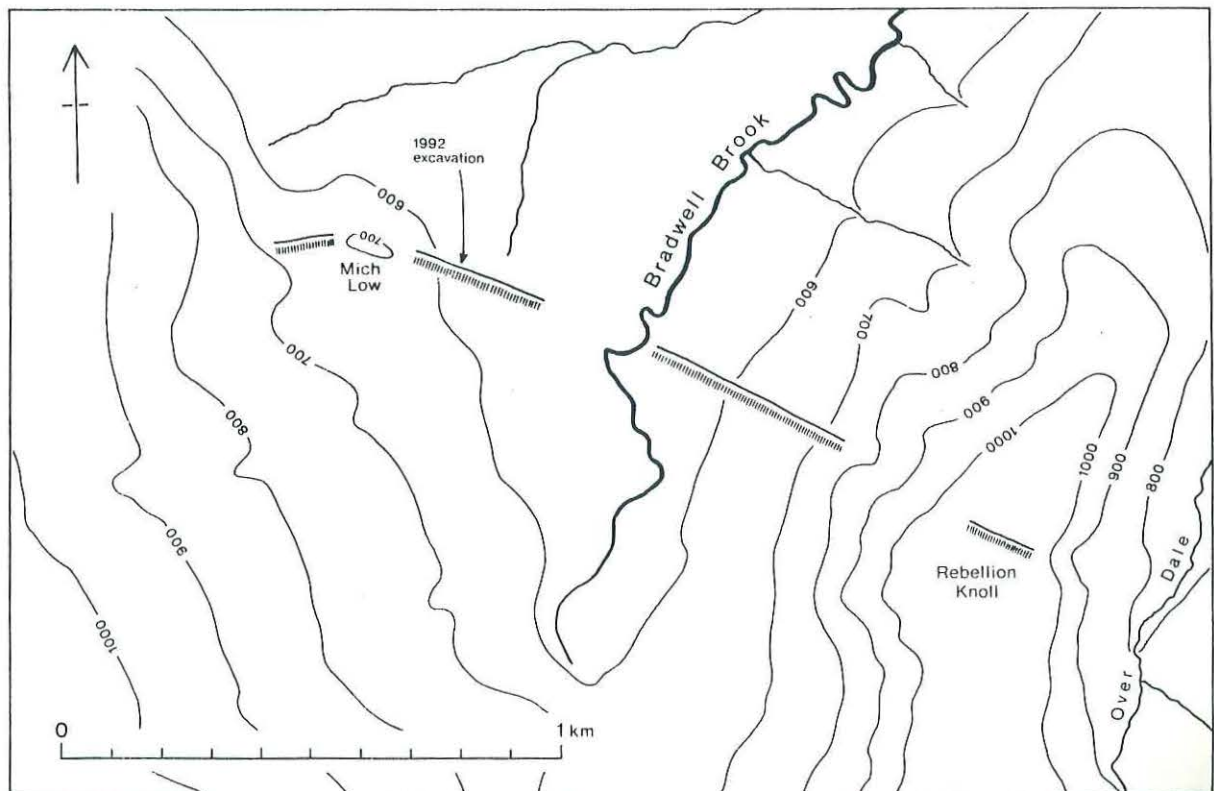


Fig 1 : Sketch-map of the four stretches of the Grey Ditch earthwork, with contours at 100' intervals and streams. Scale 1:15000.

Rebellion Knoll, Grey Ditch straddles a ridge of gritstone and shales at 340m (1115') OD - here the earthwork is a cross-ridge dyke, ending where the ground falls steeply to either side, into the blind valley of Over Dale on the east, down towards Bradwell Brook on the west. It resumes on a slightly different alignment to the west, but only where the gradient lessens across drift deposits, running from about 230m (750') OD down to the flood-plain of the brook, below 180m (590'). The third length lies to the west of Bradwell Brook, crossing relatively level land, where shales are again smothered by drift, until it encounters Mich Low, a rocky outlier of the limestone scarp rising to 215m (705') OD. These second and third stretches are closely aligned and, though now some 250m apart, may once have run through unbroken except by the brook (and perhaps by Batham Gate, see below) - together they form a cross-valley dyke. A saddle separates the west side of Mich Low from the main line of the scarp, and this is crossed by the fourth, or western, stretch of the earthwork, following a markedly different alignment, as demanded by the topography.

