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Summary

Archaeological excavations adjacent to the prehistoric triple linear ditch complex at Brauncewell Quarry exposed two phases of ditched enclosures, both of which respect, and probably therefore post-date, the construction of the triple ditches. Sat neatly within the earlier enclosure was a single-aisled, trapezoidal structure measuring 32-35m x 10-12m, composed of post-holes, pits and shallow slots, and with no signs of ever having been roofed. There is some evidence that the structure was deliberately dismantled, and though there is no real evidence as to its former function, the lack of domestic debris on the site, and the form of the structure, suggest it is more likely to have been for livestock control than for human occupation. The discovery of such a large, post-built animal enclosure is unusual, and parallels are few, both in Lincolnshire and across the rest of Britain during the Late Iron Age.

The excavations also recovered the ground plans of three smaller post-built structures, interpreted either as granaries (grain stores), or sheds for general storage, weaving or cooking. One of them lay within the east end of the main structure, so may have been contemporary, perhaps acting as a store for livestock-related equipment. The other two, together with the earlier of the two enclosures, and a Roman gully which cuts across the site, may represent a shift in land-use from animal control, to storage and/or an agricultural/pastoral field system.

This change in land-use, which also seems to coincide with the phase of Roman quarrying recorded during the 1994 investigations, may signify not only a new system of land organization, but also the replacement of an existing system (that represented by the triple ditch complex), with a new social, cultural and political authority.

Dating the enclosures, structures and other features is difficult. Surprisingly few artefacts were recovered, and most of these were fragments of pottery found in the modern topsoil. These sherds, however, together with the small amounts from individual archaeological features, do suggest a Late Iron Age to Early Roman date for most of the remains, the same as for the triple linear ditch complex to the west.

Introduction

In April 1997, Network Archaeology Ltd was commissioned by Lindsey Archaeological Services (LAS), on behalf of Brauncewell Quarries Ltd, to supervise archaeological excavations adjacent to the existing quarry at Brauncewell, Lincolnshire, prior to the eastward extension of the quarry workings. This phase of archaeological work follows a series of previous investigations of the prehistoric triple linear ditch complex and other associated remains which occupy much of the land intended for quarrying. The 1997 work largely comprised area excavation of the majority of *Area 2* (see below), but also included a Watching Brief over the remainder of *Area 2* and additional land to the south.

The fieldwork was undertaken in accordance with the planning conditions of Lincolnshire County Council. Copies of this report will be sent to the client, Lincolnshire SMR, Lincolnshire County Council, and the City and County Museum, Lincoln. The archive records and the artefacts (subject to the permission of the landowner) will be lodged with the City and County Museum.

Site Location, Topography and Geology

The site is situated around 0.5km west of the A15 Lincoln to Sleaford road, 20km south of Lincoln and 7km north of Sleaford (*Fig. 1*). It lies on the gently undulating land of the Lincoln Heath, on the south edge of a shallow south-west to north-east oriented dry valley, the land sloping down gently towards this valley from the site, before rising again at Church Row Plantation (*Fig. 2*).

The local geology consists of limestone brash and bedrock with pockets of sand, derived from the Middle Jurassic Lincolnshire Limestone. Heights range from around 34m to 41m O.D, with the site itself lying at around 35-36m.

During the excavation, although the weathered limestone surface varied considerably, three main divisions could be observed. In the north half of the site, the weathered bedrock consisted almost entirely of angular fragments of limestone within a fine, brownish-yellow gravel and sand matrix. Some of these stones, especially in the north-east corner of the site, were arranged in discrete swirls or contorted twists, with many turned on edge, suggesting peri-glacial activity.

Over much of the southern half of the site, a relatively stone-free sand was present, generally pale brown in colour but with bright yellow patches and frequent brown, red or orange mottling. These colour variations are presumed to reflect post-depositional oxidisation/reduction of iron compounds within the sand.

In the south-east corner of the site, distinct patches of horizontally bedded slabs of limestone within a sandy matrix were exposed.

In the east-central part of the site, the weathered limestone was much more fragmentary than elsewhere, and contained a fairly high proportion of brown, silty soil and fine rootlets. It may be that this particular area of limestone (*0280* - see Fig. 4) was, in the past, subject to some form of heavy disturbance, perhaps due to a period of concentrated human/animal activity.

Previous Archaeological Investigations

For details of earlier work on the site, one can refer to the series of reports produced by LAS over the past four years. The most recent of these: *Brauncewell Limestone Quarry, Proposals for Further Archaeological Recording* (Field 1996), summarizes the investigations carried out to date. Presented here is only a brief outline of previous work.

The triple linear ditch complex was first identified as a cropmark on aerial photographs in 1971, and then more clearly in 1992 (*Fig. 1*). In 1993, an archaeological desk-top study was carried out by LAS (Field 1993). This was followed by archaeological evaluation in 1994, consisting of fieldwalking by LAS and magnetometer survey by the Landscape Research Centre Ltd (Field 1994). This in turn led to a programme of limited excavation

later in 1994 (Tipper 1994), which revealed the ground plan of the prehistoric triple ditches, as well as an extensive complex of Late Iron Age to Mid Roman features comprising quarry pits, enclosures, burials, pits and postholes (*Fig. 2*). The most recent intrusive fieldwork prior to this season's excavation was in 1995, when a trench was machine-excavated through some of the quarry pits (*Fig. 2*) (Field 1996).

In September 1996, a programme of geophysical survey was carried out to the east and north of the existing quarry (Johnson 1996). This recovered the plan of part of the triple ditch complex, as well as evidence for enclosures, ditches, pits and a possible structure (*Fig. 3*). Parts of two of the enclosures, and the potential structure identified in geophysical survey *Area 2* were the main focus of the 1997 excavations.

Excavation Strategy

Geophysical survey *Area 2* consisted of three, 30m x 30m geophysical survey grids. The potential structure and parts of the two enclosures lay within the northernmost two of these grids (*Fig. 3*). An area measuring 60m x 30m was selected for detailed investigation. In addition, the remainder of *Area 2*, as well as the area to the south, was the subject of a Watching Brief during topsoil stripping (*Fig. 2*; and see below).

The site was first stripped of the majority of its ploughsoil with a bulldozer. Most of the remaining 0.05-0.10m was removed under archaeological supervision with a 360° tracked vehicle using a toothless ditching bucket (*Plate 1*). The lowermost 0.03-0.05m of ploughsoil was then hand-excavated with mattocks and shovels, and the whole of the underlying surface cleaned with trowel and brush (*Plates 2-3*). All excavated archaeological features were examined by hand, and recorded using LAS's standard recording system.

A site grid was established by inserting metal pegs at 10m intervals across the cleaned area; the origin for this (0mE/0mN) was placed just south and west of the south-west corner of excavation (*Plate 4*). A temporary bench-mark was set-up 5m north-east of the north-east corner of the site; its height was established as 35.97m OD by the surveyors recording features found during the Watching Brief. The whole area was planned at a scale of 1:50 (*Plate 5*).

Objectives

The main objectives of the fieldwork were to:

- Investigate the possible structure identified by geophysical survey, to recover information regarding its form, character, function, date, and its relationship with the enclosure ditches and any other exposed archaeological remains;

- Examine sufficient of the enclosure ditches to (a) determine the form, character, sequence of cut and fill, and date of each, (b) characterise the entrance causeway, (c) locate any evidence for associated banks; (d) establish the stratigraphic relationship between the two main ditches; and (e) excavate the quarry bund west of the east-west enclosure ditch to recover any evidence of a relationship between this ditch and the eastern triple ditch;

- Excavate a representative sample of any other exposed archaeological deposits, and determine their form, character, date and relationship(s) with the enclosure ditches and possible structure;

- Consider during the excavation, any similarities/differences, largely in terms of character and date, between the archaeological features exposed here, and those investigated previously, in particular the triple ditches.

With the Watching Brief, the aim was to record in plan any exposed archaeological features/deposits, to recover any artefacts, and to consider the relationship(s) of any such deposits with those being excavated in Area 2, and with those investigated previously.

Excavation Results

Summary of archaeological features exposed

The cleaned excavation surface revealed a large number of definite, probable or possible archaeological features, distributed evenly across most of the site. The most obvious of these were the enclosure ditches (*Enclosure Ditches 1, 2 and 3*) previously located by the geophysical survey; these could be seen running east-west along the southern part of the site, and north-south along its eastern edge (*Fig. 4*). Other well-defined archaeological features included a narrow gully (*Gully 0043*) running north-south across the centre of the site, a large, shallow depression whose fill (*Layer 0027)* sealed a variety of features, a number of pits and probable post-holes, a few patches of burnt natural limestone, and a series of medieval plough furrows.

In addition to the above, a fairly dense scatter of ill-defined or amorphous features/deposits was apparent across most of the site. The majority of these could not be investigated during the period of excavation due to pressure of time. Those that were examined, generally proved to be shallow pits or post-holes, although some were also interpreted as in-filled natural depressions or the remains of an earlier ploughsoil. In consequence, it is likely that many of the unexcavated features were also archaeological in origin. All were planned during the excavation, but only the particularly well-defined unexcavated features are shown on Figure 4.

Identifiable Structures or Feature Groups

Many of the post-holes exposed on site were subsequently recognized as belonging to one of four identifiable structures, one of these (*Structure 1*) equating with the large 'possible structure' located in 1996 by geophysical survey. The other three (*Structures 2, 3 and 4*) were previously unknown.

In addition to these four structures and *Enclosure Ditches 1, 2 and 3*, four other groups of associated archaeological features were identifiable: a pair of postholes lying opposite the entrance to the main enclosure and probably representing a gate; a row of small post-holes running parallel with the main enclosure ditches and interpreted as the remains of a fence; a second row of (unexcavated) post- or stake-holes lying adjacent to the north-south narrow gully and perhaps also representing a former fence; and, in the west part of the site, a series of intercutting quarry pits.

Dating and phasing the archaeological remains on the site has proved difficult since few artefacts were recovered, and only a small number of stratigraphic relationships existed between features. Nevertheless, pottery from the topsoil, as well as small amounts recovered from individual archaeological deposits, does suggest a Late Iron Age to Early Roman date for most of the remains. Furthermore, the few stratigraphic relationships that were observed, as well as certain spatial relationships between features or groups of features, has allowed most of the more important deposits to be placed into one of six phases. More detailed descriptions/interpretations of the structures and other archaeological features are given below, according to their phase. Unphased features/deposits, most of which probably belong to Phases II to IV, are discussed afterwards.

Phased Feature Descriptions/Interpretations

Phase I: ?Quarry Pits (?Late Iron Age)

A pit-like anomaly identified on the 1996 geophysical survey was matched exactly by a group of three inter-cutting pits situated in the western part of the site (*Fig. 4*). Excavation revealed quite irregular but generally oval-shaped features with steeply or gently sloping sides and flattish bases, all three measuring approximately 2.0-2.5m long by 1.0-1.5m wide, and around 0.20-0.50m deep (*Plate 6*). Each was filled with a high proportion of loosely consolidated angular limestone fragments or slabs, which appeared to have been deliberately backfilled. These features are presumed to represent quarry pits, dug to recover limestone for construction work.

Despite the complete excavation of all three pits, only a single sherd of Late Iron Age or Early Roman pottery was recovered. One of them, however, was cut by a feature belonging to *Structure 1*, so all three probably pre-date this Late Iron Age structure. Consequently, although similar (in their irregularity and their loose, rubbly fills) to the large Roman quarry pits located during the 1994 investigations at Brauncewell, they clearly do not represent the same phase of activity.

Phase II: Enclosure Ditches 1-2, Structure 1, entrance posts, fence-line (?Late Iron Age)

Enclosure Ditches 1 and 2

The archaeological features in this phase represent the most coherent group on the site. *Enclosure Ditches 1 and 2* ran for a total of 50m along much of the south and eastern edges of the cleaned area, a sharp bend in *Ditch 1* forming a distinct corner, and a break between the ditches representing an entrance causeway (*Fig. 4; Plate 7*). Together, *Ditches 1 and 2* form the south-eastern boundary of a substantial rectangular enclosure lying adjacent to the triple ditches. A second, later enclosure, represented by *Enclosure Ditch 3*, lies to the south and west (*Figs 2-4*; and see below, Phase III). Throughout the remaining text, where necessary to avoid ambiguity, each will be referred to as the 'earlier enclosure' and the 'later enclosure' respectively.

Enclosure Ditch 1 was quite consistent in width (1.7-1.8m), whilst *Ditch 2* varied considerably (1.0-1.7m), narrowing markedly from south to north. Since north-south *Gully 0043* also narrows in the same way (*Fig 4*), there has probably been greater plough damage over this part of the site.

Nine sections were excavated across the enclosure ditches, seven across *Enclosure Ditch 1*, two across *Enclosure Ditch 2* (*Fig. 4; Plates 8-11*). These revealed, for both *Ditches 1 and 2*, consistently V-shaped profiles with, in most cases, slightly flaring upper edges and fairly narrow, flattish, slot-like bases (*Fig. 7; Plates 12-13*). In terms of depth, *Enclosure Ditch 1* varied quite considerably (0.55-0.90m), whilst *Ditch 2* was generally much shallower (0.50-0.65m), the depth of the latter probably reflecting the greater degree of recent plough truncation on this part of the site (*Plate 14*).

Most of the sections excavated across *Enclosure Ditch 1* indicate at least two phases of ditch-digging. An earlier ditch, represented by the flattish, slotted base noted above, appears, in all but one of the seven sections, to have been superceded by a shallower ditch with a more rounded base and less steeply sloping sides (*Fig. 7, (e)-(j); Plate 15*). This recut possibly represents cleaning/maintenance of the ditch/enclosure.

The entrance causeway was represented by a 2.3m-wide gap between *Enclosure Ditches 1 and 2* (*Figs 4 and 8; Plates 16-17*). Both ditches terminated with steep-sided, rounded butt-ends (*Plates 18-19*). Here, it was clear from the sheer drop of the lower part of the ditch sides (particularly in *Enclosure Ditch 1)*, that the ditch diggers had followed a vertical fault-line in the limestone to make their task a little easier (*Plate 20*). In contrast, the upper profiles of both ditches flared much less steeply.

The material which filled the two enclosure ditches generally consisted of loosely consolidated, pale brown silty sands or sandy silts, containing varying quantities of limestone gravel or rubble. In the ditch terminals, very high proportions of limestone rubble were present. This is probably a reflection of the nature of the limestone bedrock, which fractures into larger slabs here, much more than elsewhere on the site. In other cases, the density of rubble fill strongly suggests that deliberate back-filling had taken place. This was most convincingly seen along two parts of E*nclosure Ditch* 1, where a high proportion of limestone rubble and slabs (some up to 0.25m across) was recorded half way up the later ditch profile (*Fig. 7, (g) and (j); Plate 21*).

Evidence for a bank associated with the enclosure ditches is both scanty, and somewhat ambiguous. The positions of stones within some of the profiles, and the incidence of 'tip-lines', tend, if anything, to suggest that there was an internal bank (*eg. Fig. 7, (c)*). Other sections, however, point to an external mound (*eg. Fig. 7, (f)*). A bank on the outside would make more sense, when one considers the likely domestic function of the enclosure (see below). This is to some extent confirmed by the location of the fence-line, which, at only 1.0-2.5m from the inner edges of *Enclosure Ditches 1 and 2*, would not have been practicable had a bank existed in this position.

Despite the excavation of nine sections across the enclosure ditches, only seven fragments of pottery were recovered, all of them Late Iron Age in date. Two of these came from low down in the recut of *Enclosure Ditch 1* (*Fig. 7 (i); 10 (c)*), another two from half way up *Ditch 2* (*Fig. 7 (b)*). Though this evidence does not indicate when the earlier ditch was dug, it does support a Late Iron Age date for the recut. The other three pottery sherds were recovered from high up in *Enclosure Ditch 1*, so cannot be used as dating evidence for the ditch (*Fig. 7 (e) (f), (i); 10 (d)*).

Structure 1

This was situated neatly within the earlier enclosure (formed by *Ditches 1 and 2).* First identified by the geophysical survey in 1996 as a rectangular anomaly (*Fig. 3*),

excavation revealed a rather more trapezoidal feature in plan, measuring 32-35m x 10-12m, and comprising 30 post-holes or pits and 2 shallow slots (*Fig. 4; Plate 22*). The post-holes/pits were quite irregularly-spaced and varied considerably in size, though were generally 0.80-0.90m across and around 0.25m deep (*Fig. 5; Plate 23*). Surprisingly, most were not particularly steep-sided, and almost all had slightly concave bases. The two flattish-based slots situated in the south-west and south-east corners of the structure both survived to depths of around 0.15m, though were quite different in other respects (*Fig. 5; Plates 24-25*).

Nearly all of the post-holes were filled with loosely consolidated, reddish-brown silty sands, containing high proportions of limestone rubble. In only four cases was there a post-pipe to indicate where a post had once stood (*Fig. 5; Plate 26*); the fills of most of the post-holes were generally quite homogeneous.

In an attempt to locate additional features belonging to *Structure 1*, the gaps between the post-holes were re-cleaned; none, however, was found. It is possible that other post-holes did once exist, but that later activity has destroyed them. A large gap, for example, along the southern side of *Structure 1,* would have been a suitable place for a post; the space, however, was largely taken up by an oval-shaped pit (*Fig. 4; Plate 27*). Recent ploughing may also have played a part in destroying features. Alternatively, some of these gaps may have been genuinely devoid of posts, some of them perhaps representing one or more entrances into the structure's interior. The most likely position for an entrance into *Structure 1* is the narrow, eastern side, since this is closest to the entrance of the enclosure within which it lies. Other entrances may, of course, also have existed.

Apart from at the eastern end of *Structure 1*, few definite archaeological features were recorded within its interior. Furthermore, none of these could be associated with the structure. It may be that some of the ill-defined deposits in this area, most of which were not investigated, either did represent features associated with *Structure 1*, or were actually obscuring such features.

Four of the post-holes belonging to *Structure 1* produced pottery: *0097* (1 fragment), *0305* (three sherds), *0139* (2 sherds - see Fig. 10(b)) and *0353* (8 small fragments) (*Fig. 5; Plates 28-30*). All of these, except the fragment from *0097*, were securely stratified within the post-holes, and are all Late Iron Age in date. As such, they provide reasonable evidence that *Structure 1* was constructed and/or in use during this period. The small fragment from 0097 is Grey Ware so is probably Roman, and since it was found at the very top of the feature, it is presumed to be intrusive.

Entrance Posts and Fence-line

Two post-holes (*0148* and *0162*) were recorded opposite the entrance to the earlier enclosure, 1.75m apart (centre to centre) and each 1.4m from the respective terminals of *Enclosure Ditches 1 and 2* (*Figs 4 & 8; Plates 31-32*). Both were rectangular in plan (although the disturbed west side of *0148* gave it an irregular appearance), each measured around 0.45m x 0.30m, both were considerably deeper in one half than the other, and each possessed a near-vertical face, the latter two characteristics probably reflecting the former positions of posts. Post-hole *0148* was slightly deeper (0.20m) than *0162* (0.16m), though both were filled with reddish-brown sandy silts containing fairly high proportions of stones (*Plates 33-34*).

The similarity in character of these post-holes suggests they were contemporary and related, whilst their positions in relation to the ditch terminals indicates an undoubted relationship with the entrance causeway. They probably represent the former position of a gate, controlling access into and out of the enclosure. The two gaps between the posts and the ditch terminals would presumably have been blocked to ensure that the gateway was the only access at this point; of course, additional entrances into the enclosure could easily have existed elsewhere beyond the limits of the excavation.

The fence-line largely comprised a series of small, north-south aligned post-holes, parallel with, and between 1.0m and 2.5m distant of, the inner edge of *Enclosure Ditches 1 and 2* (*Figs 4 & 8; Plates 35-36*). An additional post-hole (*0269*), lying 1m north of the east-west arm of *Enclosure Ditch 1,* may represent a westward continuation of the fence between the ditch and *Structure 1*, whilst two unexcavated (and therefore uncertain) features, lying perpendicular to the main series of post-holes, could represent a westward continuation north of *Structure 1* (*Fig. 8*). A larger post-hole (*0116*) lying opposite the inner bend of *Enclosure Ditch 1*, may reflect the former position of a more substantial post (*Figs 4 & 8*).

The post-holes ranged from 0.12m-0.24m in diameter, and 0.12m-0.25m in depth, and all were filled with reddish-brown sandy silts containing few stones. The flat bases of these features, particularly those situated opposite the entrance, argues against them being stake-holes. Indeed, it would have been almost impossible to drive a stake into the solid bedrock which exists in this part of the site (*Plate 37*). Not surprisingly, the post-holes here are significantly shallower than the others, suggesting that the limestone proved a difficulty even when digging-out a hole for a post. The spaces between these vertical posts may have been filled by weaving thin branches or 'wattles' between them.

Phase II : Interpretation

Structure 1, the entrance posts, and the fence-line all appear to represent contemporary activity within a ditched enclosure lying adjacent to the triple linear ditches, and measuring 52m wide (east-west) by at least 34m long (north-south) (*Figs 2-4*). At the time of the 1997 excavations, it was not certain whether the activity within the enclosure was contemporary with, or post-dated, that associated with the triple ditches. In an attempt to demonstrate whether this was the case, the low bank or 'bund' which divided Area B from the existing quarry was removed by machine, west of *Enclosure Ditch 3*. The potential significance of this bund lay in the fact that by 1997, it covered the only surviving strip of ground between the 1994 investigations and those of 1997. As such, it was the only place where one could have hoped to recover any evidence of a relationship between the eastern triple ditch (now destroyed at this point) and the earlier enclosure. In the event, the removal of the bund did expose the enclosure's north-south ditch, and therefore its western limit (*Fig. 4; Plates 38-39*).

After the excavation, careful re-inspection of the 1994 geophysical survey data (carried out by the Landscape Research Centre Ltd before the eastward extension of the quarry up to the 1997 bund), showed that the enclosure's western limit had, in actual fact, already been picked up by geophysical survey four years earlier. The report referred to a fairly convincing east-west anomoly, apparently terminating around 4m east of the eastmost triple ditch (*Fig. 11*). This corresponds exactly with the position of *Enclosure Ditch 3*, so almost certainly represents this feature (see below, Phase III). However, on a preliminary plot of the survey, faxed to LAS by LRC Ltd in February 1994, a faint linear

anomaly is just discernible, running north from the east-west anomaly until it reaches the north limit of the survey. This corresponds precisely with the position of the western ditch of the earlier enclosure, exposed in 1997 by the removal of the quarry bund. The anomaly barely showed on the final plot reproduced in the report, and since no-one knew that the adjacent enclosures even existed until after the 1996 geophysical survey, it would have been most surprising had it been highlighted as being of potential significance in the 1994 survey report. The removal of the quarry bund in 1997, therefore, appears to have confirmed what had been suggested by geophysical survey in 1994.

