EXCAVATIONS AT BROUGH FIELD, CARSINGTON, 1980

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INTRODUCTION

In 1979/80, proposed flooding of the Carsington valley near Wirksworth for the creation of a reservoir led to a programme of field work on a recently discovered Romano-British site within the threatened area (Wildgoose, 1979; 1980). Excavation, under the auspices of the North Derbyshire Archaeological Trust, funded by Severn-Trent Water Authority and Derbyshire County Council and with the kind permission of the landowners, the Severn-Trent Water Authority, subsequently took place on two sites . This paper describes the excavation of one of these sites (SK252523; Fig 1:Site A), under the direction of two of the authors (SA and KB), in August 1980. The other site (SK24925165; Fig 1:Site B), 0.7 km to the south-west in the angle

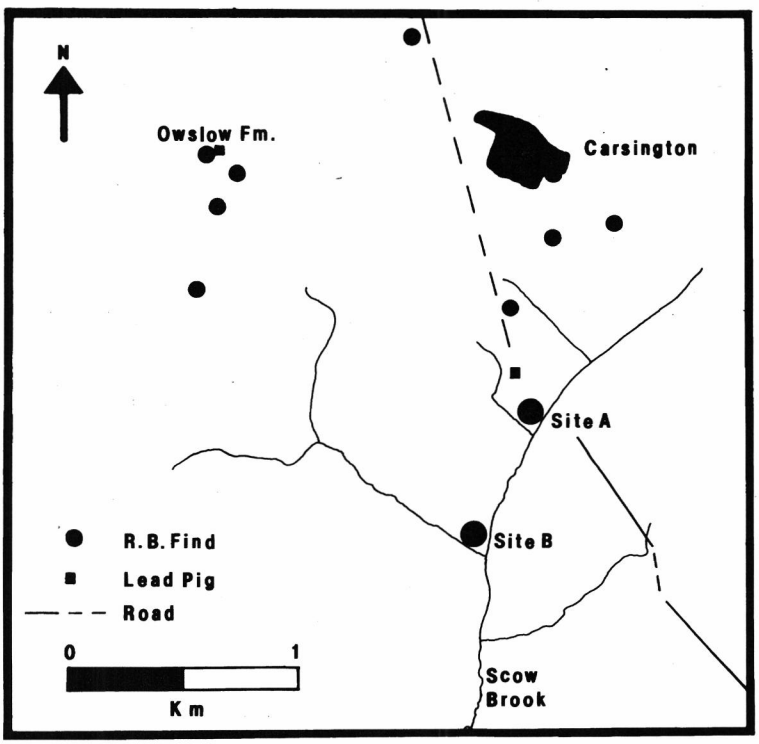

Fig 1 Brough Field, Carsington: sites in the Carsington area.

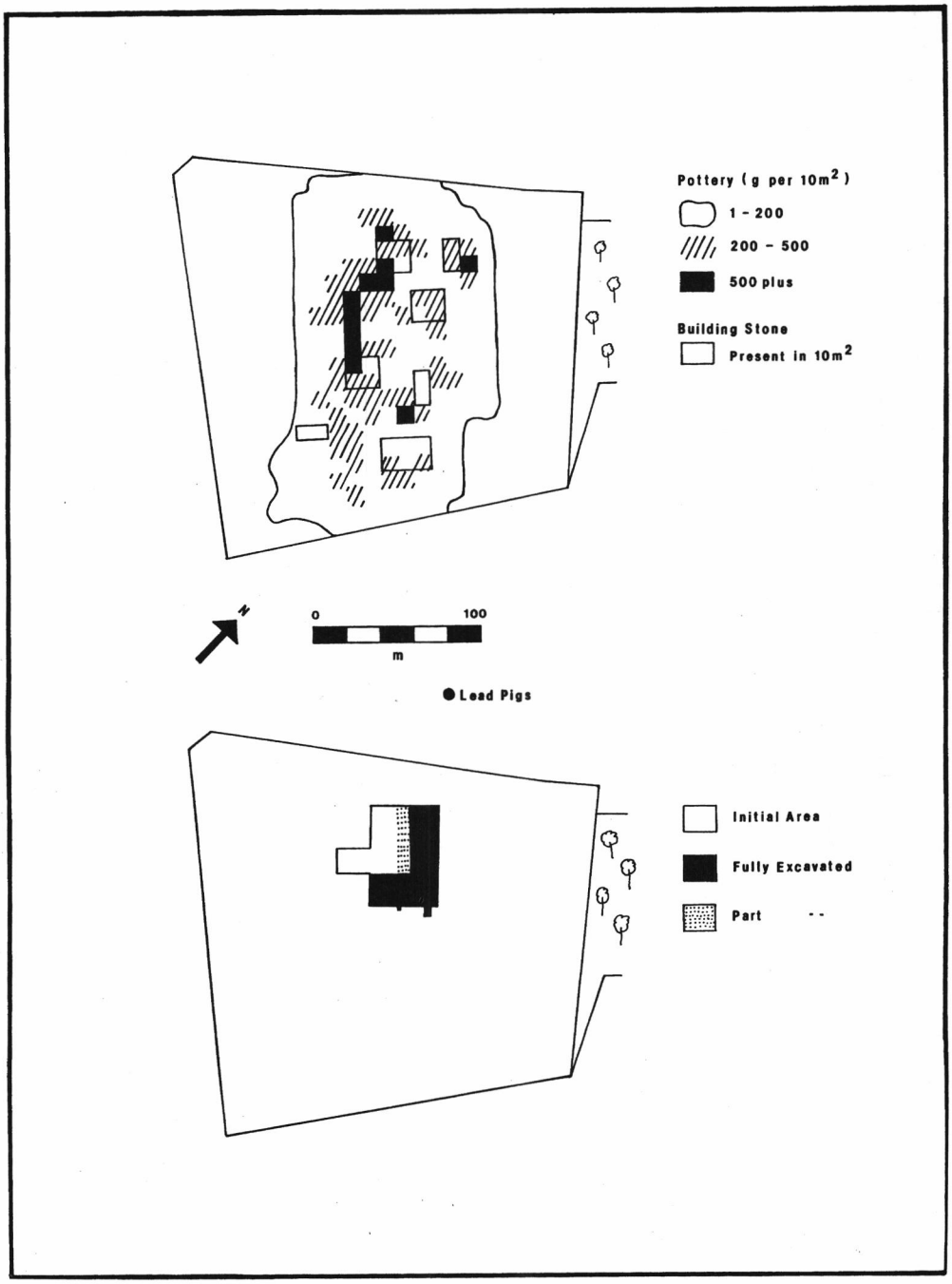

Fig 2 Brough Field, Carsington: fieldwalking finds (after Wildgoose, 1980: figs 5, 7) and excavations.

of the Scow Brook and a tributary stream, was excavated by Ling and Courtney (1981), and revealed a rectangular stone building measuring 9.2 x 23.8 m and dated to the fourth century. A further room of this building was found at right angles to the known remains in subsequent excavations (Ling *et al*, 1990). The building lay within a ditched enclosure (information from the Trent and Peak Archaeological Trust), which also contained other possible building platforms (Ling *et al*, 1990; but see Ling, 1992). Two fourth-century lead pigs were also recovered from a pit immediately north of Site A in 1983 (Branigan, Housley and Housley, 1986; Fig 2).

Initial post-excavation work was undertaken at Sheffield and Leicester Universities; the excavation and coarse pottery sections of this paper largely derive from this work and comprise the findings of SA and AA respectively. The remaining post-excavation work and the preparation of the present report was subsequently undertaken by MJD with funding from Derbyshire County Council. At the same time, the opportunity was taken to examine and publish a group of unstratified finds from the site, recovered by Mr J. and Mrs C. Housley.

The extent of settlement on Carsington Site A, as indicated by finds of pottery, building-stone, etc. during field walking in 1979/80 and previous years, appeared to be about 2 ha (5 acres) (Wildgoose, 1980; Fig 2), representing the greater part of Brough Field, Shiningford Farm (OS Plan SK2452/2552, parcel no. 1628). The field, which in recent years has been cultivated by deep ploughing, lies to the north-west of the Scow Brook which runs along its south-eastern boundary, and down to which it slopes gently. The area selected for excavation lay towards the centre of its north-east side, and included areas that had produced high densities of pottery and building material (Fig 2).

THE EXCAVATIONS

Initial mechanical stripping of an area of 0.272 ha and manual cleaning of an area of just over 0.24 ha (0.6 acre) indicated that the site had been all but destroyed by eighteenth- and nineteenth-century rig-and-furrow and subsequent twentieth-century deep ploughing. Only the bottoms of the deepest negative features and vestiges of positive features were found intact. The complications of excavating the site resulted in the reduction of the main excavated area to 0.16 ha (0.4 acre), with partial investigation of a small strip west of Area C (included in Fig 2, but not in Figs 3, 4 and 7, since no significant features were fully investigated within it).

All features were excavated by hand, but in several cases ditches were examined only by a series of sections. Small amounts of archaeological deposits were found to have been removed by modern land drains. Throughout, the general destruction of vertical and horizontal stratigraphic links made the phasing of features difficult. The topsoil was found to be a dark-brown, clay-silt with some pebbles, often underlain by a similar but more clayey, often orangey, material in the eighteenth-/nineteenth-century furrows. The natural was found to be a thick orange clay throughout. On the site plans layer numbers are prefaced 'L'; other numbers refer to features.

Phase 1 (Figs 3, 8)

During Phase 1, activity seems to have been concentrated in the south-eastern area of the site (Area B). The earliest structure was a substantial rectangular timber building (Building 1), at least 9 m long and 7.5 m wide, with a probable internal aisle, 2 m wide, running the length of the west side. The plan of this structure survived as a series of postholes. The posts forming the east wall of the Building 1 appear to have been placed in a trench (F216), seen principally in section. During Phase 3, long after the timber building had fallen into disuse, a ditch (F203)

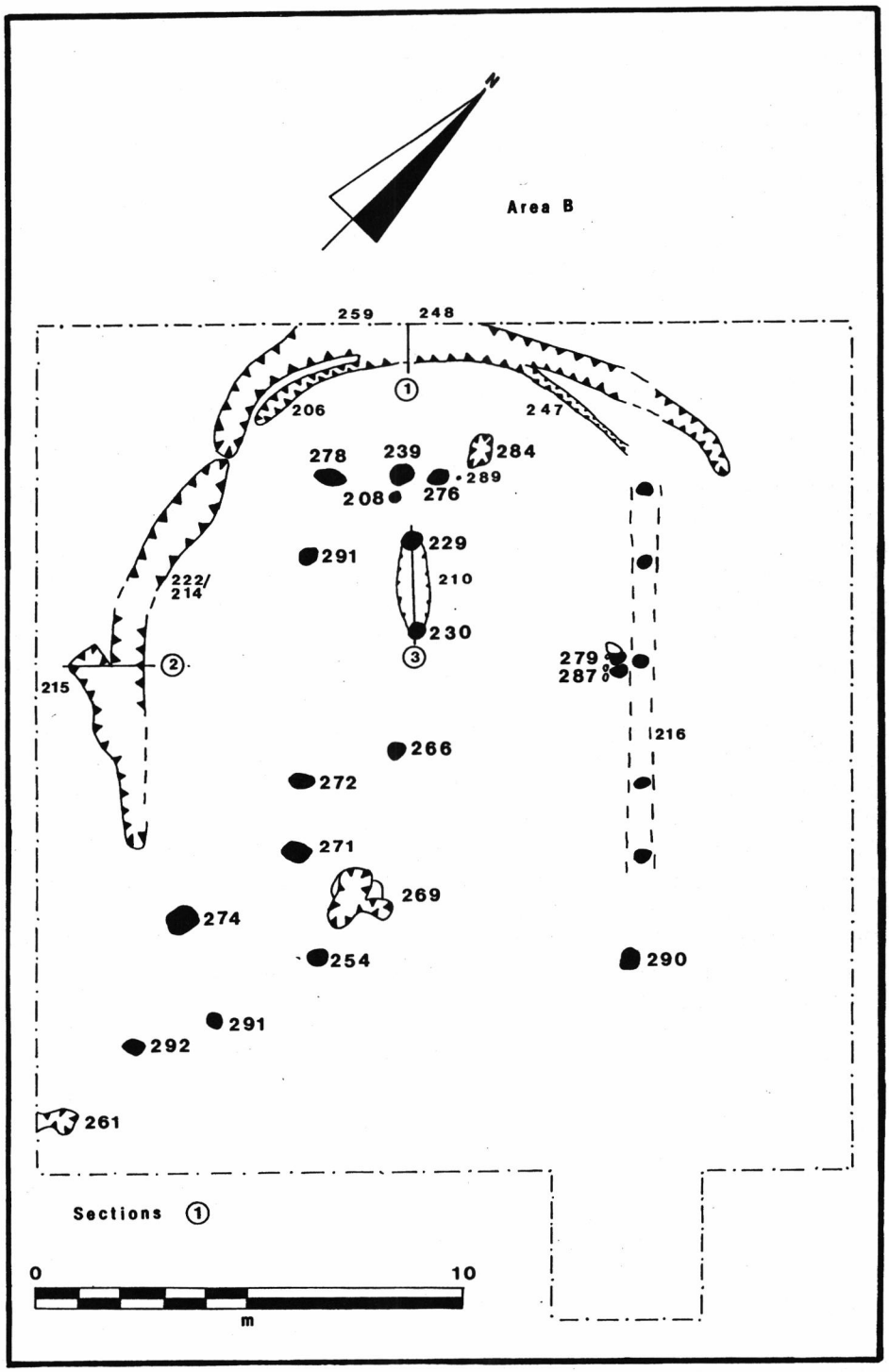

Fig 3 Brough Field, Carsington: Phase 1 features.

neatly cut along this trench and the postholes (Fig 7). As a result, the surviving traces of the postholes forming the east wall were very shallow, not more than 10 cms in depth, though between 12 and 28 cms in diameter. All contained similar fills of dark brown silty clay. Only the very bottom of Trench F216, 8 cms deep and 48 cms wide survived.

The postholes of the north and west walls of Building 1 were more substantial, 29-35 cms in diameter and 15-39 cms deep. The largest posthole (F278), at the north-west corner of the building, was 63 cms long, 43 cms wide and 53 cms deep. Another posthole (F291) in the north of the west wall was 30 cms in diameter, though very shallow — only 7 cms in depth — as a result of being cut by a later rubble filled feature. The fills of these postholes were all of a similar dark, grey-brown, silty clay and most contained some charcoal. Two in the south of the west wall (F271 and F272) also contained packing stones. At least one further posthole may have existed in the west wall and may have been removed by a modern land drain.

In the north side of Building 1 was a stakehole (F289), 5.5 cms in diameter and 9 cms deep with a brown, silty-clay fill, which was probably part of the wall. Also midway along the internal side of the east wall were two postholes (F279 and F287), both 25 cms in diameter and likely to have been part of some internal feature. Another probable internal feature was indicated by a posthole (F208) in the north of the building. It was 34 cms long, 27 cms wide and 36 cms deep, with a grey, silty fill. There was little to indicate the position of the south side of the building, which makes ascertaining its full length difficult. A further posthole (F290), south of, but in line with, the main series forming the east wall, was cut by a feature (F233) probably best assigned to Phase 2. F290 was 50 cms long, 35 cms wide and 10 cms deep. A possibly matching posthole approximately on the line of the west wall (F254) raises the possibility that the building was in fact some 11.5-12 m long, though this should be regarded as no more than a guess.

To the north and west of Building 1, on the upslope side, a series of ditches had been dug in a broad arc. If they were contemporary with Building 1, their function was presumably to drain water away from the vicinity of the structure. The main ditch (F259/F248) formed an outer arc. Attached to the main ditch were two narrower and shallower inner arms (F206 and F247). F206 was 2.5 m in length from where it terminated to where it joined the outer ditch. It was 25-30 cms wide and up to 30 cms deep. F247 ran for 3.5 m from its meeting with the outer ditch to where it was cut by a later ditch (F203). It was 15-20 cms wide and 10-15 cms deep.

The outer ditch (F259/F248: Fig 8:Section 1) formed a graceful arc around the northern end of Building 1, though on the east it too was cut through by F203. It was 15 m long and 50-90 cms wide for most of its length, being widest in the middle where it was joined by the two inner arms (F206 and F247), narrowing to 25 cms where it terminated to the east of Building 1. It was 30-40 cms in depth. The outer end of F259/F248 curved round the north-west corner of Building 1 and then towards the south-west where it terminated. After a gap of 15 cms, another ditch (F222/F214) continued the arc towards the south-west for 3.5 m, before turning more to the south for 6.65 m, to where it terminated. F222/F214 was up to 30 cms deep and 50-90 cms wide, narrowing towards its southern end, where it was cut by a slightly later ditch (F215)(Fig 8: Section 2) and also by a later well (F212). F215 was a very shallow (7 cms deep), short section of ditch, 50—75 cms wide, running for 2.5 m in a north-west direction and narrowest where it joined ditch F222/F214 (Fig 8: Section 2).