The complex of earthworks which together comprise Grey Ditch was evidently laid out to take advantage of natural eminences and scarps in an effort to command all approaches from the Hope Valley, which lies to the north, into the high ground of the plateau to the south. Thus, it stands just to the north of the summit of Rebellion Knoll, controlling the ridge-way which rises steadily from the north towards it. The two middle stretches cover the approach along the floor of the valley. The western stretch is well placed on the northern edge of the saddle to prevent access via that relatively weak point in the north-facing escarpment. Although there have been antiquarian suggestions that further stretches of the earthwork may have continued its line westwards along the southern flank of the Hope Valley as far as Mam Tor, it may seem that the natural strength of the scarp would have made this unnecessary (except perhaps adjacent to Mam Tor itself) if we presume that Grey Ditch was constructed to secure the White Peak against vehicular, rather than foot, traffic, as would certainly seem to be implied by the positions of the extant stretches. It may well be that one of the prime objectives was to bar Batham Gate, the Roman road which ran south-west out of *Navio* fort (only 1250m distant) and whose line takes it between the two middle stretches of the earthwork, to the west of Bradwell Brook. Such considerations, together with the general character of the earthwork, have led to the supposition that Grey Ditch was built as a frontier-work at some point in the 5th-7th centuries AD, in response to the political instability which followed the Roman withdrawal from Britain. This case was first argued with any conviction when Bryan O'Neil published what remains, after nearly half a century, the fullest account of Grey Ditch (see *Antiquity*, vol 19 [1945], pages 11-19), and has gone unchallenged in all but details since then.

During 1992, a pipeline to carry water some 30km across the White Peak from Bamford to Buxton has been constructed by Severn Trent Water (STW). Archaeological work along the route of this pipeline was funded entirely by STW and was carried out on their behalf by the Trent & Peak Archaeological Trust (T&PAT). Such work was focussed upon those locations for which some particular archaeological potential could be identified before the event, Grey Ditch being one of the most obvious of these, for the pipeline had to gain access to the plateau via Bradwell and a cutting through the earthwork was unavoidable. This cutting was made to the west of Batham Gate (which