Northwards, the enclosure could conceivably stretch as far as the division between Areas A and B, though presumably not much further since if it had, one would expect its ditch to have been located by the 1996 geophysical survey of Area A (*Fig. 2*). Nevertheless, with dimensions of 52m wide by anything from 34m to 80m long, the enclosure would have covered between *c.*1800 and 4000 square metres. As such, it is quite feasible for other structures to exist north of the 1997 excavated area.

Since *Structure 1* represents most of the evidence for internal activity within the earlier enclosure, any attempt to consider the purpose of the latter must look at the function of the structure, and with it, therefore, the manner in which it may have been constructed. At one level, the architects of *Structure 1* clearly regarded its position as important, since it was very neatly sited in the south-east corner of the enclosure (*Fig. 4*). On the other hand, its trapezoidal plan, irregular gaps between post-holes, pits and slots, and the variable character of these individual features, all suggest that *Structure 1* was not constructed with a great degree of precision.

In considering actual construction techniques for *Structure 1*, the evidence suggests that a series of posts were inserted into pre-excavated pits, at intervals, in order to create an outer substructure. Structures with earth-fast posts are characteristic of the whole of the later prehistoric period, across Britain and on the continent (Audouze and Buchsenschutz 1992, 61), so this may well have been the technique employed for *Structure 1*. On the other hand, the two shallow slots located at the south-west and south-east corners of the structure (*Fig. 5*) introduce an element of potential inconsistency, since these are normally interpreted as beam-slots, dug to take horizontal timbers ('sill-beams'), into or through, which upright posts could be fixed (*ibid.*, 57 (fig. 26), 67). Bearing in mind the considerable damage to the site almost certainly caused by medieval and later ploughing, these slots may perhaps be the only evidence for sill-beams that once existed around the entire structure. Their survival in only two places would not be surprising, since it has already been demonstrated that plough damage was probably greater in the northern half of the site. In addition, the fact that the land rises steadily from north to south, means that any desire to produce a level structure would have required the digging of deeper slots on its south side, though admittedly, average post-hole depth, which might too be expected to be greater at the south, was in reality about the same on both sides.

The evidence therefore suggests that the substructure of *Structure 1* consisted of earth-fast posts, or possibly a combination of both these and sill-beams. Indications of other architectural components were almost non-existent. In particular, there was no evidence that the structure was ever roofed, and although the interior was not investigated to any great extent, it had been thoroughly cleaned. Furthermore, the surface was visually searched throughout the duration of the excavation, such that the

author feels reasonably confident in stating that no substantial features, especially any in positions suitable for support beams, had been overlooked.

In two cases (adjacent to post-hole *0150* along the north side of *Structure 1,* and next to the south-west slot) (*Fig. 5; Plates 24 & 40*), post-holes were recorded just outside the structure. Since these appeared to be of the same character as those belonging to *Structure 1*, they may have represented some form of lateral support. Apart from these features, no others could be associated with the structure.

As far as walls are concerned, one must rely on the information from other archaeological sites to see how those of *Structure 1* might have been constructed. The rudimentary technique of 'wattling', that is, weaving flexible branches around stakes or posts, has been recognised on many sites of different periods throughout Britain (*ibid.*, 44-5), so may well have been used here. Whether the walls would have been rendered with daub is completely unknown; the absence of clay fragments from the site is not significant in this sense, since such material would quickly crumble, dissolve and become indistinguishable from the contemporary subsoil/ploughsoil.

The evidence as a whole points to *Structure 1* representing a large, unroofed trapezoidal enclosure of fairly light construction, with fenced walling, possibly an entrance at the eastern side, and few internal features. Since its architectural form clearly militates against it having been constructed as a building for human occupation, one is left with the most likely alternative that it was designed for livestock, a suggestion reinforced by the paucity of artefacts from both its post-holes and its interior.

The lack of artefacts from *Structure 1* might, of course, also be used to suggest a ritual function for the structure. However, in view of the complete absence of any artefacts which might be considered indicative of religious activity, and the form of the structure itself (see below), the author sees no reason to suppose that this is the case with *Structure 1.* A small number of rectangular palisaded 'ritual' enclosures of Middle to Late Iron Age date are known in Britain, and some are comparable in size to the Brauncewell structure. At Briar Hill for example, a 20m x 10m sub-rectangular palisaded enclosure was recorded (*cf.* Elsdon 1997, 48). Most, however, are much larger, more solidly constructed, and/or produce artefacts to support a ritual function. The Middle Iron Age palisaded enclosure from Old Sleaford, for instance, comprised intercutting post-holes suggestive of closely set upright timbers (many of which appeared to have been renewed from time to time), and measured at least 50m by 40m (*ibid.*, 39). As a Middle Iron Age structure of potentially ritual significance, it is probably unique in Lincolnshire (*ibid.).* The wide spacing between the post-holes of *Structure 1*, and their relative shallowness, would tend to argue in favour of a less substantial construction, and it was clearly not palisaded. A livestock enclosure would seem a more appropriate interpretation for *Structure 1.*

Even as an enclosure for animals, *Structure 1* it is quite unusual, since very few post-built stock enclosures of this size are known, either from Britain, or indeed continental Europe, for both the Bronze and Iron Ages. Most cited examples of livestock enclosures are much larger and are ditched, as is, for example, the enclosure which surrounds *Structure 1.* Furthermore, although increasing numbers of fenced stock pens are being recorded on prehistoric sites in Britain, as at Shaugh Moor, Devon (Audouze and Buchsenschutz 1992, 132), these are much smaller than *Structure 1.* The only animal-related post-built structures of comparable size appear to be the byres (stables

situated close to houses) or byre-houses (buildings with discrete areas for both animals and humans) of the Bronze Age onwards (*ibid.*). Being confined almost exclusively to continental Europe, these buildings measured up to 40m, 60m or even 80m in length, although in the Iron Age they tended to be considerably shorter at 10-20m long (*ibid.*). These byres and, in particular, the byre-houses reflect the European tradition of holding livestock within roofed buildings. In the same way, *Structure 1* can be viewed as exemplifying the apparently British preference for keeping animals outside (though admittedly, the more typical British example would be the ditched enclosure).

Although *Structure 1* itself was probably not a house, there is no reason why the uninvestigated parts of the earlier enclosure at Brauncewell could not have contained human dwellings. Indeed, the segregation of animal and human occupation areas is a commonplace within enclosures of this period. Nevertheless, it is likely that human dwellings did not exist far from *Structure 1,* since the decision to construct a large stock-pen indicates a significant degree of welfare on behalf of the animals.

The animals kept within *Structure 1* were presumably cattle or sheep (or goat). This presumption is supported by the small quantities of animal bones recovered from the site, which belong to cattle, horse, pig and sheep (or goat) (*Appendix 2*). The design of the entrance into the earlier enclosure tends to argue in favour of sheep rather than cattle, since the close proximity of the fence-line to the entrance posts (assuming they were contemporary) would have provided a gap of little over a metre between the gateway and the fence. This would have been quite useful for channelling sheep, but would appear to have been a little too restrictive for cattle. On the other hand, since this entrance may not have been the only access into the earlier enclosure, it might never have been intended for livestock. Consequently, one cannot rule out the possibility of *Structure 1* being designed for cattle.

There is very little evidence for how long *Structure 1*, or indeed the entire enclosure, remained in use, since the pottery recovered from *Enclosure Ditches 1 and 2* and *Structure 1* can only be dated to within the Late Iron Age period as a whole. There are, however, some reasonable indications (see following paragraph) that the structure was deliberately dismantled (rather than being allowed to decay and collapse gradually), and that the earlier enclosure itself went completely out of use (see below, Phase IV).

The variable dimensions of the post-holes, together with their consistently loose and rubbly fills, suggest that the posts of *Structure 1* were deliberately removed. The extraction of the posts would have required considerable disturbance of the original post-pits and the immediately surrounding area, whilst the rubbly fills might represent backfill to level the ground for re-use. Post-removal would also explain why post-pipes (i.e. posts rotted *in situ*) were only recorded in four cases. Besides those of *Structure 1*, there is also some evidence that the posts which formed the entrance gateway were also pulled out. The disturbed west side of posthole *0148*, and the fact that stones were recorded filling the space probably once occupied by the post, together hint at intentional removal. Finally, there is some evidence that *Enclosure Ditch 1* was deliberately backfilled. All of the above suggest a significant change in land-use at some time in the Late Iron Age or Early Roman period; this change is discussed within Phases III and IV, and in the Discussion section.

Phase III : Enclosure Ditch 3 (?Late Iron Age to Early Roman)

Enclosure Ditch 3 ran east-west across the south-west corner of the site. At its east-most point, it turned sharply to run southwards before hitting the south limit of excavation; to the west, it ran up to the north-south quarry bund which marked the site's western limit prior to the machine removal of the bund at this point (*Fig. 4; Plate 41*). Where it turned, the ditch cut through *Enclosure Ditch 1*, so quite clearly post-dated it. As such, it can be seen as forming the north side of a later enclosure lying to the south of that represented by *Ditches 1 and 2*, and east of the triple ditches (*Figs 2-3*).

The eastern arm of this later enclosure was observed at the north end of the watching brief area (see below), running south for 38m (as largely predicted by the 1996 geophysical survey) before bending slightly towards the south-west and then apparently terminating 11m short of the west limit of topsoil stripping (*Fig. 9*). The 4m-wide gap just north of the bend probably represents an entrance. A westerly projection of the ditch from the bend, across into the area investigated in 1994 (and now quarried), coincides exactly with two short stretches of gully identified in 1994 (*Figs 2 and 9*). At the time, these were described as respecting the east-most triple ditch (*F2*), or more precisely, the bank which probably ran north-south along its eastern flank (Tipper 1994, 22). It is quite probable, therefore, that these gullies represent the southern arm of the later enclosure also formed in part by *Enclosure Ditch 3*.

For a western ditch to this later enclosure, since one was not visible during the 1994 or the 1997 investigations, it seems fairly certain that one never existed, and that those constructing the enclosure decided to utilize the eastern triple ditch as its western boundary *(Fig. 2)*. This indicates that the later enclosure post-dated the *construction*, and perhaps *use*, of the triple ditches. The machine removal of the quarry bund (west of *Enclosure Ditch 3*) (see above, p.8) was in part an attempt to add weight to this interpretation. In the event, its removal demonstrated that the ditch continued right up to the 1997 quarry edge. With hindsight this is not surprising, since re-inspection of the 1994 geophysical survey after the 1997 excavation located an east-west anomaly precisely in this position, and terminating 4m short of the eastmost triple ditch.

The evidence thus points to a trapezoidal enclosure measuring some 55m north-south by 25-35m east-west, bounding an area of *c.*1400-2000 square metres. No internal features were noted on the thin strip of ground between *Enclosure Ditch 3* and the south limit of the excavated area, whilst in that part of the interior exposed during the watching brief, only a possible pit and a few patches of burnt limestone were recorded (*Fig. 9*).

As far as *Enclosure Ditch 3* itself is concerned, its width varied considerably, the east-west arm being consistently wider (at 2.2-2.7m) than that running north-south (1.6-2.2m), The sections excavated across it revealed a profile similar to that of the earlier enclosure ditch, that is, V-shaped with slightly flaring upper edges and slot-like bases (*Fig. 7, (k), (l), (m); Plate 42*). In terms of depth, the ditch varied between 0.65m and 0.85m, and it was generally filled with loosely consolidated, orange- or reddish-brown sandy silts or silty sands, containing varying quantities of limestone gravel or rubble. No evidence for an associated bank was revealed in the profiles, and one sherd of Late Iron Age pottery was found near the top of the ditch, where excavated closest to the quarry bund.

All three sections revealed two main phases of ditch digging: an earlier ditch, represented by the slot-like base noted above, appears to have been superceded by a slightly shallower recut, the profile of which largely mirrored that of its predecessor.

Phase III: Interpretation
Since *Enclosure Ditch 1* originally ran up to the quarry bund and from there turned northwards to form the west arm of the earlier enclosure, it is likely that the digging of *Ditch 3* largely removed *Ditch 1*. This would explain why *Ditch 3* is wider along its east-west stretch than it is along its north-south arm. In other words, the north arm of the later enclosure utilised the south arm of the earlier enclosure, which by this time was presumably redundant. Since there is no evidence in plan of *Ditch 3* cutting *Ditch 1*, the latter was probably only part full when *Ditch 3* was excavated. This suggestion is reinforced by the recut observed in the sections of *Ditch 3* (see previous paragraph), which, rather than signifying maintenance of the later enclosure ditch, might actually represent the original excavation of *Enclosure Ditch 3*, with the earlier profile being the surviving part of *Enclosure Ditch 1*.

Making use of an existing ditch would have made perfect sense, since it would have made the job easier for those doing the digging. In contrast, the excavators of this new enclosure may have gone to the trouble of deliberately backfilling the other stretches of *Ditch 1*, in order to level-off, and thus prepare, the surrounding land for re-use. If this was the case, then it probably took place prior to the actual digging of *Ditch 3,* as the physical junction between *Ditch 1* and *Ditch 3* shows the former must have been (almost) full when *Ditch 3* was dug through it *(Fig. 4)*. It is therefore possible that the partial or complete dismantlement and backfilling of the Phase II features described above, occurred at this time. Although it is by no means inconceivable that some or all of these changes took place later, that is, during Phase IV (see below), it seems more likely that they would have formed part of Phase III. After all, those constructing the later enclosure are almost certain to have wished to salvage and re-use the timbers from *Structure 1,* and any other abandoned wooden structures in the vicinity.

Phase IV : North-South Gully 0043 (?Early Roman)
This was observed running north-south across the central part of the site, varying considerably in width (0.40m-0.90m), and in particular, narrowing markedly at its north end *(Fig. 4; Plate 43)*. Since *Enclosure Ditch 2* also narrowed at this point, it probably reflects greater plough damage over this part of the site. Four sections were excavated across *Gully 0043*; these revealed a shallow feature (0.10-0.24m deep), with either a flaring V-shaped, or a flat, slot-like profile, filled with a reddish-brown sandy silt.

Three different pieces of evidence serve to place the gully into this phase. Firstly, it could be seen cutting through both *Enclosure Ditch 1,* and one of the post-holes of *Structure 1,* indicating that it post-dated Phase II. Secondly, two fragments of Roman pottery were found at the base of one of the sections excavated across the feature, one of them a sherd of 2nd century Samian ware (*Appendix 1*). Finally, the alignment of the gully does not conform to that of either the earlier or the later enclosure, indicating a probable change in land-use by the Early Roman period.

Phase IV: Interpretation
As discussed earlier (Phase III), this change in land-use may have necessitated the dismantling of *Structure 1* and the backfilling of the earlier enclosure, though it is

considered that this would, in large part, have already taken place by the time *Gully 0043* was dug. As far as the specific function of this gully is concerned, one might envisage it having served to divide land within a Romano-British arable or pastoral field-system. The existence of five unexcavated (and therefore uncertain) post- or stake-holes lying along a short stretch of the gully's west flank (*Fig. 4*) provides the additional hint of there once having been a fence running parallel with it. If so, this would tend to suggest land-division for the purpose of controlling grazing stock rather than separating arable fields. Alternatively, if as proposed below, *Structure 4* was contemporary with *Gully 0043*, it could perhaps indicate a division between fields to the west, and agricultural storage facilities to the east.

Phase V : Plough Furrows (Medieval)

A series of indistinct parallel linear features, aligned north-south and largely confined to the southern half of the site, are interpreted as medieval plough furrows *(Fig. 4)*. Where excavated, they proved to be shallow with flattish or slightly concave bases, and all were filled with reddish-brown sandy silt loams (Plate 44). Apart from the modern topsoil and a subsoil layer (see below), they sealed or cut all other archaeological deposits. The land here was farmed as arable in medieval times, so their existence is not surprising. Their virtual absence from the north half of the site again suggests that there has been greater plough damage to this area.

Phase VI : Ploughsoil (Modern)

A recently ploughed field consisting of a darkish-brown sandy silt loam covered the site prior to excavation. It varied in thickness from 0.30m at the west end, increasing to 0.50m at the east. There is no obvious reason for this variation in thickness; the slightly higher land to the south would have encouraged some degree of hillwash (i.e. downslope soil movement and accumulation), but one would have expected this across the whole of the site, not just the eastern half. The ploughsoil yielded more fragments of Late Iron Age pottery than any other deposit on the site (*eg. Fig. 10(e)*).

Over some parts of the site, stratified between the ploughsoil and the natural limestone (and a few archaeological features), thin patches of reddish-brown silty sand were noted. This 'subsoil' layer, which seemed only to survive in shallow depressions in the surface of the natural limestone, may have been the remains of a medieval ploughsoil, although it was much redder in colour than the plough furrows described above. Alternatively, it might have represented the very bottoms of archaeological features themselves, its reddish hue comparing closely to the fills of most other features on the site. A third possibility is that it was the remaining traces of a natural, aeolian (wind-blown) or colluvial (slope-washed) deposit.

Unphased : Structures 2 to 4, Layer 0027, Numerous pits, postholes and patches of burnt limestone (?Late Iron Age to Early Roman)

Structures 2 to 4 represent three of the more important groups of features on the site, but none can be confidently placed into a particular phase because of their lack of stratigraphic relationships, and because of the paucity of artefacts from their excavated fills. It is, however, very likely that they belong to either Phase II, III or IV, though none are necessarily of the same phase as each other. *Layer 0027* sealed much of *Structure*

III so was clearly later, but it too might belong to any one of Phases II-IV. The isolated pits, post-holes and patches of burnt limestone could theoretically be placed into any phase, yet are most likely to belong to Phases II and/or III, and perhaps also Phase IV.

Structures 2 and 4

Structure 2 comprised four similar-sized post-holes, situated in the north-east part of the site and within the earlier enclosure (*Fig. 4; Plate 45*). Each lay equidistant from the other (2.80-2.90m centre to centre) and together in plan, they formed a reasonable square (*Fig. 6; Plate 46*). All of the post-holes were elongated ovals in shape (0.35-0.55m wide across their shorter axes; 0.55m-0.85m across the longer), each possessed steep-sided, flat-based profiles of between 0.21m and 0.29m in depth, and all were filled with a reddish-brown silty sand containing a fairly high proportion of angular limestone fragments (*Fig. 6; Plate 47*). Some of these stones may have acted as packing for posts, although no evidence of post-pipes was seen in any of the excavated sections.

Structure 4 comprised six small post-holes, only three of which were excavated (*Fig. 4; Plate 48*). In plan, the post-holes varied between 0.24m and 0.42m in diameter, whilst the three which were excavated proved to have steep sides, flattish bases and depths of between 0.10m and 0.17m. All were filled with reddish- or orange-brown sandy silts, none of which produced any artefacts. Other post-holes might once have existed in the north-east corner, along its northern side, so that it may originally have been made up of eight or perhaps even more posts.

Interpretation

The postholes of *Structure 2* probably represent the ground plan of a four-post structure, measuring just under 3m x 3m (though conceivably it could consist of six or eight posts, since more post-holes might have lain beyond the north limit of excavation). Similarly, those of *Structure 4* may form part of a 4m x 2.4m, eight-post rectangular structure. These kinds of construction are a common feature on many Iron Age and Romano-British sites across Britain, and are normally thought to represent small grain storage buildings or 'granaries' (*Cunliffe, 1991, 376*). Other possible uses include general storage sheds, weaving rooms or cooking shelters. In most cases, they are found on the peripheries of settlements, often against the boundaries, to keep them as far as possible from domestic activities and the potential threat of fire (*ibid.*). The Brauncewell structures lie close to the edge of the earlier enclosure and their longest axes are aligned with its ditches, which could signify contemporaneity with *Enclosure Ditches 1 and 2 (*and with Phase II in general). On the other hand, *Structure 2* may have related to activity which post-dated the earlier enclosure, see Discussion below. Furthermore, the location of *Structure 4* (*Fig. 4*) suggests that it was not contemporary with *Structure 1*, and more likely to belong to some pre- or post-Phase I activity, perhaps that associated with *Gully 0043*, upon which the shorter axis of *Structure 4* is aligned (see Phase IV and Discussion).

Structure 3, Layer 0027 and Pit 0039

Structure 3 lay at the eastern end of *Structure 1,* and entirely within it (*Fig 4*). Primarily, it consisted of five small post-holes and three short stretches of gully, the curving shape (in plan) of two of the latter suggesting that they represented the north-west and north-east corners of a sub-rectangular structure measuring around 4.25m long by 3m wide. A further three post-holes formed a roughly straight row running along its centre (*Fig. 6, (a)-(c); Plates 49-51*). Part excavation of the gullies showed them to be quite shallow,

whilst digging of the post-holes revealed fairly steep-sided, but again shallow features, neither gullies nor post-holes surviving to a depth of more than 0.16m.

Interpretation
Structure 3 was probably a small timber building. Although there was no artefactual evidence to indicate its former function, it could have served a similar one to that suggested for *Structures 2* and *4*, that is, grain store, weaving room, cooking shelter or general purpose storage (see following paragraph for another possible function). The five outer post-holes are thought to represent the former positions of some of the external support posts for the building, whilst the shallow gullies are possibly the truncated remains of drainage channels, and/or foundation trenches dug to house both the posts and some form of external walling. An upright limestone slab, sat at the terminal of one of the curving gullies and opposite one of the external post-holes, may well have been the support or packing for another outer post. As for the the central post-holes, these might represent a row of supporting timbers. If so, it is unlikely that they were supporting a roof, since the roof of a building as small as *Structure 3* would not have required such support. They could, however, have served to prop up a raised floor, which would have been necessary had *Structure 3* been a granary. Alternatively, if the building had served some other function, say, weaving room or cooking shelter, the post-holes might represent timbers associated with some activity within its interior. Either way, the building was presumably roofed.

The one artefact recovered from *Structure 3,* a fragment of Late Iron Age pottery from gully fill *0137* (*Fig. 6*), supports its construction and/or use in this period. In terms of phasing, one could place it with *Structures 2 and 4*, since the similar function of all three structures would then indicate an area given over to storage. On the other hand, it is not impossible that the building was contemporary with *Structure 1,* and with the earlier enclosure and *Phase II* as a whole. Although one would not necessarily expect to find an ancillary structure such as this lying within an animal enclosure, if it was built to store equipment associated with the rearing and management of that livestock, then it would be quite sensible to have it located close to where the animals were kept.

Most of *Structure 3* was sealed by *Layer 0027*, a fairly extensive spread of reddish-brown sandy silt, covering an area of around 10m x 8m within the interior of *Structure 1* (*Fig. 4*). The eastern two-thirds of *0027* were excavated, revealing a shallow, flat-based hollow measuring up to 0.12m deep at its centre, with fairly irregular (in plan) edges. Five small fragments of pottery were recovered, two of them Late Iron Age shelly fabrics, the other three grey wares, two probably Roman, the other either Late Iron Age or Early Roman (*Appendix 1*). *Layer 0027* therefore, probably dates to between the Late Iron Age and Early Roman periods.