There were several miscellaneous features close to Building 1 which may belong to the same phase of activity, although none produced dating evidence and it is conceivable that some or all belonged to a later phase. These included three postholes, a shallow pit and an area of burnt clay to the south of the building, as well as a shallow pit to the north. Two of the postholes were very

shallow, F291 being only 3 cms deep though 28-31 cms wide and 35-50 cms long. Just to the north was F274, *c.* 70 cms in diameter, 34 cms deep and with a grey, crumbly fill. The shallow pit (F261), situated in the south-west corner of Area B, was 85 cms long and 50 cms wide, with a brown fill flecked with charcoal. F269, the feature containing burnt clay, was immediately south of or just inside Building 1, depending upon the location of its south wall, and was about 1.5 m wide, 1.38 m long and 13 cms deep. There were substantial areas of burnt clay on the east side of the feature, while the rest of the fill was a dark, silty, brown clay. The shallow pit to the north of Building 1 (F284) was 78 cms wide, 58 cms long and 12 cms deep, with a pebbly grey, silty clay fill. It is also conceivable that certain of the features allocated to Phase 2, such as F267 and F282, in fact belonged to Phase, 1 but no firm evidence was found to support this.

There was only one feature (F210), an area of redeposited clay, that predated Building 1. It was situated in the north of the building where two of the postholes (F229 and F230) forming part of the aisle cut through it (Fig 8: Section 3). The redeposited clay spread over an area 58 cms wide and 1.25 m long, and was up to 23cm in depth.

Phase 2 (Fig 4)

By the end of the second century, the timber building with its drainage ditches had been superseded by stone-founded buildings. The foundations for these buildings were laid directly on the hard orange natural, only 30-50 cms below the surface, so that few traces survived due to rig-and-furrow and later ploughing. The foundations consisted of irregular slabs and lumps of local limestone, and resembled in form those found on Site B (Ling and Courtney, 1981), where the coursed ashlar superstructure partly survived. Cartloads of stone are known to have been removed from Brough Field in the decade prior to the excavations, and field surveys also recorded much building stone in the top soil (Wildgoose, 1979; 1980). Sufficient stone remained *in situ* at Site A to identify two, possibly three, structures (Buildings 2, 3 and 4), two in the south of the site and one further north.

Building 2 was situated in the centre of Area C, about 20 m north of the earlier timber building. Of this structure only two diagonally opposed corners survived, and these only as the bottom layer of stone foundations. As a result, both corners were only 10-15 cms in height and about 40 cms in width. Building 2 may have formed a rectangle, 7.5 x 4.2 m externally, with some indication that the north wall turned north *c.* 1.7 m west of the north-east corner (Fig 5), perhaps indicating a structure with at least two rooms. The north-east corner was about 2 m long to the south and 2.1 m to the west. The other corner survived to a length of 1.7 m to the east and 1.5 m to the north, but was very disturbed and hard to interpret, even the wall-width being uncertain. Immediately south of its south-west corner was a line of postholes (F115, F127-129) cut by a later, Phase 3, ditch (F106). These postholes were 29-38 cms wide, 20-30cms long, and 19-21 cms deep, with similar grey, silty fills. Between this row of postholes and the corner of the Building 2 was an occupation horizon (L143) of silty, grey-brown material, about 10 cms thick, which was excavated only in a 3 m square.

Building 3 (Fig 6), positioned in the south-east of Area B, survived only as a corner with its construction trench. This corner was 2.4 m long to the north and 1.9 m long to the east. It was only one course deep and *c.* 75 cms wide. The construction trench (F237), of soft material adjacent to the east side of the wall, survived for 1.6 m and was about 25 cms wide from its edge to the stone foundation. Two parallel slots (F224 and F234) ran east from the edge of the corner, suggesting that there may have been an entrance at this point. There are several features in the area which may be associated with Building 3. Apparently within the building was a Y-shaped feature (F233), perhaps the base of a smithing furnace or slaking tank. Its north arm was up to

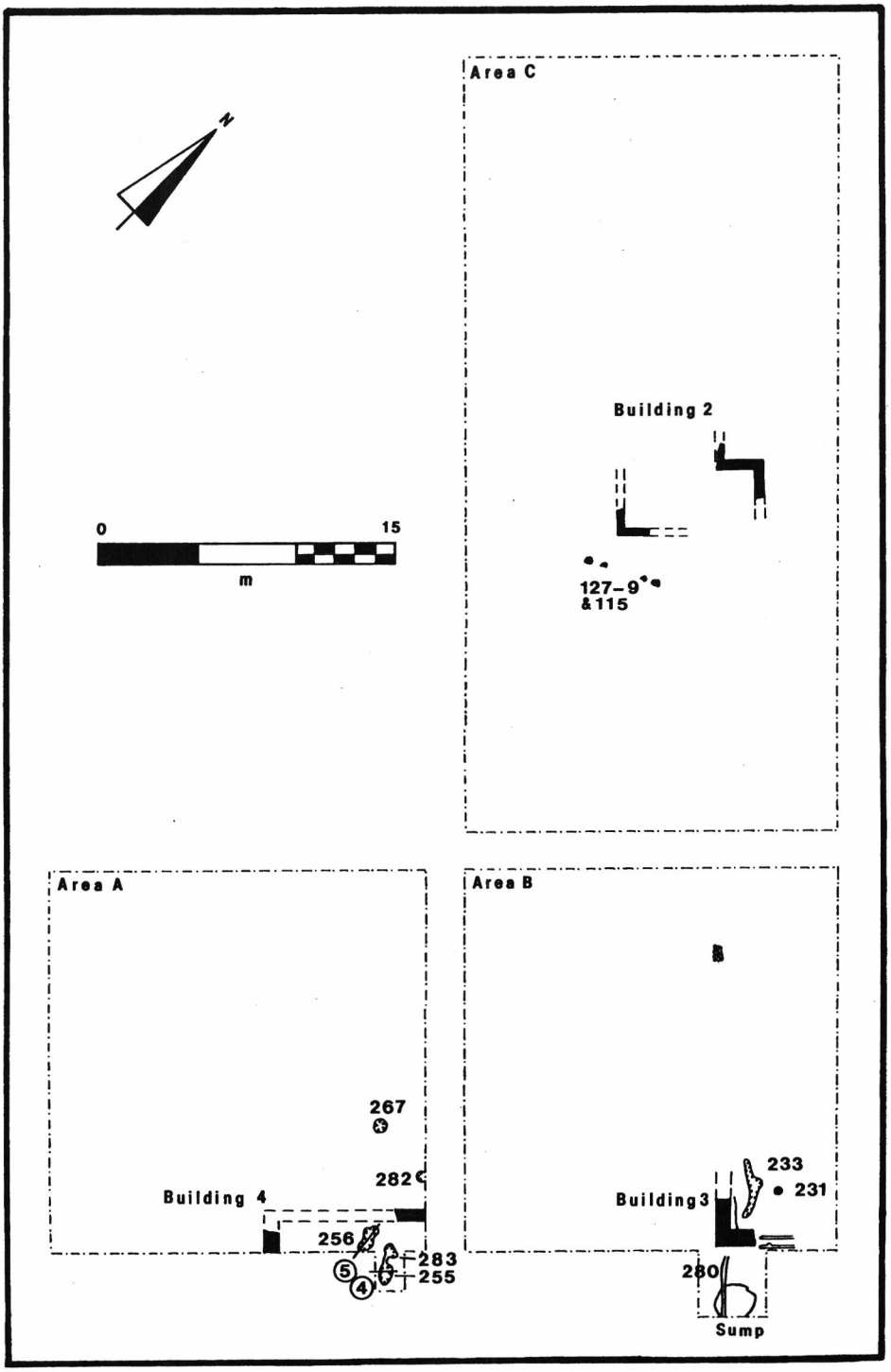

Fig 4 Brough Field, Carsington: Phase 2 features.

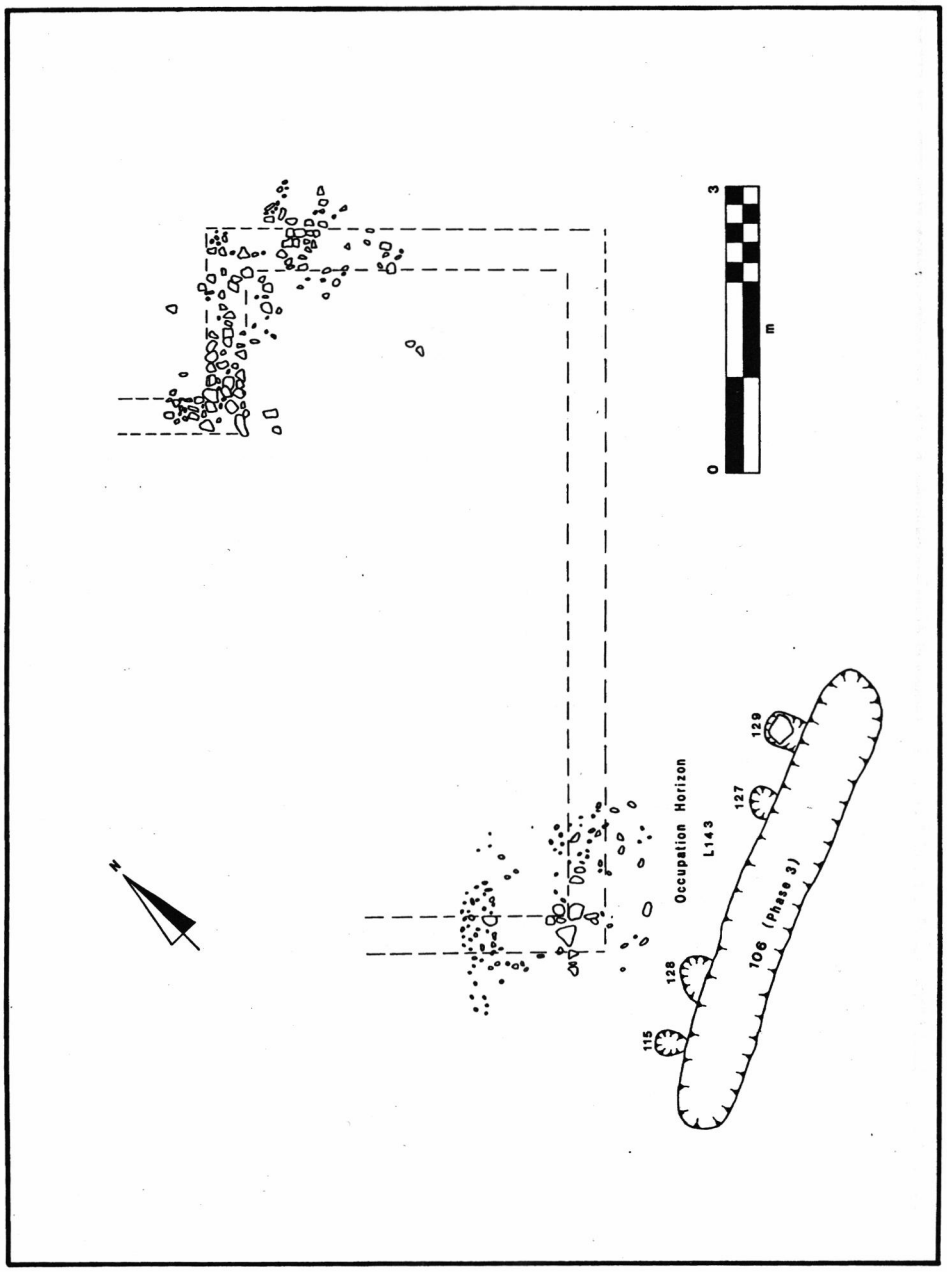

Fig 5 Brough Field, Carsington: Building 2 and environs.

18 cms deep, the south arm, at 8 cms, being shallower. This feature varied in width, measuring 25-34 cms for most of its length, but increasing to 60-70 cms where the two arms met. Its overall length was 2.75 m. At its north end it cut the earlier posthole F290, here assigned to Building 1. Several pieces of iron were recovered from the feature. To the east of the Y-shaped feature

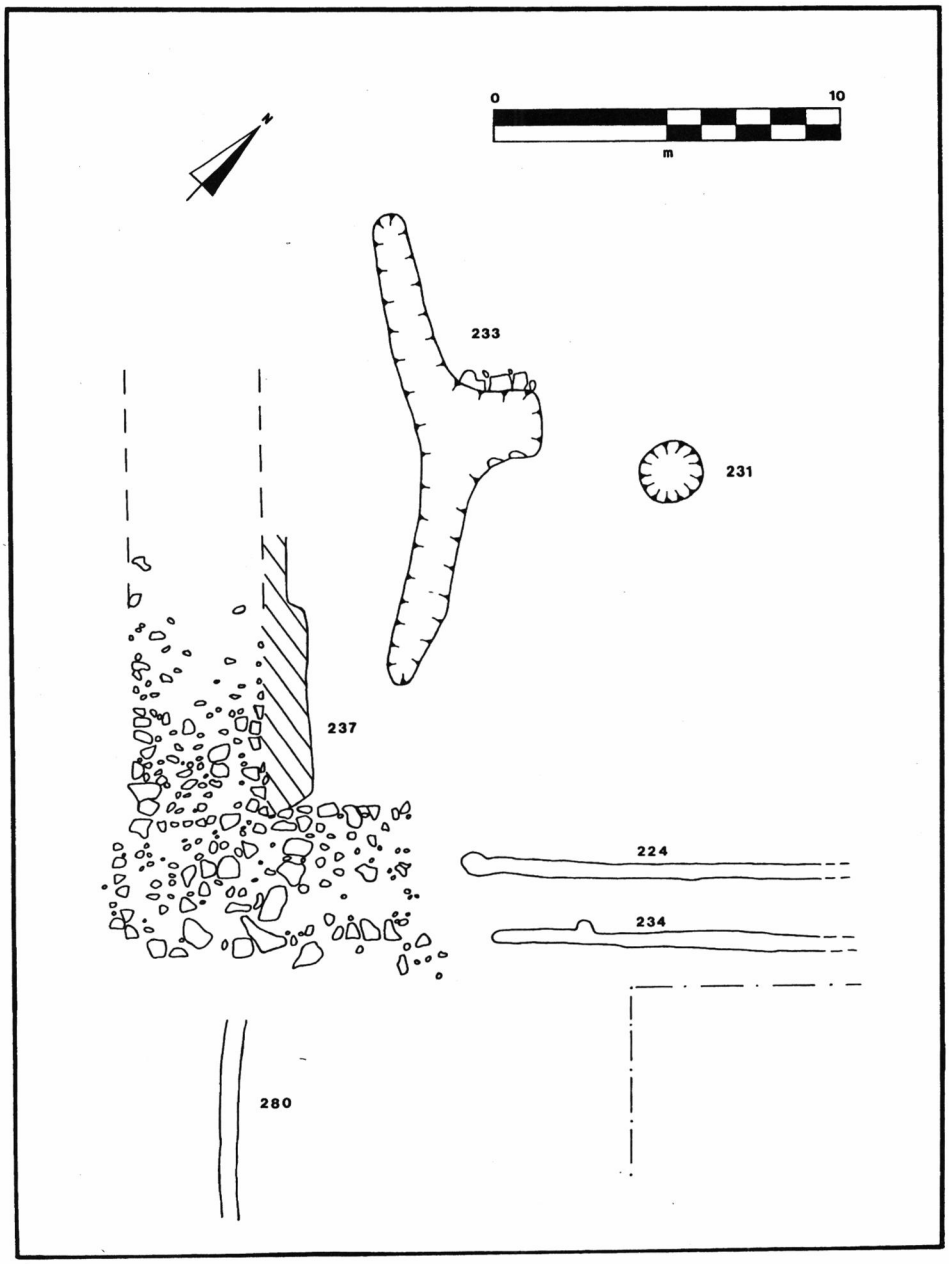

Fig 6 Brough Field, Carsington: Building 3 and environs.

was another posthole (F231), which was 35 cms in diameter and 13 cms deep, with a brown, silty-clay fill.

Immediately south of Building 3, Area B was extended revealing a shallow, narrow channel (F280) about 3.5 m in length and 15-20 cms wide, which ran into a shallow, circular depression

filled with silty material. This appeared to be a drain and soakaway, and lay below a layer of rubble (F252). A further small area of rubble foundation, on the line of the western wall of Building 3, lay some 12 m to the north. Whether it in fact represented part of the same wall (which would give Building 3 a length of *c.*15.5 m) must remain uncertain.

