

## 5. ROMAN REMAINS

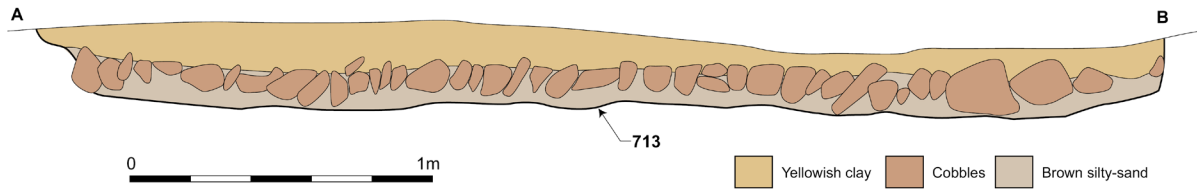
### 5.1 The rampart

A probable rampart base was identified towards the western edge of the site (Illus 2.2 and 5.1). It was not fully excavated as it extended outwith the development area. Internally, the rampart measured

31.5m north to south by more than 19.5m east to west and consisted of a continuous foundation of cobbles embedded within yellowish-grey clay with no obvious deliberate breaks indicating an entrance. Generally, the cobbling measured 2.5–3m in width, but the south-eastern corner measured up to 8.5m wide, indicating that there may have



**Illus 5.1** Rampart base (copyright CFA Archaeology Ltd)



**Illus 5.2** North-facing section through rampart base (for position see Illus 2.2) (copyright CFA Archaeology Ltd)

been some kind of additional structure within this location. The north-east corner also appears to have been considerably wider, but it had been heavily disturbed by more recent development leaving a number of isolated patches of cobbles surviving beyond the extent of the more coherent structure. This corner too may have been the base for some kind of additional structure. There was no evidence of any kind of external ditch, which might have been expected on a Roman military installation had its primary function been one of defence.

In the south-east corner, the cobbles had been cut into the natural subsoil and were neatly laid using stones of approximately equal size. Overlying the cobbles within this location was a layer of yellowish clay measuring 0.17m thick (Illus 5.2). This would indicate that the rampart itself may have been constructed from boulder clay. In contrast, the stones used for the north-east corner were much larger and showed a considerable variation in size. They were laid down in a much more haphazard fashion with no evidence of a foundation cut or of the remains of an overlying clay rampart.

A number of linear ditches were identified within the rampart, but some of these cut through the rampart base, indicating that they were part of the later field system. This would suggest that the rampart had been dismantled and levelled prior to the excavation of the field system ditches. The lack of any significant quantity of clay on site might suggest that it had been removed and utilised within other structures. Also identified were the remains of a post-built structure, but the posts for this cut the backfill of one of the field system ditches, indicating that it was a later structure. There was no clear indication of any contemporary structures within the rampart, but the area excavated was

comparatively small and was heavily disturbed by the later field system and by the wireworks.

## 5.2 Field system

Throughout the site, a network of over 60 interconnected ditches was identified (Illus 2.2–2.3 and 5.3). These varied considerably in size. For example, Ditch 452 measured 2.3m wide by 1m deep at its widest and deepest point, whereas Ditch 166 measured only 0.35m wide by 0.19m deep where it narrowed towards its eastern end. Throughout the site these ditches predominantly had sloping sides with a flat or rounded base, but occasionally they had a rather sharper V-shaped profile (Illus 5.4). The general trend of the ditches was to form a very small-scale field system with the long axis predominantly on a west-north-west to east-south-east alignment. This divided the area up into a number of rectangular areas, measuring up to 28m by 10m (0.028ha). However, it has to be stressed that this was just a general trend. There were also a considerable number of ditches on different alignments, some of which appeared to curve and meander to a degree. Some of the enclosed areas were also considerably smaller. For example, in the south-eastern corner of the site, Ditches 452, 339, 331 and 356 enclosed a small area measuring *c* 2.5m by 2.5m.