The hollow is presumed to have been created by an intensive concentration of activity, sufficiently prolonged to erode away the contemporary topsoil and some of the natural limestone at this spot. What this activity was is very difficult to say, although one possibility is that if *Structure 1* was indeed for livestock, then the animals may have congregated here to be fed. If so, it would mean that *Structure 1* and *Structure 3* were not contemporary as suggested earlier, unless of course the stock enclosure continued to be used after *Structure 3* was dismantled. Whatever led to the creation of the hollow, the process is certain to have truncated quite heavily the post-holes and gullies of *Structure 3.*

Layer 0027 also sealed *Pit 0039*, a steep-sided, kidney-shaped feature, situated immediately east of the north-east curving gully of *Structure 3* (*Fig. 4; Plate 52*). The pit, which survived to a depth of 0.30m and was filled with a reddish-brown sandy silt, betrayed no evidence of its original function, yet it did yield seventeen sherds of Late Iron Age pottery. Most of these were too small for accurate identification, but three adjoining fragments do appear to be of considerable importance: all three are from the same rim, probably of a bowl or jar, and bear diagonal slashes on the rim top *(Fig. 10(a))*. It appears that no parallels have yet been traced for this pottery (*Appendix 1*).

Other isolated pits, post-holes and patches of burnt limestone

Only a small proportion of the smaller, less well-defined and/or not readily interpretable features were investigated during the excavation. These are shown in *Figure 4*, as are uninvestigated burnt patches. Two of the most noteworthy are a relatively large pit in the north-west corner of the site (*0082*), and a much smaller pit partially hidden by the western quarry bund (*0373*); both of these were half-sectioned.

Pit 0082 proved to be fairly steep-sided with a slightly concave base, penetrating 0.55m into the weathered limestone bedrock (*Plate 53*). The disposition of various deposits within the exposed section indicated four separate episodes of activity. First, a partially burnt reddish silty sand containing charcoal fragments appears to have been thrown into the base of the pit. This was evidently followed by backfilling with what had become a compact, clean yellowish sandy silt, almost indistinguishable from the surrounding limestone. This suggests that the pit was used to dispose of waste material (perhaps from a nearby fire), and then deliberately backfilled with the sterile material derived from the original digging of the pit. This, in turn, implies that the pit was not open for any appreciable length of time, as does the apparent lack of any 'primary silting' in the base of the feature (*ie.* gravelly material one would expect to have soon tumbled in from the pit edges, and/or fine, wind/water-derived silt). Sometime after the backfilling, the pit appears to have been re-opened on two separate occasions, the void from the first recut having almost completely filled before being partially truncated by a second, more shallow cutting. The fill of the latter produced three sherds of pottery, two Roman, the third in a Late Iron Age fabric.

Although the pit was apparently used at some time to dispose of waste, this may not have been its original purpose. Two small post-holes lying immediately adjacent to its west edge might imply some kind of structural use, but nothing else was recovered which might add weight to this argument. A Romano-British coin was recovered from the modern ploughsoil immediately above the feature (*Appendix 3*), but this could easily have derived from elsewhere. A satisfactory interpretation remains elusive.

Pit *0373* was only partially revealed against the west limit of excavation, so may have been larger than the 0.60m x 0.35m portion exposed in plan (*Fig. 4*). Excavation revealed a shallow, flattish-based profile, surviving 0.17m deep and containing a reddish-brown sandy silt (*Plate 54*). The interesting aspect of this feature was its lowermost fill, which consisted entirely of a stiff, greenish grey clay, apparently placed into the base of the pit as some form of lining. Clay-lined pits are often associated with small-scale industrial or domestic activities, but with no other useful evidence, and only part of the feature exposed, a more precise function cannot be ventured.

The Watching Brief

An area approximately 140m x 60m, lying immediately east of the existing quarry and south of the main 1997 site, was stripped of its topsoil using a bulldozer, and the surface visually searched over a period of 3-4 days (*Fig. 2*). All exposed archaeological features were rapidly cleaned, their outlines recorded by MSE using total station surveying, and a written record made using LAS's standard recording system. In addition, a small area was thoroughly cleaned to record a concentration of features in the centre-west part of the stripped area (*Fig. 9*).

Considering the size of the area exposed, relatively few archaeological features were observed. The most substantial remains were the enclosure ditch previously located during the 1997 geophysical survey (and which is a southerly continuation of *Enclosure Ditch 3*), and a smaller, north-south gully or small ditch, also picked up by the 1997 geophysical survey and possibly relating to another enclosure. The other features were either small pits, irregular patches of burnt limestone, or thin layers of charcoal-rich sandy silt. A concentration of these smaller features, covering an area of about 10m x 8m, was cleaned with trowel and brush (*Plates 55-56*). Apart from the north-south gully and a probable post-hole, the features revealed were quite amorphous, and had no recognisable purpose. The burnt patches, like so many others recorded previously at Brauncewell, (*cf.* Tipper *1994, 15-16*) are probably the remains of temporary fires or hearths.

The only artefacts recovered during the watching brief were three sherds of pottery, two from the surface of the enclosure ditch, the other from one of the isolated features; all three are Roman grey fabrics.

The apparent lack of archaeological features over much of the watching brief area may, in part, be due to the fact that in many places, the ploughsoil was not completely removed by the bulldozer. Since most of the features recorded were in the area where most or all of the topsoil had been removed, it is probable that other archaeological deposits, especially small ones, existed in the apparently blank areas. Neverthless, the features which were exposed during the watching brief have succeeded in showing that a southerly continuation of *Enclosure Ditch 3* probably turns west and joins the parallel gullies recorded in 1994 adjacent to the eastern triple ditch, and therefore serves to reinforce the view that the later enclosure used the eastmost triple ditch as its western boundary. The watching brief also appears to have confirmed (by exposing the small ditch or gully further south) that other enclosures existed along the eastern flank of the triple ditches.

Artefacts & Environmental Evidence

The excavation yielded few artefacts, with only five categories of material being represented: pottery, animal bone, stone, copper alloy and iron. A total of 111 sherds of Late Iron Age or Early Roman pottery were recovered from 22 contexts, only three of these sherds (and no other category of artefact) being recovered during the watching brief. Nearly 50% of all the pottery was found either in the modern topsoil (37 sherds) or the 'subsoil' (16 sherds). Most of the remainder came from *Pit 0039* (17 sherds), *Post-hole 0352*, (8 sherds), and *Layer 0027* (8 sherds). The only features which produced pottery but which have not already been discussed in the report are *Post-hole 0367*, which yielded a Late Iron Age fragment, and *Post-hole 0189*, which produced a Late Iron Age to Early Roman sherd (*Fig. 4*).

Fifty-four small fragments of poorly-preserved animal bone or teeth were recovered from ten contexts (*Appendix 2)*. Most of it (35 fragments) came from the terminal ends of *Enclosure Ditches 1* and *2*, or the north-south arm of *Ditch 1*. *Pit 0173* produced twelve fragments, whilst the other seven came from *Post-hole 0367* (*Fig. 4*). Bone survival is exceptionally poor on the site because of severe leaching through the well-drained calcareous soils. The fragments that were recovered however, do appear to show that cattle, horse, pig and sheep (or goat) were probably present on the site during the Late Iron Age period.

Thirteen pieces of stone were retained from the excavations. Six of these were fragments of fire-cracked quartzite pebbles. Five of these came from the fills of *Enclosure Ditches 1* and *2*, the other from *0352*, one of the post-holes belonging to *Structure 1* (*Fig. 5*). These stones are not naturally found on the site itself, so they must have been brought from elsewhere, probably for some domestic purpose. A fragment of coarse sandstone or millstone grit was recovered from the top of *0164*, the post-hole sat at the south-west corner of *Structure 1* (*Fig. 5*). No obvious worked surfaces have been recorded, so it may not be a fragment of quernstone; it is, however, likely to have been imported on to the site for some specific purpose, since it is not a local stone. Another post-hole *0099* belonging to *Structure 1*, (north-east corner) (*Fig. 5*) contained a large number of burnt limestone fragments, five of which were retained. These may well represent the packing for an upright post. The final stone came from *0208*, one of the post-holes belonging to four-post *Structure 2* (*Fig. 6*). This was a large, rounded, dark grey sandstone pebble, showing signs of having been burnt. This too was probably imported from elsewhere, initially perhaps for some activity associated with a domestic or industrial hearth/fire, and subsequently to act as packing for a post-hole.

The two metal objects recovered were an iron nail and a 3rd century AD Roman coin, both from the modern ploughsoil (*Appendix 3*).

The paucity of artefacts from the excavation is not really surprising, in view of the small numbers recovered during previous investigations at Brauncewell. In part, it seems to be a reflection of poor survival conditions, as animal bone and metal would not be expected to survive well in the well-drained calcareous soils. It might also be that highly perishable materials such as wood and leather were widely used. This probably does not, however, fully explain the small quantity of pottery, and the almost complete absence of any other type of artefact. Instead, this apparently genuine lack of cultural material suggests that the land here was not used for human habitation, reinforcing the argument that *Structure 1* was designed for livestock (see above).

Soil samples were collected from a number of archaeological features, to allow the study of environmental remains (snails, charcoal, carbonised seeds *etc*) that may have existed. The samples were smaller than would normally be expected to constitute a suitable sample size, mainly because the fills of most features were so small and/or contained such high proportions of limestone rubble, that the collection of larger volumes was not possible. Perhaps as a partial consequence of this, the results of the analyses (*Appendix 2*) were very poor. No cereal or carbonised seed was recovered, and most of the charcoal observed was unidentifiable. The samples from the terminals of Phase II (?Late Iron Age) *Enclosure Ditches 1* and *2* did, however, produce a small assemblage of terrestrial snails. Most of the species identified suggest that the immediate vicinity was open grassland, whilst a smaller number indicate well-shaded/damp environments with

tumbled wall debris and stable limestone scree - presumably the habitat which existed within the ditches themselves.

The sample from the terminal of *Enclosure Ditch 1* (see charcoal-rich lens in *Fig. 7 (d)*) also contained a single flake of hammerscale, suggesting that iron-smithing had occurred somewhere on the site.

Discussion

The most recent archaeological investigations at Brauncewell have provided useful information about the nature of the enclosures which flank the triple ditch system. In addition, however, they have gone some way to providing answers to important questions concerning the triple ditch complex as a whole. What, for example, was the chronological and functional relationship between the triple ditches and the adjacent enclosures, and how did the organisation of land-use in this area, change over time?

One of the most interesting and important discoveries of the 1997 excavation was undoubtedly *Structure 1*, a 35m long, post-built livestock enclosure. As stated earlier, parallels for such structures are rare, not only in Lincolnshire but across Britain as a whole in the Late Iron Age. Paradoxically, whilst *Structure 1* may be uncommon in terms of recorded numbers of similar structures in Britain, it is not unusual within the context of the later prehistoric British tradition of keeping stock outside in enclosures, as opposed to the more European preference for holding them in byres or byre-houses. Consequently, it may be that many more structures like *Structure 1* did actually exist, and that they have perhaps failed to materialise on British excavations because of the relatively ephemeral nature of their construction.

The enclosure within which *Structure 1* stood has been shown by the 1997 excavations, together with the data from the geophysical surveys, to have possessed a western boundary-ditch which ran parallel to the eastmost triple ditch. This shows that the enclosure physically respected the position of the triple ditch. More importantly, it indicates that the construction of the enclosure did not utilize the eastern triple ditch as its western boundary, thereby implying some degree of deference towards the triple ditch, by those who built and used the adjacent enclosure. It also suggests that the use of the enclosure was contemporary with the active use of the triple ditches, and not simply with their mere existence as an earthwork. In contrast, the later (more southerly) enclosure, did use the eastmost triple ditch as its western boundary, indicating that by this time, a deferential relationship no longer existed, and that the activity taking place within this enclosure most probably post-dated any activity directly associated with the triple ditch system. Moreover, it suggests that the triple ditches had ceased to exist as a single entity, and that this happened at some time between the construction of the earlier enclosure, and that of the later one. The recovery of 2nd century Roman pottery from the north-south gully suggests that this was no later than around AD200.

A similar conclusion to the above was reached by Tipper, reporting on the 1994 investigations to the south-west, in the area now quarried away. He stated that the evidence of 2nd century AD quarry pits dug through the fourth, westmost ditch which lay adjacent to the main triple ditches, was proof of this ditch having gone completely out of use by this time (1994, 9). He also described how an east-west aligned ditch, representing the north arm of one of the enclosures possibly associated with the Roman quarrying, clearly cut through the central of the triple ditches, and how the same

enclosure used the eastmost triple ditch as its eastern boundary. This, Tipper suggested, demonstrated that the central ditch went out of use before the eastmost one, and that by implication, the latter was a more important boundary (*ibid.*). However, using the eastmost triple ditch to form part of an enclosure proves only that the ditch was still visible as an earthwork, it does not mean that the importance formerly attached to the triple ditch system still persisted at this time. Neither does it indicate that the central ditch went out of use prior to the eastern one; it may actually be that the central ditch, whose former path dissects the plan of the subsequent enclosure, was deliberately backfilled to provide a level ground surface, prior to the digging of the enclosure's northern ditch.

In terms of actual functions for the ditched enclosures, that which contained *Structure 1* was not necessarily intended just for livestock. There may be the remains of human dwellings awaiting discovery further north, in an area yet to be covered by geophysical survey. As suggested earlier, those who built *Structure 1* clearly regarded the welfare of their animals as important, so one might expect domestic structures to have existed close by. There may even be more *Structure 1* type features elsewhere within the earlier enclosure.

The later enclosure, on the other hand, if it post-dated the triple ditch system, may have been associated with the phase of Roman quarrying identified by the 1994 investigations. In this way, it can be compared with the enclosures recorded at this time. These also yielded few (domestic) artefacts, possessed few apparent internal features, and utilised parts of the triple ditches as their boundaries. As Tipper supposed, they might perhaps have served as animal enclosures for the quarry-working community. The domestic dwellings associated with these livestock enclosures may have been concentrated further south and west (south of the quarry pit complex), since this is where Roman burials, and structures such as corndriers were exposed in 1994 (Tipper 1994).

The apparent changes which took place at Brauncewell between the Late Iron Age and the Early Roman period, indicated by the 1994 investigations and now reinforced as a result of the 1997 excavation, might reflect more than just a simple modification of land-use. They may, as Tipper suggested, signify the replacement of an existing social, cultural and ploitical system with a new order. In this way, the triple ditch complex, and the earlier enclosure excavated in 1997 (which fully respected the eastern triple ditch), could be seen as part of the old order, with the quarry pits recorded in 1994 and the later enclosure excavated in 1997 (which utilized the eastern triple ditch as one of its boundaries), reflecting the new system. The scale of the triple linear ditch complex suggests that those who were responsible for imposing this new order must have possessed considerable authority and power. Since the remains at Brauncewell appear to date from the Late Iron Age to the Early Roman period, it is most likely that this new order came about as a direct result of the Roman Conquest of AD 43. Even so, whether the new system would have had to have been rigidly enforced is uncertain, since it would have presumably depended on how strongly the existing community at Brauncewell resisted such changes. The evidence of deliberate backfilling of ditches and dismantlement of structures, could suggest some degree of enforcement. On the other hand, the use of the eastmost triple ditch as one of the boundaries of a new enclosure might reflect a purely pragmatic approach to land re-organization, that of utilizing pre-existing landscape features. Perhaps the existing social order was ripe for change, in which case one may envisage a period of gradual acculturation of ideas, beliefs and lifestyles.

Providing a sound chronology for the remains excavated in 1997 is not without difficulty. As already noted, few stratigraphic relationships existed between features, thereby frustrating attempts to confidently place some of the more important features, notably *Structures 2, 3* and *4,* into a particular phase. Furthermore, few artefacts were recovered, and most of these were pottery sherds found in the ploughsoil, the subsoil, and only a small number of other features. The majority of these pottery sherds, though probably of Late Iron Age date, may conceivably stretch back to the Middle Iron Age, so one cannot be at all certain about the earliest phase of activity on the site. On the other hand, the dates do seem to correlate well with those suggested for the remains investigated in 1994, so in this respect, one can perhaps have some confidence in a Late Iron Age date for many of the features on both sites. Similarly, the 2nd century AD pottery found in the north-south gully can be compared with the 2nd century date ascribed to the Roman quarry pits investigated in 1994. Together, these two pieces of evidence provide a fairly convincing argument for when the use of the triple ditches as an entity, and any contemporary activity, may have ceased. In terms of subsequent occupation, the discovery of a 3rd century AD coin from the ploughsoil in 1997 suggests some form of later Roman activity took place on the site. This accords with the pottery report on the 1994 work, which suggested that the latest phase of habitation might be the mid to late 3rd century AD. Despite such correlations, there is still a fairly loose chronology for the remains thus far investigated at Brauncewell; on any further fieldwork, greater quantities of diagnostic pottery and other, more closely datable artefacts are required, if a more precise and complete chronology is to be obtained.

The 1997 excavation and watching brief at Brauncewell have revealed valuable information about the ditched enclosures which flank the triple ditch system, both in terms of their associated activities, and in terms of the spatial and chronological relationships between the enclosures and the triple ditches. The work has also, however, emphasised how much more there is to know about the complex as a whole, and consequently, how important it is that further investigations be carried out. Until then, it is hoped that the above discussions will stimulate debate about the triple linear ditch complex, and, in the context of Late Iron Age and Early Roman rural Lincolnshire, throw some light on what its true significance(s) may have been.

C. Taylor
January 1998

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References

Audouze, F., and Buchsenschutz, O., 1991. *Towns, Villages and Countryside of Celtic Europe. From the beginning of the second millennium to the end of the first century BC.* BCA by arrangement with B.T. Batsford Ltd, London.

Bewley, R., 1994. *Prehistoric Settlements*. Batsford and English Heritage, London.

Cunliffe, B., 1991. *Iron Age Communities in Britain*. 3rd Edition, fully revised. Routledge, London.

Elsdon, S. M., *et al*, 1997. *Old Sleaford Revealed. A Lincolnshire settlement in Iron Age, Roman, Saxon and Medieval times: excavations 1882-1995*. Oxbow Monograph 91, Nottingham Studies in Archaeology 2. Oxbow Books, Oxford.

Field, N., 1993. *Brauncewell Limestone Quarry : Archaeological Desk Top Study*. Report for Brauncewell Quarries Ltd, November 1993.

Field, N., 1994. *Brauncewell Limestone Quarry Extension : Archaeological Evaluation*. Report for Brauncewell Quarries Ltd, March 1994.

Field, N., 1996. *Brauncewell Limestone Quarry : Proposals for Further Archaeological Recording*. Report for Brauncewell Quarries Ltd, July 1996.

Johnson, A., 1996. *Brauncewell Limestone Quarry, Lincolnshire : Topsoil Magnetic Susceptibility and Gradiometer Survey*. Report for Lindsey Archaeological Services on behalf of Brauncewell Quarries Ltd, October 1996.

Tipper, J., 1994. *Archaeological Excavations at Brauncewell Limestone Quarry*. Report for Brauncewell Quarries Ltd, Lindsey Archaeological Services, August 1994.

APPENDIX 1

REPORT ON THE POTTERY FROM BRAUCEWELL QUARRY, 1997 (BQ97)

for NETWORK ARCHAEOLOGY

by Margaret J Darling, M.Phil., F.S.A., M.I.F.A.

Archive

This pottery has been archived to the standard recommended by the *Study Group for Roman Pottery.* The sole measure used has been sherd count due to the generally abraded and scrappy nature of the sherds. A copy of the archive record is attached.

Quantity and condition

Just 111 sherds from 22 contexts, the top- and sub-soil being recorded by grid reference. The condition is mostly abraded, some suggesting the material had been moved around repeatedly.

Discussion

The pottery consists of mainly reduced grey and shell-gritted fabrics, with two sherds which appear to be grog-tempered (GROG), and a single sherd of Central Gaulish samian from Lezoux. Some of the shell-gritted is undoubtedly of Iron Age type (whether MLIA or Roman), and is coded as IASH (IASHC = shell coarse-gritted). Two sherds have notably sparse shell inclusions (GYMS). Where identification is uncertain, the code SHEL has been used. Dating can only be tentative on such slight evidence, but can be summarised as:

Enclosure ditch	Iron Age; probably Late.
Features 1007 & 1023	Roman
Gully 0042	2nd century
Oval depression 0027	probably Roman
PH/Pit 0190	LIA or Roman
Pit 0022	Iron Mid to Late
Pit 0085	Roman
Quarry pit 0225	LIA or Roman
Structures 1 & 3	M-LIA to Roman

The sherds are generally too scrappy for certain identification of forms. The notable vessels are both shell-gritted and considered to be of Iron Age date, fitting into the Middle- to Late-Iron Age. A jar with an upright square-cut rim from the enclosure ditch context 0025, and a probable bowl or jar with a triangular rim type from the pit 0022, the top of the rim bearing diagonal slashes. This is not certainly hand-made; the wall and hardness suggest it may be wheel-made, but finishing of the rim on a slow-wheel or turnable is probable. No parallels have yet been traced for this rim, probably a bowl, but it would seem to fit best in a Late Iron Age range. Square cut rims of the type from 0025 occur on both Mid to Late Iron Age sites, and the fragment is small, with very little curvature to indicate the diameter.

Some of the scraps of grey fabric cannot be positively dated as Iron Age or Roman, fitting broadly into the LIA or early Roman period. Other GREY fabric sherds are definitely Roman; the level of abrasion would suggest that these could derive from manuring rather than settlement in the immediate area. A single abraded sherd of Central Gaulish samian (Lezoux fabric) came from the gully 0042. The sherds from the structures 1 and 3 would all fit within the Iron Age, given that a GREY fragment was an indeterminate chip (from 0098). These included some sherds of possible scored ware, characteristic of the Middle Iron Age but continuing into the Late Iron Age. If the depth of the scoring can used chronologically, these could be viewed as late in the date-span of that decoration. Definite and possible post-Roman sherds occurred solely in the topsoil.

The overall date range could conservatively extend from the Middle Iron Age, but is more probably Late Iron Age, through to the 2nd century, the latter date securely based on the single sherd of Lezoux samian. None of the other Roman sherds, all scraps of various undistinctive grey fabrics can be closely dated.