The probable Building 4 was situated in the south of the site, in the south-east of Area A. It survived as two fragments of wall foundation, one protruding from the central baulk and running west for 1.3 m, the other protruding from the south baulk for 1 m. These wall foundations were between 70-80 cms wide and about 8 cms deep. Building 4 was probably about 8 m or more long and over 2.5 m wide, measuring from the probable corner to the baulks. Other features probably associated with, or later than, Building 4 were several pits, possibly connected with lead working. Two of these pits (F255 and F283) were connected by a shallow channel. Both pits were situated in an extension to Area A and both contained galena and stones in their fills. F255 (Fig 8:Section 4) was 77 cms long, 39 cms wide and 28 cms deep. F283 was 80 cms long, 48 cms wide and 7 cms deep, while the connecting channel was 75 cms in length but only 15 cms wide. A millstone, probably for milling ore, was found on the edge of F255. Another pit (F256) (Fig 8: Section 5) north of the trench extension also had galena, stones and charcoal in its fill. It was about 1.6 m long, 70 cms wide and 44 cms deep. If they were contemporaneous with it, all these features would have lain within Building 4.

To the north of Building 4 were two more pits (F282 and F267), again containing galena in their fills. F282 was 1.75 m north of the building and had a diameter of 38 cms with a depth of 16cms, and a brown, silty clay fill similar to F267. The latter, further north again, was larger, about 64 cms long, 59 cms wide and 40 cms deep, and also contained packing stones in its edges and base.

Phase 3 (Fig 7)

In Phase 3 a system of ditches was dug across the site, presumably to drain water down the slope and away from the area. By this time at least one of the Phase 2 buildings — Building 4 — must have fallen into disuse, since a ditch cut was through it. The same occurrence befell the earlier timber Building 1. Three ditches (F106, F 125 and F 203) may represent activity earlier than, or at least in character different from, the more major ditches F130 and F119/117/123/264/275. All these former ran for short distances whereas the other two appeared to be elements of a more extensive ditch system.

F106 (Fig 8:Section 6), situated in Area C and immediately to the south of Building 2 (which need not necessarily have been out of use), ran for only 5.25 m, was 75 cms wide and up to 30 cms deep, with a black, silty fill. On its northern side it cut the four Phase 2 postholes (F115, F127-129) and, if it served as a bedding trench rather than a drainage ditch, it may even have replaced them. F125, again situated in Area C though further south of Building 2, formed a right angle. The south arm extended for 5.8 m to about 50 cms from the course of the major ditch F130, and was up to 60 cms wide. The east arm of F125 was only 4 m long and up to 75 cms wide, though tapering to 40 cms wide where it terminated. This ditch was shallow, at its termination about 25 cms deep, but becoming up to 40 cms deep near its centre; it had a grey, silty fill containing some pebbles. It cut a layer of light, grey-brown, silty-clay (L137). Two to three metres south of F130 was the start of F203, the ditch which cut along the line of the east wall of Building 1. This ditch began under the baulk between Areas C and B. It extended for 13.75 m, and was between 75-80 cms wide for most of its length, but narrowed to 50 cms immediately north of the earlier arc-shaped ditch F259/F248, which it also cut through. It appears to have been fairly shallow, about 20 cms deep, and contained a dark, grey-brown fill. Also possibly associated with F203 was a posthole on its western edge to the north of F259/F248. This posthole (F211) was 12 cms wide,

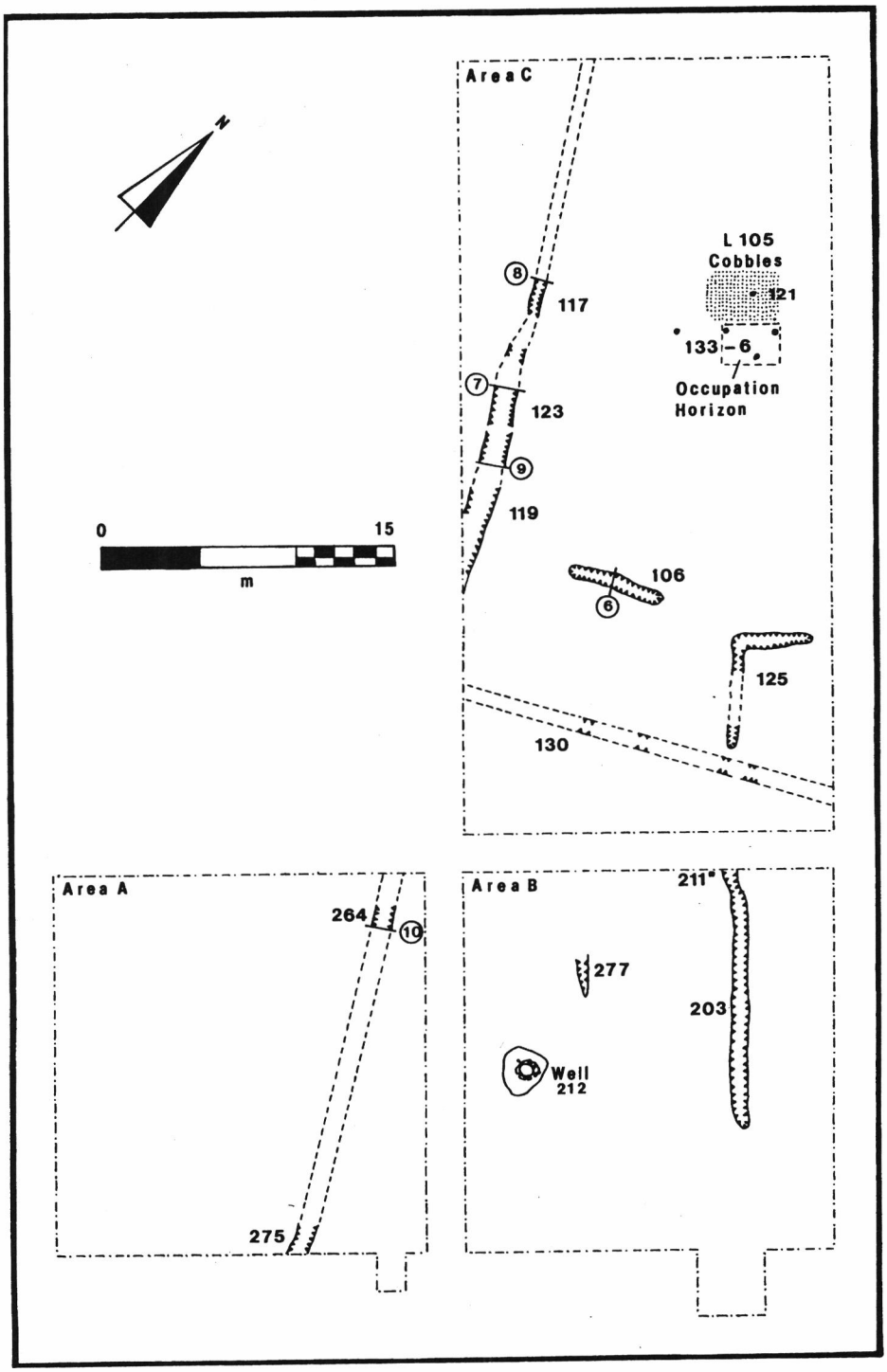

Fig 7 Brough Field, Carsington: Phase 3 features.

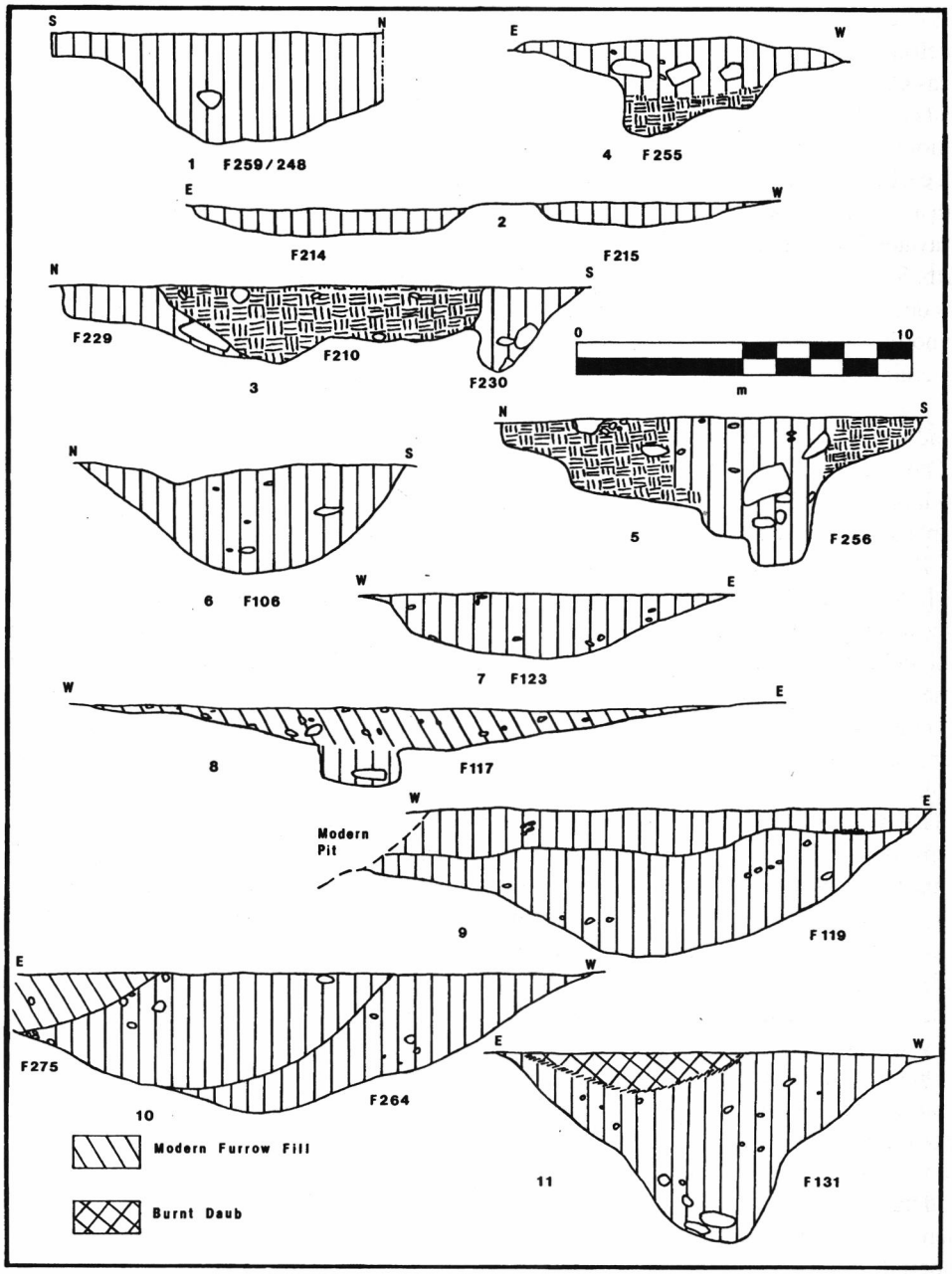

Fig 8 Brough Field, Carsington: sections.

15 cms long and 6 cms deep, and contained packing stones in its fill.

Ditches F130 and F119/117/123/264/275 were much longer than the three described above. F130 travelled in an easterly direction from the central baulk, under which it presumably left F119/117/123/264/275 at right angles, right across Area C, to disappear under the east baulk.

This ditch was over 20 m long, 75 cms wide and up to 38 cms deep, with a dark-grey, silty fill which also contained some charcoal. The longest ditch on the site, running for over 50 m through Areas C, D and A and disappearing under the south baulk, consisted of five identified cuts or recuts at different points on the same alignment. These were recorded principally by means of sectioning, and the feature numbers on Fig 7 indicate the points at which each was best preserved. The earliest in Area C was perhaps F123 (Fig 8: Section 7), only 19 cms deep and 1.05 m wide, with a very clean, brown, silt fill. It survived for *c.* 6 m. F117 (Fig 8: Section 8), a narrow ditch, excavated for about only 3 m, up to 60 cms wide, with a grey-brown, silty-clay fill, lay further north. South of the excavated section of F123 was F119 (Fig 8: Section 9), 1.5 m wide, up to 50 cms deep and with a grey-black, silt fill. It may have been a recut removing traces of F123. In the north of Area A, F264, 60 cms wide and up to 43 cms deep, with a grey-orange, clay fill containing charcoal and pebbles, was recut as F275, 70 cms wide and 35 cms deep, with a dark grey, silty-clay fill, with charcoal flecks and pebbles (Fig 8: Section 10). The latter was also found in the south of Area A.

Other features connected with Phase 3 are a cobbled area, a well and a rubble-filled feature. The large cobbled area (L105) was situated in the north of Area C. The cobbling consisted of a pebble spread with larger closely packed stones. The area was at least 2.8 m wide, 3.6 m long and 10—15 cms deep, the cobbling being set into a grey/black, silty soil. Within L105 was a posthole (F121), 24 cms wide, 26 cms long and 20 cms deep, with a grey-brown, silty clay fill. Petering out at the northern edge of L105, or running under it, was a linear feature. It ran north-west and could be examined in only one area. Its fill was a dark, grey-brown, silty-clay, with some pebbles and charcoal. Also along the southern edge of the cobbling a series of four postholes (F133-136) was found. They were 30-40 cms wide, 23-50 cms long and 24-35 cms deep, and all had black fills. A possible occupation horizon of beigey-yellow clay lay around them.

The rubble-filled feature (F277) was situated in Area B, along the former east wall of Building 1. This rubble also contained some charcoal and pot sherds. It was 2.3 m long, 93 cms wide and 6 cms deep, cutting one of the postholes which formed part of the east wall of Building 1. Also during this phase of activity a well was sunk to a depth of over 2.8 m. This well (F212) was situated in the south of Area B where it cut the east arm of the arc-shaped ditch F214/F222. The well pit was about 2.15 m in diameter, with very dark, clay fills, containing charcoal and preserved wood. The stone lining of the well appeared to have collapsed soon after construction and was probably about 3 m in depth.

One undateable feature discovered in the north-west of Area D (west of Area C) was a small linear feature (F131) (Fig 8: Section11; not shown on Fig 7). Only a 3 m section was excavated, the feature being 70 cms wide and 26 cms deep, with a grey-brown, silt-clay fill containing burnt daub, charcoal and pebbles.

Modern features

There are a few features that postdated Romano-British activity on the site. These include modern field drains, fence postholes and previous excavation trenches. They are only briefly described here, and are not illustrated; more detailed records are available in the site archive. There were two modern land drains. F 205 cut across Areas A and B in an east-west direction. The other drain (F124) appeared in Area C about 50 cms from the central baulk between Areas C and D, running parallel with and under the baulk, probably to join F 205. Also in Area C was a line of eight postholes (F107-114 and F122) which had formed part of a modern fence line. Other minor modern features included: F118, a shallow pit in the north of Area C containing two

large limestone blocks; F265 and F207, a posthole and a pit north of Building 1 in Area B; and F281, another shallow pit in the extension south of Area B, which contained modern pottery sherds. The traces of two trenches from a relatively recent but unrecorded excavation on the site, believed to have been carried out by Mr H. Lane, were also found. One trench (F200) was a shallow 1.75m square in the north-east corner of Area B, while the second (F202) was L-shaped, both arms being 1.5 m long, one 60 cms and the other 45 cms wide.

There was also a line of three large clay-filled postholes in Area C which is understood to have been from a timber target erected for bombing practice in World War II. Several heads of practice bombs were found in the topsoil during the excavation.

THE FINDS

The samian ware (MJD) [NB: Form numbers are those of Dragendorff, unless otherwise stated.] A total of 186 samian sherds was recovered, though most were chips and very highly abraded body sherds, rarely retaining traces of glaze. In addition, much of the material was either unstratified or from post-Roman contexts. A range of fabrics was represented, but all appeared to be Central or South Gaulish. The forms identified were: 30, 37, 18/31, 18/31R, ?31/31R, ?27, ?Curle 11, 15/17, ?18, 31, 44 or 81, 32 or 40, and a second-century 33 with slightly concave outer wall. Seven decorated sherds were noted, but all were far too abraded for close identification. No pieces call for specific comment here but where relevant the presence of dateable forms is noted in the discussion of the site chronology.

Coarse pottery and mortaria (AA, MJD)

Initial post-excavation work on the coarse pottery was undertaken by AA. It involved the examination of all the material by context, and the cataloguing of fabric, sherd-count, form, part, rim-diameter, rim-percentage, decoration and other conditions; fabric type descriptions; and preliminary identifications of mortaria and stratified assemblages. A full archive of this analysis is available at Sheffield Museum, but only diagnostic material from stratified contexts is dealt with in detail here, and only a selection of diagnostic pieces is illustrated. The analysis of the dating of the stratified assemblages is based partly on comments by AA and partly on further work by MJD. Some 4,102 sherds were recovered — principally Romano-British but with a small admixture of medieval and later wares — from the excavated area and from the topsoil of the area originally stripped but not subsequently excavated. Overall, Derbyshire ware represented 43% of the assemblage, with Black Burnished ware representing only 3.4%, and the remainder being made up of orange, grey and buff wares, mostly of relatively local origin, and small amounts of colour-coated, white, calcite-gritted, lead-glazed and amphora fabrics.