Entrances into the enclosed areas were apparent in some instances, but in others the plots were fully enclosed on all sides. The implication of this perhaps is that the ditches represent a number of different phases and were not all open at the same time. However, efforts to establish phasing yielded very limited results as, despite some ditch sections showing evidence of cutting others, the overall impression was of one ditch flowing seamlessly into



**Illus 5.3** Field system ditches pre-excavation (copyright CFA Archaeology Ltd)

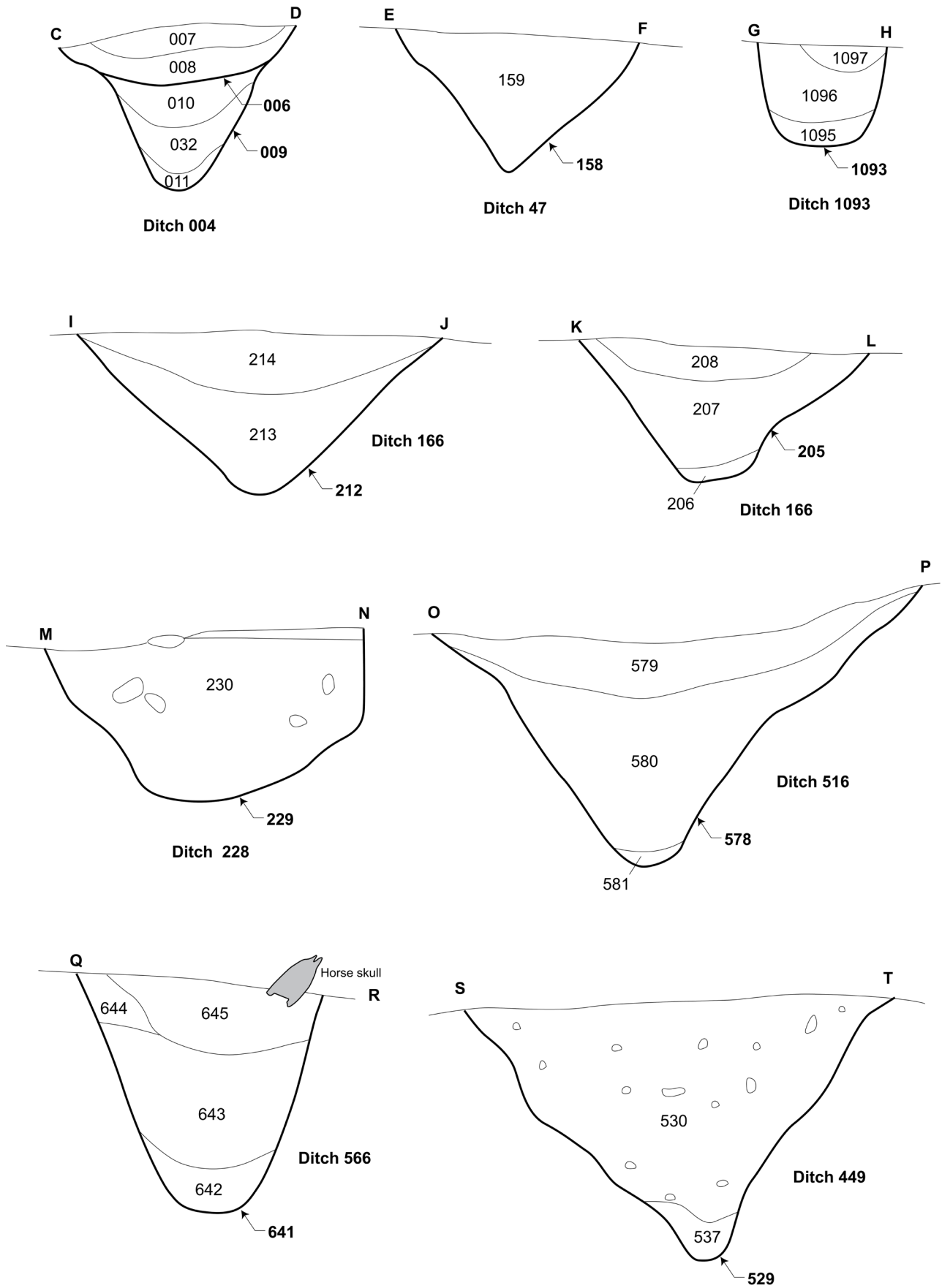
another and in many cases the apparent phasing was simply the evidence of numerous recuts and emptying as the ditch silted up rapidly with loose sand.

