



PUBLICATION REPORT

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**POCKLINGTON
WASTEWATER TREATMENT
WORKS**

EAST RIDING OF YORKSHIRE

prepared for

TEAM

on behalf of

Yorkshire Water Services Ltd

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EXCAVATIONS AT CANAL LANE, POCKLINGTON

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Summary

Excavation in advance of an extension to Pocklington Wastewater Treatment Works revealed archaeological features dating to the prehistoric, Roman, and medieval periods. The earliest phase of activity comprised a small, dispersed group of late Neolithic Grooved Ware pits which yielded Durrington Walls-style pottery and a substantial flint assemblage. Two inhumations, one crouched and one tightly contracted, radiocarbon dated to the Iron Age, were also encountered. These are thought to be associated with cropmarks of probable 'Arras Culture' square barrows immediately to the south-west of the excavation area. In the Roman period, two phases of activity were identified associated with a cropmark enclosure to the south-west of the site. Firstly, the north-eastern corner of the cropmark enclosure fell within the excavated area, and is thought to have originated during the Antonine period. Secondly, a series of linear boundary ditches with associated pits, as well as two extended inhumations are thought to broadly date to the 3rd and 4th centuries AD. The prehistoric and Roman remains had been truncated by multiple phases of medieval ridge and furrow cultivation.

INTRODUCTION

An archaeological watching brief was undertaken during the groundworks for an extension to Pocklington wastewater treatment works, Canal Lane, Pocklington. The work was undertaken by Northern Archaeological Associates (NAA) for TEAM on behalf of Yorkshire Water Services Ltd, during August and September 2004. The site of the extension comprised a triangular area of some 1700 square metres, centred on SE 7976 4785, immediately to the north-west of the existing treatment works (Fig. 1). Archaeological monitoring was also undertaken along the easement for a sewer outfall to the south-west of the treatment works.

The site was situated at a height of 25m OD within a flat arable field known as *Barrow Flat*, immediately to the north of the A1079 and 1.25km to the south-west of Pocklington town centre. The landscape is one of flat open farmland, characteristic of this area of the Vale of York, which rises gently to the foothills of the Yorkshire Wolds to the east. The soils are coarse brown calcareous loams of the Landbeach association, which overlay chalky glaciofluvial and river terrace drift in the form of flint and chalk gravels (Jarvis *et al.* 1984).

BACKGROUND

There is a wealth of evidence for prehistoric and Romano-British activity in the Pocklington area, although at present it is largely limited to cropmark sites and stray surface finds. These finds include Romano-British metalwork and pottery, lithic material dating to the Neolithic and Bronze Age - including polished stone axes, flint arrowheads and flint scrapers - and a number of bronze socketed axes. A significant proportion of these finds have derived from the area to the west of the wastewater treatment works and the grounds of Pocklington School.

Extensive cropmark complexes in the area around Pocklington indicate a widely settled and organised landscape of extensive field systems with associated trackways and rectilinear enclosures. Such cropmarks, particularly the linear 'ladder settlements', are characteristic of Iron Age and Romano-British occupation. Within these complexes, particularly to the north-west and west of Balk Field (SE 809 481), to the north-west of the wastewater treatment works, there is clear evidence of multiple phases of activity. Here, cropmarks indicate that probable Iron Age square barrows appear to have been succeeded by later, probable Romano-British settlement. A watching brief undertaken by Northern Archaeological Associates at Balk Field (NAA 2001) also identified a series of ditches of late Iron Age or early Romano-British date.

With the Roman conquest of the area, around AD 70-71, came the establishment of the fort at Hayton as well as the construction of the Roman road between York and Brough-on-Humber (Millet 1999, 225-226). The road in particular appears to have encouraged the growth of settlements such as those at Hayton and Shiptonthorpe along its course, which approximates to the modern A1079 (Halkon *et al.* 1997, 1998, 1999; Millet 1997). Settlement continued at Hayton and Shiptonthorpe into the late Roman period (*ibid.*) by which time they were well integrated into regional exchange networks and Romanised to a much greater extent (Loveluck 1999, 229). The 3rd and 4th centuries also saw the emergence of villas in the region representing a distinctly 'Roman' element in the landscape. Geophysical survey and fieldwalking has identified a probable villa site *c.*2.5km to the north of the excavation area (Esmonde Cleary 1999) and a second possible villa site has been identified from aerial photographs to the west of Barmby Moor.