Fabrics

The following list categorises and defines the fabric types as they will be referred to in the following text. It should, however, be recognised that this represents a simplification of the material for the purposes of publication, and that a greater number of fabric types is to be found in the archive.

AMP 53 amphora sherds were noted, all body sherds of Spanish fabric.

BB1 Black-burnished ware category I. A hard, granular, sandy fabric with abundant quartz inclusions.

BUF Buff wares. A group comprising a variety of buff fabrics, mainly sandy with abundant quartz inclusions, sometimes with a grey core and of varying fineness. Some had in addition moderate or common red ironstone inclusions and coarse inclusions of ?igneous rock. One group also had an orange slipped surface.

CTA A calcite-gritted fabric, hard and buff to red, with a granular or soapy surface and external

combing. Only a few sherds were found, the only form being a lid-seated jar.

DBY Derbyshire ware (as Kay, 1962). Small quantities of a rather finer form of Derbyshire ware were also found (cf Birss in Dearne 1993, 120, fabric OAC, who suggests that this 'pre-Derbyshire ware' was in fact a contemporary variant or copy of true Derbyshire ware).

FLA A white/buff fabric with abundant quartz and moderate red ironstone inclusions. It had a powdery feel and varied from soft to hard. Flagon fabric, perhaps a Mancetter product.

FLB A coarse orange/red fabric with common quartz and moderate red ironstone inclusions. It varied from soft to hard and had an external white slip. Flagon fabric.

FMB Fine micaceous black ware. A hard smooth or soapy fabric with much black ironstone and golden mica, and occasional large quartz inclusions. Used for jars.

GLA A hard white to buff fabric with moderate quartz and common red ironstone inclusions and a dark green lead glaze both internally and externally. Used for small jars and beakers. ?Littlechester product.

GRY A group comprising various grey fabrics including mainly hard sandy fabrics of varying fineness, all with abundant quartz inclusions, some with red or black ironstone and in some cases with varying quantities of golden mica. Probably of local origin.

GRY(M) Micaceous grey ware. A group comprising a fine and a coarser sandy fabric with abundant quartz and golden mica inclusions, the finer form perhaps burnished.

ORA Orange ware. A range of orange fabrics, some with a grey core with inclusions of quartz, ironstone and sometimes mica.

NV Nene valley or Nene valley type colour-coated ware. The coat varied from orange to brown.

RC A hard smooth buff fabric with common fine quartz inclusions, roughcast with a red external slip. Used for cornice-rimmed bagshaped beakers. ?Mancetter product.

RED Red wares. A group of mainly hard, fine and coarse, red fabrics with moderate to common quartz and in some cases with common red ironstone inclusions. The finest group, used for jars, had a red wash.

ROX Oxford red-coated ware (as Young, 1977).

WHI A hard smooth fine white fabric with common fine quartz inclusions.

Coarse pottery: the key groups (Figs 9, 10)

PHASE 1

Of twenty-five diagnostic vessels from Phase 1 contexts, fifteen were Derbyshire ware jars. Little of the rest of the material was closely dateable and only three pieces merit illustration.

a) From the inner ditches north of Building 1 (not illustrated):
DBY lid-seated jar (Kay, 1962: no. A15 or 20); DBY roll-rimmed jars (Kay, 1962: no. B27; similar to B33 or Brassington and Webster, 1988: no.16; unrecorded form); ORA wide-mouthed jar with everted rim; ORA flagon.

b) From the main ditch north of Building 1 (not illustrated):
BUF wide-mouthed jar; GRY narrow-mouthed jar.

c) From the main ditch west of Building 1 (illustrated):
1 GRY wide-mouthed jar (mid-second to mid-third century?); 2 BUF lid-seated jar; 3 GRY(M) wide-mouthed jar with everted rim (cf. Dool, 1985: no.11, from well VI, with a terminal date early in the second century).

d) From the main ditch west of Building 1 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A28 [2 vessels]; A31; A88; Brassington and Webster, 1988: ?no. 10); BUF wide-mouthed jar; BUF ovoid jar with everted rim [2 vessels].

e) From the postholes and construction trench of Building 1 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A4 or A5; A64; A7 or Brassington and Webster, 1988: nos. 3, 6, 8); DBY roll-rimmed jar (Kay 1962, no. B16); DBY jar-base.

PHASE 2

Larger numbers of diagnostic sherds were recovered from Phase 2 contexts, though Derbyshire ware vessels still represent the bulk of the material (39 vessels out of 51). A slightly larger

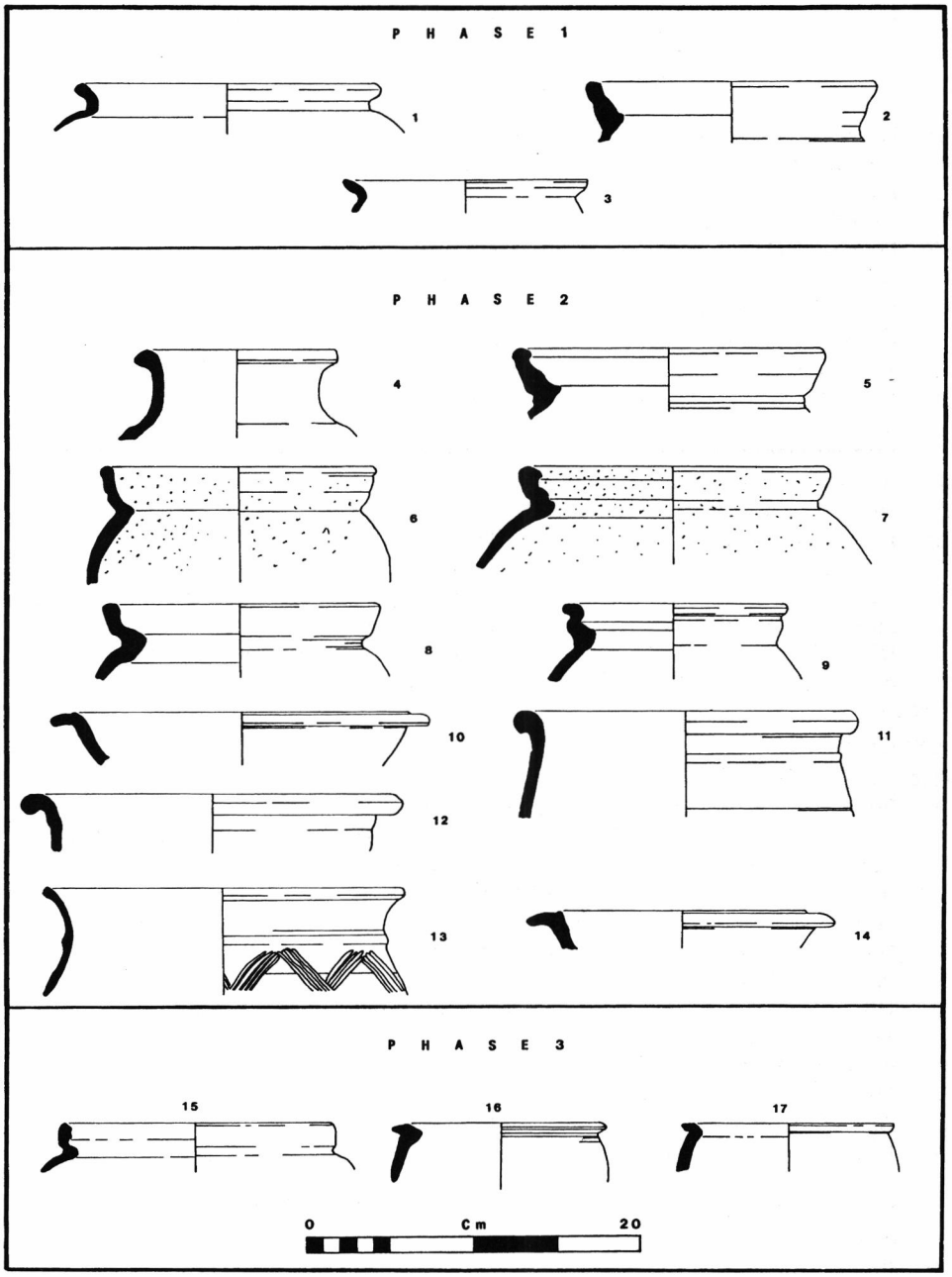

Fig 9 Brough Field, Carsington: coarse pottery from key groups.

number of vessels could be relatively well dated and rather more call for illustration.

a) From the wall foundation of Building 3 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A31; A102; similar to A29; 2 unrecorded forms); DBY roll-rimmed jars (Kay, 1962: no. B13; B29; B62); ORA wide-mouthed jar.

b) From the wall foundation of Building 2 (illustrated):
4 BUF narrow-mouthed jar.

c) From the wall foundation of Building 2 (not illustrated):
BUF segmental bowl with flat rim.

d) From the channel south of Building 3 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A89; and unrecorded form).

e) From the occupation layer south of Building 2 (not illustrated):
DBY flat-rimmed bowl (perhaps mid-second century).

f) From the rubble south of Building 3 (illustrated):
5-9 DBY lid-seated jars (variants of Kay, 1962: nos. A102, A28, A100, A103 and a form with similarities to nos. A18, A98 and Brassington and Webster, 1988: no. 9); 10 BB1 bowl with incipient flange (similar to Gillam, 1970: no. 219; third-century); 11 GRY wide-mouthed jar (third-century); 12 GRY wide-mouthed jar.

g) From the rubble south of Building 3 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A5; A19 [3 vessels]; A28 [2 vessels]; 33; A76; variant of A19; unrecorded forms [2 vessels]); DBY roll-rimmed jars (Kay, 1962: no. B19; B20; B28; B29; B63; B66; B70): CTA lid-seated jar; BB1 wide-mouthed jar; BB1 curved-sided dish (similar to Gillam, 1970: no. 330; fourth-century).

h) From below the rubble south of Building 3 (illustrated):
13 DBY (fine) wide-mouthed jar with upright square rim and incised decoration (late- first to mid-second century); 14 BB1 bowl with incipient flange (Gillam, 1970: no. 226; third-century).

i) From below the rubble south of Building 3 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A28; A100; similar to A19; unrecorded form); DBY roll-rimmed jar (Kay, 1962: no. B11); FLA wide-mouthed jar.

PHASE 3

The stratified material from Phase 3 contained noticeably fewer diagnostic sherds of Derbyshire ware and may also reflect two sub-phases of activity.

a) From Ditch F106 south of Building 2 (illustrated):
15 DBY lid-seated jar (similar to Kay, 1962: no. A36); 16 DBY (fine) wide-mouthed jar; 17 ORA narrow-mouthed jar; 18 BB1 wide-mouthed jar (Gillam, 1970: no. 132; early-third century); 19 BB1 straight-sided dish (Gillam, 1970: no. 319; late-second century; cf. Dool, 1985: no. 177; Antonine or earlier); 20 GRA hemispherical bowl; 21 ORA bag-shaped beaker with grooved cornice rim; 22 ORA bead-rimmed flagon (similar to Gillam, 1970: type 15; late-second/early-third century).

b From Ditch F106 south of Building 2 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A19; similar to A24); GRY narrow-mouthed jars (2 vessels; early-third century); ORA narrow-mouthed jar (early-third century); ORA curved-sided shallow dish; ORA segmental bowl with bead rim.

c) From Ditch F203 (illustrated):
23 BUF curved-sided dish with everted grooved rim (third-century).

d) From Ditch F203 (not illustrated):
DBY lid-seated jars (Kay, 1962: no. A8; A22; A31; A103); DBY (fine) narrow-mouthed jar; ORA narrow-mouthed jar; GRY wide-mouthed jar with everted rim; BUF wide-mouthed jar; ORA wide-mouthed jar; DBY wide-mouthed jar with square everted rim.

e) From Ditch F117 (illustrated):
24 BUF bowl with a flat rim.

f) From Ditch F117 (not illustrated):
DBY lid-seated jar (Kay, 1962: no. A78).

g) From Ditch F119 (illustrated):
25 DBY lid-seated jar (similar to Kay, 1962: no. A19; one of two vessels); 26 GRY(M) wide-mouthed jar with everted rim; 27 BB1 flat-rimmed bowl (similar to Gillam, 1970: no 219; earlier-second century); 28 ORA bowl with bead rim.

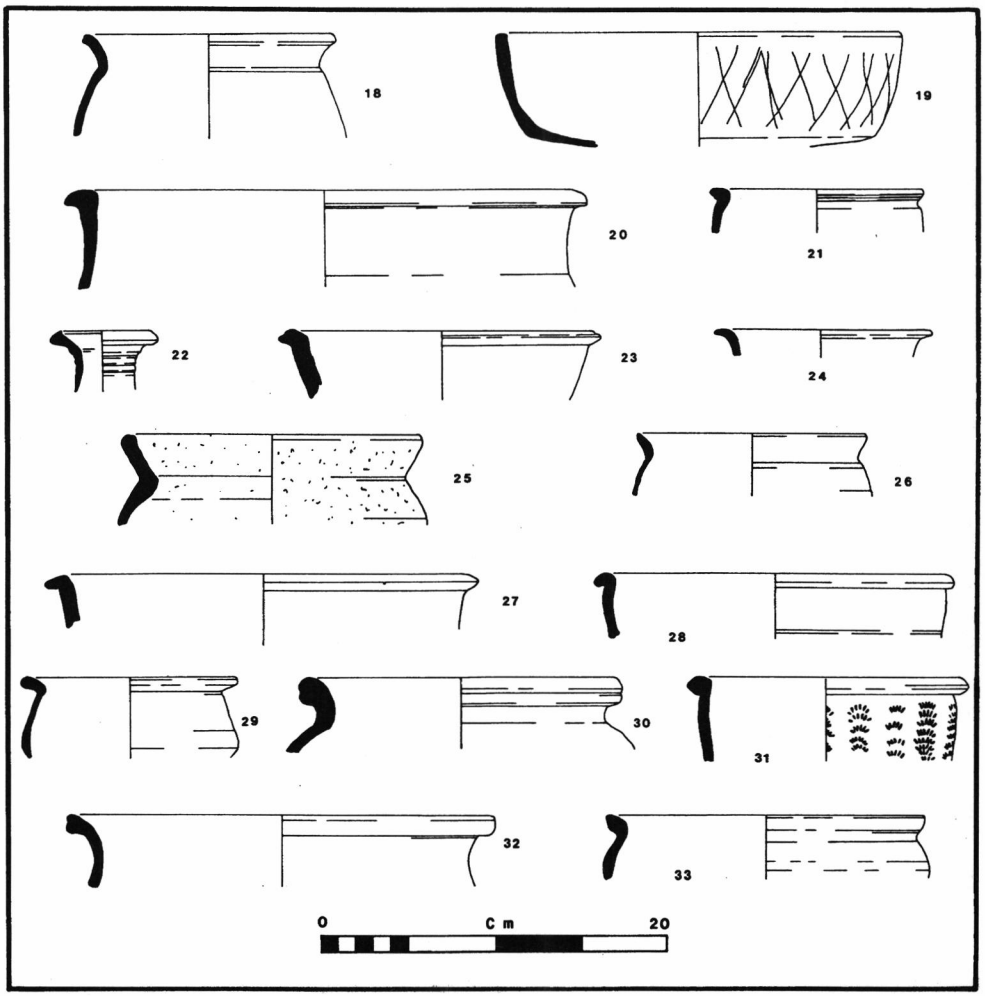

Fig 10 Brough Field, Carsington: coarse pottery from key groups.

h) From Ditch F119 (not illustrated):
CRY wide-mouthed jar; ORA wide-mouthed jar (2 vessels); BB1 wide-mouthed jar with everted rim (similar to Gillam, 1970: no. 120; second-century); DBY segmental bowl; BB1 straight-sided dish with bead rim (Gillam, 1970: no. 317; AD 130-220).

i) From posthole on the edge of Ditch F106 (perhaps Phase 2) (illustrated):
29 ORA carinated bowl.

j) From the cobbling in Area C (illustrated):
30 DBY roll-rimmed jar (similar to Kay, 1962: no. B67).

k) From the cobbling in Area C (not illustrated):
DBY lid-seated jar (Kay, 1962: no. A5); NV curved-sided dish (Howe, Perrin and Mackreth, 1980: no. 87; fourth-century).

l) From the linear feature running north from the cobbling (illustrated):
31 ROX bowl with bead-rim decorated with demi-rosette stamps (Young, 1977: C83, especially C83.6; after AD 325).