Field system Ditch 435 was identified as cutting Roman-period Burial 437 (see Section 6, Illus 6.1) and Ditch 657 was identified as cutting Roman-period Burial 631. In both cases the depth of these ditches was insufficient to disturb the burial itself, only affecting the upper part of the graves. This would indicate that the field system post-dated the Roman burials. Four disarticulated skulls identified within the midden deposits overlying the southern end of the field system suggests that further burials may have been disturbed when this network of ditches was being cut and simply disposed of in the easiest possible way.

The midden-rich cultivation soil, identified sealing the southern end of the field system and filling the upper part of the ditches, contained numerous Roman-period artefacts. Roman-period

debris was identified within the ditches, indicating that they were still open during the period in which the midden material had started to accumulate. Roman-period finds, predominantly pottery and animal bone, were recovered from the ditches, primarily from the upper fills, but pottery and animal bone were recovered from the basal fill of Ditches 452 and 449, and bone was recovered from close to the base of Ditch 566. This, together with the paucity of finds from ditches located further away from the midden deposit, would perhaps imply that the field system was still in use when the midden deposits started to accumulate.

Assuming a short timescale between the use of the field system and the accumulation of the midden deposits, it would seem fair to assume that the minimum of truncation would have taken place and that the excavated ditches sealed beneath the midden would be a fair reflection of their original depth. A number of ditches (516/228/238, 360/219 and 270) extended outwith the area sealed by the



Illus 5.4 Selection of field system ditch sections (copyright CFA Archaeology Ltd)

midden deposits and ditch sections excavated outwith the sealed area showed a fairly minimal reduction in depth when compared with the same ditch from beneath the sealed deposits. For example, a section recorded through Ditch 516 sealed beneath the midden deposits measured 1.7m wide by 0.95m deep whereas a section recorded through Ditch 238 which appears to have been a continuation of the same ditch outwith the sealed area measured 0.8m wide by 0.82m deep. If this ditch was the same depth along its full length, this would indicate truncation of  $c$  0.1–0.2m across much of the rest of the site. This degree of truncation would only have removed fairly shallow features.

Away from the area of midden material, the fill of the ditches largely consisted of pure sand of very similar consistency and colour to the natural subsoil and the finds from the ditches were fairly minimal, with only five sherds in total occurring in 143, 166 and 219, for example. A small quantity of pottery and hobnails from at least two shoes were recovered

from large sub-square Pit 192 (part of Ditch 143), along with an iron ring and a lead melt-waste fragment.

### 5.3 Midden deposits

Midden deposits (C003) were identified running the full length of the southern end of the site (110m) and extending out from the southern boundary for a distance of up to 18m (Illus 2.2–2.3 and 5.5). With the exception of the very topmost deposits, which had been disturbed by modern development associated with the wireworks and pockets of modern finds, this deposit appeared fairly homogeneous in nature. This does not necessarily imply that they represent a single episode of deposition and they may in fact have built up over a number of years, but the similarity of the material means that it decayed into a single homogeneous mass. The most obvious source of this material is the Roman fort, which was situated upslope, and it is possible that the midden



Illus 5.5 Midden deposits pre-excavation (copyright CFA Archaeology Ltd)

represents an accumulation from throughout much of its approximately 25-year lifespan (AD 142–165). Soil micromorphology (Ellis, 5.3.1 below) identified that Midden Context 003 was a sandy loam comprising coarse sand and midden-derived organic material containing a quantity of coprolite.

This accumulation of deposits was up to 2m thick and appears to have been one of the last phases of occupation on the site as it sealed Roman burials, the ring ditch, the southern end of the Roman rampart and the southern end of the field system. Some of the field system ditches appear to have been open during the period of accumulation as their fill consisted of midden material. However, this apparent phasing does not preclude the possibility that the wider field system remained in use during and even after the period in which the midden deposits accumulated, as the deposits appear to have simply restricted the area available for agriculture. Indeed, human remains found on the midden may represent individuals from graves that were disturbed during the excavation of the field system and simply disposed of on an ever-accumulating waste tip. Furthermore, if it does represent material from throughout much of the lifespan of the fort, it could be that the earliest accumulations were broadly contemporary with the Roman rampart, whereas the later deposits were ones that had continued to accumulate after this feature had fallen out of use. This suggestion is of course based on the assumption that the field system and the rampart were broadly contemporary, with the field system being extended across the footprint of the rampart after it fell out of use.