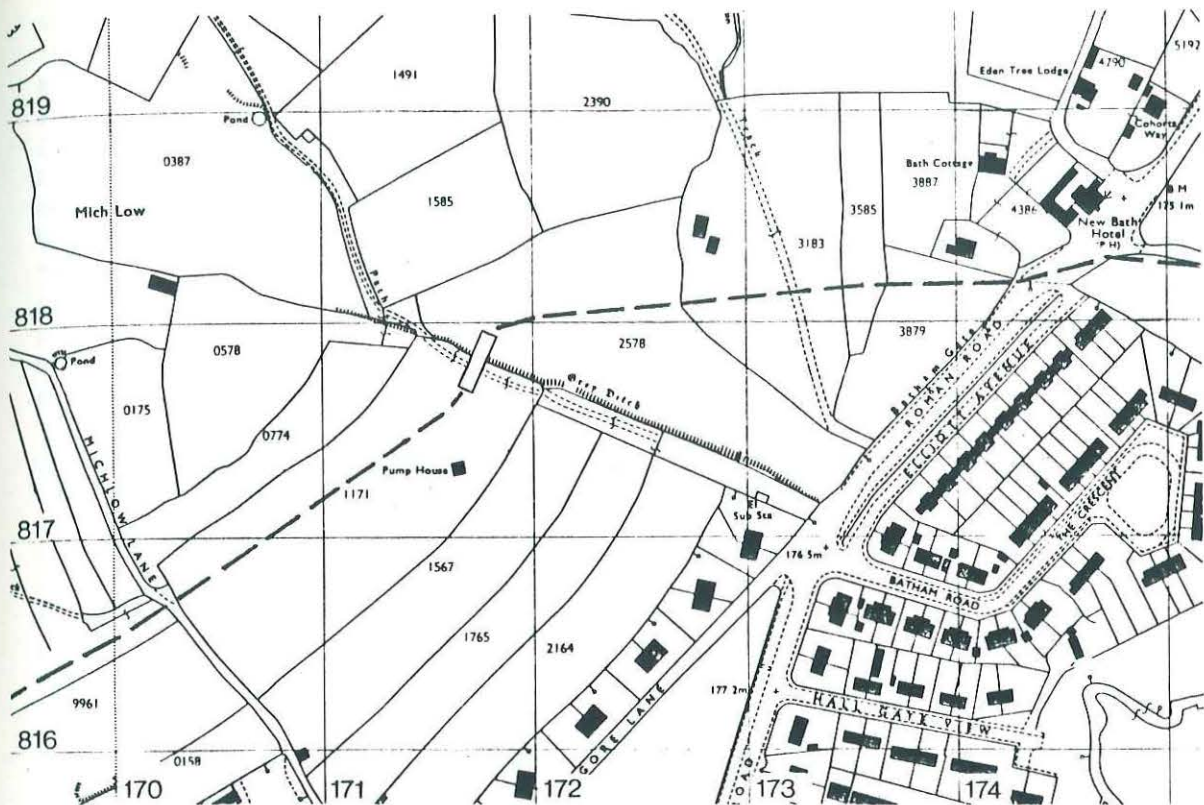


Fig 2 : Location of the 1992 excavation (outlined) across Grey Ditch and the route of the pipeline (dashed) to either side of the earthwork. Scale 1:3570.

here coincides with the modern B6049), close to the foot of Mich Low, at SK17178178, where the bank underlies the hedged boundary between fields numbered 2578 and 1171 on the Ordnance-Survey 1:2500 map (fig 2). The whole of Grey Ditch enjoys legal protection as a Scheduled Ancient Monument, and it was necessary for STW to obtain consent from the Department of the Environment for the prior archaeological excavation of the 7.5m length of the earthwork which they needed to remove for the pipeline-works. The excavation (as conceived by Graeme Guilbert and supervised on site by Christopher Taylor and Giles Woodhouse) was designed essentially to demonstrate the structural form and sequence of construction of the earthwork and to search for stratified evidence relating to its date of origin. It was also appreciated that there might be soils buried beneath the bank that could produce evidence of earlier land-use and/or environment, such as might be preserved in the form of pollen, snail-shells, soil-structure, etc, depending upon soil-conditions (though, in the event, no such environmental evidence was forthcoming).

Excavation was preceded by spot-height/contour survey of the relevant area of the earthwork, in order to compile a detailed record of the surviving form of the part which was soon to be destroyed and which would be reinstated upon completion of the pipeline-works. In a less detailed form,

the survey was extended westwards to Mich Low and eastwards to Batham Gate so as to illustrate the topographical setting of the excavated portion of the earthwork. This stretch of Grey Ditch stands at the foot of gently-sloping land to the east of Mich Low, close to the junction of limestone and shales, where a mantle of drift gives relatively tractable agricultural land. Hence the narrow and sinuous strips marked by walls and lynchets to the south of the earthwork (fig 2) can be taken as good evidence of cultivation during the medieval period, by which time the bank appears to have served as no more than a land-boundary and a headland for the plough-teams. This accounts for the present superficial profile, in which the rear (ie southern) slope of the bank appears to be masked by a build-up of ploughsoil and/or hillwash (as was confirmed by excavation - see below), while the front drops steeply and unencumbered into the ditch, which itself now appears as no more than a shallow trough hereabouts (as illustrated in the surface-profile of fig 3). To the north of the ditch, distinct traces of ridge-and-furrow cultivation, presumed medieval, run parallel to the earthwork, but are not strongly developed.

The excavation measured 30m (SW-NE) by 7.5m (NW-SE). It began with machine-stripping of the turf and humus, together with the underlying 0.6m thickness of hillwash/ploughsoil, from an area extending 14m behind the crest of the bank. This revealed the rear slope of the bank and, behind it, what subsequently proved to be a pre-bank ploughsoil. Excavation extended 6m or so beyond (ie to north of) the ditch, sufficient to demonstrate that the ploughsoil of a medieval ridge there rested directly upon the drift (itself probably 'head'). Subsequently, the bank was excavated in a series of horizontal spits in an endeavour to reveal details of its manner of construction, while the ditch was excavated in a series of vertical cuttings in order to establish the uniformity, or otherwise, of its sequence of infilling.

The ditch was found to have been recut on several occasions, the stratification identified in the vertical sections appearing to show at least five episodes of ditch-digging (fig 3). The first of these was cut 2.2m deep through undisturbed deposits of drift, penetrating the underlying shale bedrock in places, and was perhaps as much as 2.6m deep below the pre-earthwork ground-level. Its width remains unknown since only the bottom 0.2m survived the digging of its broader successor. The latter had an even V-profile, probably as much as 6m or more wide at the mouth originally. This had largely filled with material weathered in from the sides before a narrower, steeper-sided ditch was cut centrally within it, again penetrating well over 2m below the ground-surface outside the ditch. This filled slowly with fine-grained sediments, and a marked bench in the profile of the area filled with this material appeared to betray the existence of a further, shallower recut, though this was otherwise indistinguishable stratigraphically. Finally, an even shallower, off-centre recut was marked by a change in the nature of the fill. This sequence would seem to suggest a considerable period of use for this earthwork, though there can be no certainty that its function remained the same throughout (see below). Moreover, our five episodes of ditch-cutting must be regarded as a minimum number since others could easily have been removed entirely by those for which evidence has survived. Indeed, excavation of the bank has gone some way to demonstrate that the earliest phases of ditch-digging are not represented in the sequence outlined above.