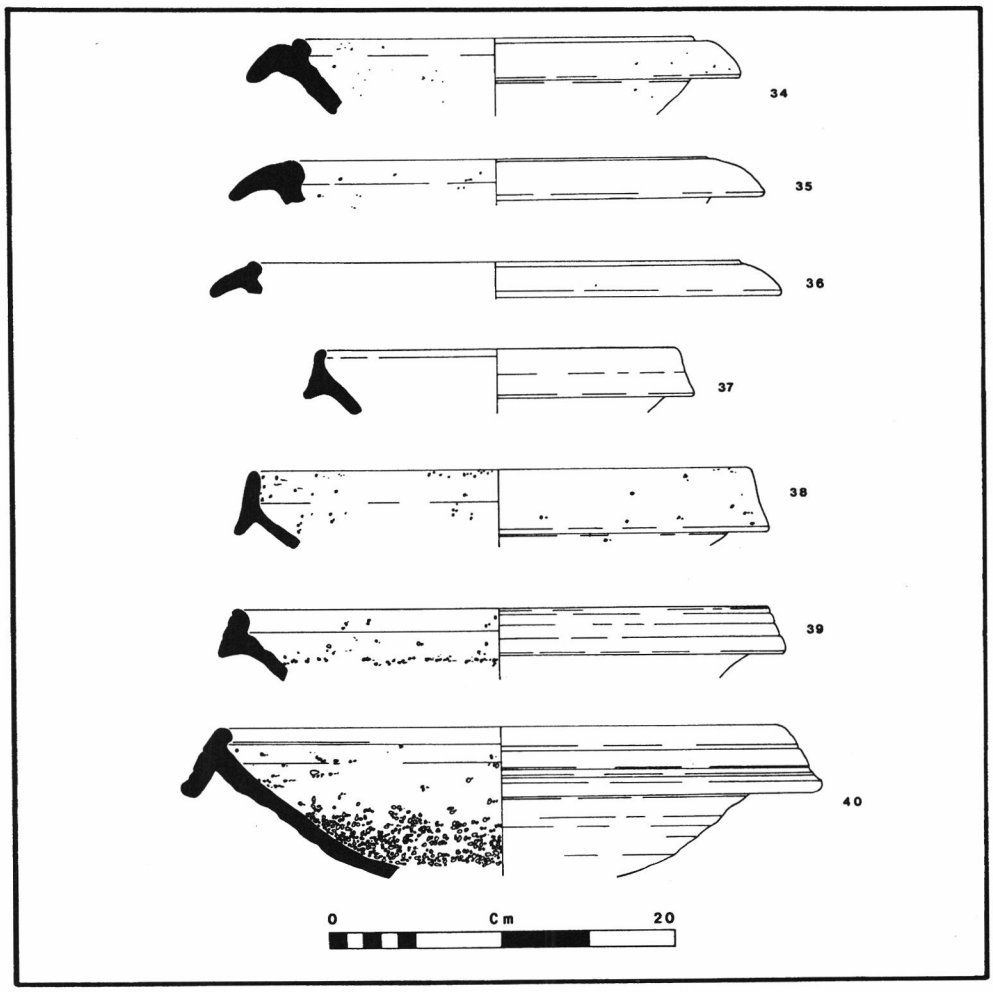

Fig 11 Brough Field, Carsington: mortaria from key groups.

m) From the lowest filling of the well (not illustrated):
DBY roll-rimmed jars (Kay, 1962: no. A19; similar to A24); GRY wide-mouthed jar with everted rim; BB1 wide-mouthed jar with everted rim (similar to Gillam, 1970: no. 132; second- or third-century).

n) rom the middle filling of the well (not illustrated):
DBY roll-rimmed jar (Kay, 1962: no. B28); GRY(M) everted rimmed bowl; ORA segmental bowl with bead-rim (similar to Gillam, 1970: no. 294; earlier-second century).

o) From the upper filling of the well (illustrated):
32 GRY everted-rimmed jar (early-third century); 33 NV wide-mouthed jar with everted rim (similar to Howe, Perrin and Mackreth, 1980: no. 75; fourth-century).

The mortaria (Fig 11)

Nineteen mortaria were recovered, sixteen in Mancetter/Hartshill fabrics, two of Nene valley type wares and a single example in a coarse orange fabric. No stamps were noted. The predominance of Mancetter/Hartshill types, as at Derby (Hartley, in Wheeler, 1985: 124) is not

surprising given the proximity of these workshops. Only certain mortaria from key groups are illustrated. Of the unstratified material two vessels were Antonine Hartshill/Mancetter products, seven were hammerhead mortaria from the same area, one was a Nene valley product of a bead-rimmed hammerheaded form and one was a fourth-century reeded, flanged mortarium in coarse orange ware.

a) From the Phase 1 ditch F206 (illustrated):
34 reeded and flanged mortarium in Mancetter/Hartshill fabric (Gillam, 1970: no. 244; early-Antonine).

b) From Phase 2 Building 3 (illustrated):
35 flanged mortarium in the same fabric (Antonine).

c) From Phase 2 Building 3 (not illustrated):
Similar (cf. Gillam, 1970: no. 253; AD 140-80).

d) From the Phase 2 rubble south of Building 3 (illustrated):
36 beaded and flanged mortarium in the same fabric (Antonine).

e) From the Phase 3 ditch F203 (illustrated):
37 hammerhead mortarium in the same fabric with painted strips on the rim (similar to Gillam, 1970: no. 280; AD 270-350); 38 similar.

f) From the lower filling of the Phase 3 well and from behind its masonry lining (illustrated):
39 hammerhead mortarium with bead-rim in the same fabric; matching sherds from the well filling and from behind the masonry lining (similar to Gillam, 1970: no. 283; AD 290-370).

g) From the upper filling of the Phase 3 well (illustrated):
40 hammerhead mortarium in smooth white Nene valley fabric with common fine quartz and medium-sized red ironstone inclusions (cf. Gillam 1970 No. 284; AD 300-370).

Dating summary

The lack of closely dateable finewares and limited quantity of diagnostic coarse vessels, particularly from Phase 1, inhibit the establishment of a chronology for the site. However, despite the presence of a few unstratified sherds of the late-first and early-second centuries, analysis of the ceramic evidence appears to place Phase 1 activity rather later. The presence of Derbyshire Ware probably gives a date in or after the early-Antonine period. Though more precision is difficult, No. 1 (mid-second to mid-third century), No. 3 (probably early-second century) and mortarium No. 34 (early-Antonine) appear to suggest an earlier-Antonine date. Given the likely date of Phase 2, Phase 1 may lie somewhere before *c.* 150.

The general impression given by the material from Phase 2 is that it falls into two broad dating-groups. All the pottery from the buildings, the occupation south of Building 2 and the channel south of Building 3 appears to date to some point in the second century, probably its second half. The limited samian evidence is in agreement with forms 18/31 and ? Curle 11 from Building 3 and 18/31 and 32 or 40 from the channel south of the building. The second broad group comes from below and within the rubble south of Building 3. It includes third- and fourth-century material as well as an Antonine mortarium (No. 36) and a late-first to mid-second century jar (No. 13). The samian from these contexts includes forms 18/31R (predominantly first half of the second century) and 44 or 81 (predominantly second half of the same century). Though the evidence is far less than one would like, it seems possible that the buildings of Phase 2 were constructed 150-200. On the other hand, the rubble south of Building 3 seems to represent a deposit of the third and fourth centuries, perhaps reflecting demolition or decay of the building.

The dating-material from Phase 3 again divides into two groups. The most extensive group of material comes from Ditch F106 south of Building 2. It included early-third century vessels (eg Nos. 18 and 22) as well as earlier material (eg No. 19). This context also contained noticeably

more samian ware than other Phase 3 features and most of the forms recorded were more likely second-century than later (forms ?18/31, ? 27, 30 and an ? Antonine form 37 bowl). Two other ditches which may have related to the same possible sub-phase (F125 and F203) produced rather less material, but this included No. 23 (third-century) and two hammerhead mortaria of the late-third to late-fourth centuries (Nos. 37 and 38).

The other ditches cut in Phase 3 contained less closely dateable material. Ditch F119 contained second/early-third century material and a samian form 18/31 bowl, but at least some of this material may have been residual. In contrast, the cobbling in Area C and a possibly associated linear feature yielded fourth-century material including a bowl dateable to *c.* AD 325 (No. 31). The well clearly contained residual material, including a second century form 33 samian cup, but the latest material was fourth-century (Nos. 33 and 40). Indeed, matching sherds of a late-third/fourth-century mortarium were recovered from the well fill and *in situ* behind its stone facing, demonstrating that it was constructed in the fourth century and reinforcing the conclusion that it collapsed soon after being dug.

The coin (WH)

As of Antoninus Pius
Obv. Laureate head to r. [ANTON]INVS AVG PI[VS P P]
Rev. Fortuna standing l., holding rudder and cornucopia [F]ORTVNA AVG; in field S.C.
Rome mint AD. 139 (*RIC* iii, no. 558).

Worn to very worn, badly chipped and surface of obverse partly missing. Unstratified in Area A.

Other non-ceramic finds (MJD, SP)

Most of the finds are now stored in Sheffield Museum, but a small number, most notably the bronze work, were mislaid between the excavation and the writing of the final report. They are known only from the original record cards which, at least in the case of the brooch identifications, may not be reliable. [Key: *W* width; *L* length; *Th* thickness; *Di* diameter.]

1. Glass

Eleven items of Roman glass were recovered. Four were sherds of blue-green bottles; the rest were sherds of thin, light green, olive-green or dark green vessel-glass and a single blue glass bead (Di 5 mm; now lost). The vessel sherds were all small and only one retained any indication of its form, being perhaps a small piece of the plain rim of a bowl.

2. Bronze

2.1 Brooch (L 80mm). "Ring-headed fibula with pin and part of ring missing" (lost). From Phase 3 ditch F119.
2.2 "Spring and part of pin of fibula" (lost). From Phase 2 rubble F252.
2.3 "Fibula pin fragment" (L 33 mm) (lost). From Phase 1 ditch F222.
2.4 "Two overlapping strips riveted together" (L 70 mm; W 22 mm) (lost). Unstratified.
2.5 "Rectangular plaque with three punched holes" (L 50 mm; W 38 mm; Th 1 mm) (lost). Unstratified.

3. Iron (Fig 12:3.2-13)

Some fifty iron objects were recovered, of which twenty-eight were nails. Many of the nails were unstratified and some, particularly a group with heavy rectangular shanks and large, off-centre square heads, were probably modern. Most stratified nails were fragmentary and highly corroded. Of the other identifiable material, three items, all unstratified, were modern (a horseshoe, boot stud and a wedge-headed spike) while two (unstratified) objects were unidentifiable. Four items are illustrated here.

3.1 ?Firmer chisel fragment (L 28 mm; blade W *c.*5.5 mm). Square-sectioned rod ending in small chisel point (cf. Manning, 1985: no. B33). Highly corroded. Unstratified.
3.2 (Illustrated) Fitting (L 25 mm; W 25 mm; Th 15 mm). Square block with flat back, chamfered

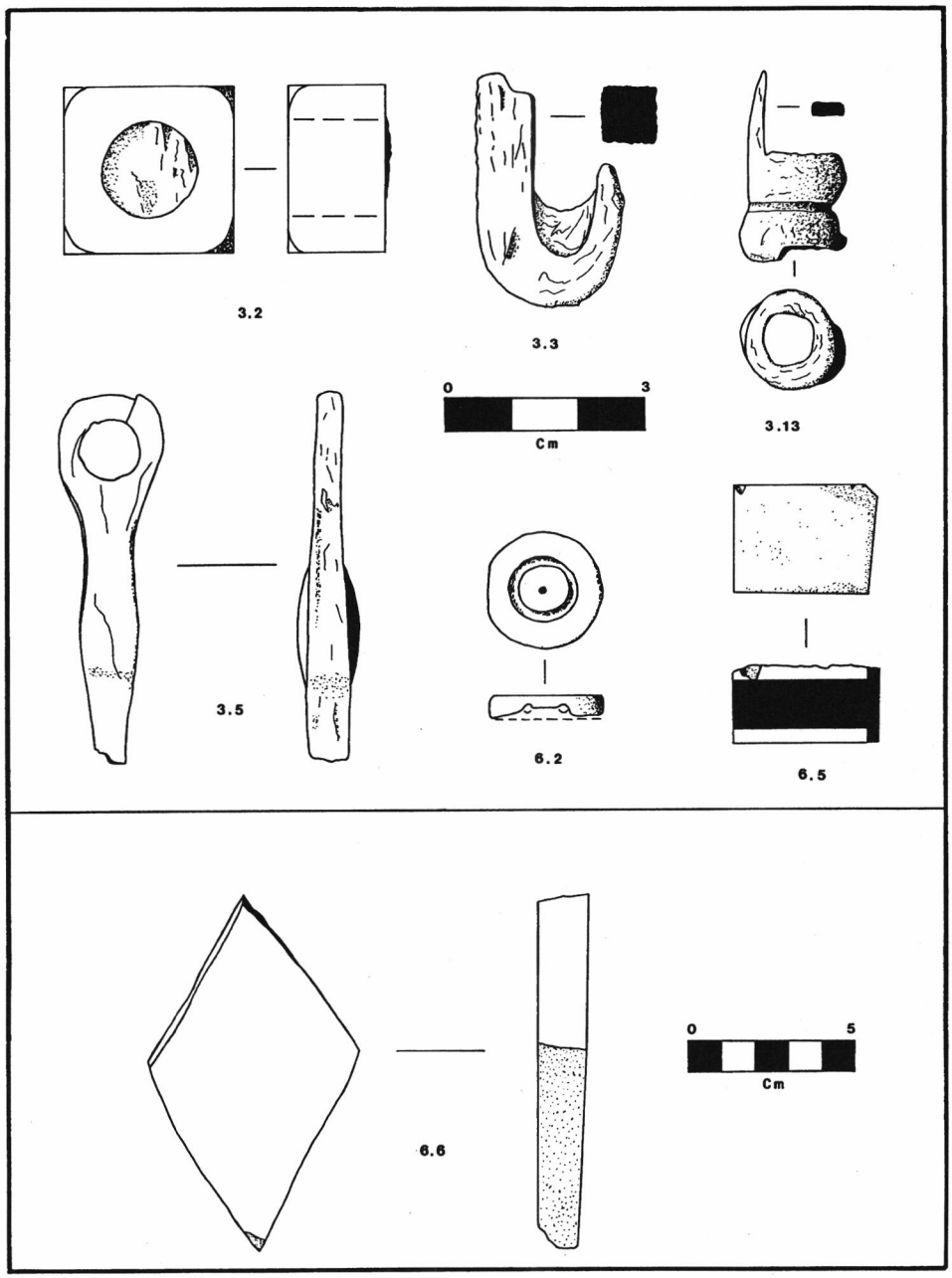

Fig 12 Brough Field, Carsington: iron and stone objects.

corners on the upper face and central circular perforation (Di 14 mm) containing ?mineralised wood. The function of this object is difficult to ascertain. It is probably not a simple distance piece, and had either some strengthening role or served as a stopping piece of some sort. From the Phase 3 well.

3.3 (Illustrated) Hook tip (L 35 mm; bar 8.5 mm square). Square-sectioned bar, ending in tapering, round-sectioned tip. Corroded. From Phase 2 rubble F252.

3.4 ??Drop hinge staple (L 55 mm). Bar bent at right angles, one arm of rounded section. Badly corroded and broken. From Phase 3 ditch F203.

3.5 (Illustrated) ??Key handle/??fitting (L 110 mm). Tapering, rectangular-sectioned bar, with a point of expansion part way along it, ending in flattened ring. The form is reminiscent of certain key handles (e.g. Cunliffe, 1971: Fig 58:25) though it may be a little heavy. Alternatives include the many functions of ring-headed bars, and there is no certainty that it is not modern. Unstratified.

3.6 "Knife handle with fragment of blade" (L 140 mm) (lost). From Phase 2 Y-shaped feature F233.

3.7 Cleaver fragment (L 46 mm; W 22 mm). Fragment from near the tip of a Manning (1985) type 2A cleaver. From Phase 2 Y-shaped feature F233.

3.8 Knife fragment (L 42 mm; W 20 mm) from a fairly narrow-bladed knife. Back of blade missing. From Phase 2 Y-shaped feature F233.

3.9 Knife fragment (L 30 mm; W 20 mm) from a thin, tapering knife. Unstratified.

3.10 Knife fragment (L 65 mm). Very highly corroded and concreted. From Phase 2 Y-shaped feature F233.

3.11 Reaping-hook fragment (L 70 mm; W 30 mm; Th *c.*15 mm). Curved blade fragment from a Manning (1985) type 2 reaping-hook. From Phase 1 ditch F206.