These deposits were rich in finds including worked bone, animal bone, pottery and metal. The animal species identified consisted of cattle, sheep, pig, sheep/goat, red deer, cat, dog, goat, roe deer, goose and bantam, while the metal consisted of iron and copper alloy objects and the pottery consisted of samian, amphorae and coarse wares. Many of the items were of military origin including ballista bolts, fragments of swords, ring mail, helmet cheek-pieces, shield ribs and a possible armour buckle. Samian ware from the midden deposits is unlikely to have arrived on site prior to the early AD 140s and was probably deposited no later than AD 155–160, giving a fairly tight date range for their accumulation (see Section 7).

### 5.3.1 Soil micromorphology

*Clare Ellis*

Four sequential kubiena samples are analysed from Context 003 with the aim of elucidating the mode and environment of deposition. The summary results are given below and full descriptions are available in the archive.

#### *Method*

The sample was prepared for thin section analysis by G McLeod at the Department of Environmental Science, University of Stirling, using the methods of Murphy (1986). Water was removed and replaced by acetone exchange and then impregnated under vacuum using polyester cristic resin and a catalyst. The blocks were cured for up to four weeks, sliced and bonded to glass and precision lapped to 30µm with a cover slip. The four samples were assessed using a MEIJI ML9200 polarising microscope following the principals of Bullock et al (1985), FitzPatrick (1993) and Stoops (2003). A range of magnifications (40–400×) and constant light sources (plane polarised light – PPL, cross-polars – XPL, circular polarised light and oblique incident light – OIL) were used in the analysis.

#### *Summary descriptions*

The natural subsoil is a coarse sand with 10–15% rock fragments. There are very few silt-sized charcoal fragments within the limited amorphous organo-mineral matter that coats the sand grains (single to pellicular grain structure). The boundary between the natural and C003 is wavy, sharp and prominent.

C003 is a poorly sorted coarse sand, increasingly fine-grained up the profile, and becoming a poorly sorted bimodal sand. It has around 5% rock fragments. The sandy loam has a complex microstructure, dominated by granules that are formed from fused fauna excrement pellets and mineral grains. Amorphous organic matter dominates the fine material with frequent fragmentary phytoliths. Broken up coprolite material occurs as rounded to irregular clasts of contorted organic matter rich in phosphate; some of the coprolites have mineral grain inclusions. Other anthropic inclusions included very few fragments of pottery, fired clay, bone, clasts of ash and one piece of iron hammer scale. There are very few

larger charcoal fragments and very few silt-sized charcoal fragments within the fine organo-mineral material. Very few charcoal coatings and very few clay coatings were observed in the basal portion (of C003), but a clast within which the mineral grains were coated with charcoal was observed in the uppermost thin section. Roots were apparent in the upper three slides.

### *Discussion*

The natural comprises a coarse dune sand. The boundary between the natural and C003 is defined by an irregular layer of phosphate-enriched organic matter interpreted as the remnants of dung (coprolite). The bases of some of the coprolite fragments along this boundary are charred and some of the coprolite material has been subject to limited eluviation/illuviation. There is no bone material within any of the coprolites observed throughout C003, indicating that these are not derived from either dog or cat, rather they are likely to have originated from either humans or herbivores. The mineral vivianite occurs within the organic matter and is indicative of the chemical weathering of the organic matter; such an environment may be found for example within accumulated organic matter and dung on a byre floor. This short sequence of deposits is interpreted as the initial spread of herbivore dung upon virgin dune sand. The presence of charcoal at the base of the spread of dung indicates that at least some of the dung may have been used as a fuel.