GEOPHYSICAL SURVEY AND CROPMARK EVIDENCE (Fig. 2)

A magnetometry survey of the area of the wastewater treatments works extension was undertaken prior to the development (GSB 2003). The survey identified a relatively strong rectilinear response suggestive of the corner of a rectangular enclosure. This corresponded with a cropmark site, immediately to the south-west of, and encroaching slightly into, the excavation area. The site comprised a rectilinear enclosure attached to a partially visible south-east to north-west aligned trackway. Adjoining enclosures or field ditches were partially visible as well as at least three small square enclosures indicative of Iron Age square barrows. The cropmark site was typical of Iron Age and Romano-British occupation sites and whilst perhaps not extensive enough to be defined as such, is reminiscent of a ladder settlement. The name *Barrow Flat* would

also appear to provide further evidence for the presence of Iron Age square barrows on the site.

METHODOLOGY

Topsoil stripping was undertaken, under direct archaeological supervision, using a 360 degree tracked excavator fitted with a toothless bucket. All archaeological features within the excavation area were sample excavated by hand with bulk palaeoenvironmental samples taken from appropriate deposits. Significant features were recorded at an appropriate scale with sections drawn at a scale of 1:10 and a site plan produced at a scale of 1:20. A photographic record was taken using black and white prints and colour slides at a format of 35mm.

EXCAVATION RESULTS

Soil stripping along the easement for the sewage outfall to the south-west of the treatment works revealed only medieval plough furrows. However, at the site of the treatment works extension, the removal of topsoil (on average 0.4m thick) revealed the remains of a multiphase occupation site with prehistoric, Romano-British and medieval elements. The archaeological features were cut into natural chalk and flint gravel and concentrated in the north-western half of the excavation area (Fig. 3). The remains comprised discrete and linear features as well as concentrations of inter-cutting features initially only visible as extensive deposits of sandy silt material. Five broad phases of activity were identified (Fig. 4).

Late Neolithic

Five sub-circular pits recorded amongst the main concentration of Romano-British remains represent the earliest phase of activity on the site (Fig. 5). Circular pit 167, which measured 1.19m across by 0.38m deep, contained two fills (168 and 169) from which a small assemblage of late Neolithic pottery was recovered. The assemblage represents at least four vessels and is characteristic of Durrington Walls-style Grooved Ware. The pit also produced an assemblage of 29 flints largely comprising debitage, but including five cores and a single scraper. The preservation of animal bone at the site was, in general, very poor, however, fragmentary vertebrate remains, including possible cattle bone, were recovered from fill 168. Immediately to the south of pit 167 a second, smaller sub-circular pit (200) was recorded. An assemblage of 74 flints wholly comprising debitage was recovered from its single fill (201). Although non-diagnostic the assemblage is stylistically broadly Neolithic in date. Pit 200 also yielded a single abraded sherd of probable Durrington Walls-style Grooved Ware (T. G. Manby pers. comm.)

Two further sub-circular pits (129 and 132) were located some 25m to the north of pit 167. Pit 129 measured 0.61m across and had been heavily truncated by later ploughing, only surviving to a depth of 0.13m. An assemblage of 86 struck flints was recovered from the weathered gravel primary fill (202) and a sandy silt secondary fill (130). While much of the material comprised debitage, twelve scrapers, representing a relatively high proportion of the assemblage, were recovered, as well as a petit tranchet derivative arrowhead. The flint, particularly the arrowhead, is consistent with

assemblages associated with late Neolithic Durrington Walls-style Grooved Ware pottery. Two fragments of probable Durrington Walls style Grooved Ware were also recovered from secondary fill 130 (T.G. Manby pers. comm.). Sub-circular pit 132 was located c.1.5m to the south-east of pit 129 and measured 0.85m in diameter. A very small assemblage of flint debitage was recovered from pit 132 and whilst it would be unwise to date the feature on lithic evidence alone, this and its proximity to pit 129 suggest a late Neolithic date. Likewise debitage and retouched lithic material from pit 104, an isolated pit some 8m to the east of pit 167, raises the possibility that this also belongs to a late Neolithic phase.