3.12 Reaping-hook/sickle fragment (L 75 mm; W 30 mm). Badly corroded fragment of curved blade. Unstratified.

3.13 (Illustrated) Ox goad (L 28.5 mm; coil Di *c.* 15 mm). Two-turn coil of strip with integral strip point at right angles. From Phase 3 ditch F119.

3.14 Blade or tapering strip fragment (L 40 mm). From Phase 2 Y-shaped feature F233.

3.15 S-shaped flat strip (L 69 mm). From Phase 1 ditch F206.

3.16 "Rod fragment" (L 150 mm; Di 25 mm). "?Modern" (lost). Unstratified.

4. Lead and Galena

Galena (PbS) was a common find in a number of contexts and in the topsoil. Indeed, a pattern of concentrations of galena was revealed by fieldwalking in 1979/80; the most notable concentration occurred in the south of excavated Areas A and B. As noted above, several pits within and near Building 4 (Phase 2) contained quantities of galena. Several Roman features also contained solidified lead splashes (F252, the Phase 2 rubble south of Building 3; L105, the Phase 3 cobbling and F121, a posthole near it; F277, the ?Phase 2 rubble in Area B; and F203, the Phase 3 ditch). Some twenty-seven further lead items were recovered from the topsoil and post-Roman contexts, including solidified splashes (one encasing a piece of charcoal), irregular lumps and sheet-offcuts. In addition, two unstratified objects (below), three ?partly smelted pieces of galena and four pieces of lead slag came from the topsoil.

4.1 ?Spindle-whorl (W 27.3 mm; L 32.8 mm; Th 6.1 mm). Flat and irregularly shaped, with off-centre circular hole slightly counter-sunk on one face.

4.2 ?Unfinished spindle-whorl (Di 28.5 mm; Th (max.) 14.5 mm). Circular, plano-convex sectioned object. Probably an unpierced whorl.

5. Bone

Bone survived very poorly and all finds were clearly modern or were very small fragments. No identifications were possible and no worked pieces were noted.

6. Worked stone: a) prehistoric material (SP) (Fig 13)

Thirty-eight lithics were recovered during fieldwalking prior to excavation, including 7 tools (Wildgoose, 1980). This material showed a slight concentration towards the south of the field. The collection from the 1980 excavations is small, and consists of two types of raw materials, limestone chert and translucent flint (the latter coming most likely from the glacial tills of the Yorkshire or Lincolnshire coast). It comprises the following:

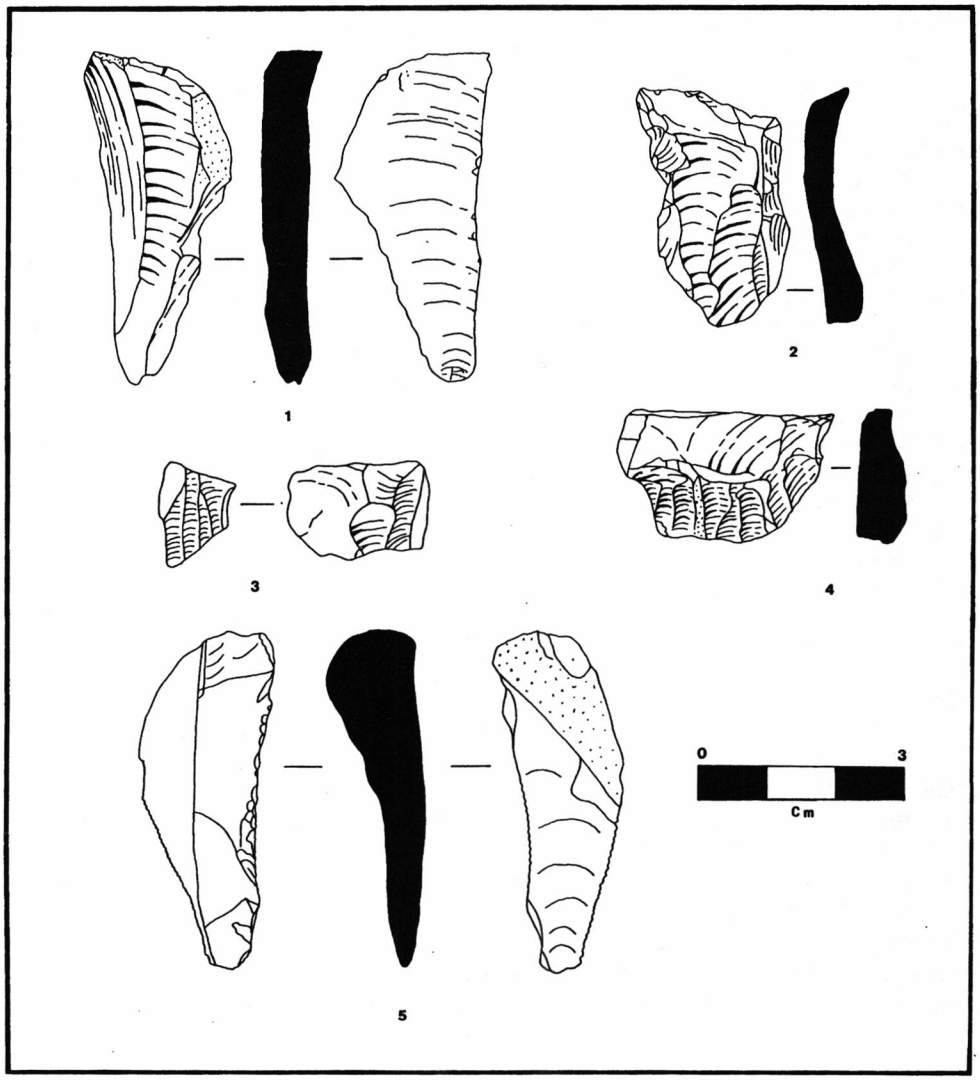

Fig 13 Brough Field, Carsington: prehistoric stone artefacts.

Translucent flint: 1 core (Fig 13:4); 2 retouched pieces (Fig 13:1—2); 2 chips; 2 flakes (inc. Fig 13:5). Total 7.

Limestone chert: 1 core (Fig 13:3); 4 flakes; 87 miscellaneous. Total 92.

There are no distinctive pieces except for the serrated-edged flake (Fig 13:5) which Dr A. P. Phillips, who kindly examined it, regards as typical of the late Neolithic. There are also no indications that the collection originated from a single source. The poor quality limestone chert is known locally and was used for the production of implements in Derbyshire at least since the Neolithic (Pierpoint and Hart, 1980). Yorkshire/Lincolnshire flint was imported and used for tool production on a large scale between the late Neolithic and the early Bronze Age. Because of the relatively heavy occupation of upland Derbyshire in this period, collections of the sort at

Carsington are likely to occur on later sites. According to Schiffer (1976) and others, there is a whole series of processes, both natural and cultural, that separate an artefact from the place where it was initially deposited. Thus there are considerable difficulties in relating many flint collections in the field or on sites like Carsington to occupation or activity.

6. Worked stone: b) other material (Fig 12:6.2-6)

6.1 "Jet bead" (Di 16 mm; Th 5 mm). "Disc with central boss and two perforations" (lost). Unstratified.

6.2 Ditto (Di 18 mm; Th 4 mm). Disc with central lathe-point and central incised ring. Two circular perforations, now broken away (cf. Allason-Jones and Miket, 1984: 7.55-7.67). Unstratified.

6.3 "Two pieces of shale bangle" (L 50 mm; W 10 mm; Th 5 mm) (lost). From Phase 3 ditch F203.

6.4 "Pendant" (L 50 mm;W 21 mm; Th 4 mm). "Oval; broken at bottom" (lost). Unstratified.

6.5 ?Gaming piece (L 20 mm; W 17 mm; Th 11 mm). Rectangular piece of alternate beaded limestone and shale showing clear polishing and cutting on sides. Unstratified.

6.6 Floor tile (L 105 mm; W 60 mm; Th 13 mm). Irregular diamond-shaped, limestone floor tile showing wear on upper face. From Phase 2 rubble F252.

6.7 Rubbing-stone (L 150 mm; W 85 mm; Th 26 mm). Piece of dressed, fine grained, limestone, probably re-used as a rubbing/fine-grinding surface. Patch of intense polishing on upper surface. From Phase 1 ditch F206.

6.8 Whetstone (L 94 mm; W 24 mm; Th 24 mm). of tapering rectangular section in fossiliferous limestone with sharpening-rut on one face. From the modern pit F207.

6.9 Similar (L 65 mm; W 28 mm; Th 16 mm) in very fine ?gritstone. Unstratified.

6.10 "Spindle-whorl" (Di 38 mm; Th 3 mm) "Flat, perforated disc" (lost). From Phase 2 rubble F252.

6.11 Sub-triangular stone (16 (max.) x 16 mm; Th 5 mm) with ?incised line following its edge. Conceivably a fragment of a carving but not certainly worked. Unstratified.

6.12 "Fragment of a small quernstone" (Di *c.* 40 cms; Th *c.* ?10 cms) with remains of a ?square hole in a circular rebate and radial grooving (lost). Perhaps for grinding ore rather than grain. From Phase 2 or 3 layer L263.

7. Miscellaneous

7.1 Fragment of pottery spindle-whorl (Di *c.*34 mm). Poorly fired, coarse orange fabric. Burnt on one side. From Phase 1 ditch F 214.

7.2 Iron slag fragment. Externally black/brown and glassy in places. Internally micaceous and vesicular. Unstratified.

8. Waterlogged wood

Waterlogged wood was recovered from two contexts, the later ditch (F203) which truncated the postholes of the east wall of Building 1 and the fill of the well F212. The former produced a single

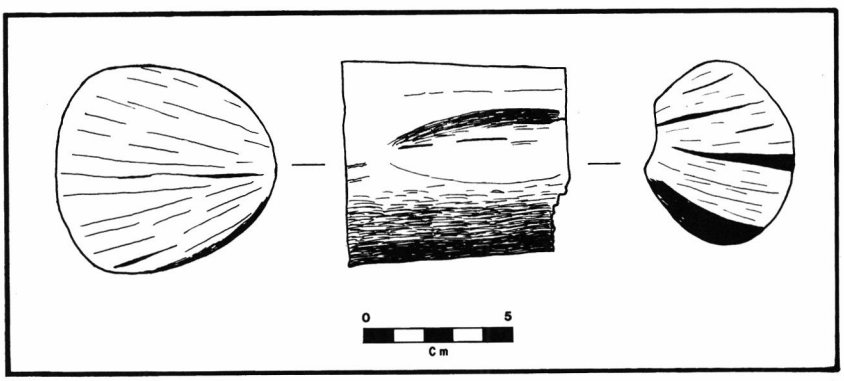

Fig 14 Brough Field, Carsington: wooden bung from the well.

stake or post fragment *c.*70 mm in length and approximately 70 mm square, though whether its form was originally squared it was not possible to say. The majority of material from the well consisted of short pieces of small branches generally 5-12 mm in diameter, though a few from the lowest level were *c.*20 mm in diameter. A few pieces were in fact charcoal, and one appeared to be mineralised. The branch material did not show any signs of being worked except for a single ?cut notch in one small piece. The only wooden artefact recovered was a probable bung, perhaps from a barrel (Fig 14). It was 75 cms high with a tapering sub-circular cross section, and appeared to have been made by shaping a wedge cut from a large branch or small trunk. The ends were both cut flat. The wood was identified as Alder (*Alnus*). One other piece from the well was worked, being a light coloured (?pine), fragment cut and planed to a rectangular section with one end chamfered.

Soil Samples

The following is a summary of an archive report by CW, with seed identifications by MvdV and lead analyses by GAW. Eleven soil samples were analysed for colour, acidity, loss on ignition, particle size, inclusions such as charcoal and seeds, and lead content. The location of the samples was as follows:

1	Layer	210,	Feature	202: H. Lane's excavation trench
2	"	205	"	207: modern pit
3	"	212	"	212: upper fill of Phase 3 well
4	"	108	"	106: fill of Phase 3 ditch
5	"	145	"	131: ?burnt daub upper fill of channel in Area D
6	"	212	"	212: as sample 3 but from greater depth
7	"	295	"	275: Phase 3 ditch
8	"	308	"	285: rubble representing west wall of Phase 2 Building 4
9	"	314	"	212: middle filling of Phase 3 well
10	"	316	"	291: ?Phase 1 posthole
11	"	317	"	292: ?Phase 1 posthole

Most samples were found to be clay loams, but No. 5 had a high silt content, No. 8 was predictably sandy and No. 11 was predominantly clay. The pH-reading generally was 5.2 to 5.9, probably reflecting the background level, British agricultural soils often being slightly acidic (Briggs, 1977: 117). Exceptions were one well sample (No. 9) and the ?Phase 1 posthole samples 10 and 11 which had pH-readings of 6.5, 6.9 and 6.9 respectively. Samples 4 and 10 had high organic contents, as indicated by loss on ignition. Nos. 8 and 11, conversely, had low organic contents. In addition, Samples 2 and 6 had higher than normal charcoal and bone contents while No. 10 contained wood and Nos. 3 and 4 were probably charcoal enriched.

Seeds were found in three samples, Nos. 1, 9, and 10. They were identified as follows, using Clapham, Tutin and Warburg (1962) as a reference:

No. 1: *Carex* (1); *Caryphillacae* (1); *Polygonum persicaria/lapithofolium* (8).

No. 9: *Hordeum* (carbonised) (1); *Rubus c.f. fruiticosis* (2).

No.10: *Hordeum* (carbonised) (1); *Labiatae c.f. saleopsi* (1); *Polgonum persicaria/lapithofolium* (2); *Rumex* (1); *Sambucus* (1); *Umbelliferacae aethusa* (2); *Juglans regia* (1); Unidentified (15).

Only the carbonised hordeum (barley) grains give evidence for cereals. The other species are herbs or shrubs (sambucus) along with blackberry (rubus fruiticosis) and walnut (juglans regia).

The lead content of the samples (in parts per million) were as follows:
No. 1: 300; No. 2: 500; No. 3: 400; No. 4: 175; No. 5: 250; No. 6: 2,500; No. 7: 225; No. 8: 1,750; No. 9: 150; No. 10: 125; No. 11: 10. There appeared to be a significant correlation between lead content, sand percentage, charcoal content and loss of organic matter on ignition in Area B. In

particular the lead content of sample 6, compared with a probable background level of 10-100 ppm, is very high; it also has more sand than the site average and more charcoal. This sample is the lower of two from the upper well fill. The upper one (No. 3) was taken at the boundary with the ploughsoil and the likelihood of mixing between the two may have caused a dilution of lead and charcoal concentrations, though it is still charcoal enriched. It seems likely that a depression left after the major phase of filling of the well may have been used for lead smelting or working, the increase in the amount of sand perhaps being due to its use as a base for heating crucibles, and of the charcoal reflecting its use as a fuel source.

Sample 8 also had high lead and sand contents, the latter perhaps derived from its function as a wall. Although the sample was not charcoal enriched it will be noted that the wall formed part of Building 4 within and adjacent to which were pits containing galena. Samples 1 and 2 are also lead enriched but little can be said of the significance of this given that they are from modern or disturbed contexts. Little agricultural evidence was present. All but two carbonised cereal grains were seeds of plants probably growing locally perhaps excepting the walnut (a Roman introduction to Britain, see Godwin, 1975: 249).

DISCUSSION (MJD)

General

The earliest certain activity on the site was the construction of Building 1 and the digging of the associated ditches, probably at some point in the first half of the second century. However, a small quantity of late-first/early-second century pottery was recovered unstratified both in fieldwalking (Wildgoose, 1980) and in the present work, which may suggest that there was activity on some part of the site prior to the construction of this building. This possibility is reinforced by the quantity of first-century silver coins found unstratified (see below).

The function of Building 1 must remain uncertain. The lack of postholes forming a south wall cannot be taken as evidence for an open end, as the preservation on the site generally was very poor. However, it does not seem to have been a strip-building, familiar in military *vici*, the main quasi-urban settlement form in the south Pennines. It may have had an aisle on the west side. Other aisled buildings of a broadly contemporary date are known from the area, not only the rather larger example from Roystone Grange not many miles north-west of the present site (Hodges and Wildgoose, 1980; Hodges, 1991: 74ff.), but also that at Whitley, Wharncliffe in the Don valley (Makepeace, 1985b). Hodges and Wildgoose's suggestion (1980: 52) that such a vernacular style of architecture indicates a colonisation of the area by settlers from the southern territory of the Coritani *c.* 100-120 is interesting. However, such a style was widely used in Roman Britain, and even if it was particularly popular with the southern Coritani, may have had more significance for social organisation than a builder's origins (Millett, 1990: 199ff.; Hingley, 1989: 41).