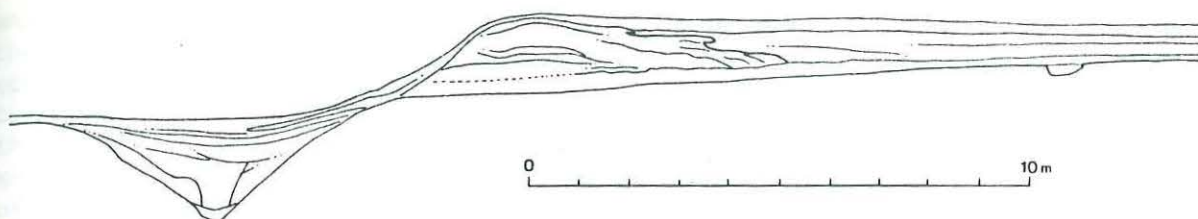


Fig 3 : Outline section of Grey Ditch, as recorded in the 1992 excavation. Scale 1:150.

Much of the bank comprised tips and dumps of orange/brown sandy clay apparently lacking in any structural complexity, and there was no evidence for any form of revetment at front or back (fig 3). It stood up to 1.2m above the surface upon which it was built, and survived up to 8.4m wide at the base. Its long, gently-sloping (c.10°) tail to the rear was apparently little eroded except where bitten into sporadically by the medieval plough. Its steeper (c.30°) front face ran through unbroken into the scarp of the broadest ditch (ie the second in the sequence outlined above) and appeared to have been somewhat truncated by erosion. The crest of the bank, and in places much of the rear slope, was capped with chert and limestone chippings, perhaps gathered from some nearby scree to produce a relatively erosion-resistant metalling, and perhaps put there at much the same time as the underlying bank if we are to judge from the lack of evidence for soil-development at their interface, tenuous as such evidence may be. If this were so, it may reasonably be deduced that the bank never stood much taller here than as excavated.

The lowest deposit of bank-material comprised a homogeneous grey/brown silty clay which, were it not for a patchy mottling with orange clay, would have been barely distinguishable from the underlying ploughsoil (as described below). It formed a discrete pile up to 4.7m wide but no more than 0.3m high. Given this meagre size, and since there was again no apparent soil-development at the surface of this earthen core, it seems best to regard it as the first dump in a bank of single-period construction rather than as a separate entity. It could even have constituted a preliminary 'marker' bank, produced rapidly by digging into the soft topsoil and intended merely to lay out the line of the intended larger earthwork; (it will be termed 'marker-bank' for ease of reference below).

The little ditch that provided the material for the marker-bank was doubtless enlarged in the secondary stage of the initial building of this earthwork, but we may doubt that even the initial enlarged ditch survived the series of recuts described above. This is suggested by the relatively stone-free nature of much of the bank make-up (bar the capping of course) as compared with the lower layers of the drift into which the lower part of the fully-developed ditch was dug. The upper half, or thereabouts, of the 1.6-2.2m thickness of drift exposed in the sides of the excavated length of ditch comprised relatively stone-free, sandy-clay head, much like the bulk

of the bank, whereas the lower half included bands of more stony head, the like of which was not incorporated in the excavated length of bank in anything approaching the same density. In other words, it seems likely that the ditch which accompanied this bank was cut largely into only the upper part of the head and that, being shallower, it was entirely dug away by the ditches recorded in the excavation. Some measure of support for this argument comes from a comparison of the relative volumes of the bank and ditch as excavated, for the bank totals little more than half the size of the largest ditch. Obviously there are various factors to be taken into account in attempting any such comparison, but these can add weight to either side of the equation - thus it might be argued that some part of the bank may have eroded back into the ditch (though perhaps not a great deal if the comments in the previous paragraph have any validity), whereas it might equally well be noted that material upcast from the ditch will have expanded and should therefore produce a bank of greater volume.