The firm associations between pottery and flint in pits 129, 167 and 200 would also suggest that the majority of the residual, non-diagnostic flint debitage recovered from later features is of late Neolithic date and largely of Durrington Walls-style Grooved Ware association. Notable exceptions to this were two 'Beaker' style circular scrapers recovered from pit 243, discussed below, and a very small amount of residual material stylistically late Mesolithic in date.

Iron Age

Although Bronze Age activity on the site was indicated by pot sherds recovered from a probably later feature, the next major phase of activity identified belonged to the late Iron Age. Two inhumations (172 and 208) were recorded in the north-west of the excavation area. Skeleton 172 (Plate 1) was positioned crouched on its right side in a sub-circular grave cut (170). Skeleton 208 (Plate 2), located 2m to the west, was laid prone in a tightly crouched/contracted position in an oval grave cut. Collagen from teeth has radiocarbon dated the skeletons to 380 BC-160 BC and 360 BC-50 BC respectively, at 95.4% probability (GU-14531-14533). The preservation of the skeletons was generally poor with only very limited pathological analysis possible. Skeleton 172 was probably a male, aged between 25 and 35 years, and displayed evidence of trauma in the form of an oblique fracture to the left fibula. Skeleton 208 was probably female and aged between 17 and 25 years. No grave goods or associated artefacts were recovered from the grave fills.

The Iron Age date of the burials is significant given the cropmarks indicative of square barrows, defined by square plan ditches, immediately to the south of the excavation area. The square barrow or Arras burial rite, although recorded elsewhere in Britain, is largely restricted to, and characteristic of, the Iron Age in East Yorkshire and broadly dates from the 5th century BC to the 1st century BC. Despite the lack of a characteristic square plan ditch around the burials the radiocarbon dates indicate that the inhumations were broadly contemporary with the Arras tradition.

Further activity belonging to this phase was restricted to possible quarry hollows from which a small assemblage of Bronze Age and Iron Age pottery was recovered. Two discrete hollows were recorded; pit 118 measuring 10.5m across by 0.36m deep, and pit 236, which had been largely truncated by later Romano-British activity. A single sherd of Iron Age pottery was recovered from the sandy silt fill of pit 118. Located immediately to the south-east of pit 118 a large irregular depression (group 260), apparently the result of a series of inter-cutting shallow pits (141, 243, 246, 252, 256, 258 and 218), measuring some 10m across, was recorded. Based on its form and the in-filling material, this feature appeared to be the result of episodic excavation and

backfilling, possibly indicating the extension of an existing quarry hollow over a period of time. This is likely to have resulted in the incorporation of material from earlier archaeological features into the various fills and would certainly account for the mixed finds assemblage recovered from fill 142 comprising three sherds of Iron Age pottery and three sherds from a middle Bronze Age bucket or barrel urn, as well as two 'Beaker' type scrapers from the fills of 243, 244, 245 and 246.

The hollows were relatively shallow and appear to represent episodic, small scale quarrying of either the underlying flint and chalk gravel, or possibly for flint nodules. A small land snail assemblage also indicates that the hollows may have been periodically or temporarily filled with water. It is possible, therefore, that the hollows were visible features of the landscape for some time before being completely filled, probably by natural silting. Based on a limited but mixed finds assemblage, it is difficult to ascribe a firm date to the quarry hollows; the features may also have remained open for a substantial period of time. However, the truncation of pit 236 by Romano-British features and the presence of Iron Age pottery in the fills of two of the quarry hollows potentially provide a *terminus ante quem* for the late Iron Age features in this area. The presence of a single sherd of grit tempered medieval pottery in the finds assemblage from these features is almost certainly the result of later truncation by medieval ploughing. Likewise, two unstratified sherds of Romano-British greyware pottery recovered during initial cleaning in this area are likely to represent later disturbance.

Romano-British (2nd century AD)

The Romano-British evidence relates largely to the rectilinear enclosure ditch identified from cropmarks and geophysical survey, the north-eastern corner of which fell within the excavation area, and the remains of associated, outlying features. Based on the pottery assemblage recovered, Romano-British occupation of the site dates from the 2nd century AD through to the late 4th and early 5th century AD. Within this chronological range two broad phases of activity were identified, the first marked by the excavation of the enclosure ditch.