Mineral sand grains and amorphous organic matter dominate C003. It also contains frequent fragmentary phytoliths indicating that grass (in the broadest sense) was a major source of the organic matter. Some of the phytoliths may also have been originally derived from grass/turf ash, as clasts of ash rich in phytoliths were observed in one slide; however, elsewhere in the deposit bioturbation has probably resulted in the destruction and incorporation of such clasts. Charcoal is relatively rare in the deposit, perhaps because wood was not a particularly common fuel. The occurrence of well humified, amorphous organic matter, coprolites, the remnants of ash, and other anthropic-derived inclusions (pottery, fired clay, bone and hammerscale) within a single relatively homogeneous deposit indicates that C003 has a significant midden-derived component. In addition, a very few bright

reddish-brown clay coatings demonstrate that the lower portion of the deposit has been subject to limited eluviation/illuviation. All these features are indicative of soil manuring and can also be indicative of soil cultivation, but none conclusively prove soil cultivation (Courty et al 1989; Macphail et al 1990; Adderley et al 2006; Ellis 2008). Some of these features occur in non-cultivated soils (eg carbonised organics, Adderley et al 2006); middens (Ellis 2001) and conversely dusty coatings are not necessarily produced by cultivation (eg Courty et al 1989) nor necessarily occur in cultivated soils, be they modern or ancient (eg Davidson & Carter 1998). Furthermore, it is increasingly apparent that where soils (under pasture or arable cultivation) remain unburied or accessible to soil fauna, subsequent or continued bioturbation can rapidly, within a few decades, result in the destruction of all micromorphological features with the exception of extensive excremental pedofeatures (eg Macphail et al 1990; Ellis 1998; Davidson 2002).

In summary the micromorphological evidence (elevated organic content and intensive bioturbation, along with small rounded charcoal fragments, disseminated silt-sized charcoal, rounded clasts of ash and anthropic-derived inclusions) hints at the deliberate manuring and possible cultivation of C003.

### *Summary conclusions*

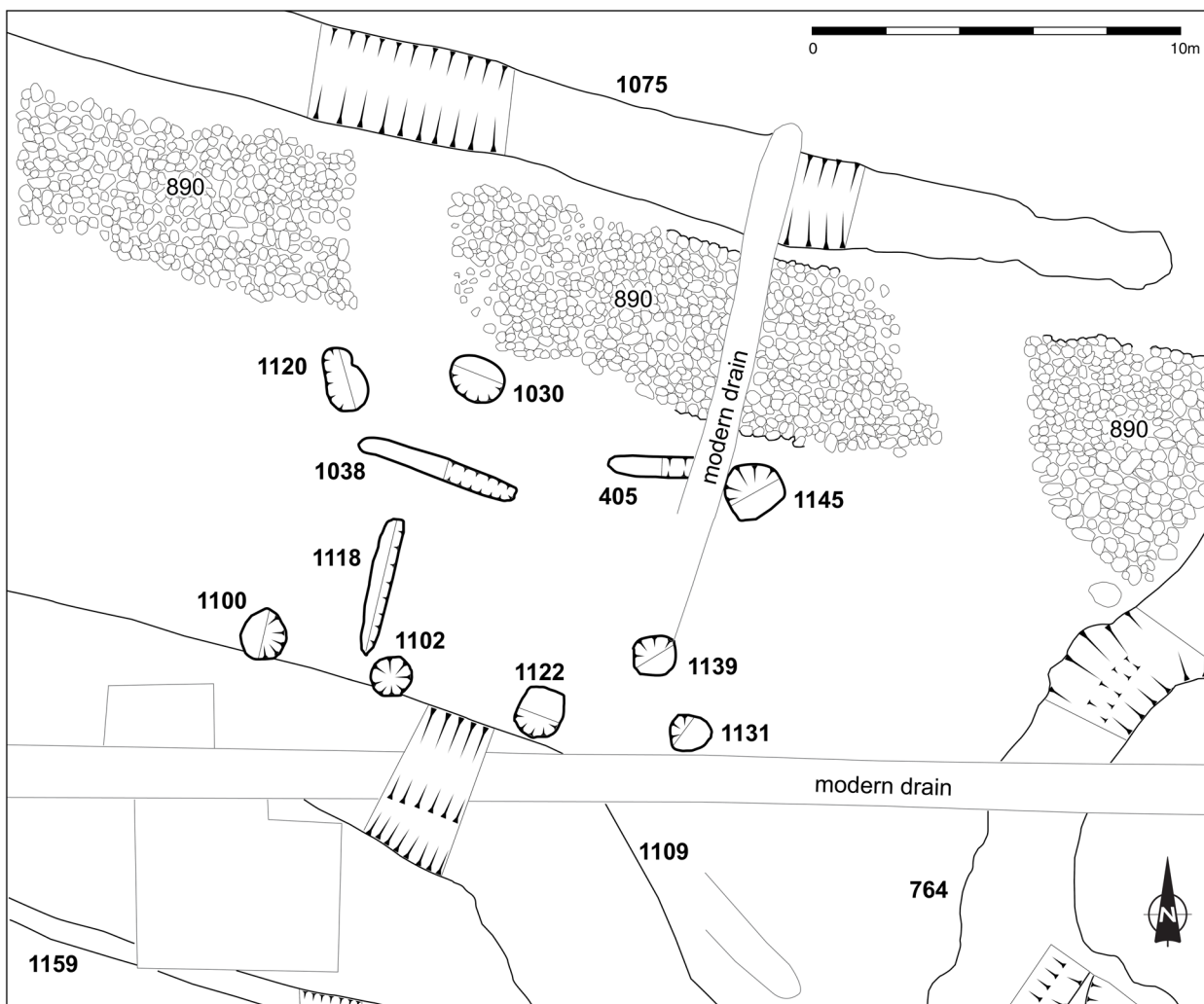
1. The natural is a coarse dune sand.
2. Herbivore dung, some of it burnt, was the first deposit to cap the dune sand.
3. C003 is a coarse sand which becomes bimodal (coarse and medium sand) up the profile.
4. In addition to the sand-sized mineral fraction, C003 is largely composed of midden-derived material.
5. Although there is no conclusive micromorphological evidence for the cultivation of C003, an elevated organic content and intensive bioturbation, small rounded charcoal fragments, disseminated silt-sized charcoal, rounded clasts of ash and anthropic-derived inclusions all indicate that the soil is very likely to be the remnants of a manured and cultivated soil.