Even less can be said about the nature of the stone-founded buildings that were constructed in Phase 2. While it seems likely that there were three discrete buildings, only the vaguest hints of their size are available, and the surviving fragments could reflect only parts of larger structures. The wall-footings were shallow and did not survive to more than one course high, although they were laid in construction trenches in Building 3. They were *c.* 40 cms wide for Building 2, *c.* 75 cms for Building 3 and 70-80 cms for Building 4. Although considerable quantities of building stone are known to have been removed from the surface of the field in general in modern times (and concentrations of such material were recorded by fieldwalking in 1979/80, see Wildgoose, 1980: fig. 7) it is difficult to believe that fully stone-built walls were

used, at least for Buildings 2 and 3. It is notable that tile is almost absent from the finds from the present site (although both tile and kiln-bar fragments were recovered in earlier fieldwalking between 1977 and 1979 from the site in general (Wildgoose, 1979)) and the roofs must be presumed to have been of thatch or wood. It seems most likely that the Phase 2 buildings were half-timbered.

The construction date of these buildings probably lies somewhere in the second half of the second century, and if the rubble in the southern extension to Area B was debris from the demolition/decay of Building 3, that building at least may have gone out of use sometime in the third century or later. However, there is little to suggest the function of Buildings 2 and 3. Only the probable drain leading south from Building 3 gives any hint of associated functional features, though a number of iron knife-fragments from a Y-shaped feature within the same building may be noted, and the feature could have been connected with smithing.

In contrast, Building 4 would seem to have enclosed three pits which included in their fills quantities of galena and charcoal, perhaps suggesting that it was involved in some lead-working activity. Further galena-filled pits occurred nearby and soil analysis reveals a high lead concentration in this area. The rather small grindstone also from the area of Building 4 (though not certainly deposited during Phase 2 and unfortunately now lost) might be interpreted as an ore-grinding stone. Twelve further quern fragments were recovered from the field during fieldwalking (Wildgoose, 1980: fig. 8) but no details are available of their forms. While there is no positive evidence of smelting activity associated with Building 4, some lead-ore processing role must be possible.

The main activity in Phase 3 seems to have been the cutting of two series of ditches, the first group (F106, F125 and F203), at least, probably sometime in the earlier third century. It is difficult to ascribe an effective drainage function to F106 and F125, and one wonders rather whether they were some sort of boundary-markers. Indeed, the coincidence of F106 with earlier postholes probably associated with Building 2 may even suggest that the latter was still standing. The more rectilinear and recut ditch system is far more convincing as a drainage system. However, whether it indicates a change of function for the site from ?residential/industrial to agricultural is uncertain. The existence of the cobbled area and associated postholes and channel at least at some point in the fourth century might suggest that some form of working area or even building existed in area C.

Again in the fourth century an apparently short lived well was dug in area B and soil analysis suggests that after its collapse a resultant hollow may have been used for some lead-processing or working activity. Further doubt may be thrown on the likelihood of agricultural usage of the site by the relative lack of seeds of cereals or cereal indicators, although floatation techniques were not used and no palynological analysis is available. On balance, activity in Phase 3 may have been biased towards pastoralism with small scale lead-working as a subsidiary activity.

There is little amongst the structural or artefactual evidence to indicate a particularly high status for the site. Bronze items and coins are noticeable by their scarcity. However, the unstratified bronze and silver coin and artefact finds (see below) change this picture considerably. Finewares clearly reached the site, though the quantities of samian and colour coated wares were not particularly great. The predominance of Derbyshire ware amongst the coarse pottery reflects the success and proximity of this industry, as is also reflected, for example, at Roystone Grange (Hodges and Wildgoose, 1980), and the pottery generally presents a picture of a mixed food and drink storage, preparation and serving assemblage. There is little indication of the internal fittings of the buildings on the site, but the possibility that they were only stone-founded

and the lack of evidence for a tile or stone slate roof have already been noted. No window glass was recovered, and the only indication of any slight refinement was the diamond-shaped floor tile (No. 6.6). However, even stone-founded buildings are relatively unusual in south Pennine quasi-urban settlements north of Derby (Dearne, 1991: 80).

How representative of the settlement at Carsington the present excavations are is hard to say. The site excavated probably lay on the north-east edge of the settled area if the fieldwalking in 1979/80 recorded its full extent, and the greatest densities of pottery in fact occurred more nearly in the centre of the area (Fig 2; Wildgoose, 1980: Figs 5, 6). Of the concentrations of building stone recorded in the same work, two lay in the area that was fully excavated and may broadly be seen to correspond to excavated Buildings 2 and 3/4 (Fig 2). By extrapolation at least five, and possibly more, stone-founded buildings probably existed to the west and south of the excavated area. Further concentrations of lead ore are also known from fieldwalking, notably immediately south of the excavated part of the Building 4 and in the south of the settlement corresponding to the largest masonry scatter (Wildgoose, 1980: Fig 9). No road courses have been detected at Carsington except for the line of the main Buxton-Derby road (Fig 1). However, how far internal roads would be expected to survive given the degree of disturbance of the site must be uncertain.

Although the course of the main road from Buxton, long thought to be represented by 'The Street' (Margary, 1973: no. 71a; Wroe, 1982: 54) now requires reassessment in the light of excavations on its supposed line (Guilbert and Challis, 1993), Wroe's tracing of its course as far as a short distance north of the present site, as well as the line it took on the opposite side of the Scow Brook as it headed for Derby (Fig 1) need not be invalid. Unpublished fieldwork on this road line, preserved as a disused field boundary, immediately north of Site A by members of the Hunter Archaeological Society (to whom MJD is grateful for information and plans) suggests that the road must have passed immediately to the east of the excavated area. This suggests that the settlement may have had some role as a road station.

The area identified by fieldwalking need not indicate the full pattern of settlement in the immediate area. Two late Roman lead pigs, together with fourth-century pottery, were found in a pit immediately north of the presumed limit of the settlement (Branigan, Houseley and Houseley, 1986), while pottery finds are known slightly further north again (Derbyshire SMR). These might relate to the course of the Roman road but, unlike the area with known finds, this area has not seen modern deep ploughing and the present estimate of the size of the site may reflect modern agricultural use as much as anything else.

Nor should the settlement as known be seen in isolation. In addition to site B at Carsington there are pottery finds, a stone mortar and a coin of Caracalla just south of Carsington village (Derbyshire SMR). More significantly, in 1959, excavations some 1.75 km to the north-west of the site revealed a small site of an uncertain nature at Owslow Farm which dated to the first half of the third century (Lomas, 1960). This was near to an earlier find of another pig (*RIB* II, no. 2404.56; Dearne, 1990: no. 49; Cockerton, 1953). Further pottery was recovered a short distance to the north-east of this in Carsington pasture (Derbyshire SMR).

The site's function and *Lutudarum*

While there is little evidence from the excavations and earlier fieldwalking of architectural refinement or high status finds from the settlement at Carsington, such evidence is forthcoming from later surface finds (see below), and the site is unusual compared to the general pattern of Romano-British sites in the upland south Pennines. Most known settlements fall into one of two categories. There are the rural sites such as Roystone (Hodges and Wildgoose, 1980; Hodges,

1991: 70ff.) or Staden near Buxton (Makepeace, 1983; 1987; 1989), which generally show little nucleation (for a catalogue and discussion see Makepeace, 1985a; Dearne, 1990: 167ff.). In contrast are the larger, relatively nucleated, quasi-urban sites which include the *vici* at Brough-on-Noe (Dearne, 1986; Dearne, 1993) and Melandra Castle (Webster, 1971; Dearne, 1986), and the spa at Buxton (Hart, 1981: 87; Dearne, 1986).

Of the quasi-urban group, the first two of the sites just mentioned appear to have been very closely tied to the forts for which they were the military *vici*, while Buxton may or may not have begun in this way, but in any case soon found a *raison d'être* in the religious spa complex at the site (Dearne 1986; 1990; 1991). Similarly, Manchester and Derby must be regarded as relying on a military presence to a large extent even if other functions were also important here and elsewhere beyond the edges of the Pennines proper (Dearne 1990; 1991). Carsington belongs with these quasi-urban sites, but is atypical. Its size and the nature of its buildings, at least in the later-second and third centuries, indicate something more than a rural settlement, yet its economic base is not likely to lie with the military as most others do. No fort is known in the area, though one has been suggested on distributional grounds (Makepeace, 1985: 70ff). Ling and Courtney's (1981) excavations demonstrated that there was no fort at Carsington Site B, as Hart (1981: 87) had postulated, and the only site which may be a candidate for a fort in the general area is Closes Farm, over 3 km to the south-west, where there is a rock-cut ditch and first-century material (Derbyshire SMR).

Rather, Carsington's economic base would seem most likely to be lead extraction. It lies in the main Derbyshire lead field, and the bulk of the evidence (such as it is) for Roman lead extraction occurs in the Matlock/Wirksworth/Carsington region (principally the distribution of Roman lead pigs: see, for example, Dearne, 1990: fig. 8). This is also an area in which a concentration of settlement, coin and other finds may suggest a stimulus being afforded by the industry (Dearne, 1990: 211gff.). The suggestion that Carsington was connected with the lead industry is reinforced by the evidence of the present excavation, the adjacent lead pig finds, and the unstratified finds (see below).

It is known from stamped lead pigs (Dearne, 1990: nos. 27-48; *RIB* II, nos. 2402.39-2404.60) that the industry was connected with a settlement or area called *Lutudarum*, which also appears in the Ravenna Cosmography (Rivet and Smith, 1981: 403f.). As has been argued in detail by Ling and Courtney (1981: 74ff.), if it was a place rather than an area name, Lutudarum should on present evidence be identified with Carsington, and other discussions have come to the same conclusion (Rivet and Smith, 1981: 403f.; Branigan, 1985; Dearne, 1990: 287f). Even if it was an area, not a place name, an administrative centre should be sought, and Carsington appears to be the prime candidate.

Exactly what function such a settlement is likely to have fulfilled is debatable. Little is known in detail of the organisation of the Derbyshire lead industry in Roman times, but it seems unlikely that major lead-smelting would have occurred at Carsington (Ling and Courtney, 1981: 75). Some processing and smelting might be expected, but the emphasis would have been on administrative and supply functions. It is to be presumed that the industry was for some, if not all, of its history under the control of a *procurator metallorum*, who would presumably have required a base from which to operate (on chronology, administration and other aspects of the lead industry, see Dearne, 1990). In this connection it is worth noting that the situation at Carsington, which may have been a partly industrial settlement a short distance from a more isolated and better appointed building, is paralleled by what we currently know of Pentre, Flintshire, which may have been the administrative centre of the Flintshire lead industry (O'Leary, 1989).

APPENDIX:
UNSTRATIFIED FINDS FROM THE VICINITY OF THE EXCAVATIONS (MJD)

Subsequent to the conclusion of the excavations reported above a considerable number of casual surface and metal detector finds was made by Mr J. and Mrs C. Housley which add to our knowledge of the site. All the finds were made within the area previously defined by fieldwalking evidence as the possible extent of the settlement (Fig 2), and were recovered unstratified from the ploughsoil. This reflects the highly damaged nature of the site and suggests that the relative paucity of the finds from the excavation may have been due to their dispersal in the topsoil, which was largely mechanically removed.

The author is grateful to Mr and Mrs Housley for allowing him to study and publish these finds, and for permission to use the photograph here reproduced as Plate 1. As well as the material listed below, this work recovered a further amount of pottery. However, none of it significantly affects the chronology of the site, and the only piece worthy of separate note is a large piece of a Spanish amphora.

CATALOGUE

1. The coins

1.1 Rome mint, 71 BC.
AR denarius serratus. Crawford, 1974: no. 401.
Obv.[VIRTVS] III VIR; helmeted head of Virtus right, draped.
Rev.[SICIL AQVIL F N]; warrior with shield in left hand, raising fallen figure with right.

1.2 M. Antonius, 32-31 BC.
AR denarius. Crawford, 1974: no. 544.
Obv. ANT AVG III VIR R P C; ship facing right with sceptre tied with fillet on prow.
Rev.[Illegible]; eagle between two standards.

1.3 Domitian, AD 89 or 90.
AR denarius. *RIC* 144 or 148.
Obv.IMP CAES DOMIT AVG GERM P M TR P VIIII; laureate head right.
Rev.IMP XXI COS [ ] CENS P P P; Minerva standing right on prow brandishing javelin and holding shield.

1.4 Domitian, AD 92/3.
AR denarius. *RIC* 171.
Obv.IMP CAES [DOMIT AVG GERM P M] TR P XII; laureate head right.
Rev.IMP XXII COS XVI CENS P P P; Minerva advancing right brandishing javelin and holding shield.

1.5 Domitian, AD 92/3 or 93/4.
AR denarius. *RIC* 171 or 175.
Obv.[IMP CAES] DOMIT AVG GERM P M [TR P]; laureate head right.
Rev.IMP XXII COS XVI CENS P P P; Minerva advancing right brandishing javelin and holding shield.

1.6 Domitian, AD 92/3, 93/4 or 94.
AR denarius. *RIC* 174, 178 or 180.
Obv.[IMP CAES] DOMIT AVG GERM P M [TR P]; laureate head right.
Rev.IMP XXII COS [ ] CENS P P [P]; Minerva standing left with spear.

1.7 Trajan, AD 100.
AR denarius. *RIC* 32, 33, 40 or 41.
Obv.IMP CAES NERVA TRAIAN AVG GERM; laureate head right.
Rev.P M TR P COS III P P; uncertain seated figure left.

1.8 Antoninus Pius, AD 140-4.
AES dupondius. ?*RIC* 674.

Obv.Illegible.
Rev.Victory.

1.9 Marcus Aurelius, AD 161/2.
AR denarius. *RIC* 40.
Obv.[IMP M]AVREL ANTONINVS AVG; bare head right.
Rev.[CONCORD AVG T]R P XVI COS III; Concord seated left with patera and Spes on cornucopia

1.10 Septimius Severus, AD 200-201.
AES As. *RIC* 757.
Obv.SEVER[VS] AVG PART MAX; laureate bust draped, cuirassed right.
Rev.RESTITVTOR VRBIS [S C]; Severus standing left with spear and ?altar. Roma seated to right.

1.11 Julia Domna, AD 196-211.
AR denarius. *RIC* 564 or 565.
Obv.IVLIA AVGVSTA; draped bust right.
Rev.[MATER DEVM]; Cybele, towered, seated left on throne between two lions.

1.12 Caracalla, AD 210.
AR denarius. *RIC* 116b.
Obv.ANTONINVS PIVS AVG BRIT; laureate head right.
Rev.PONTIF TR P [X] III COS III; Concordia seated left holding patera and double cornucopia.

1.13 House of Constantine, AD 305-363.
AES.
Obv.]CONSTANTIN[.
Rev.Standing figure with standard in left hand.

1.14 ?Constantine II, AD 317-40.
AES4.
Obv.Illegible.
Rev.Two figures flanking standard.

1.15 Constans, AD 347-8.
AES4.
Obv.Illegible.
Rev.VICTOR[IAE DD AVGGQ NN]; two victories facing each other with wreaths and palm branches.

1.16 Valentinian II, 383-388.
AES4. *RIC* 63a (Thessalonica mint).
Obv.DN VALENTINIANVS P F AVG; bust, pearl-diademed, draped and cuirassed right.
Rev.VICTORIA AVG; two victories facing each other holding wreaths.

1.17 House of Valentinian, AD 364-88.
AES4.
Obv.Illegible.
Rev.Figure standing right.

1.18-1.20 AES sestertii, very worn; rev.: figure standing with standard in left hand.

1.21-1.25 AES sestertii, very worn.

1.26-1.30 AES3/4, very worn.

2. Silver objects

2.1 Plate 1: gilded silver stud (Di 13 mm; shank L 3 mm). Thin, circular backing plate soldered on to square section shank with circular line around joint. Front plate defined by two concentric raised ridges forming a 'gutter'. The ridges enclose a worn figure in low relief with right arm out and left on hip. He is identified as Mercury by a *caduceus* (serpent-wreathed staff) visible behind his left shoulder. The ground around the figure retains traces of gilding.

2.2 Fig 15: silver (or possibly pewter) finger ring (Di *c.* 16.5 mm; max. W 12.5 mm; max. Th 3 mm).

Plate 1 Brough Field, Carsington: silver stud depicting Mercury (*photograph courtesy of Mr and Mrs J. Housely*).

Two joining fragments of a finger ring with a dull black patina. The tapered band widens to a flat bezel with an oval rebate, probably for enamel rather than an intaglio.