RECOMMENDATIONS

The jar or bowl from the pit 0022 and the fragment of square-cut jar or bowl rim from 0025 should be drawn. It would be worth examining the fabric of the shell-gritted sherds, possibly by thin-section; no bryzoa have been noted to suggest these came from potters working to the south, and this is probably a Lincolnshire fabric.

	bq97											
	cxt	Grid	Fab	Fm	Dec	Vess	Draw?	DNo	Comment	Join	Shs	Wt
Enclosure ditch	0006		IASH		HM				ABR ?BASE FR		1	
Enclosure ditch	0011		IASH		HM				BS LTRB EXT;?BURNT INT;&CHIP		2	
Enclosure ditch	0019		IASH		HM?				FLAKED CHIP		1	
Enclosure ditch	0024		GYMS?						THIN WALL BS;POSS WM?;AS IN	41	1	
Enclosure ditch	0025		IASH	JBUR	HM	1	D		SQ.CUT UPR.RIM FR/BS;LTBN EXT		2	
Enclosure ditch	0041		GYMS?						CHIP;THIN WALL;V SPARSE SHELL;AS IN	24	1	
Feature	1007		GREY			2			BSS;ONE HARD FIRED RB FAB		2	
Feature	1023		GREY?						ABR BS;GRY W RB EXT;SM.BLK INCLS		1	
Gully	0042		GREY						THIN WALL BS		1	
Gully	0042		SAMCG	BD					ABR FLAKED BS		1	
Oval depression	0027		GREY			1			BSS J;THIN WALL		2	
Oval depression	0027		GREY						THIN WALL BS;IA/RO?		1	
Oval depression	0027		IASH		HM?				BS;LTRB EXT;?BURNT INT		1	
Oval depression	0027		IASH						ABR CHIP		1	
PH/Pit	0190		GREY						ABR BS;?X JUNC.BASE/WALL?;IA/RO?		1	
Pit	0022		IASHC	BTR?	HM;SLAS	1	D		RIMS/PT WALL;DIAG.SLASH TOP RIM;13 BSS/CHIPS;DIAM22		17	
Pit	0085		GREY			1			BSS;STD RO		2	
Pit	0085		IASH?						THIN WALL CHIP;LTBN EXT		1	
Quarry Pit	0225		GREY						BS;IA/RO?		1	
Str1 pit/ph	0098		GREY						TINY CHIP		1	
Str1 pit/ph	0138		IASHC		HM;SCR	1	D?		BSS J;LTBN EXT;BURNING INT		2	
Str1 pit/ph	0306		IASH		HM?				THIN WALL BS;LTBN EXT;?BURNT INT;2 CHIPS		3	
Str1 pit/ph	0353		IASHC		HM;SCR?	1?			BSS;CHIPS;12-13MM THICK		8	
Str1 pit/ph	0368		IASH		SCR?				FLAKE RB EXT;VERT SCR?		1	
Str3 pit/ph	0136		IASH		HM?				BS;LTRB EXT;?BURNT INT		1	
Subsoil	0002	008/021	IASHC		HM	1			BSS LTBN SURFS		10	
Subsoil	0002	020/024	GROG?						BS;LTRB EXT;BURNT INT		1	
Subsoil	0002	028/029	GREY?						TINY BS BURNT TO EXTINCTION!		1	
Subsoil	0002	029/016	GREY						BS;LTGRY		1	
Subsoil	0002	029/016	OX						BS GRY W LTRB SURFS;10MM;RO?		1	
Subsoil	0002	029/021	GREY						ABR BS		1	
Subsoil	0002	029/021	GROG?						SM ABR BS;DKGRY;LTRB EXT SURF;LTBN GROG?		1	
Topsoil	0001	0	GREY						BS		1	
Topsoil	0001	008/021	PRO?						OXID CHIP;NR TILE		1	
Topsoil	0001	008/025	SHEL						BS LTRB SURF;?VEG.INCL		1	
Topsoil	0001	008/026	GREY		COL				BS;COMBED VERT LINES?		1	
Topsoil	0001	008/037	GREY						BS;LT GRYBN CORTEX		1	

Topsoil	0001	009/025	GREY			1			BS;LT GRYBN CORTEX;AS IN	1-008/037	2	
Topsoil	0001	012/029	GREY						BS		1	
Topsoil	0001	013/010	GREY						BS		1	
Topsoil	0001	013/024	GREY						BS;GRYCORE;BNGRY EXT;CR INT		1	
Topsoil	0001	018/039	PRO?						THICK LTRB BS;NR TILE FAB		1	
Topsoil	0001	020/029	GREY?						BS;BURNT CR EXT?		1	
Topsoil	0001	023/029	SHEL						BS/CHIP LTRB SURF		1	
Topsoil	0001	023/054	SHEL		HM;SCR?				BS		1	
Topsoil	0001	028/039	GREY			2			BSS;ONE THIN WALL		2	
Topsoil	0001	033/019	GREY						BS SMALL		1	
Topsoil	0001	035/029	PRO?			1			THICKISH LTRB SURF BSS		2	
Topsoil	0001	038/017	GREY			3			BSS;CHIP THIN WALL		3	
Topsoil	0001	038/024	GREY						BS ABR.		1	
Topsoil	0001	038/039	GREY						BS		1	
Topsoil	0001	043/027	GREY						BS		1	
Topsoil	0001	043/035	GREY						BS;ABR & BURNT CR		1	
Topsoil	0001	045/042	PRO						GRY CORE LTRB BSS;ONE W GLAZE STRIPE		2	
Topsoil	0001	046/024	SHEL		HM?				FLAKED BS;?BURNT INT		1	
Topsoil	0001	048/021	GREY						BS THIN WALL;?BURNISH		1	
Topsoil	0001	048/022	SHEL						CHIP ONLY		1	
Topsoil	0001	048/024	SHEL		HM?				THIN CURVED RIM FRAG;DIFF FAB		1	
Topsoil	0001	048/024	SHEL		HM				BS PROB SAME VESS AS RIM;LTBN EXT;DIFF FAB;CHK INCL			
Topsoil	0001	050/027	GREY						BS;THIN WALL		1	
Topsoil	0001	053/017	SHEL						BS ABR		1	
Topsoil	0001	053/029	PRO?			1			BSS J;GRY CORE LTRB		2	
Unstrat	U/S		GREY						BS LTGRY		1	
Unstrat	U/S		GREY						HARD GRITTY BS;RB CORT;DKGRY SURFS		1	

BRAUNCEWELL QUARRY, BQ 97

Environmental Archaeology Report James Rackham

Twelve soil samples and a small collection of animal bone was submitted for study. Despite the calcareous nature of the soil the animal bone was in a poor state of preservation and clearly many fragments had not survived to be excavated. This appears to have been due to the effect of severe leaching leading to corrosion of most of the material originally deposited. A similar pattern of survival was present in the soil samples, although some snail shells survived in an identifiable condition.

The following samples were collected:

Sample no.	Context	Volume in lt
1	11	2.3
2	55	0.4
3	92	7.0
4	92	0.85
5	100	2.5
6	202	0.9
7	287	0.4
8	369	2.8
9	370	2.0
10	345	0.25
11	331	1.2
12	375	0.7

The samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a bowl using a flotation sieve with a 0.125mm mesh and washing the residue through a 1mm mesh. Both residue and float were dried, and the residue subsequently re-floated to ensure the efficient recovery of carbonised material. The dry volume of the combined 1st and 2nd flots was measured, and the volume and weight of the residue recorded.

The residue was sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. The residue was then discarded. The float of each sample was studied under a low power binocular microscope. The presence of environmental finds (ie snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. The float was then bagged. The float and finds constitute the material archive of the samples.

The assessment sheets are attached and the results summarised below.

Results from the samples

The results are poor. Animal bone survived badly and only two contexts, [11] and [55], produced any bone, none of which was identifiable. That in the latter context however was all burnt. Among the carbonised material only charcoal was identified and no cereals or other carbonised seeds were observed. Most of the charcoal was comminuted and unidentifiable and only in contexts [11] and [92] did it weigh more than one gramme. In these two contexts there

is just sufficient charcoal to obtain a radiocarbon date through 'extended counting'. The limestone in the residues showed evidence of burning in contexts [92], [100], [128], [287], [331] and [345] but little other archaeological information is present. One sample, [55], has a single flake of hammerscale suggesting at least that iron-smithing occured on the site somewhere.

Occasional finds of uncarbonised seeds of *Chenopodium* sp. and other species are likely to represent intrusive material and considerable quantities of degraded organic material, in many cases probably rootlets almost certainly derived from more recent plant growth at the site. Molluscs shells occur in a number of the samples. The most common species is *Cecilioides acicula*, a small fragile burrowing snail and this species may reflect later intrusion into the deposits. Two contexts, [11] and [55], contain sufficient snails to warrant further study. These may give some clue to the environmental conditions immediately surrounding the sampled contexts.

Animal bone

Bone survival on this site is exceptionally poor due to severe leaching through the well drained calcareous soils. All material except that burnt or charred before deposition has been reduced to a state of severely pitted and thinned bone or heavily eroded teeth with loss of cementum, dentine and increased fragility of the surviving enamel. Many of the smaller and less robust pieces originally deposited will not have survived and the excavated fragments are likely to constitute a small proportion of the original assemblage. A number of the fragments from each context are likely to, or do, derive from single fragments which had broken up further during or since excavation.

Cattle, horse, pig and sheep (or goat) bones and teeth have survived. The two recovered cattle jaws indicate aged animals but given the condition of the assemblage this is likely to be of little significance.

Further work

The only further work that may be warranted at this site is the dating of the two samples that contain sufficient charcoal to allow a radiocarbon determination and the analysis of the snails in contexts [11] and [55] for palaeoenvironmental information.

I would recommend that where possible larger samples are taken in future. While the absence of cereals and other carbonised seeds is unexpected and suggests a lack of 'rubbish' in the contexts, only 21.3 litres of soil were collected for study and this would normally be recommended as the size for a single sample (normally 30 litres when sampling for carbonised remains). It is therefore difficult on this evidence to state that carbonised seeds and cereals were absent from the contexts, and the absence of bone can be attributed to burial conditions. Likewise although the quantities of charcoal recovered were small in total this would be a reasonably rich sample if obtained from a single 20 litre sample.

In any future work at the site the two areas deserving of attention are the carbonised material and the terrestrial snails. Sampling for the former might permit confirmation of the whether the general absence of cereal remains at the site is real or not, while the latter could help to clarify the local environment at the time of occupation of the settlement.

Brauncewell Quarry, BQ97

The samples from the terminals of the enclosure ditch (ditch cuts 0003 and 0005) produced a small assemblage of terrestrial molluscs. The identified specimens from these samples are listed below in Table 1.

Table 1
Terrestrial molluscs identified from two contexts in the terminals of the enclosure ditch (0003 and 0005)

	context	0011	0055	
	sample	1	2	
Oxychilus alliarus		4		shade loving
Oxychilus cf cellarius		17	3	
Oxychilus sp.		17		
Vitrina sp.			2	
Punctum pygmaeum		14	1	
Columella edentula		2		
Cochlicopa lubrica		2		intermediate species
Helix hortensis/nemoralis		4	1	
Hygromia hispida		8	5	
Vallonia costata		9	6	open country
Vallonia excentrica		14	6	
Vallonia sp		12	23	
Truncatellina cylindrica		3	6	
Pupilla muscorum		14	4	
Vertigo pygmaea			1	
Helicella itala		8	2	
Helicella sp.		1		
Cecilioides acicula		157	33	

The majority of the species identified are associated with open country habitats, often typical of calcareous grasslands, but a significant element of the fauna from the northern terminal (0011) is composed of species that although of catholic habit, favour well shaded or damp environments, such as woodland or hedges. *Oxychilus cellarius* is also characteristic of tumbled wall debris and stable limestone scree (Evans 1972) and a similar habitat may have been present in these ditches cut through the underlying limestone. *Cecilioides acicula*, a burrowing snail (op cit), may be intrusive into the deposits, and although usually found in grassland habitats cannot be treated as contemporary with the remainder of the fauna.

Both assemblages are suggestive of an open grassland habitat in the immediate vicinity of the enclosure, with the ditches themselves and their associated vegetation perhaps affording sufficient shade and moisture for the more catholic members of the fauna.

Cameron, R.A.D. and Redfern, M. 1976 *British Land Snails*, Linnean Soc.Lon. and Academic Press

Evans, J.G. 1972 *Lands Snails in Archaeology*, Academic Press

THE ENVIRONMENTAL ARCHAEOLOGY CONSULTANCY

Key to codes used in the cataloguing of animal bones

SPECIES

BOS	cattle
CSZ	cattle size
SUS	pig
OVCA	sheep or goat
OVI	sheep
SSZ	sheep size
EQU	horse
CER	red deer
CAN	dog
MAN	human
UNI	unknown
CHIK	chicken
GOOS	goose, dom
LEP	hare
UNB	indet bird
MALL	duck, dom.
GULL	gull sp.
FISH	fish
UNIB	bird indet
UNIF	fish indet
GSZE	goose size
BEAV	beaver
CORV	crow or rook
BUZZ	buzzard

BONE

SKL	skull
TEMP	temporal
FRNT	frontal
PET	petrous
PAR	parietal
OCIP	occipital
ZYG	zygomatic
MAN	mandible
MAX	maxilla
ATL	atlas
AXI	axis
CEV	cervical vertebra
TRV	thoracic vertebra
LMV	lumbar vertebra
SAC	sacrum
CDV	caudal vertebra
SCP	scapula
HUM	humerus
RAD	radius
MTC	metacarpus
MC1-4	metacarpus 1-4
INN	innominate
ILM	ilium
PUB	pubis
ISH	ischium
FEM	femur
TIB	tibia
AST	astragalus
CAL	calcaneum
MTT	metatarsus
MT1-4	metatarsus 1-4
PH1	1st phalanx
PH2	2nd phalanx
PH3	3rd phalanx
LM1-LM3	Lower molar 1 - molar 3
UM1-UM3	upper molar 1 - molar 3
LPM1-LPM4	lower premolar 1-4
UPM1-UPM4	upper premolar 1-4
DLPM1-4	deciduous lower premolar 1-4
DUPM1-4	deciduous upper premolar 1-4
MNT	mandibular tooth
MXT	maxillary tooth
LBF	long bone
UNI	unidentified
STN	sternum
INC	incisor
TTH	indet. tooth
CMP	carpo-metacarpus

SIDE

W - whole
L - left side
R - right side
F - fragment

FUSION

Records the fused/unfused condition of the epiphyses
P - proximal; D - distal; E - acetabulum;
N - unfused; F - fused; C - cranial; A - posterior

TOOTH WEAR - Codes are those used in Grant, A. 1982 The use of tooth wear as a guide to the age of domestic animals, in B.Wilson, C.Grigson and S.Payne (eds) *Ageing and sexing animal bones from Archaeological sites, 91-108.*

Teeth are labelled as follows in the tooth wear column:

h ldpm4/dupm4
H lpm4/upm4
I lm1/um1
J lm2/um2
K lm3/um3
f ldpm2/dupm2
g ldpm3/dupm3

ZONES - zones record the part of the bone present.
The key to each zone on each bone is on page 2

MEASUREMENTS - Any measurements are those listed in A.Von den Driesch (1976) *A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin 1, Peabody Museum, Harvard, USA

The Environmental Archaeology Consultancy - Bone Catalogue Key

ZONES - codes used to define zones on each bone

SKULL -	1. paraoccipital process
	2. occipal condyle
	3. intercornual protuberance
	4. external acoustic meatus
	5. frontal sinus
	6. ectorbitale
	7. entorbitale
	8. temporal articular facet
	9. facial tuber
	0. infraorbital foramen
MANDIBLE	1. Symphyseal surface
	2. diastema
	3. lateral diastemal foramen
	4. coronoid process
	5. condylar process
	6. angle
	7. anterior dorsal acsending ramus posterior M3
	8. mandibular foramen
VERTEBRA	1. spine
	2. anterior epiphysis
	3. posterior epiphysis
	4. centrum
	5. neural arch
SCAPULA	1. supraglenoid tubercle
	2. glenoid cavity
	3. origin of the distal spine
	4. tuber of spine
	5. posterior of neck with foramen
	6. cranial angle of blade
	7. caudal angle of blade
HUMERUS	1. head
	2. greater tubercle
	3. lesser tubercle
	4. intertuberal groove
	5. deltoid tuberosity
	6. dorsal angle of olecranon fossa
	7. capitulum
	8. trochlea
RADIUS	1. medial half of proximal epiphysis
	2. lateral half of proximal epiphysis
	3. posterior proximal ulna scar and foramen
	4. medial half of distal epiphysis
	5. lateral half of distal epiphysis
	6. distal shaft immediately above distal epiphysis
ULNA	1. olecranon tuberosity
	2. trochlear notch- semilunaris
	3. lateral coronoid process
	4. distal epiphysis

METACARPUS -	1. medial facet of proximal artciulation, MC3
	2. lateral facet of proximal articulation, MC4
	3. medial distal condyle, MC3
	4. lateral distal condyle, MC4
	5. anterior distal groove and foramen
	6. medial or lateral distal condyle
FIRST PHALANX	1. proximal epiphysis
	2. distal articular facet
INNOMINATE	1. tuber coxae
	2. tuber sacrale + scar
	3. body of illium with dorso-medial foramen
	4. iliopubic eminence
	5. acetabular fossa
	6. symphyseal branch of pubis
	7. body of ischium
	8. ischial tuberosity
	9. depression for medial tendon of rectus femoris
FEMUR	1. head
	2. trochanter major
	3. trochanter minor
	4. supracondyloid fossa
	5. distal medial condyle
	6. lateral distal condyle
	7. distal trochlea
	8. trochanter tertius
TIBIA	1. proximal medial condyle
	2. proximal lateral condyle
	3. intercondylar eminence
	4. proximal posterior nutrient foramen
	5. medial malleolus
	6. lateral aspect of distal articulation
	7. distal pre-epiphyseal portion of the diaphysis
CALCANEUM	1. calcaneal tuber
	2. sustentaculum tali
	3. processus anterior
METATARSUS	1. medial facet of proximal artciulation, MT3.
	2. lateral facet of proximal articulation, MT4
	3. medial distal condyle, MT3
	4. lateral distal condyle, MT4
	5. anterior distal groove and foramen
	6. medial or lateral distal condyle

Brauncewell Quarry, BQ97 - Animal Bone Archive

site	context	species	bone	no	side	fusion	zone	butchery	gnawing	toothwear	measure-ment	comments	preserv-ation *
BQ97	11	BOS	MAN	1	R		7			K15		3 PIECES-HORIZONTAL RAMUS WITH M3	2
BQ97	11	CSZ	SKL	1	F							CRANIAL FRAG	2
BQ97	11	CSZ	UNI	1	F							INDET-POSS GLENOID FRAG SCAPULA	2
BQ97	11	SSZ	LBF	5	F							SHAFT FRAGS	2
BQ97	11	UNI	UNI	1	F							INDET	2
BQ97	13	CSZ	TIB	1	F		4					FRAGMENTED TIBIA SHAFT - 24 PIECES PROBABLY ALL OFF SAME BONE-PROB BOS	2
BQ97	15	CSZ	TTH	1	F							ENAMEL FRAG - 2 PIECES	1
BQ97	19	CSZ	LBF	3	F							BURNT SHAFT FRAGMENTS	4
BQ97	19	CSZ	UNI	2	F							INDET FRAGMENTS- BURNT	4
BQ97	52	BOS	MAN	1	F					I16K15		SEVERELY ERODED FRAGMENTS HORIZONTAL RAMUS-WITH M1 AND 3- 10 PIECES	2
BQ97	54	BOS	HUM	1	L		69					FRAGMENTED DISTAL SHAFT- 6 PIECES	2
BQ97	54	CSZ	LBF	8	F							SEVERELY ERODED SHAFT FRAGMENTS-POSSIBLY SAME BONE	2
BQ97	54	CSZ	UNI	5	F							SEVERELY ERODED INDETERMINATE FRAGMENTS	2
BQ97	54	EQU	INN	1	F	EF	5					SEVERELY ERODED ACETABULAR FRAGMENT- 2 PIECES	2
BQ97	56	BOS	CEV	1	F		5					DORSAL FRAGMENT- 5 PIECES	2
BQ97	56	CSZ	SKL	1	F							ERODED CRANIAL FRAGMENT	2
BQ97	59	CSZ	LBF	1	F							SPLIT MIDSHAFT FRAGMENT- 2 PIECES	2
BQ97	174	CSZ	SKL	2	F							SEVERELY ERODED CRANIAL FRAGS-PROBABLY SAME SKULL	2
BQ97	174	CSZ	UNI	10	F							INDETERMINATE FRAGMENTS-POSSIBLY FROM SKULL ABOVE	2
BQ97	368	BOS	LI	1	L							UNWORN INCISOR	2
BQ97	368	BOS	MTT	1	R							SPLIT PROXIMAL FRAGMENT- 2 PIECES	2
BQ97	368	CSZ	UNI	1	F							INDETERMINATE	3
BQ97	368	OVCA	LPM 2	1	L							SL WEAR	2
BQ97	368	OVCA	UM2	1	R					J12			2
BQ97	368	SUS	TTH	1	F							CUSP FRAGMENT-SLIGHTLY WORN	2
BQ97	368	UNI	UNI	1	F							INDET FRAGMENT	2

* preservation codes: 1- enamel only; 2 - very eroded with extensive pitting, surface erosion and exfoliation; 3 - surface pitted and etched; 4 - conditon average, no visible erosion; 5 - good condition.