Such reasoning inevitably produces a problem of explaining what became of the upcast from the five recorded ditch-cuts, and, special pleading as it may seem, it can only be assumed that some part of it was carted away from the site. On the other hand, the three latest recuts were each dug entirely within the earlier fills of the ditch, and the relatively stone-free material from these might easily have been cast up over the counterscarp where subsequent ploughing could have dispersed it. However, the find of a sizable sherd of 18th/19th-century pottery at some depth in the penultimate recut must militate against even this possibility, since the supposedly medieval ridge-and-furrow survived here and had suffered only transitory ploughing subsequently. Excavation of the ditch yielded no other helpfully-stratified artefacts.

In summary, it appears that the several recorded deposits making up the bank can reasonably be interpreted as elements of a single episode of construction, whereas this is patently not true of the ditch. Consequently, it may seem that it was the ditch which was regarded as the essential feature, and that there was no compulsion to enlarge the bank each time the ditch was renewed - quite in keeping with the name of the monument. That said, the possibility must be admitted in the case of the later and less voluminous recuts that the original object of building the earthwork had long been superceded, that renewal of the ditch alone might have been all that was deemed necessary for what may by then have become no more than agricultural purposes.

There is good evidence that the bank was built across agricultural land, for it sat directly upon the corrugated surface of a recently-ploughed field. This surface was the top of a uniform layer of stone-free grey/brown silty clay averaging 0.3m in thickness where best preserved beneath the bank. It is confidently interpreted as a ploughsoil, and the surface of an orange/brown but otherwise similar deposit stratified beneath it had been scored by the plough in several directions, most strongly on just the same south-west/north-east alignment as the corrugations at its surface (as indicated in fig 5). In fact, these grey and orange clays were probably originally one and the same deposit, the upper part of which had been disrupted by the plough, introducing humic material and thus altering its colour. This ploughsoil survived over the full 17m from the southern lip of the ditch to the southern limit of excavation, having been protected

from subsequent erosion by the bank over the northern half of this area and by the build-up of hillwash/ploughsoil over the southern half. To the north of the ditch, the medieval ploughing will have been erosive rather than protective of earlier deposits, and it is therefore impossible to know whether the pre-bank ploughsoil originally spread across that area too, though there is no particular reason to think that it did not do so.

The pre-bank ploughsoil contained potsherds which lend some archaeological credibility to the received interpretation of Grey Ditch as a post-Roman barrier - namely, nine pieces of certain and probable Romano-British pottery, including several sherds of Derbyshire Ware, the manufacture of which cannot be dated any more closely than the mid-2nd to 4th centuries AD (fig 4). It should be borne in mind that their stratification within the ploughsoil sealed by the bank allows these sherds to give nothing more precise than an earliest possible date for the construction of Grey Ditch. They could as easily have been introduced by the ploughing from a freshly-broken surface-scatter as from a residual one, and they cannot rule out a construction-date in the late-2nd, 3rd or 4th centuries, nor a much later one.

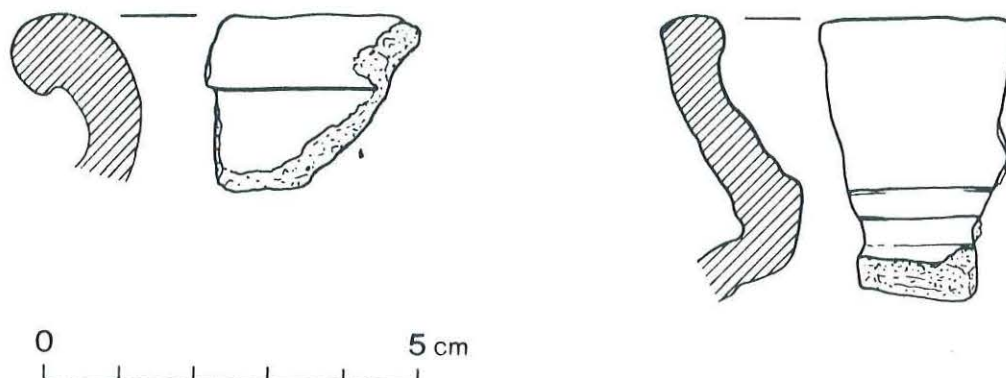


Fig 4 : Two sherds of Romano-British Derbyshire Ware from the 1992 excavation of Grey Ditch, that on the left found in the build-up of hillwash/ploughsoil overriding the tail of the bank, that on the right found in an earlier ploughsoil underlying the bank. Scale 1:1. Drawn by Kate Fearn.