### 5.4 Post-built structure

Within the Roman rampart the remains of a timber-built structure (Post Holes 1145, 1030, 1120, 1100, 1102, 1122, 1131 and 1139, and Slots 1118, 1038 and 405) were identified (Illus 5.6). The layout of the post holes indicates that the structure would have measured 6.5m east–west by 4.5m north–south. Typically, the post holes measured *c* 0.6m in diameter and contained stone and clay packing. The packing stones appeared very similar in nature to the stones used in the construction of the rampart base and may have been robbed from the latter. One of the post holes (1100) cut a ditch (1109) associated with the field system. This would indicate that the post-built structure was constructed following the silting up of that particular ditch and might indicate

that it post-dated the field system. Although these features appeared to respect the edge of the rampart, making it tempting to view them as a contemporary structure, the inference from the field system ditches cutting the rampart base is that this was a later structure, constructed after the demolition of the rampart.

Finds were recovered from three of the features, all of Roman date. These were a copper alloy pendant hanger and pendant (SF45) and one potsherd from 1114, three sherds of pottery and three iron tacks/hobnails from 1030, and two sherds of pottery and a hobnail/tack from 1038. While it is possible that these items represent residual material redeposited in later features, the lack of any later material would seem to imply a Roman date for this structure.



Illus 5.6 Plan of post-built structure (copyright CFA Archaeology Ltd)



### 5.5 Pits cutting the field system ditches

A group of pits (958/962/967, 953, 978, 920, 934, 948, 1008), at the northern edge of the excavation site also contained a small collection of pottery, iron and glass finds of Roman date. Four of these and one other pit (907) cut field system Ditch 925, from which no finds were recovered. A number of the pits were similar in plan, being sub-rectangular in form.

They may be evidence for activity of Roman date in this part of the site, perhaps contemporary with the use of the post-built structure. Other pit features cutting the field system ditch included 334, 388, 518 and 781. Several of these pits contained Roman-period artefacts including pottery and hobnails/nails, while Pit 618 contained a human skull on the surface of the upper fill. Pits 334, 388 and 618 had been sealed by midden-rich Context 003.