APPENDIX 3

BRAUNCEWELL QUARRY: BQ97

101.97

Registered Finds

Context	Finds No	Material	Object	Comments
0001	1	COPP	COIN	ROM;M3-L3;;;RADI
0001	2	IRON	NAIL	-

Mus Acc No 101.97	Sitecode BQ97	Context 0001	Reg No 1
Material COPPER ALLOY	Object COIN	Type	Date mid-late 3rd C
Description		Sketch (c250-280)	
O: Radiate head just visible			
R: Standing figure			
Dimensions (in mm)			
Lab Card	X-ray BQ 1.1997		
B/W Photo	Drawing	Spec Report	
Slide	Pub		CLAU

BRAUNCEWELL QUARRY: BQ97

101.97

Registered Finds

Context	Finds No	Material	Object	Comments
0001	1	COPP	COIN	ROM;M3-L3;;;RADI
0001	2	IRON	NAIL	-

Mus Acc No 101.97	Sitecode BQ97	Context 0001	Reg No 2
Material IRON	Object NAIL	Type	Date
Description		Sketch	
Slender, bent.			
Dimensions (in mm) L: 55			
Lab Card	X-ray BQ 1·1997		
B/W Photo	Drawing	Spec Report	
Slide	Pub		CLAU

Brauncewell Quarry 1997 : Context Summary List

Context	Description	Part Of	Period	Phase
0001	modern ploughsoil		modern	VI
0002	subsoil			unphased
0003	ditch	enclosure ditch 2	?Late Iron Age	II
0004	fill of ditch 0003, sect 1	enclosure ditch 2	?Late Iron Age	II
0005	ditch	enclosure ditch 1	?Late Iron Age	II
0006	fill of ditch 0005, sect 2	enclosure ditch 1	?Late Iron Age	II
0007	fill of ditch 0005, sect 5	enclosure ditch 1	?Late Iron Age	II
0008	fill of ditch 0005, sect 5	enclosure ditch 1	?Late Iron Age	II
0009	fill of ditch 0005, sect 5	enclosure ditch 1	?Late Iron Age	II
0010	fill of ditch 0003, sect 2	enclosure ditch 2	?Late Iron Age	II
0011	fill of ditch 0003, sect 2	enclosure ditch 2	?Late Iron Age	II
0012	fill of ditch 0003, sect 2	enclosure ditch 2	?Late Iron Age	II
0013	fill of ditch 0005, sect 2	enclosure ditch 1	?Late Iron Age	II
0014	fill of ditch 0005, sect 2	enclosure ditch 1	?Late Iron Age	II
0015	fill of ditch 0005, sect 2	enclosure ditch 1	?Late Iron Age	II
0016	fill of ditch 0005, sect 2	enclosure ditch 1	?Late Iron Age	II
0017	fill of ditch 0005, sect 2	enclosure ditch 1	?Late Iron Age	II
0018	?pit			unphased
0019	fill of ditch 0021	enclosure ditch 3	?Late Iron Age/Early Roman	III
0020	fill of ditch 0021	enclosure ditch 3	?Late Iron Age/Early Roman	III
0021	ditch	enclosure ditch 3	?Late Iron Age/Early Roman	III
0022	fill of pit 0039		?Late Iron Age	unphased
0023	fill of ditch 0005, sect 6	enclosure ditch 1	?Late Iron Age	II
0024	fill of ditch 0005, sect 6	enclosure ditch 1	?Late Iron Age	II
0025	fill of ditch 0005, sect 6	enclosure ditch 1	?Late Iron Age	II
0026	fill of ditch 0005, sect 6	enclosure ditch 1	?Late Iron Age	II
0027	layer, fill of hollow			unphased
0028	pit			unphased
0029	fill of pit 0028			unphased
0030	pit			unphased
0031	fill of pit 0030			unphased
0032	fill of ditch 0021, sect 2	enclosure ditch 3	?Late Iron Age/Early Roman	III
0033	fill of ditch 0021, sect 2	enclosure ditch 3	?Late Iron Age/Early Roman	III
0034	fill of ditch 0021, sect 2	enclosure ditch 3	?Late Iron Age/Early Roman	III
0035	fill of ditch 0021, sect 2	enclosure ditch 3	?Late Iron Age/Early Roman	III
0036	fill of ditch 0021, sect 2	enclosure ditch 3	?Late Iron Age/Early Roman	III
0037	fill of ditch 0003, sect 2	enclosure ditch 2	?Late Iron Age	II
0038	fill of pit 0018			unphased
0039	pit		?Late Iron Age	unphased
0040	fill of ditch 0003 where unexcavated	enclosure ditch 2	?Late Iron Age	II
0041	fill of ditch 0005 where unexcavated	enclosure ditch 1	?Late Iron Age	II
0042	fill of gully 0043	north-south gully	?Early Roman	IV
0043	gully	north-south gully	?Early Roman	IV
0044	fill of ditch 0021	enclosure ditch 3	?Late Iron Age/Early Roman	III
0045	fill of ditch 0021	enclosure ditch 3	?Late Iron Age/Early Roman	III
0046	fill of ditch 0021	enclosure ditch 3	?Late Iron Age/Early Roman	III
0047	fill of gully 0043, sect 2	north-south gully	?Early Roman	IV
0048	fill of gully 0043, sect 3	north-south gully	?Early Roman	IV
0049	fill of gully 0043, sect 4	north-south gully	?Early Roman	IV
0050	?slot			unphased
0051	fill of ?slot 0050			unphased
0052	fill of ditch 0005, sect 1	enclosure ditch 1	?Late Iron Age	II
0053	fill of ditch 0005, sect 1	enclosure ditch 1	?Late Iron Age	II
0054	fill of ditch 0005, sect 1	enclosure ditch 1	?Late Iron Age	II
0055	fill of ditch 0005, sect 1	enclosure ditch 1	?Late Iron Age	II
0056	fill of ditch 0005, sect 1	enclosure ditch 1	?Late Iron Age	II
0057	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0058	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0059	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0060	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0061	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0062	fill of ditch 0005, sect 4	enclosure ditch 1	?Late Iron Age	II
0063	fill of ditch 0005, sect 4	enclosure ditch 1	?Late Iron Age	II

Brauncewell Quarry 1997 : Context Summary List

Context	Description	Part Of	Period	Phase
0064	fill of ditch 0005, sect 4	enclosure ditch 1	?Late Iron Age	II
0065	fill of ditch 0005, sect 4	enclosure ditch 1	?Late Iron Age	II
0066	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0067	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0068	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0069	fill of ditch 0005, sect 3	enclosure ditch 1	?Late Iron Age	II
0070	ditch 0070	enclosure ditch 1	?Late Iron Age	II
0071	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0072	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0073	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0074	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0075	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0076	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0077	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0078	fill of ditch 0021 where unexcavated	enclosure ditch 3	?Late Iron Age/Early Roman	III
0079	fill of ditch 0070	enclosure ditch 1	?Late Iron Age	II
0080	pit			unphased
0081	posthole			unphased
0082	pit			unphased
0083	pit			unphased
0084	pit			unphased
0085	fill of pit 0084			unphased
0086	fill of pit 0083			unphased
0087	fill of pit 0083			unphased
0088	fill of pit 0083			unphased
0089	fill of pit 0082			unphased
0090	fill of pit 0080			unphased
0091	fill of pit 0080			unphased
0092	fill of pit 0080			unphased
0093	fill of posthole 0081			unphased
0094	fill of ditch 0005, sect 4	enclosure ditch 1	?Late Iron Age	II
0095	linear feature			unphased
0096	cut of linear feature 0095			unphased
0097	gully	structure 1	?Late Iron Age	II
0098	fill of gully 0097	structure 1	?Late Iron Age	II
0099	pit	structure 1	?Late Iron Age	II
0100	fill of pit 0099	structure 1	?Late Iron Age	II
0101	curving slot	structure 1	?Late Iron Age	II
0102	fill of curving slot 0101	structure 1	?Late Iron Age	II
0103	?posthole	structure 1	?Late Iron Age	II
0104	fill of ?posthole 0103	structure 1	?Late Iron Age	II
0105	posthole			unphased
0106	fill of posthole 0105			unphased
0107	fill of posthole 0105			unphased
0108	posthole	structure 1	?Late Iron Age	II
0109	fill of posthole 0108	structure 1	?Late Iron Age	II
0110	posthole			unphased
0111	fill of posthole 0110			unphased
0112	posthole			unphased
0113	fill of posthole 0112			unphased
0114	?pit			unphased
0115	fill of ?pit 0114			unphased
0116	posthole	fenceline	?Late Iron Age	II
0117	fill of posthole 0116	fenceline	?Late Iron Age	II
0118	fill of posthole 0116	fenceline	?Late Iron Age	II
0119	posthole	structure 1	?Late Iron Age	II
0120	fill of posthole 0119	structure 1	?Late Iron Age	II
0121	posthole	structure 1	?Late Iron Age	II
0122	fill of posthole 0121	structure 1	?Late Iron Age	II
0123	fill of posthole 0119	structure 1	?Late Iron Age	II
0124	fill of pit 0125			unphased
0125	pit			unphased
0126	fill of posthole 0127	structure 3		unphased
0127	posthole	structure 3		unphased

Brauncewell Quarry 1997 : Context Summary List

Context	Description	Part Of	Period	Phase
0128	fill of posthole 0129	structure 3		unphased
0129	posthole	structure 3		unphased
0130	fill of posthole 0131	structure 3		unphased
0131	posthole	structure 3		unphased
0132	fill of pit 0125			unphased
0133	fill of ?posthole 0336			unphased
0134	fill of posthole 0135	structure 1	?Late Iron Age	II
0135	posthole	structure 1	?Late Iron Age	II
0136	fill of ?gully	structure 3		unphased
0137	?gully	structure 3		unphased
0138	fill of posthole 0139	structure 1	?Late Iron Age	II
0139	posthole	structure 1	?Late Iron Age	II
0140	fill of pit 0141			unphased
0141	pit			unphased
0142	fill of posthole 0143			unphased
0143	posthole			unphased
0144	fill of ?stakehole 01445			unphased
0145	?stakehole			unphased
0146	fill of gully 0147	structure 3		unphased
0147	gully	structure 3		unphased
0148	posthole	gateposts	?Late Iron Age	II
0149	fill of posthole 0148	gateposts	?Late Iron Age	II
0150	?posthole	structure 1	?Late Iron Age	II
0151	fill of ?posthole 0150	structure 1	?Late Iron Age	II
0152	?posthole	structure 1	?Late Iron Age	II
0153	fill of ?posthole 0152	structure 1	?Late Iron Age	II
0154	?posthole	structure 1	?Late Iron Age	II
0155	fill of ?posthole 0154	structure 1	?Late Iron Age	II
0156	slot	structure 1	?Late Iron Age	II
0157	fill of slot 0156	structure 1	?Late Iron Age	II
0158	posthole	structure 1	?Late Iron Age	II
0159	fill of posthole 0158	structure 1	?Late Iron Age	II
0160	posthole			unphased
0161	fill of posthole 0161			unphased
0162	posthole	gateposts	?Late Iron Age	II
0163	fill of posthole 0162	gateposts	?Late Iron Age	II
0164	posthole	structure 1	?Late Iron Age	II
0165	fill of posthole 0164	structure 1	?Late Iron Age	II
0166	posthole	structure 1	?Late Iron Age	II
0167	fill of posthole 0166	structure 1	?Late Iron Age	II
0168	posthole	structure 1	?Late Iron Age	II
0169	fill of posthole 0168	structure 1	?Late Iron Age	II
0170	posthole			unphased
0171	fill of posthole 0170			unphased
0172	fill of posthole 0170			unphased
0173	?pit			unphased
0174	fill of ?pit 0173			unphased
0175	layer			unphased
0176	burnt patch			unphased
0177	fill of burnt patch 0176			unphased
0178	burnt patch			unphased
0179	posthole			unphased
0180	fill of posthole 0179			unphased
0181	posthole	structure 1	?Late Iron Age	II
0182	fill of posthole 0181	structure 1	?Late Iron Age	II
0183	fill of posthole 0181	structure 1	?Late Iron Age	II
0184	layer			unphased
0185	?pit			unphased
0186	fill of ?pit 0185			unphased
0187	fill of ?pit 0185			unphased
0188	fill of ?pit 0185			unphased
0189	?pit/posthole			unphased
0190	fill of ?pit/posthole 0189			unphased
0191	fill of ?pit/posthole 0189			unphased

Brauncewell Quarry 1997 : Context Summary List

Context	Description	Part Of	Period	Phase
0192	?slot			unphased
0193	fill of ?slot 0192			unphased
0194	posthole	fenceline	?Late Iron Age	II
0195	fill of posthole 0194	fenceline	?Late Iron Age	II
0196	posthole	fenceline	?Late Iron Age	II
0197	fill of posthole 0196	fenceline	?Late Iron Age	II
0198	posthole	fenceline	?Late Iron Age	II
0199	fill of posthole 0198	fenceline	?Late Iron Age	II
0200	posthole	fenceline	?Late Iron Age	II
0201	fill of posthole 0200	fenceline	?Late Iron Age	II
0202	fill of posthole 0129	structure 3		unphased
0203	fill of ditch 0005	enclosure ditch 1	?Late Iron Age	II
0204	posthole	structure 2		unphased
0205	fill of posthole 0204	structure 2		unphased
0206	posthole	structure 2		unphased
0207	fill of posthole 0206	structure 2		unphased
0208	posthole	structure 2		unphased
0209	fill of posthole 0208	structure 2		unphased
0210	posthole	structure 2		unphased
0211	fill of posthole 0210	structure 2		unphased
0212	posthole			unphased
0213	fill of posthole 0212			unphased
0214	furrow		?Medieval	V
0215	fill of furrow 0214		?Medieval	V
0216	fill of posthole 0143			unphased
0217	fill of ?gully 0137	structure 3		unphased
0218	posthole			unphased
0219	fill of posthole 0218			unphased
0220	fill of posthole 0218			unphased
0221	?posthole			unphased
0222	fill of ?posthole			unphased
0223	?slot/posthole	structure 1	?Late Iron Age	II
0224	fill of ?slot/posthole 0223	structure 1	?Late Iron Age	II
0225	quarry pit			unphased
0226	?posthole	structure 1	?Late Iron Age	II
0227	fill of ?posthole 0226	structure 1	?Late Iron Age	II
0228	posthole	fenceline	?Late Iron Age	II
0229	fill of posthole 0228	fenceline	?Late Iron Age	II
0230	furrow		?Medieval	V
0231	fill of furrow 0230		?Medieval	V
0232	furrow		?Medieval	V
0233	?pit			unphased
0234	fill of ?pit 0233			unphased
0235	?pit			unphased
0236	fill of ?pit 0235			unphased
0237	pit			unphased
0238	fill of pit 0238			unphased
0239	?pit/posthole			unphased
0240	fill of ?pit/posthole 0239			unphased
0241	fill of ?pit/posthole 0239			unphased
0242	fill of ?pit/posthole 0239			unphased
0243	fill of ?pit/posthole 0239			unphased
0244	?pit	structure 1	?Late Iron Age	II
0245	fill of ?pit 0245	structure 1	?Late Iron age	II
0246	posthole			unphased
0247	fill of posthole 0246			unphased
0248	?pit/posthole			unphased
0249	fill of ?pit?posthole 0248			unphased
0250	?pit	structure 1	?Late Iron Age	II
0251	fill of ?pit 0250	structure 1	?Late Iron Age	II
0252	posthole	fenceline	?Late Iron Age	II
0253	fill of stakehole 0252	fenceline	?Late Iron Age	II
0254	posthole	fenceline	?Late Iron Age	II
0255	fill of posthole 0254	fenceline	?Late Iron Age	II

Brauncewell Quarry 1997 : Context Summary List

Context	Description	Part Of	Period	Phase
0256	?posthole/natural			unphased
0257	fill of ?posthole/natural			unphased
0258	fill of ?pit 0260			unphased
0259	fill of ?pit 0260			unphased
0260	?pit			unphased
0261	?pit/posthole	structure 1	?Late Iron Age	II
0262	fill of ?pit/posthole 0261	structure 1	?Late Iron Age	II
0263	quarry pit		?Late Iron Age	II
0264	posthole	fenceline	?Late Iron Age	II
0265	fill of posthole 0264	fenceline	?Late Iron Age	II
0266	posthole			unphased
0267	fill of posthole 0266			unphased
0268	fill of posthole 0266			unphased
0269	posthole	fenceline	?Late Iron Age	II
0270	fill of posthole 0269	fenceline	?Late Iron Age	II
0271	layer - ?subsoil			unphased
0272	posthole			unphased
0273	fill of posthole 0272			unphased
0274	?pit/natural hollow			unphased
0275	fill of ?pit/hollow 0274			unphased
0276	?pit			unphased
0277	fill of ?pit 0276			unphased
0278	?posthole	structure 1	?Late Iron Age	II
0279	fill of ?posthole 0278	structure 1	?Late Iron Age	II
0280	layer of ?disturbed limestone			unphased
0281	?posthole			unphased
0282	fill of ?posthole 0281			unphased
0283	pit			unphased
0284	fill of pit 0283			unphased
0285	furrow		?Medieval	V
0286	fill of furrow 0285		?Medieval	V
0287	fill of posthole 0289			unphased
0288	fill of posthole 0289			unphased
0289	posthole			unphased
0290	posthole			unphased
0291	fill of posthole 0290			unphased
0292	posthole			unphased
0293	fill of posthole 0292			unphased
0294	?posthole			unphased
0295	fill of ?posthole 0294			unphased
0296	?posthole			unphased
0297	fill of ?posthole 0296			unphased
0298	?posthole			unphased
0299	fill of ?posthole 0298			unphased
0300	deposit sealing posthole 0287			unphased
0301	?posthole			unphased
0302	fill of ?posthole 0301			unphased
0303	posthole	structure 1	?Late Iron Age	II
0304	fill of posthole 0303	structure 1	?Late Iron Age	II
0305	posthole	structure 1	?Late Iron Age	II
0306	fill of posthole 0305	structure 1	?Late Iron Age	II
0307	posthole			unphased
0308	fill of posthole 0307			unphased
0309	posthole	structure 3		unphased
0310	postpipe	structure 3		unphased
0311	fill of posthole 0309	structure 3		unphased
0312	fill of posthole 0309	structure 3		unphased
0313	gully	structure 3		unphased
0314	fill of gully 0313	structure 3		unphased
0315	posthole	structure 3		unphased
0316	fill of posthole 0315	structure 3		unphased
0317	?treebowl/pit			unphased
0318	fill of ?treebowl/pit 0317			unphased

Brauncewell Quarry 1997 : Context Summary List

Context	Description	Part Of	Period	Phase
0319	gully terminal	structure 3		unphased
0320	fill of gully terminal 0319	structure 3		unphased
0321	posthole			unphased
0322	fill of posthole 0321			unphased
0323	stakehole	structure 3		unphased
0324	fill of stakehole 0323	structure 3		unphased
0325	fill of furrow 0232		?Medieval	V
0326	?furrow		?Medieval	V
0327	fill of ?furrow 0326		?Medieval	V
0328	?furrow		?Medieval	V
0329	fill of ?furrow 0328		?Medieval	V
0330	posthole		?Late Iron Age	II
0331	fill of posthole 0330		?Late Iron Age	II
0332	fill of posthole 0330		?Late Iron Age	II
0333	redeposited limestone slabs			unphased
0334	posthole	structure 1	?Late Iron Age	II
0335	fill of posthole 0334	structure 1	?Late Iron Age	II
0336	?posthole			unphased
0337	quarry pit		?Late Iron Age	I
0338	quarry pit		?Late Iron Age	I
0339	quarry pit		?Late Iron Age	I
0340	quarry pit		?Late Iron Age	I
0341	posthole			unphased
0342	fill of posthole 0341			unphased
0343	stakehole			unphased
0344	fill of stakehole 0343			unphased
0345	fill of stakehole 0349			unphased
0346	fill of stakehole 0348	structure 3		unphased
0347	layer			unphased
0348	stakehole	structure 3		unphased
0349	posthole			unphased
0350	fill of pit 0351			unphased
0351	pit			unphased
0352	?posthole	structure 1	?Late Iron Age	II
0353	fill of ?posthole 0352	structure 1	?Late Iron Age	II
0354	fill of ?pit 0355	structure 1	?Late Iron Age	II
0355	?pit	structure 1	?Late Iron Age	II
0356	posthole	structure 1	?Late Iron Age	II
0357	fill of posthole 0356	structure 1	?Late Iron Age	II
0358	fill of posthole 0356	structure 1	?Late Iron Age	II
0359	posthole	structure 4		unphased
0360	fill of posthole 0359	structure 4		unphased
0361	pit			unphased
0362	fill of pit 0361			unphased
0363	posthole	structure 4		unphased
0364	fill of posthole 0363	structure 4		unphased
0365	posthole	structure 4		unphased
0366	fill of posthole 0365	structure 4		unphased
0367	?posthole			unphased
0368	fill of ?posthole 0367			unphased
0369	fill of pit 0361			unphased
0370	fill of pit 0361			unphased
0371	post in 0367			unphased
0372	?natural			unphased
0373	pit			unphased
0374	fill of pit 0373			unphased
0375	fill of pit 0373			unphased
0376	?posthole	structure 3		unphased
0377	fill of ?posthole 0376	structure 3		unphased
1000	weathered limestone bedrock			

Contents of Site Archive

1. Excavation Report

2. 378 Context Sheets 1-377 & 1000 (and summary list)

3. Photographs (colour print) (and list, with colour negatives):

    - LAS film numbers: 97/30 - 97/40, 97/42-44 (15 films)

4. Site Drawings (and list):

    - 8 plans on 7 sheets (A1-A4) (scale 1:50)
    - 127 sections on 7 sheets (A1-A4) (scales 1:20 and 1:10)
    - 7 profiles (on section sheets) (scale 1:20)

5. Pottery Assessment Report (Margaret Darling)

6. Environmental Archaeology Report (James Rackham)

7. Roman Coin and Iron Nail Report (Jenny Mann)

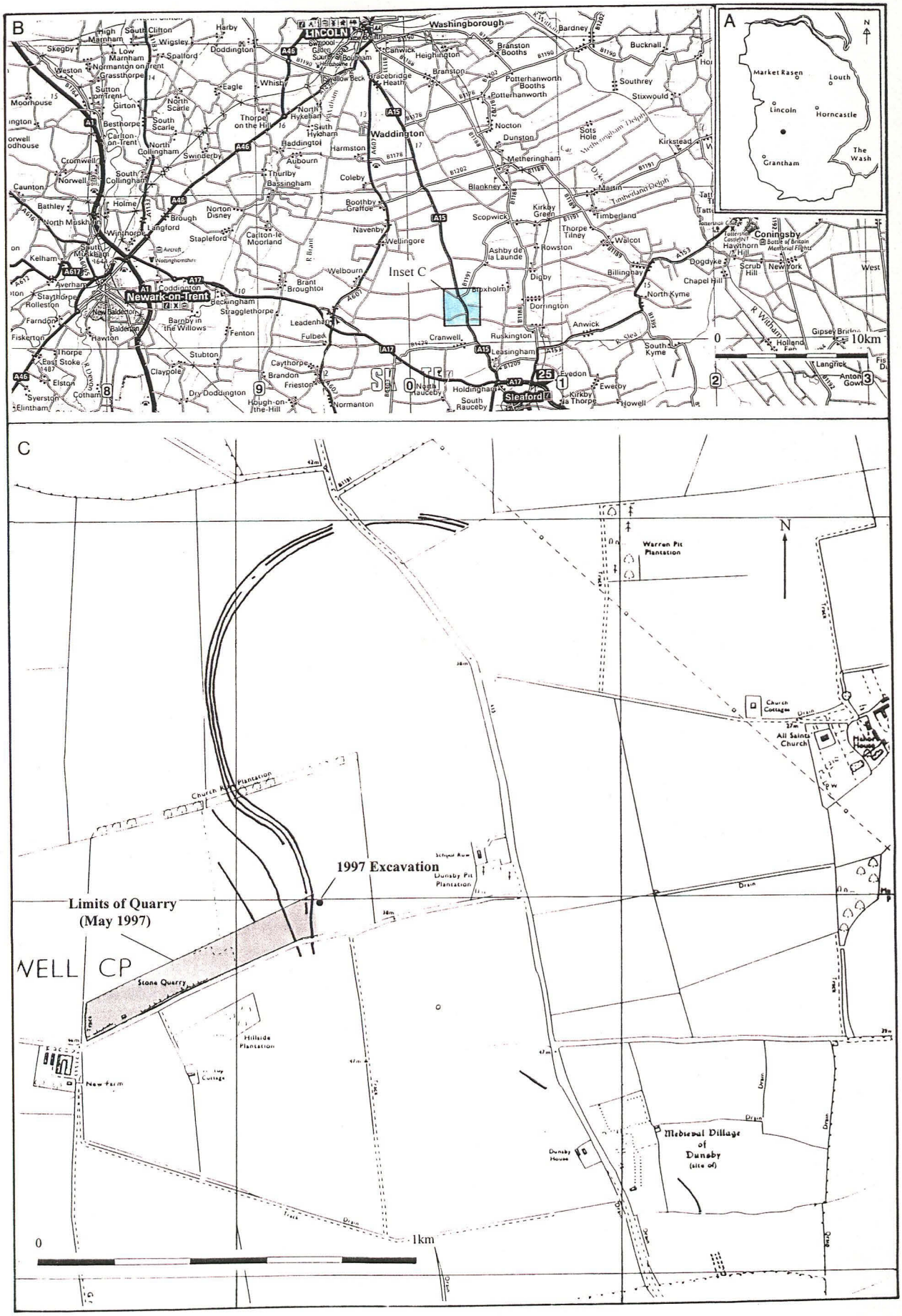


Figure 1: Location map of Brauncewell limestone quarry, with sketch plot of triple linear ditch cropmark (Lincs PRN 1765 and 1767). Inset C based on OS 1:10 000 map, Crown Copyright 1970. Reproduced with the permission of the controller of HMSO. LAS Licence No: AL 50424A