Yet some point in the mid-1st millennium AD must remain favourite for the origin of Grey Ditch. Some of its most obvious analogues lie in the Welsh Marches, where a variety of cross-ridge and cross-valley dykes are thought to have been built to safeguard vulnerable points in the western boundary of Mercia, the piecemeal predecessors of the 8th-century Offa's Dyke, constructed in terrain that is not dissimilar to this part of the Peak District. It is not inconceivable that comparable circumstances gave rise to Grey Ditch, which may even mark part of the contemporary northern frontier of the same early-medieval kingdom. Moreover, the repeated revamping of the ditch surely implies that this earthwork formed a boundary which was not only of great significance but also of considerable

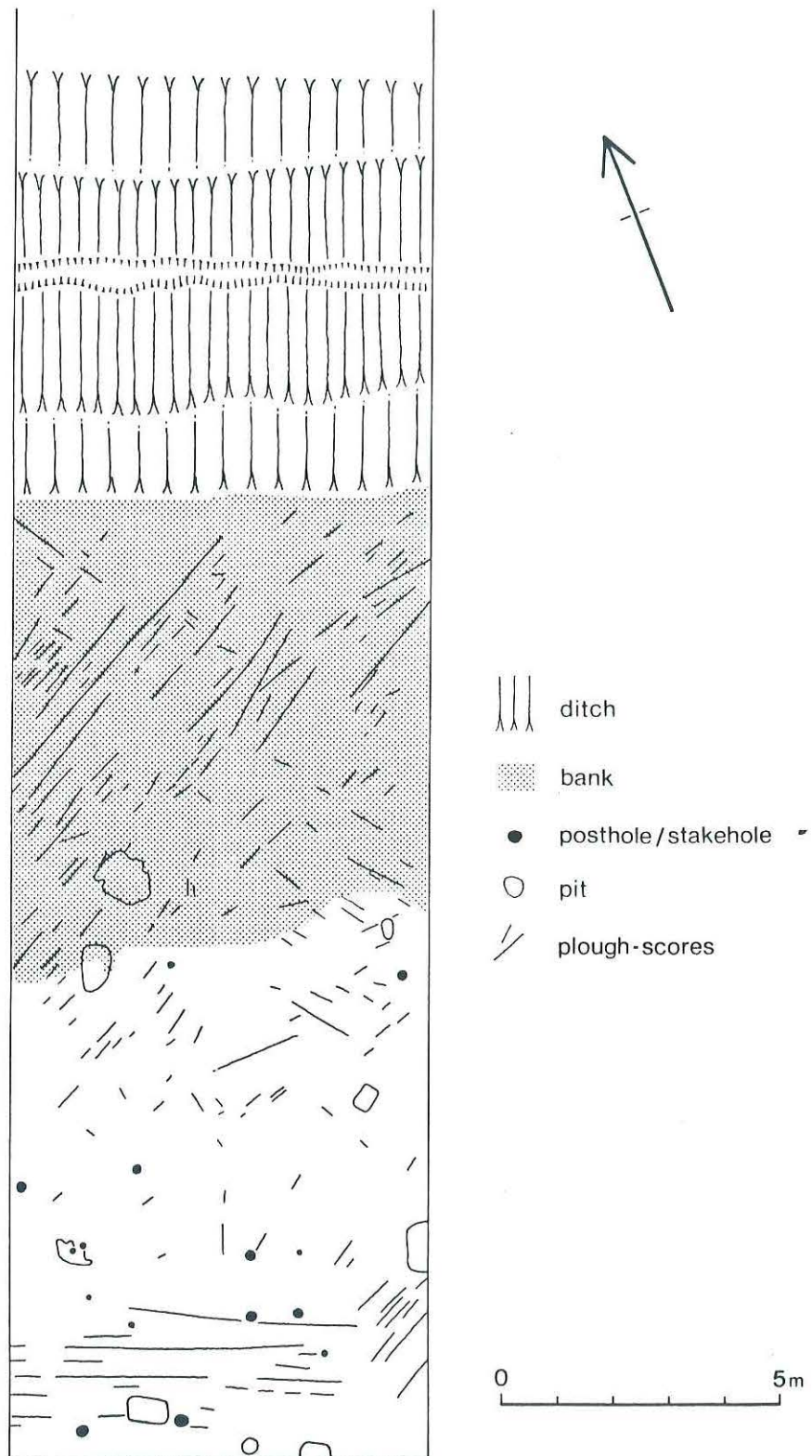


Fig 5 : Outline plan of 1992 excavation across Grey Ditch, showing the ditch (as fully excavated), the maximum extent of the bank, and pre-bank features. Scale 1:125.

longevity. If so, we may perhaps also infer that the political situation which necessitated its construction here, whatever that may have been, persisted for an equally lengthy period.