3. Copper alloy objects

3.1 Fig 15: variant trumpet-headed brooch (surviving L 25.5 mm). Head and upper bow fragment of a brooch with a rather angular trumpet head with late Celtic relief decoration. The rectangular sectioned pin was hinged, the axis bar being held in a closed tubular moulding behind the head. Below the head the bow expands to accommodate a circular recess, across the middle of which the brooch is broken. The centre of the recess is now represented by the upper part of a circular hole, though it is not certain whether the hole is an original feature. Either way, the recess is likely to have held enamel or an enamelled stud. This is fairly clearly a representative of a small group of trumpet-headed variant brooches known as trumpet-headed fan-tails (Hull type 164; cf. Hattatt, 1989: 94). Below the enamelled circle (which would originally have been the centre of a lozenge-shaped plate) would have come an enamelled or, more likely here, relief-decorated, plate fanning out towards the bottom. The pin-anchorage is typical of the type, while the head-shape is paralleled by a variant from Norfolk (Hattatt, 1987: no.990) and its decoration by Hattatt (1989) nos. 1537 and 1537a from Dorset and Corbridge. Hattatt (1989: 94) suggested a date in the late first or early second century for the type on stylistic grounds, but a date nearer the middle of the second century is also possible.

3.2 Colchester derivative brooch. Badly corroded. No further details available.

3.3 T-shaped brooch fragment. Badly corroded; no further details available.

3.4-7 Four brooch fragments. All badly corroded; no further details available.

3.8 Fig 15: plate (Di 105 mm; Th 1-2 mm). Broken circular plate, with a dished surface and a slight bend where there has been an attachment. The attachment was held by six copper alloy rivets, fragments of which remain on one side, while corrosion on both faces preserves the outline of the crescent-shaped attachment. Although there is some superficial resemblance to a mirror, the object is rather too thick for such an interpretation, and riveted handles are not known on Romano-British mirrors (Dr G. Lloyd-Morgan, *pers. comm.*).

3.9 Fig 15: enamelled 'nail' (L 31 mm; head Di 22 mm). Corroded tapering 'nail' with a circular, highly dished head containing bright blue enamel. A similar enamelled nail, through the centre of a circular dished bronze plate, comes from Derby, and has been interpreted as a harness mount (Todd, 1967: 78f.)

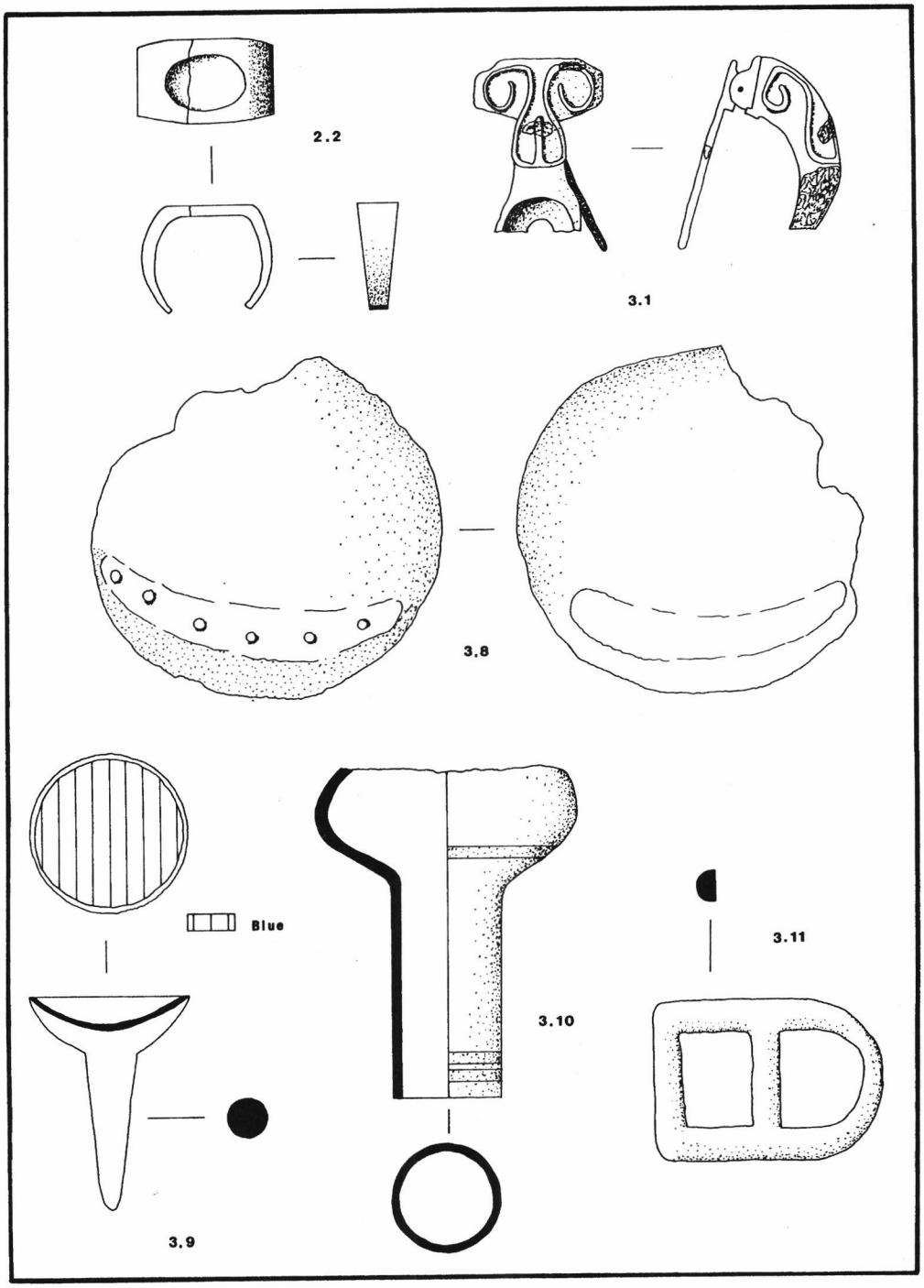

Fig 15 Brough Field, Carsington: silver and copper alloy objects. *Scale 1:1, except 3.8 at 1:2.*

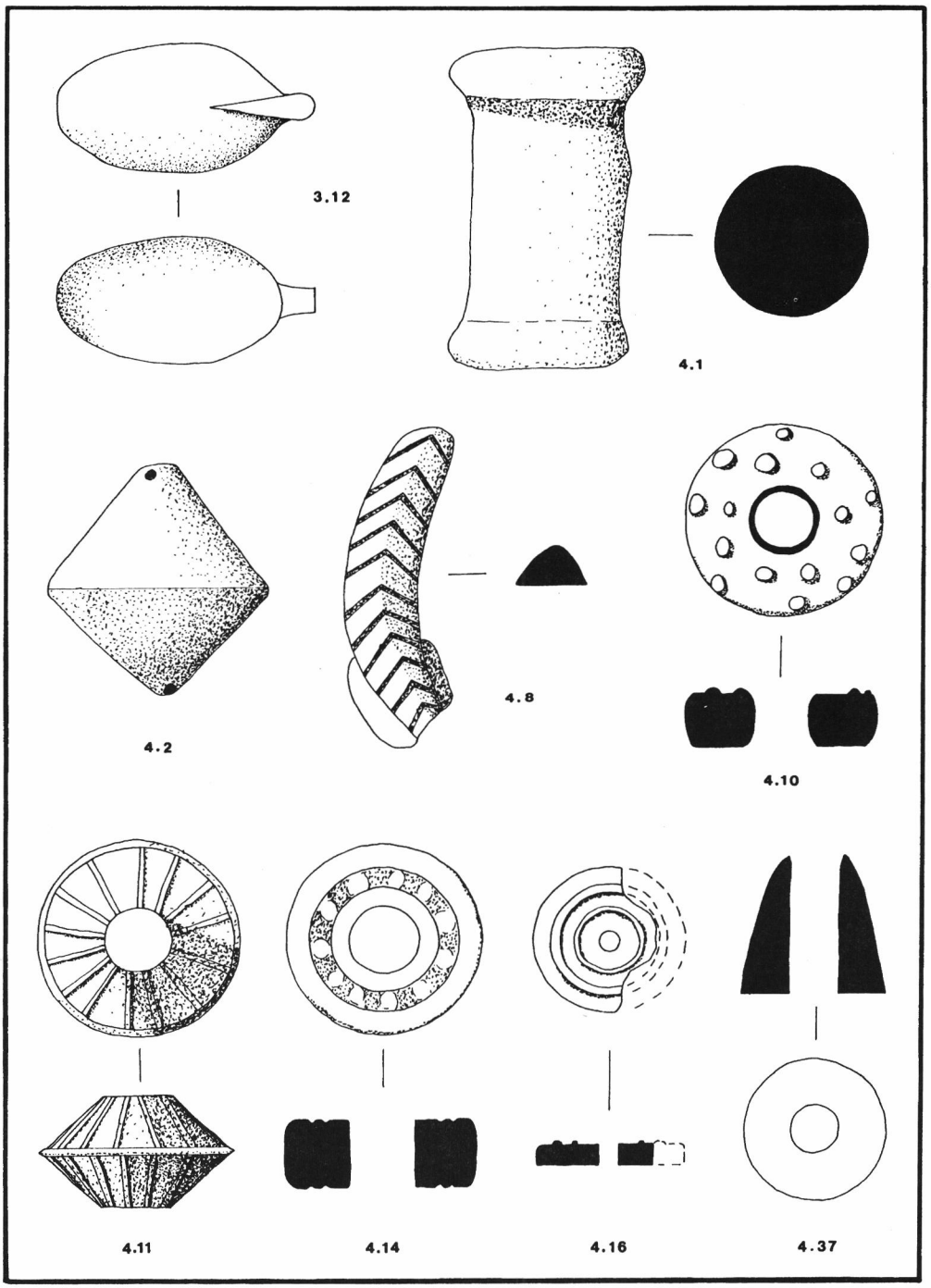

Fig 16 Brough Field, Carsington: copper alloy and lead objects. *Scale 1:1.*

3.10 Fig 15: ?terminal/handle (L 48 mm; max. Di 40 mm). Tube, expanded at one end to a broken knob; decorated with two incised lines near the bottom of the tube and a single one around the base of the knob.

3.11 Fig 15: buckle (L 35 mm; W 24 mm; Th 2.5 mm) with square belt-loop and curved fronted buckle-loop of plano-convex sectioned bronze.

3.12 Fig 16: toilet spoon or spoon-probe (L 37 mm; max. W 18 mm). Deeply dished, oval rat-tailed spoon.

3.13 Bowl fragment (L 60 mm; H 50 mm; Th 3.7 mm) with simple, angularly beaded rim.

3.14 Bowl/beaker fragments (L 66 and 72 mm; H 65 and 31 mm; Th 1.3 mm). Two fragments from the same straight sided bowl, or probably beaker, with a simple expanded rim and a band of incised lines below it. One fragment has a possible mending-hole.

3.15 Ring (Di 34 mm). Flat ring with chamfered outer edge, a patch of ferrous corrosion on the outer edge and wear on the inner edge. For a group of similar rings in various stages of manufacture see Branigan and Dearne (1991) nos. 3.38-3.44).

3.16 Tube fragment. No further details available.

4. Lead Objects

4.1 Fig 16: pounder (L 48 mm; max. Di 27 mm) with circular faces at each end.

4.2 Fig 16: weight/plumb-bob (L 34 mm; max. Di 33 mm). Biconvex with remains of a small iron ?loop at each end.

4.3 Weight (L 43 mm). Faceted and tapering to a flat, rectangular, pierced suspension plate; recessed base.

4.4 Similar to 4.3 (L 37 mm), but distorted.

4.5 Weight (L 49 mm). Droplet-shaped, with circular hole at top holding remains of iron suspension loop.

4.6 Weight (L 13 mm; max. Di 28 mm). Biconvex form.

4.7 ?Weight (L 16 mm; Di 28 mm). Circular and flat with crude suspension hole.

4.8 Fig 16: decorative ?inlay (L 48mm). Flat-backed, curved strip, ?cast with raised chevron/palm leaf pattern.

4.9 Small cuboid (8 x 9 mm).

4.10 Fig 16: spindle-whorl (Di 29 mm; Th 8 mm). Flat form, hour-glass piercing. Upper face decorated with raised dots.

4.11 Fig 16: spindle-whorl (Di 30 mm; Th 16 mm). Biconvex form, straight piercing. Both faces decorated with raised radiating lines.

4.12-13 Spindle-whorls (Di 27, 28 mm; Th 10, 12 mm).

4.14 Fig 16: spindle-whorl (Di 28 mm; Th 10 mm). Flat form, straight piercing. Both faces decorated with recessed circular band of ?dots.

4.15 Spindle-whorl (Di 26 mm; Th 3 mm).

4.16 Fig 16: spindle-whorl (Di 22 mm; Th 3 mm). Damaged; flat form, straight piercing. Upper face decorated with two concentric raised lines.

4.17-28 Spindle-whorls (Di 21-30 mm; Th 3-8 mm). Flat forms, straight piercings. Two very crude.

4.29-36 Spindle-whorls (Di 13-27 mm; Th 7-14 mm). Plano-convex form, straight piercings. Two unpierced.

4.37 Fig 16: spindle-whorl (Di 21 mm; H 21 mm). Conical with straight piercing.

4.38-40 Spindle-whorls (Di 17-22 mm; H 10-14 mm).

4.41-42 Unpierced circular disks (Di 24, 30 mm; Th 4, 2 mm).

4.43 Ring (Di 24 mm; Th 5mm).

4.44 ?Bead (Di 13 mm; Th 5 mm). Flat and circular with central piercing. Probably a bead rather than a spindle-whorl.

4.45 Bead (Di 13 mm). Sub plano-convex.

4.46 Bar fragment. Rectangular section (10 x 11 mm).

4.47-48 Pottery repair-clamp fragments.

4.49 Token (Di 22 mm; Th 3 mm). Damaged circular token with raised but uncertain pattern. Possibly medieval.

4.50 Hearth residue (130 x 120 mm; max. Th 34 mm). Plano-convex residue from the base of a bowl hearth, consisting of metallic lead mixed with very large quantities of charcoal fragments.

4.51 Runnel (L 170 mm). Irregular metallic lead trail found adjacent to 4.50.

Samples of 4.50 and 4.51 were submitted to an industrial analyst by the finders, and produced the following results:

Element	*4.50*	*4.51*
Antimony	0.0036%	0.0105%
Tin	—	0.0002%
Copper	0.0028%	0.0122%
Nickel	0.0006%	0.0009%
Silver	0.0085%	0.0119%
Manganese	0.001%	0.0006%
Tellurium	0.0002%	0.0003%
Sulphur	0.0037%	0.0009%
Balance of Lead	**99.98%**	**99.96%**

These analyses results suggest that the lead here has not been desilvered. The silver content of the hearth residue is higher than that in most, though not all, analysed Roman lead pigs from Derbyshire, and that of the runnel is well above any of the pigs (Dearne, 1990: fig. 14). Cupellation would almost certainly have removed more of the silver than remains in either of the samples. This reinforces the likelihood that we are dealing with the residue of lead smelting (or the re-smelting of old lead) rather than any other metallurgical process. Indeed, the silver content of Derbyshire lead is generally low and variable as here and may not have been extracted on any great scale by the Romans.

In addition to the listed items a very considerable quantity of large lead splashes, one probably containing a band of vitrified clay, were recovered. At least 5-6 further pieces represented lead working, being bent, thick, rectangular or subcircular sectioned bar fragments.

5. Glass

5.1 Small fragment from the handle of a small ?flask in light blue glass.

5.2 Bead (Di 5 mm). Dark blue biconical bead (Guido, 1978: type 12), with rather larger flat pierced faces than usual.

DISCUSSION

The later finds, especially the silver coins and objects of silver and copper alloy, suggest a far higher socio-economic status for the site at Carsington than the excavations would lead one to conclude. Further, the coins in particular appear to have a bearing on its date. Whilst the identifiable bronze coinage dates no earlier than 140/4, the silver coinage gives a very different picture. Of ten silver coins only three are post-100 issues. Although the rest include two republican coins the five coins of Domitian and Trajan must support the case for there having been some activity at the site prior to the date of the earliest stratified pottery (probably dating to the second quarter of the second century). An earlier second- or even late first-century origin for the site must be a possibility.

The finds also add somewhat to our knowledge of the activity at the site. Items 4.50 and 4.51 reinforce the excavated evidence for lead smelting or working, as do the many other lead splashes. Moreover, the quantity of lead spindle-whorls may be sufficient to suggest their production at the site. Although lead spindle-whorls are not uncommon site finds we have 31

examples here. Further two plano-convex examples are unpierced and there are two unpierced discs that could be whorl-blanks (though all four might alternatively be seen as gaming pieces). Any such manufacturing activity need not have had more than a very localised significance, as an adjunct to other activities, but would again point to lead as the key element in Carsington's economy (though the whorls might alternatively imply considerable textile production).

ABBREVIATIONS AND REFERENCES

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