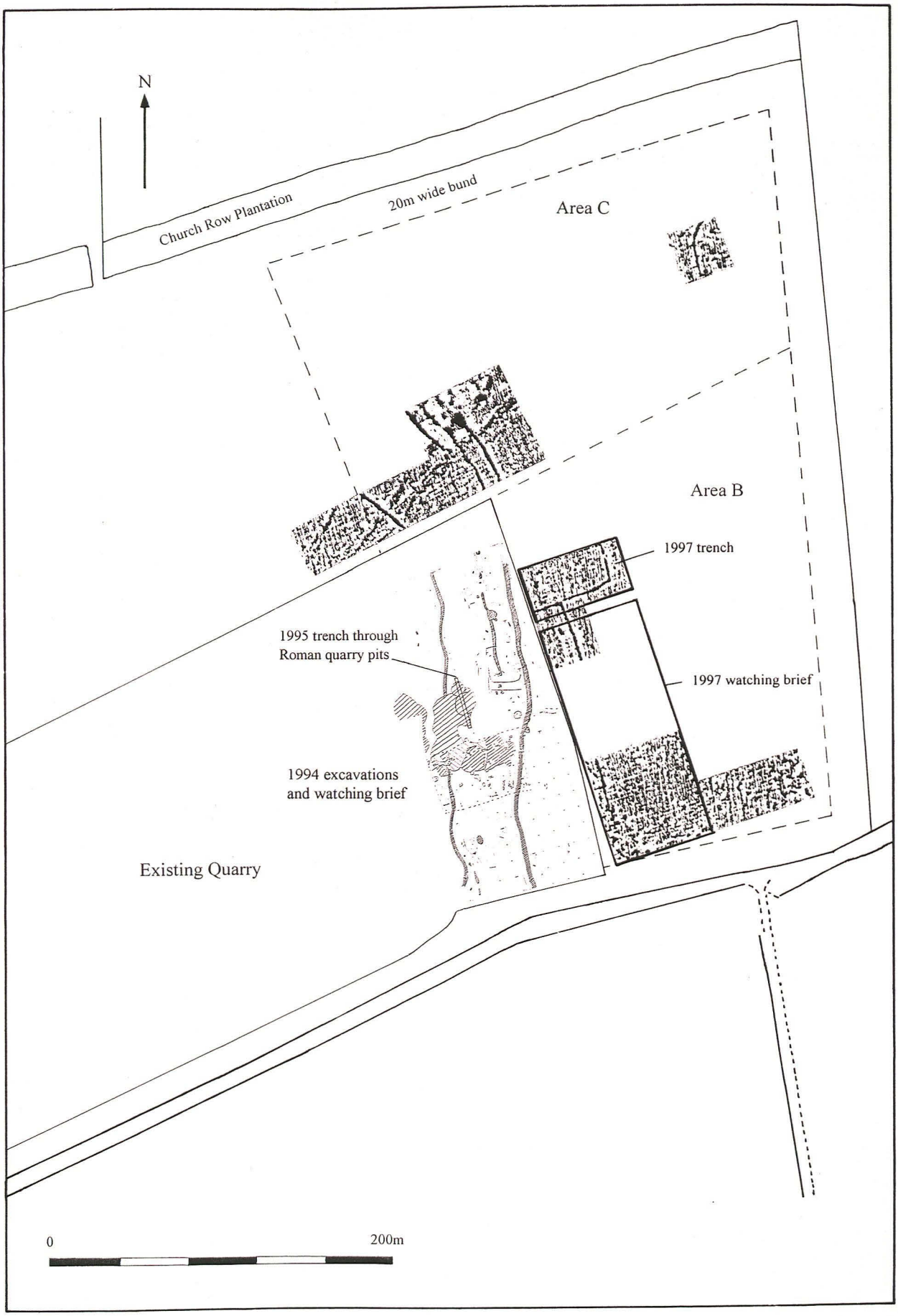


Figure 2: Limits of existing quarry, plan of 1994 excavations, location of 1996 geophysical survey areas, position of 1997 trench within area 2, and limits of 1997 watching brief

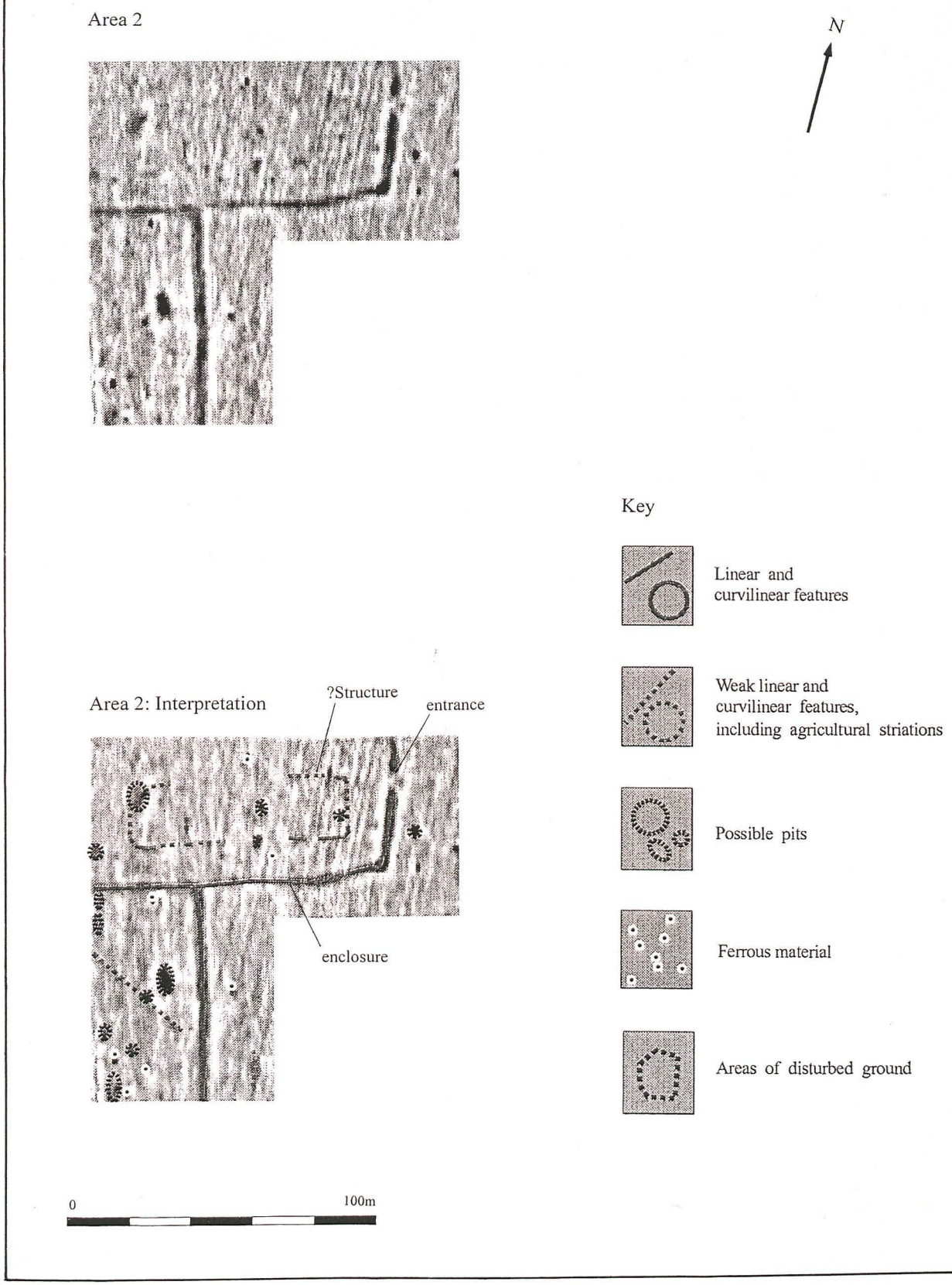


Figure 3: Area 2; 1996 geophysical survey greyscale plots, with interpretation of features recorded