In addition to those found in the pre-bank ploughsoil, eight other Romano-British potsherds came from later layers. Although found in residual contexts, two small pieces among these are of some interest because they derive from vesicular and grog/sand-tempered vessels which could as easily belong in the late Iron Age (ie the 1st century BC to mid-1st AD) as in the early part of the Romano-British period (ie late-1st AD). (The Romano-British pottery has been identified by Ruth Leary.)

The story of the 1992 excavation does not end with the Romano-British pottery, for the marker-bank, the pre-bank ploughsoil, and the orange clay beneath it were more plentiful in artefacts relating to pre-Roman activities, much earlier than the earthwork. The origin of the orange clay remains something of a puzzle. The fact that it filled undulations in the surface of the head before there was time for any soil-cover to develop suggests that it was deposited early in the post-glacial period. The presence within it of artefacts manufactured 8000 years or so later need not be a deterrent to this view, for it is well-known that the activities of earthworms and other fauna are liable to transport such items downwards through such deposits - indeed, some artefacts were found embedded in the top of the head. At first sight, the orange clay seemed likely to be a hillwash, and yet it was consistently composed of finer particles than the later layers behind the bank, which must themselves have accumulated from a similar source upslope of the excavated site. Alternatively, it seemed possible to regard it as a wind-blown deposit (ie loess), but Matthew Canti (of the Ancient Monuments Laboratory) has commented that the lack of sorting of the silt-fraction runs counter to this interpretation.

Features cut into this orange clay and the head were scattered over the area beneath and behind the bank, all sealed by the pre-bank ploughsoil and doubtless truncated by it to an indeterminable amount (fig 5). These included seven shallow pits, several of oblong outline, and several containing pieces of worked flint and chert (see below). There were also fifteen postholes or stakeholes, most lying within the southernmost 6m of the excavation, where they included part of a roughly circular setting, perhaps the foundations of a prehistoric round-house (though there is no means of achieving a more specific dating for this interesting structure). As excavated, it comprised six small postholes on the circumference of a ring measuring a little under 5.0m in diameter, and it appears likely that the pattern should be completed by one or two others lying beyond the western limit of excavation. The spacing of the recorded postholes was not particularly regular, ranging from 1.75m to 2.55m centre-to-centre, with the exception of the closest pair, which were just 1.10m apart. The latter lay at the east, with a further pair positioned 0.85m beyond them, perhaps indicating the position of a doorway into the building, which may therefore have been as much as 6.6m in floor-diameter. Several stakeholes with blackened fills lay in the middle of the floor, suggestive of the former existence of a central hearth, any direct evidence for which had been erased by ploughing.