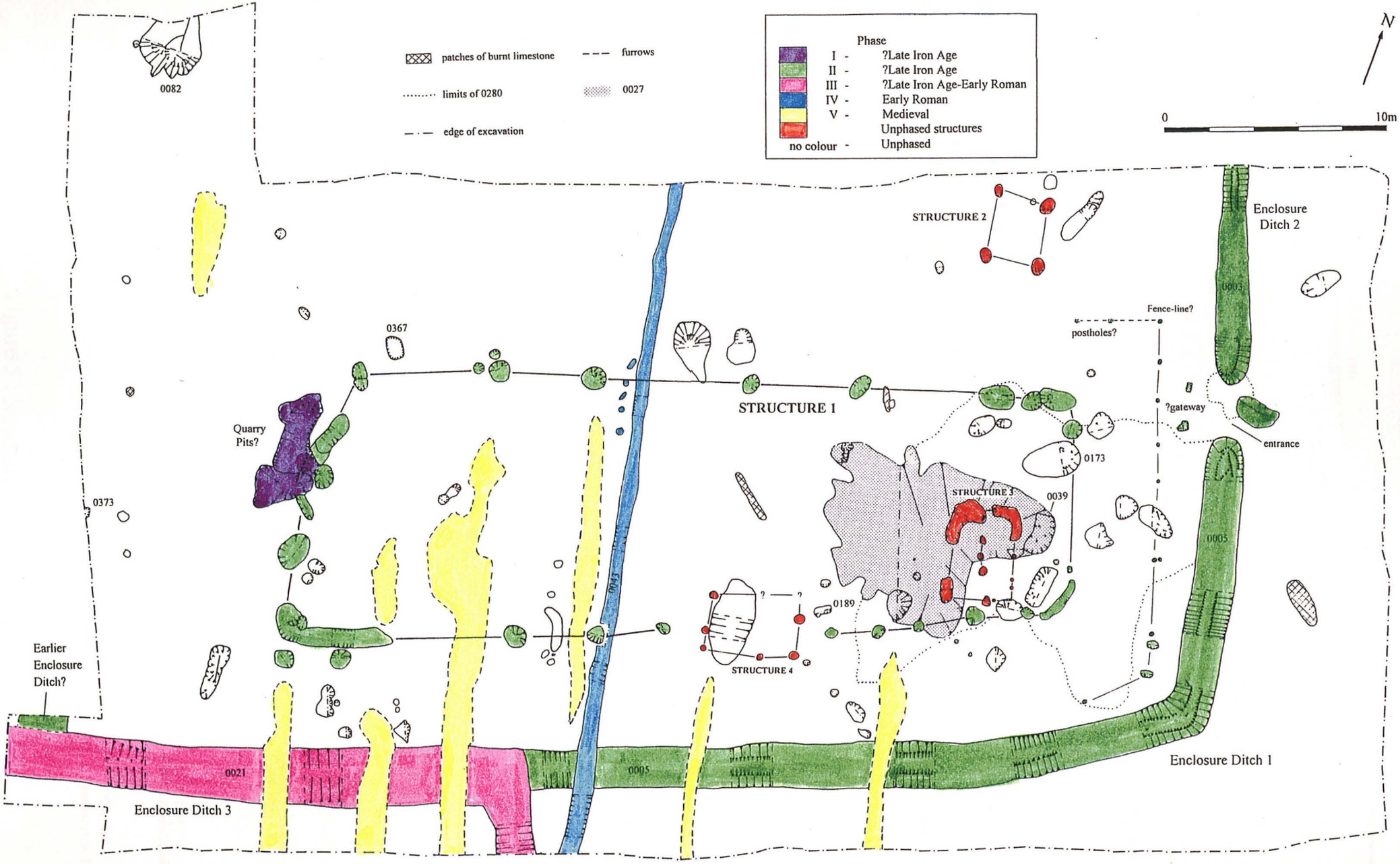


Figure 4 : Area 2, Plan of main archaeological features

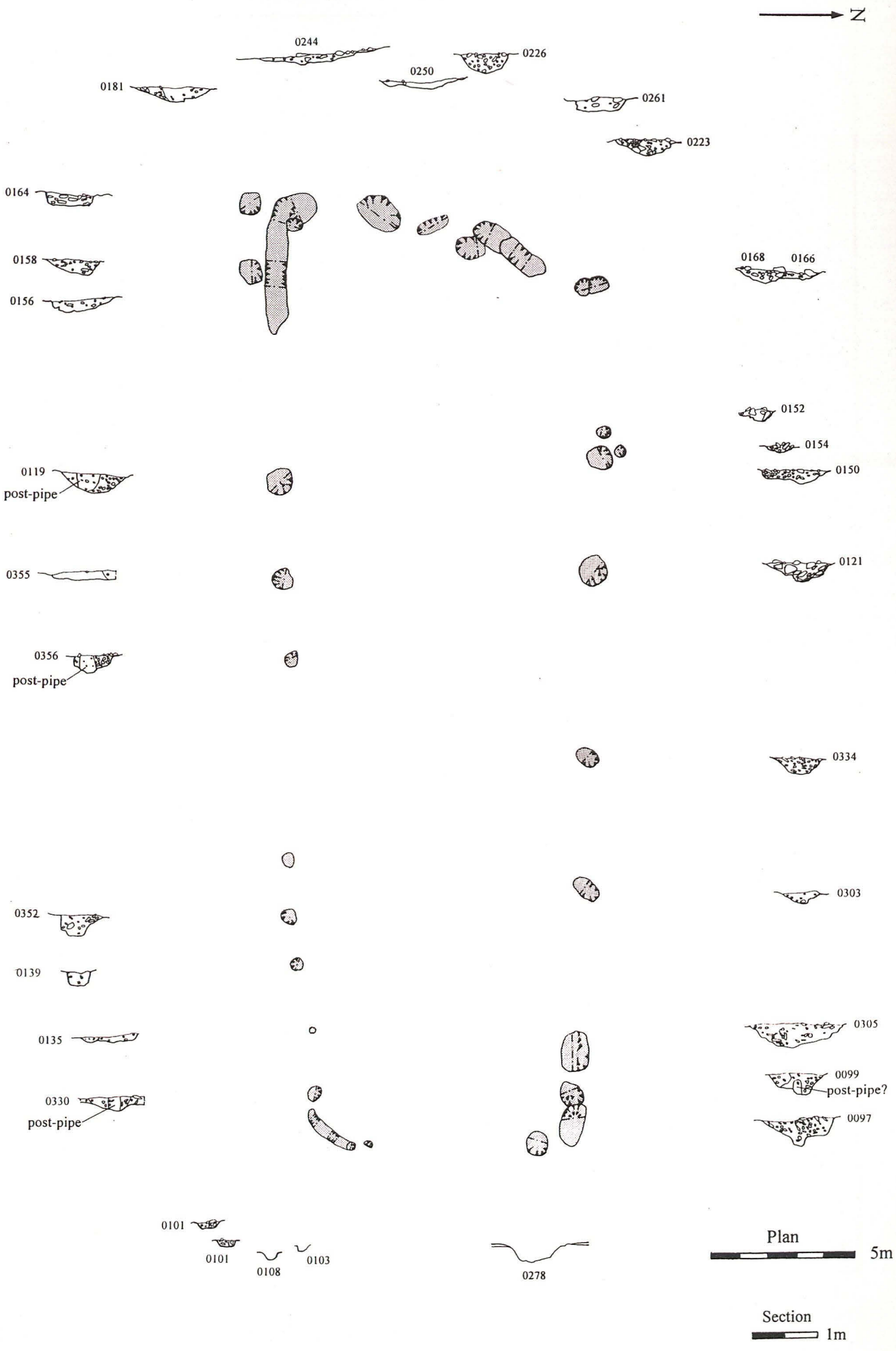


Figure 5 : Structure 1, Plan and Sections

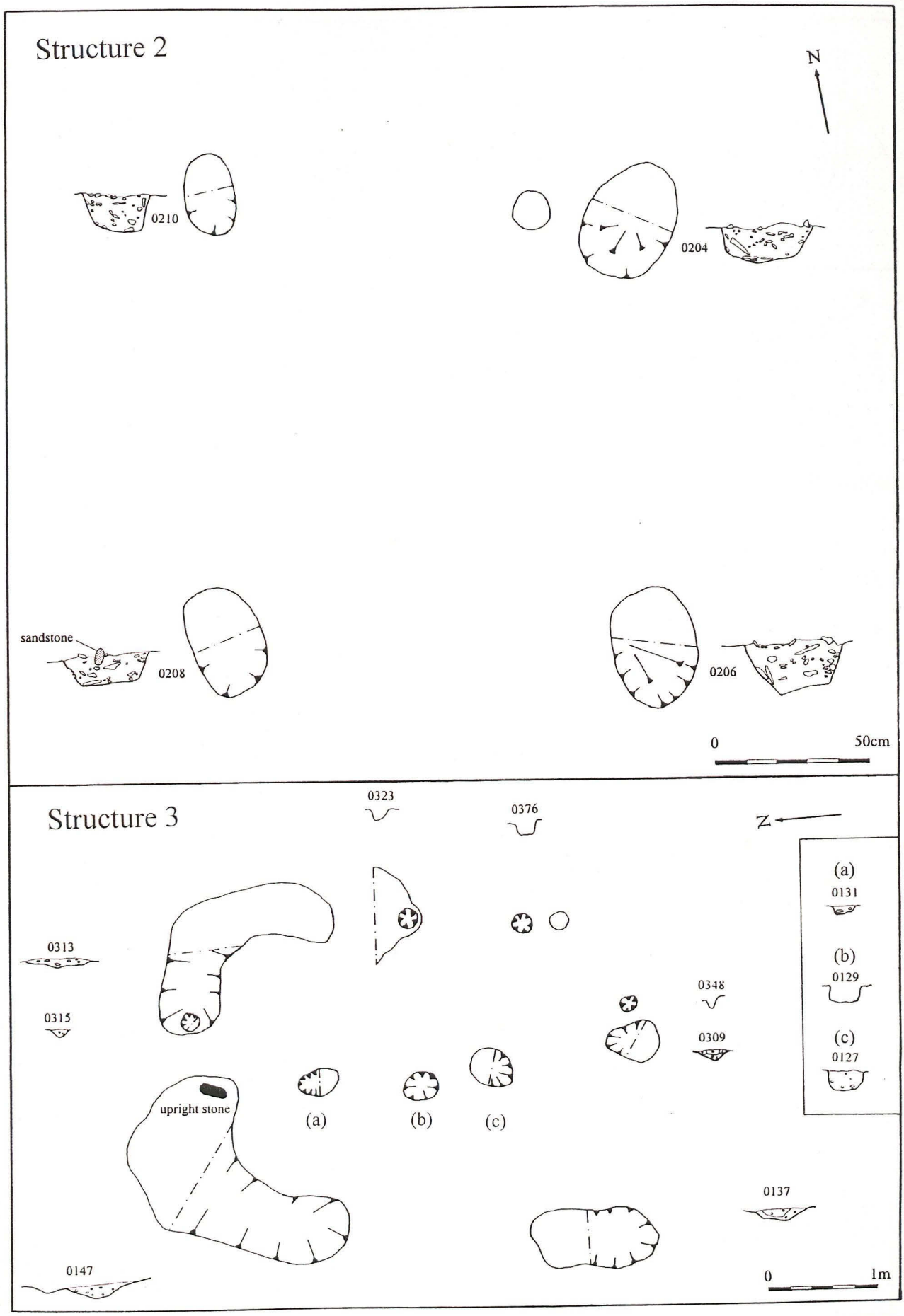


Figure 6 : Structures 2 and 3, Plans and Sections

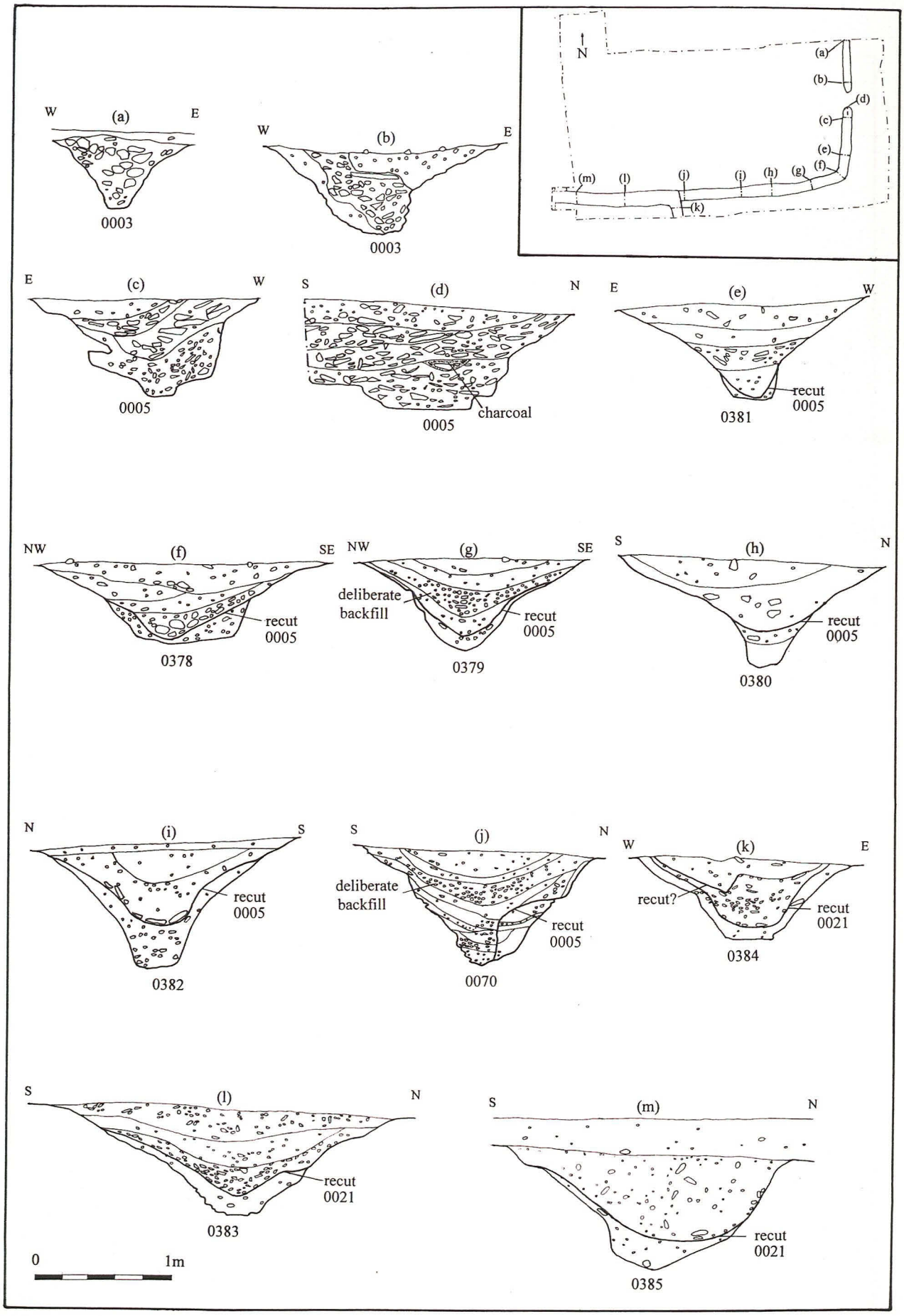


Figure 7 : Sections across Enclosure Ditches

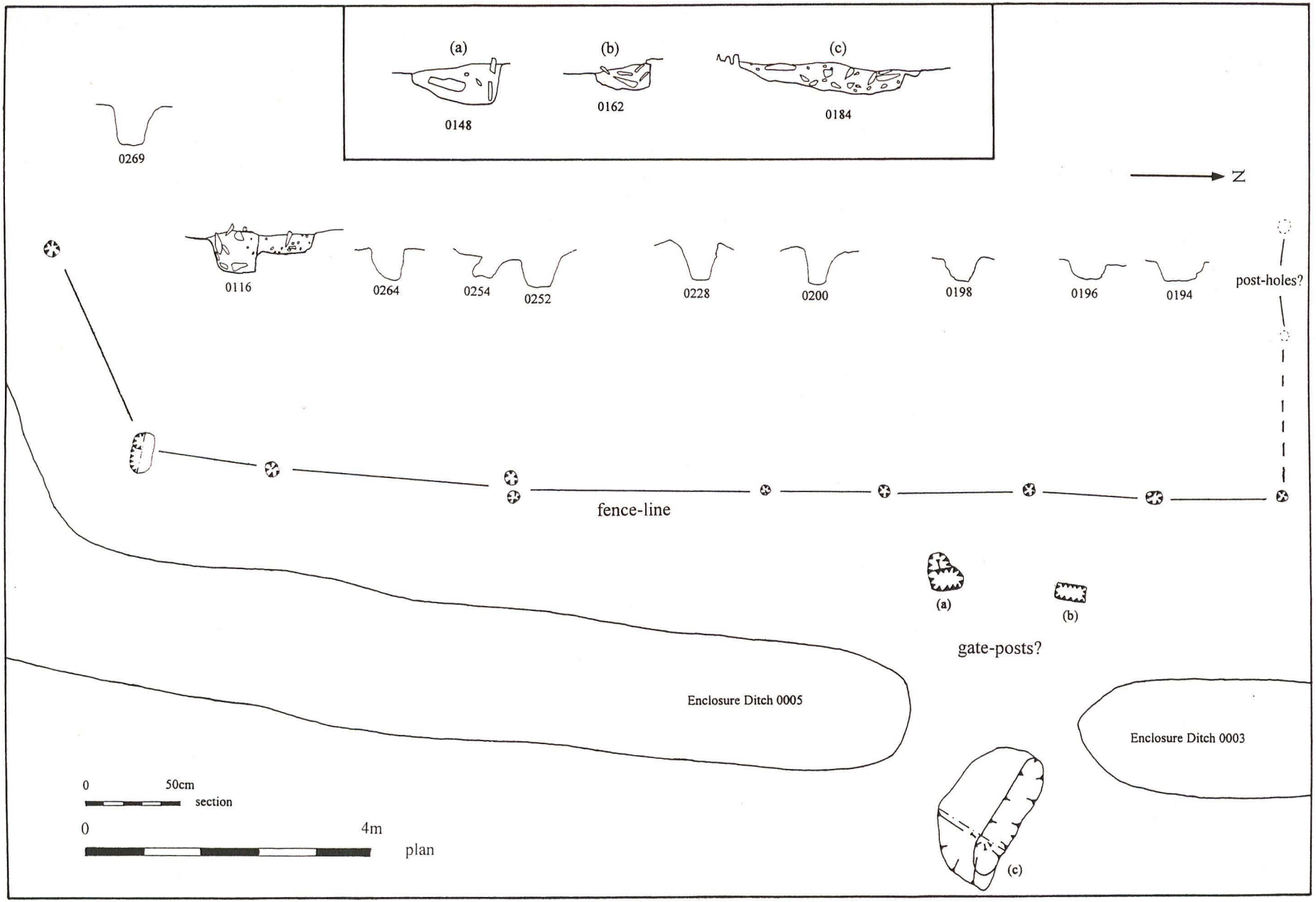


Figure 8 : Plan of entrance complex and fence-line, with sections

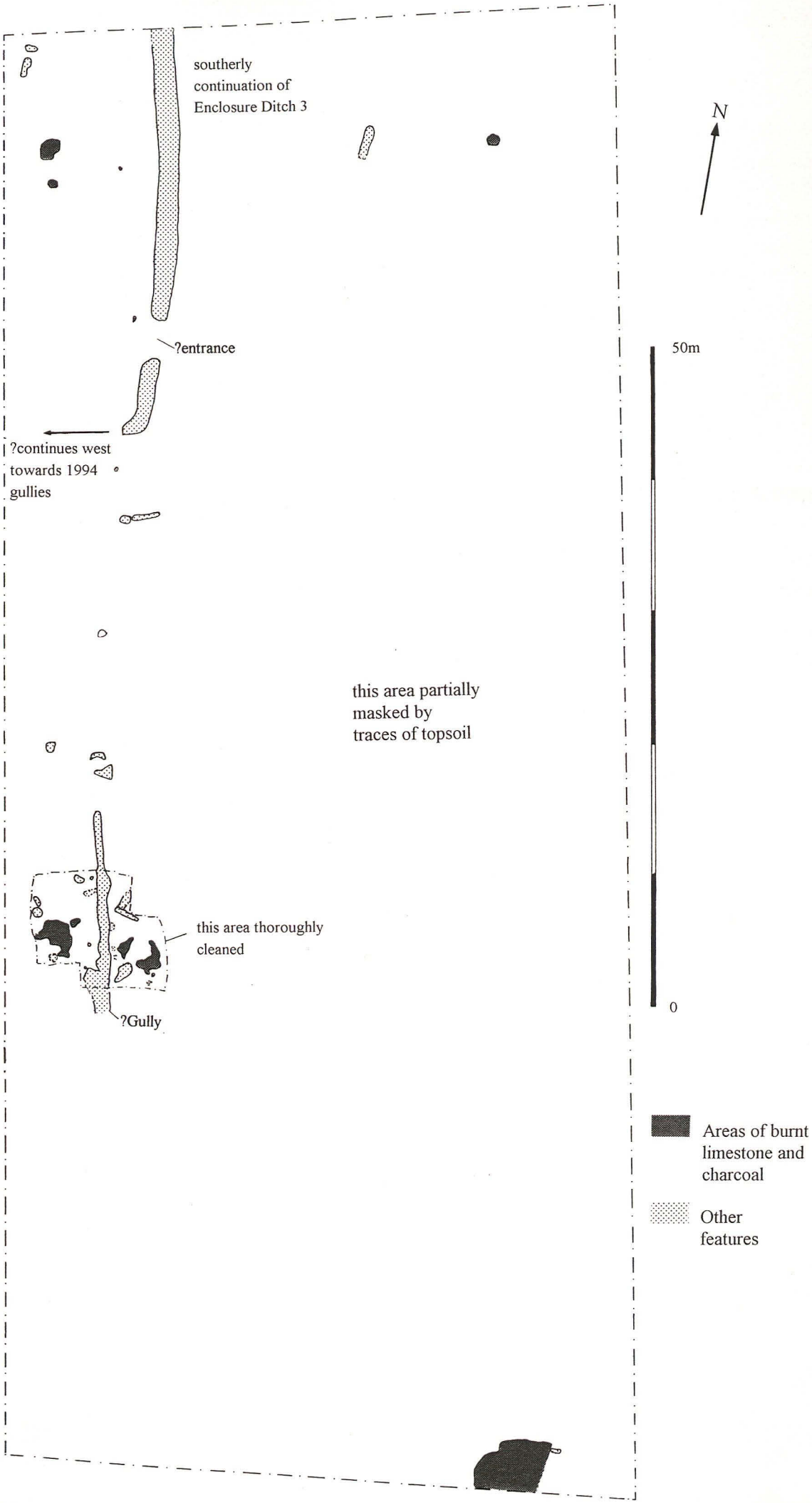
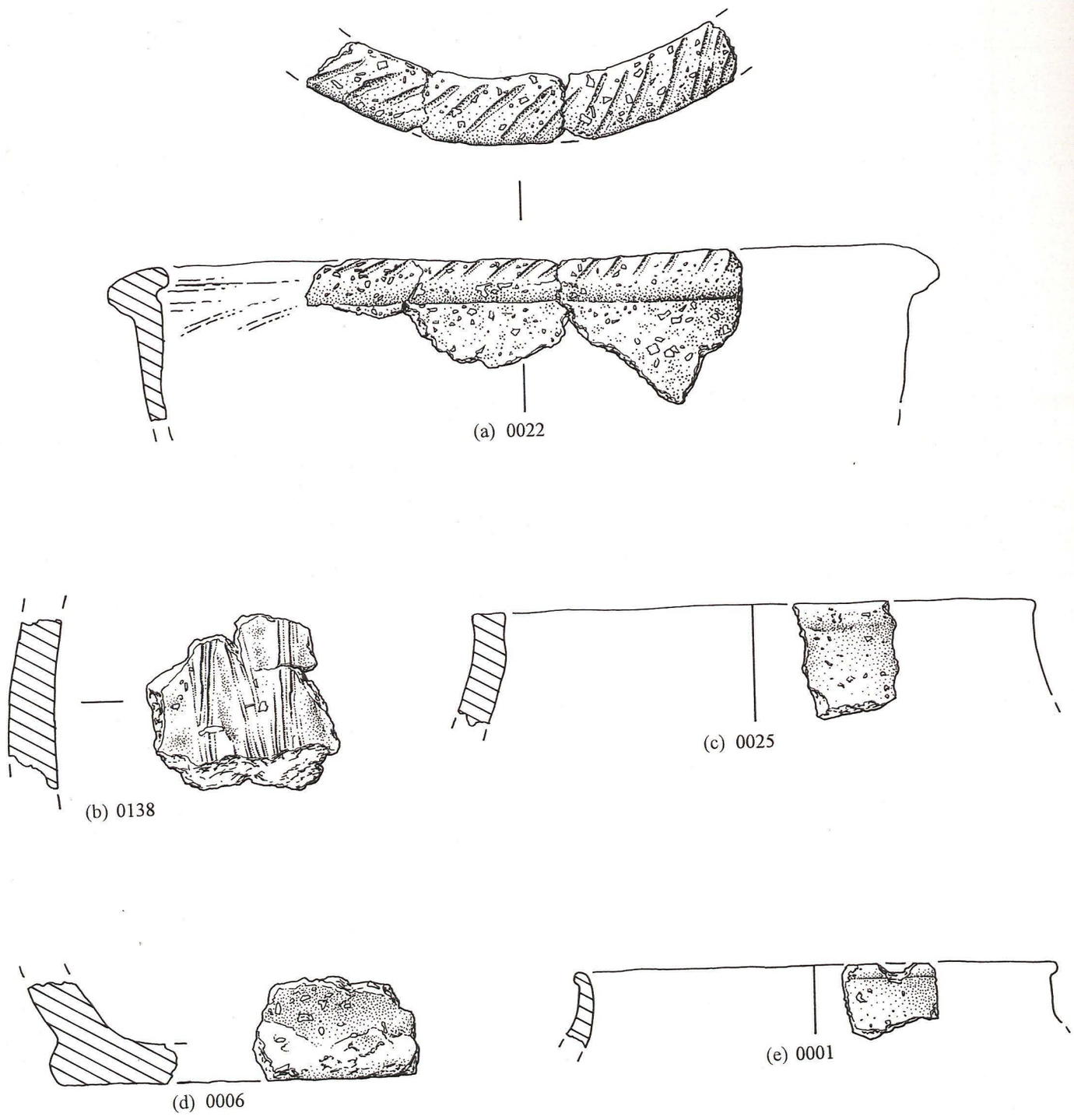


Figure 9: Archaeological features located during 1997 Watching Brief



(a) 0022 - fill of *Pit 0039*; (b) 0138 - fill of *Post-hole 0139*; (c) 0025 - fill of *Enclosure Ditch 1*; (d) 0006 - fill of *Enclosure Ditch 1*; (e) 0001 - *Topsoil.*

Figure 10: Pottery recovered from 1997 excavation *(Drawn by D. Hopkins)*

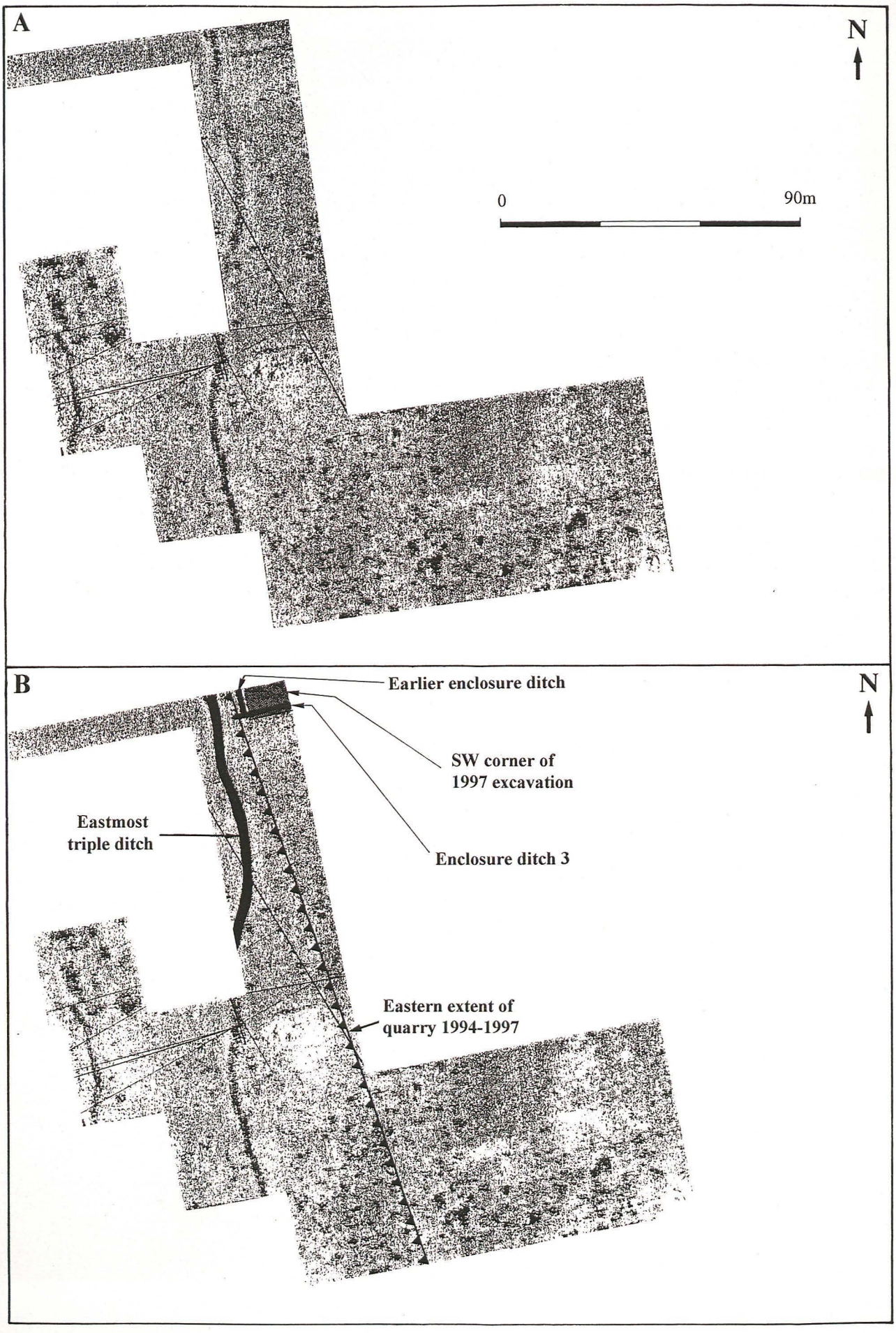


Figure 11: A: Magnetometer survey grey-scale image of the triple ditch complex, produced by the Landscape Research Centre Ltd in February 1994; B: the same image, highlighting stretches of earlier enclosure and *Enclosure Ditch 3*. Also showing the limits of the 1997 excavation and the eastern extent of the quarry at this time

Plate 1: Removing the modern ploughsoil; looking NE

Plate 2: Trowelling the stripped area; looking NW

Plate 3: The site after cleaning; looking NE

Plate 4: Establishing the site grid; looking E

Plate 5: Planning the site; looking E

Plate 6: Excavating the Phase I quarry pits; looking NW

Plate 7: ***Enclosure Ditches 1 & 2*** **prior to excavation; note entrance to right; looking NW**

Plate 8: Excavating the enclosure ditches (*Ditch 3* in foreground); looking NE

Plate 9: Excavating *Enclosure Ditches 1* & *2*; looking NW

Plate 10: Recording an excavated profile of *Enclosure Ditch 1*; looking NE

Plate 11: Excavation in progress, enclosure ditches excavated; looking NW

Plate 12: Excavated profile of *Enclosure Ditch 1*; looking E

Plate 13: Excavated corner of *Enclosure Ditch 1*; looking NW

Plate 14: Excavated section of *Enclosure Ditch 2*; looking N

Plate 15: Excavated profile of *Enclosure Ditch 1*, with recut (as Fig 7 (i)); looking E

Plate 16: Entrance causeway between *Enclosure Ditches 1* & *2*; looking N

Plate 17: Excavating enclosure ditch entrance terminals; looking W

Plate 18: Excavated entrance terminal of *Enclosure Ditch 1*; looking S

Plate 19: Excavated entrance terminal of *Enclosure Ditch 2*; looking N

Plate 20: Vertical fault-line in entrance terminal of *Enclosure Ditch 1*; looking N

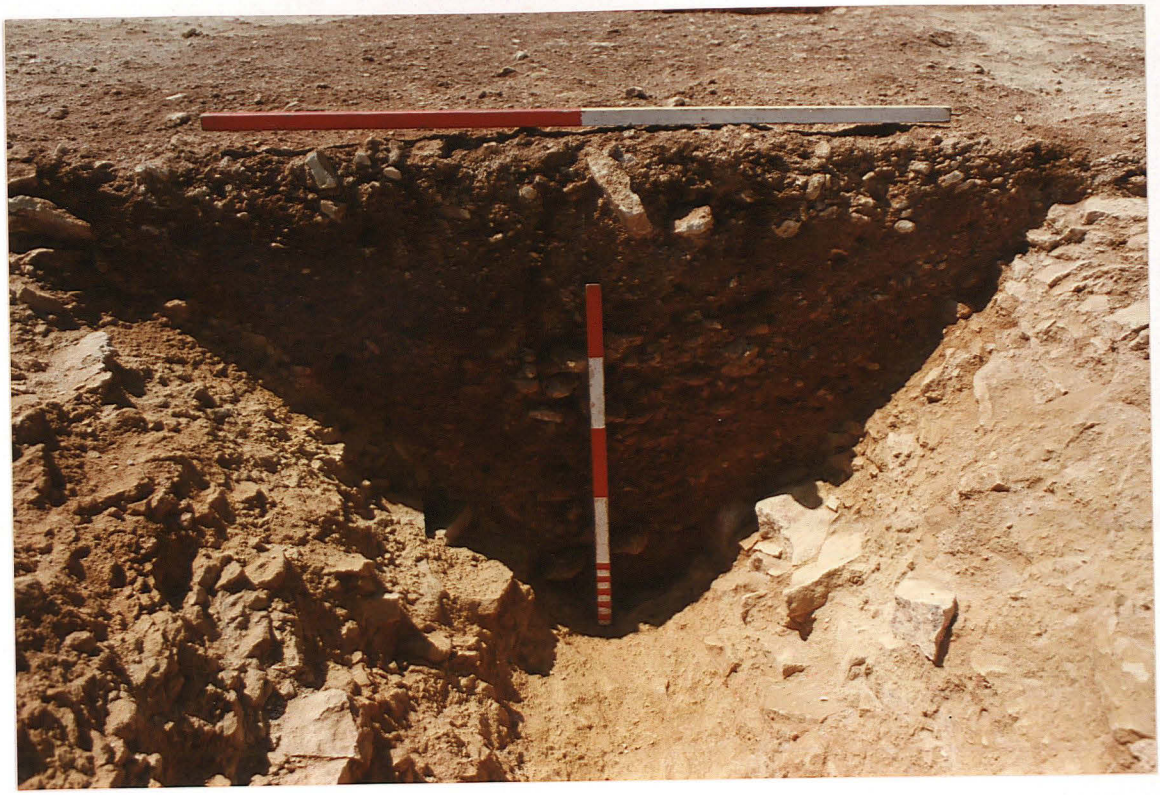


Plate 21: Detail of deliberate rubble backfill within *Enclosure Ditch 1*; looking W

Plate 22: Position of *Structure 1* within earlier enclosure (staff at corners); looking W

Plate 23: A typical, rubbly-filled *Structure 1* post-hole, half-excavated; looking SW

Plate 24: Part-excavated *Structure 1* slot (SW) note outer ?support post-hole; looking W

Plate 25: Part-excavated *Structure 1* slot (SE); looking W

Plate 26: *Structure 1* post-hole, with ?post-pipe (dark stain, centre-left); looking SW

Plate 27: Oval pit (centre) lying across east-west flank of *Stucture 1* (yellow pegs mark *Structure* 1 post-holes); note excavation in progress of a *Structure 4* post-hole; looking E

Plate 28: Excavating *Structure 1* post-hole containing Iron Age pot (Fig 10b); looking NE

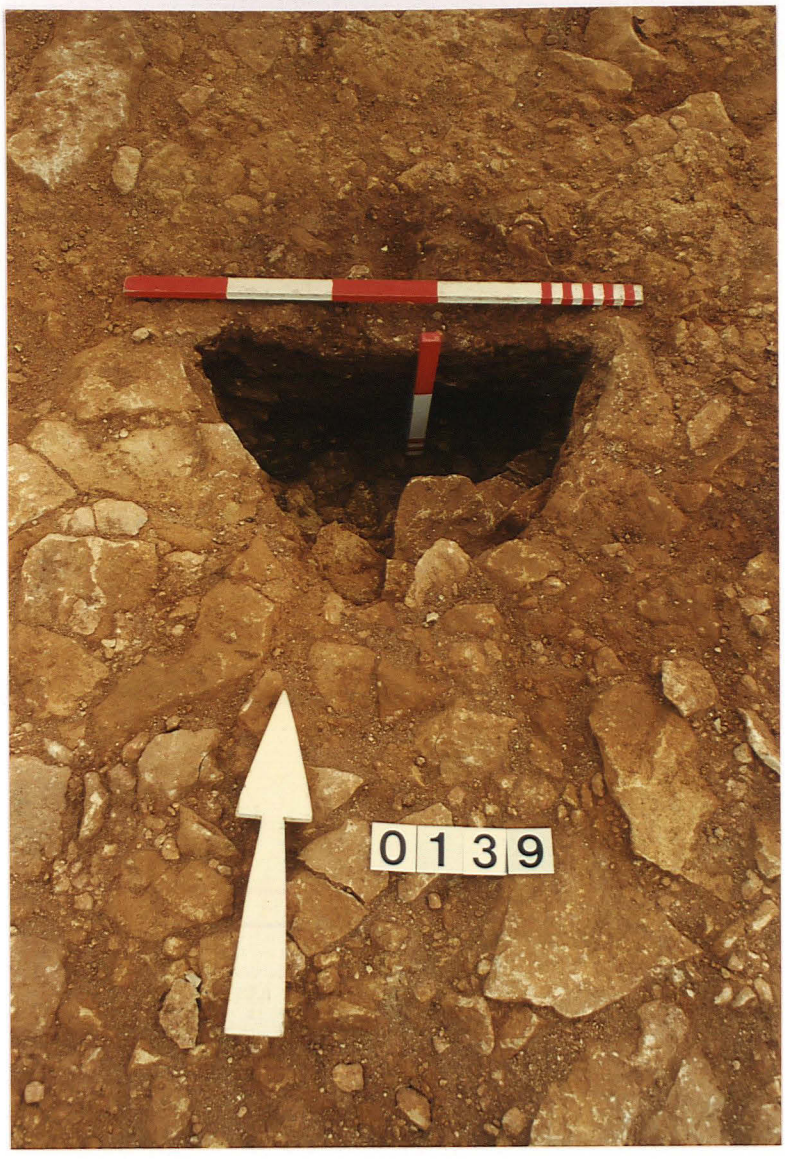
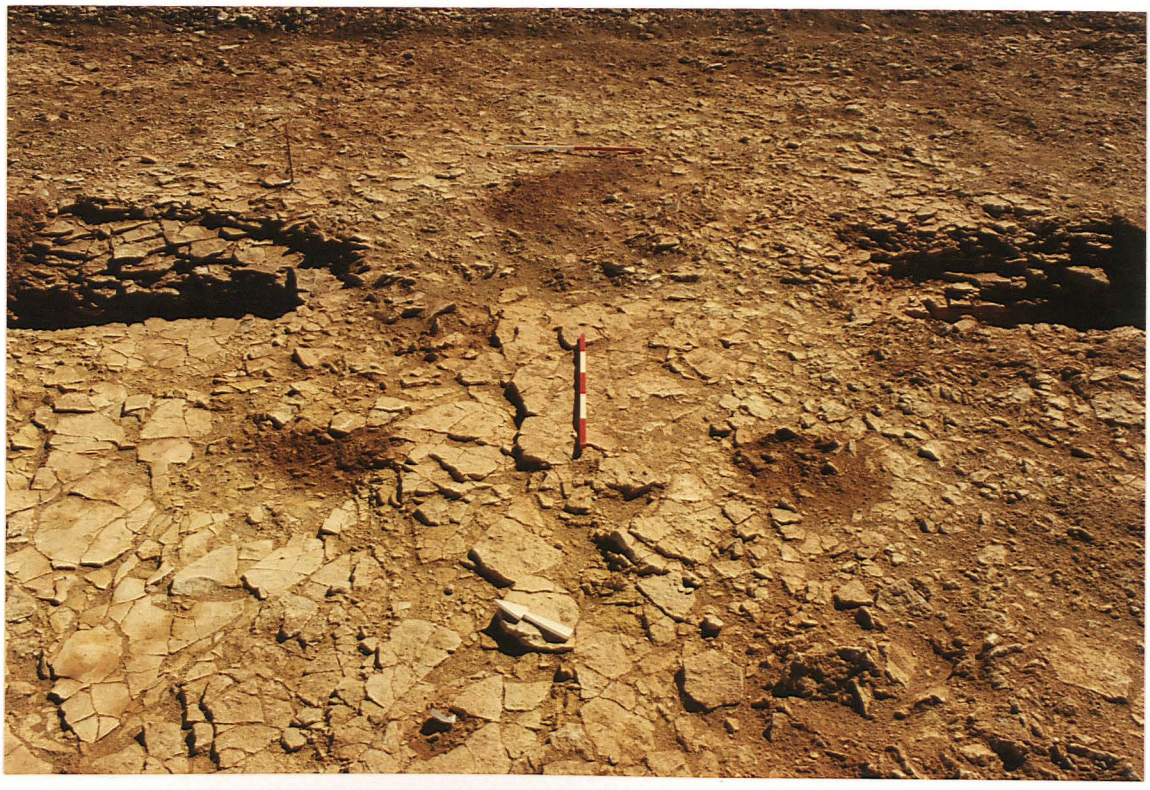


Plate 29: The above *Structure 1* post-hole after half-excavation; looking N

Plate 30: Excavating another *Structure 1* post-hole containing Iron Age pot; looking NE

Plate 31: Entrance complex gate post-holes (centre-left) prior to excavation; looking NE

Plate 32: Entrance complex gate post-holes (foreground) prior to excavation; looking E



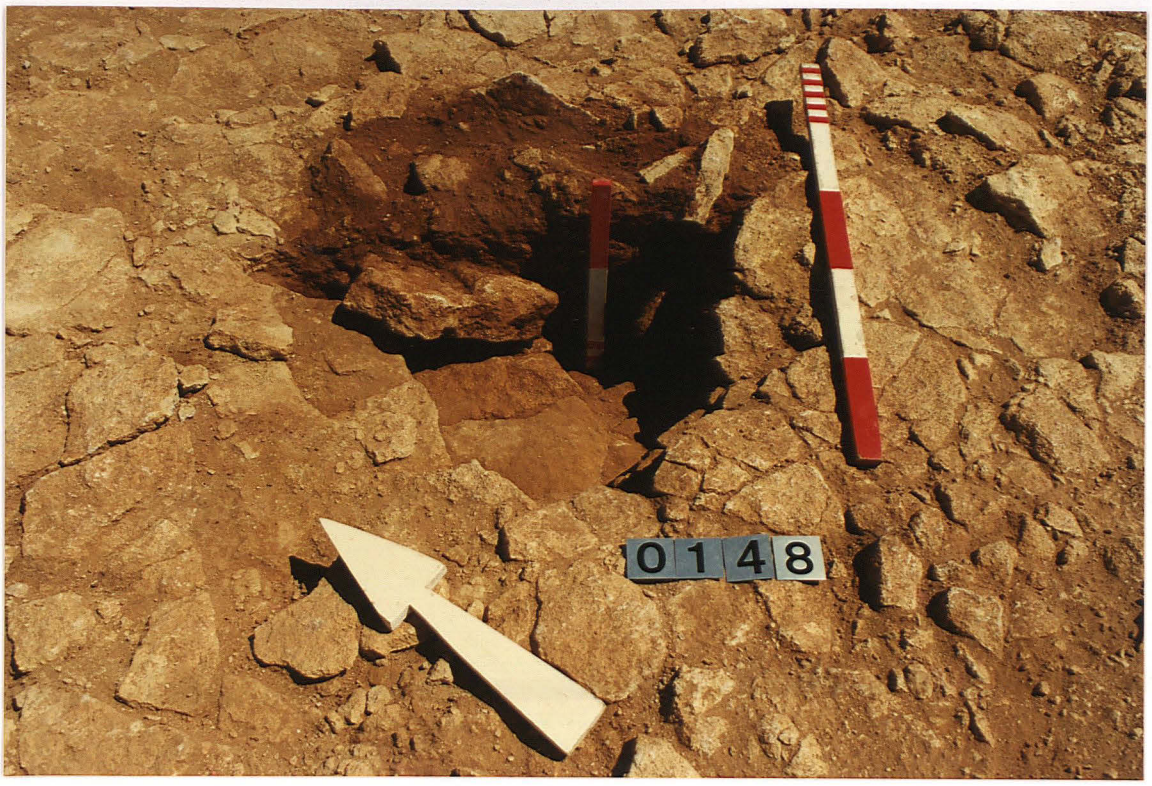


Plate 33: Southernmost of gate post-holes after half-excavation; looking NE

Plate 34: Northernmost of gate post-holes after half-excavation; looking N

Plate 35: Excavating fence-line post-hole; note row of post-holes already dug; looking SE

Plate 36: Excavating fence-line post-hole; looking SE

Plate 37: A fence-line post-hole after excavation; scale 0.25m; looking W

Plate 38: Westward continuation of *Enclosure Ditch 3*, and western arm of earlier enclosure, exposed by machine-removal of quarry bund; note triple ditch profile in distant quarry face; looking NW

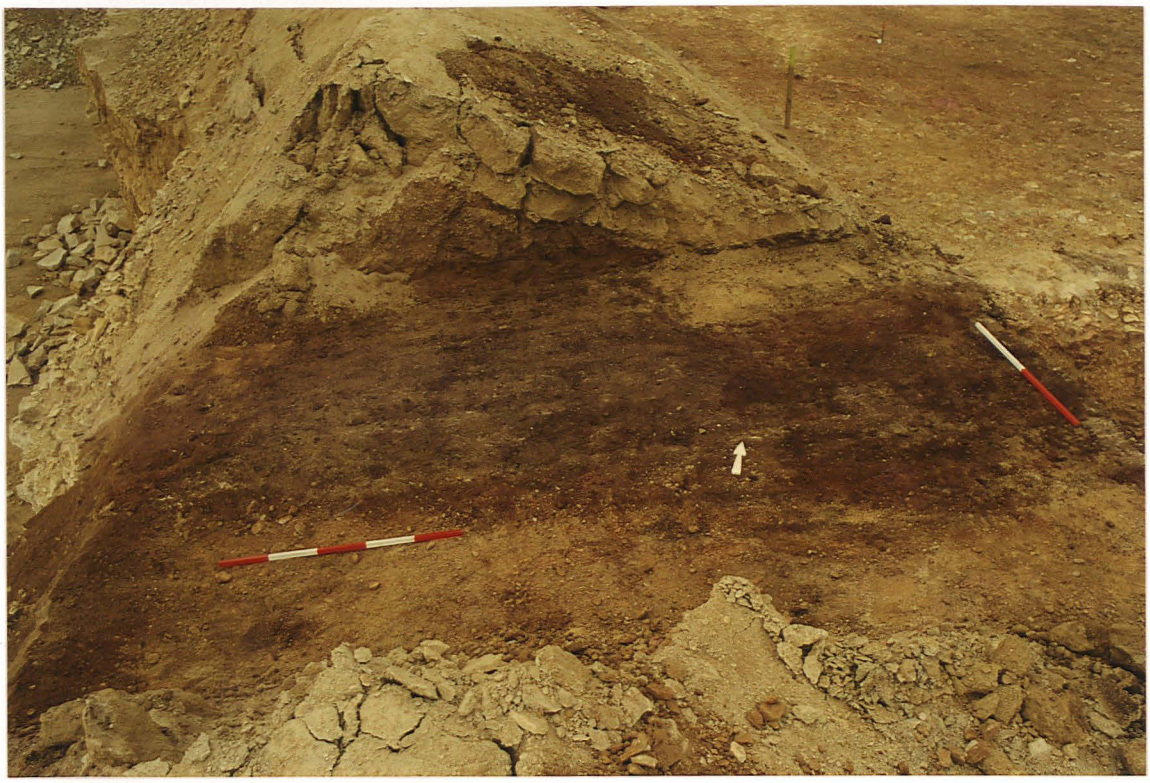


Plate 39: As Plate 38, showing more clearly, north-south (western) arm of earlier enclosure continuing under quarry bund; looking N

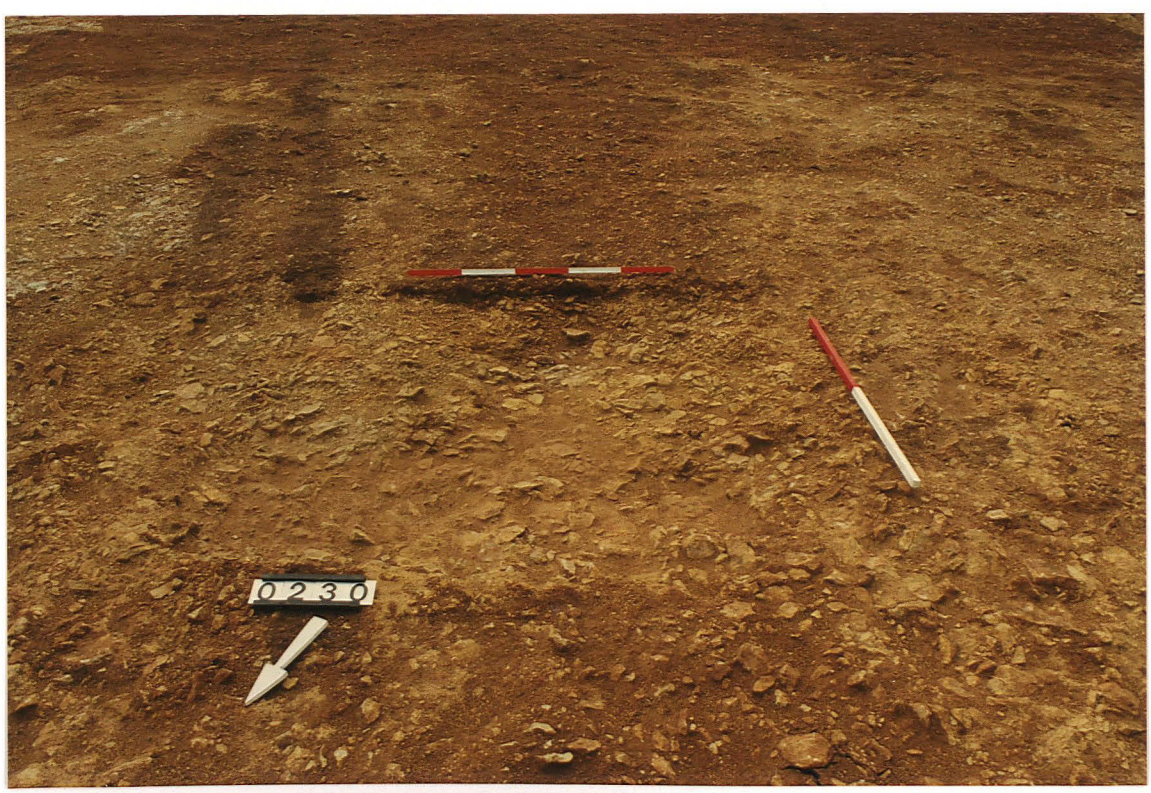
Plate 40: A *Structure 1* post-hole with outer ?support post-holes; looking S

Plate 41: *Enclosure Ditch 3* prior to excavation, seen clearly cutting through *Ditch 1*; looking NW

Plate 42: Excavated profile of *Enclosure Ditch 3*; looking W

Plate 43: North-south *Gully 0043*, after part excavation; looking N

Plate 44: Excavated section through one of medieval plough furrows; looking SE



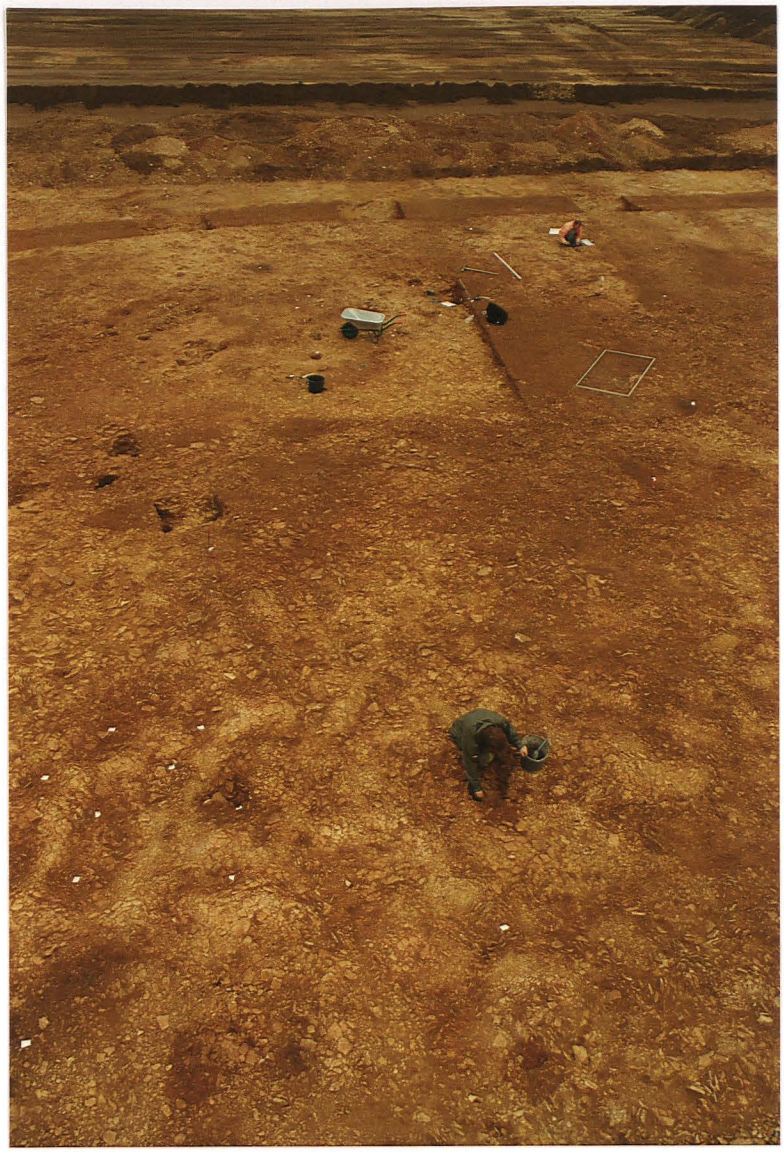


Plate 45: Four-post *Structure 2* (foreground), excavation in progress; looking S

Plate 46: Recording one of the four post-holes of *Structure 2*; looking S

Plate 47: Half-excavated *Stucture 2* post-hole; note burnt sandstone pebble; looking NW

Plate 48: Exposing two of the post-holes of *Structure 4* (lower and mid-right); looking N

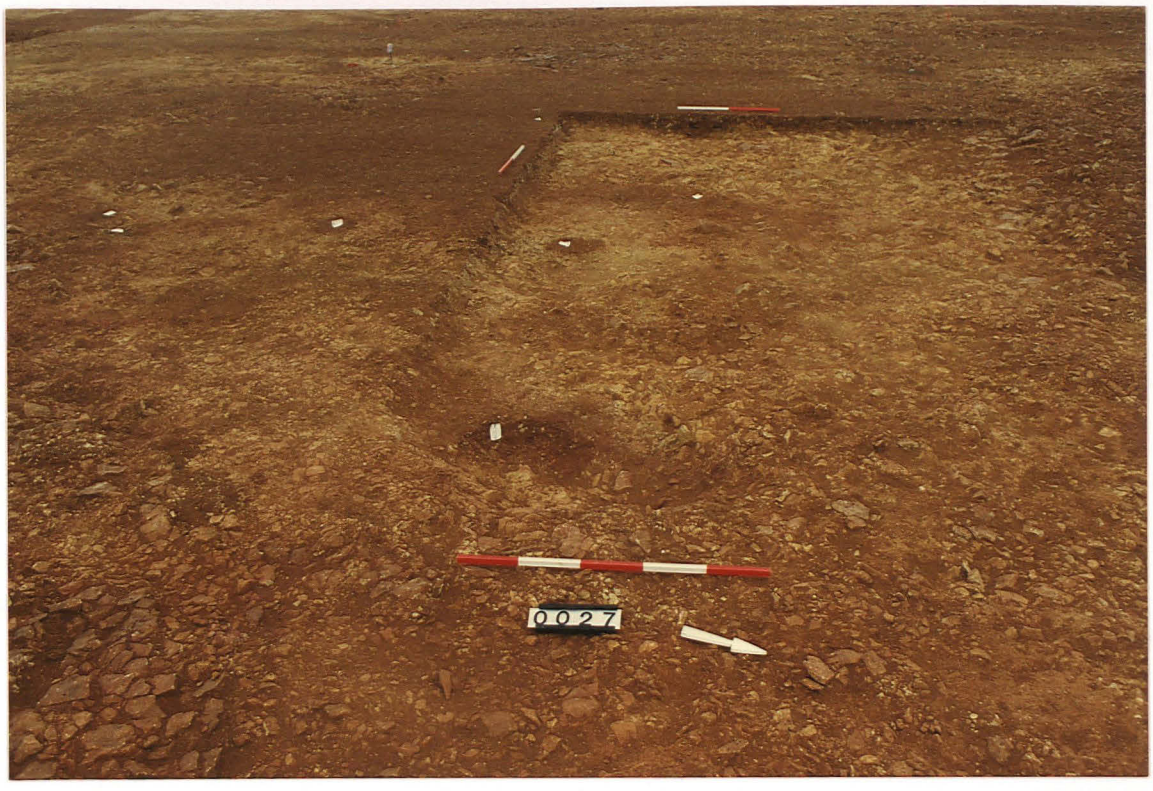


Plate 49: North half of *Structure 3* exposed after removal of NE segment of *Layer 0027*. Note curving gullies (far one is labelled) and one of central post-holes (also labelled) in centre of photo. Labelled feature in the foreground is *Pit 0039*; looking W

Plate 50: *Structure 3* fully exposed in plan (to right of *0027*), after excavation of SE segment of *Layer 0027* (dark, semi-circular feature, centre of photo), looking N

Plate 51: *Structure 3* after excavation; orange pegs mark positions of its post-holes and gullies; looking N

Plate 52: *Pit 0039 after* excavation; it contained rare Late Iron Age pottery; looking S

Plate 53: *Pit 0082* **after part-excavation; note in profile, burnt material overlain by limestone rubble; looking N**

Plate 54: Clay-lined *Pit 0373*, **part sealed by quarry bund; looking W**

Plate 55: View of the thoroughly cleaned part of the watching brief area; looking E

Plate 56: Detail of one of burnt limestone and charcoal-rich features, exposed within thoroughly cleaned part of watching brief area; looking E