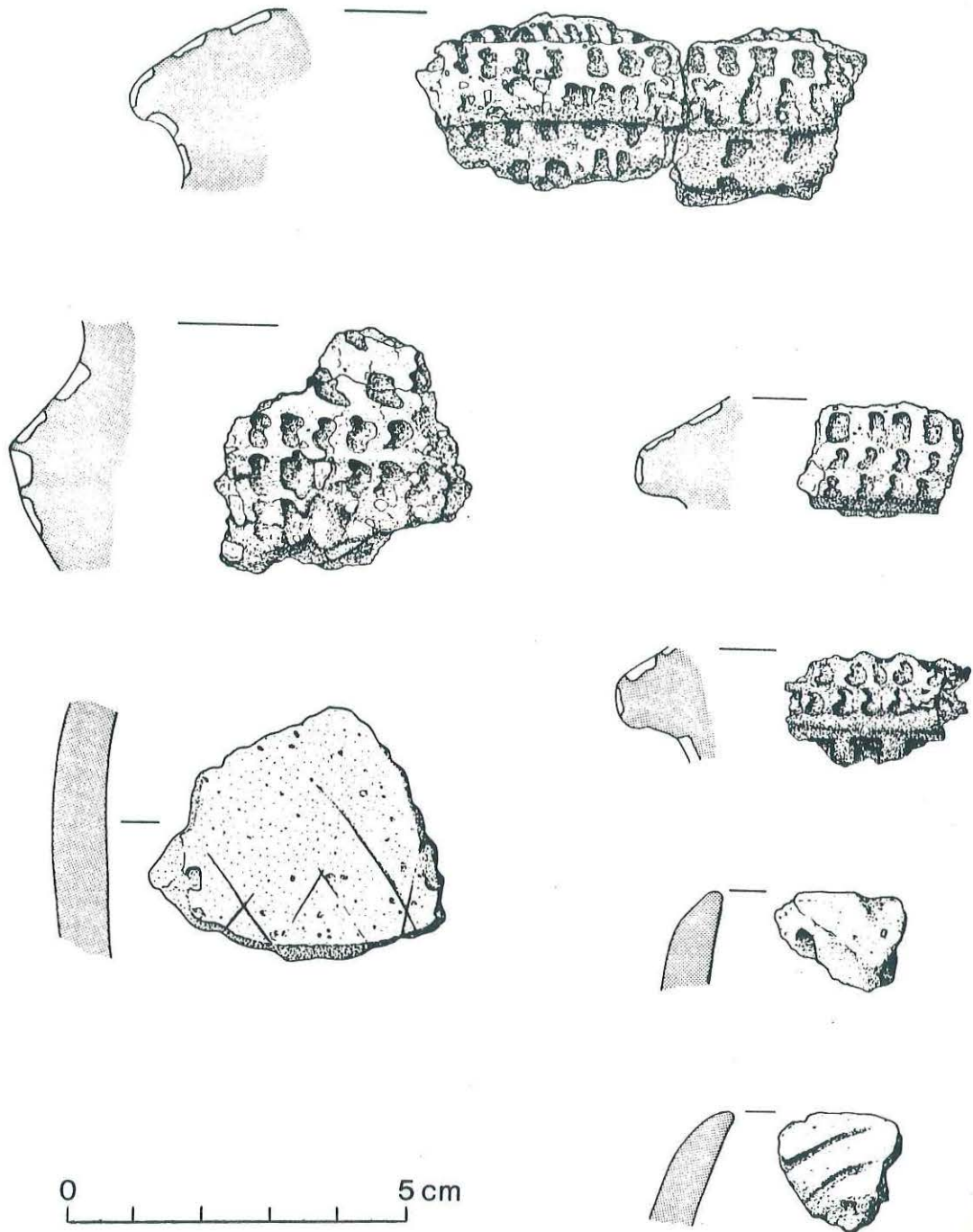


Fig 6 : Prehistoric pottery from the 1992 excavation of Grey Ditch, including pieces of heavily-decorated Peterborough pots and others of possible Grooved Ware, all found beneath the pre-bank ploughsoil. Scale 1:1. Drawn by Kate Fearn.

Numerous prehistoric artefacts came from the make-up of the marker-bank, from the pre-bank ploughsoil, and from the earlier orange clay and head (ie from all effectively pre-bank contexts). There is some pottery, including several sherds of decorated Peterborough Ware and a few that may derive from Grooved Wares, both attributable to the latest part of the Neolithic period, about 2500-2000 BC (fig 6). More common, however, are items made of flint and chert, including many retouched tools (131), cores (67) and core-rejuvenation flakes (36), the latter types indicating knapping on site. At least half of the material is chert, with a black, fossiliferous type predominating, and there must be a possibility that its geological source will prove to be identifiable. Many small blades indicate a strong Late-Mesolithic (ie about 7000-4000 BC) component in the assemblage, and this is confirmed by the presence of edge-retouched, scalene-triangle, rod, and quadrilateral microliths as well as microburins. Various pieces indicate Earlier-Mesolithic (ie about 9000-7000 BC) activity, most notably obliquely-blunted-point microliths. Some of the retouched pieces, especially disc-scrapers and flakes with shallow retouch, demonstrate that there is also a Later-Neolithic component, appropriate to the pottery mentioned above. (The worked flint and chert has been examined provisionally by Daryl Garton, and will be studied in more detail by her in due course.)

Detailed appraisal of the distributions of the various categories of prehistoric artefact must precede any inference about their possible relation to any of the similarly-stratified features described above. For the moment, it may merely be noted that the recovery of this prehistoric material, both Mesolithic and Neolithic, from a valley-floor site (rather than one on the adjacent hills, as is more often the case in the Peak District) is a valuable addition to knowledge of the region, and may serve as a reminder that such sheltered locations will have been attractive to prehistoric settlers. T&PAT are much indebted to STW for their ready appreciation of the value of these last-minute discoveries, expressed not least in the provision of extra funds when the need arose to continue the excavation, in pursuance of objectives which it had not been possible to anticipate at the outset.