The enclosure ditch (181) measured some 2.3m wide by 0.8m deep (Fig. 5, Section F). The ditch was aligned north-west to south-east before curving to the south-west, forming the north-eastern corner of the rectilinear enclosure (Plate 3). Three ditch fills were identified and five joining sherds which form the profile of a dog-bowl attributed to the Antonine period were recovered from the silty gravel primary fill (182). A small snail assemblage was also recovered from this fill. The presence of a small number of aquatic snail taxa implies that the ditch intermittently held water at the time of the formation of the primary fill. However, a larger proportion of the assemblage comprised terrestrial snails reflecting the wider landscape at the time, the majority of taxa suggesting it was a lightly vegetated environment, most likely short-turfed calcareous grassland.

Romano-British (3rd – mid 4th century AD)

The excavation of the enclosure ditch was the only clearly identifiable and closely dated phase of Romano-British activity on site. The remaining features, all of which lay outside the main enclosure, produced ceramic material with a broad chronological

range from the 2nd century through to the late 4th or early 5th century. Within this range, however, the pottery assemblage suggests that the main period of deposition and the majority of the recorded features belong to the second half of the 3rd century and first half of the 4th century.

Domestic activity

To the north-east and 'outside' of the enclosure ditch, a large group of inter-cutting pits and gullies (group 161) were encountered. Initially visible as an extensive silty spread (2) measuring some 5.5m across, individual features were only identifiable following the removal of a narrow spit of material and the subsequent excavation of three 1m wide trenches across the extent of the deposits. The narrow spit of material (2) removed from the upper layers of the deposits yielded a large, chronologically mixed, assemblage of 78 sherds of unstratified pottery. With the exception of seven sherds of medieval pottery, the presence of which can be attributed to truncation by later ploughing, the assemblage largely comprised 4th-century material. Further finds recovered from this layer are indicative of Romano-British settlement. A number of nail fragments and a fragment of tile are likely to derive from Romano-British structures in the vicinity, whilst a fragment of lava quern imported from continental Europe, and two ferrous blade fragments suggest associated domestic and possibly industrial activity.

Group 161 comprised 16 inter-cutting sub-circular and sub-oval pits (88, 90, 120, 122, 143, 145, 149, 151, 159, 177, 203, 215, 222, 226, 238 and 239) and three gullies or elongated pits (45, 47 and 175=147). The pits, ranging from 0.3m and 1.17m in diameter were typically between 0.2m and 0.4m deep. The three gullies were parallel and aligned north-east to south-west. While gullies 45 and 47 extended beyond the limit of excavation to the north-east and were of unknown length, gully 175 was recorded for a length of just 4m before terminating. Although it was, to some extent, possible to determine the relationships between the features in this group, no pattern or phases of deposition were identified. The remains appear to represent a process of cutting and re-cutting of pits and gullies in a concentrated area over a prolonged period of time. As such, many of the features were merely remnants of pits almost completely truncated by the digging of later pits or gullies.

The various fills of the features in group 161 yielded an assemblage of 34 Romano-British pottery sherds. The diagnostic sherds amongst this assemblage are, once again, largely of 4th century date, although a decorated sherd of East Gaulish samian ware dated to the 2nd century. This sherd would appear to be something of an anomaly and it is possible that it was of some antiquity at the time of its deposition. It is also true, however, that none of the features in group 161 can be closely dated due to the continued re-cutting of pits and gullies in the area. As such, any deposit is likely to have comprised material from earlier features, which had been truncated by later digging. Other finds from the deposits in group 161 were few in number and included an *imbrex* roofing tile, a fragment of fine-grained sandstone quern and a small assemblage of poorly preserved and fragmentary animal bone. Once again, the finds are characteristic of Romano-British settlement and associated domestic activity.

A similar group of inter-cutting features (group 232) was recorded some 4m to the south-west of group 161 (Fig. 5, Section G). The group comprised six pits (78, 83, 96,

99, 102 and 211), a gully (71) and a truncated ditch (74) which may represent an earlier cut of ditch 56 (see below). A heavily truncated feature (205) observed at the interface between ditch 181 and ditch 56, is also considered to be part of this group. The pits ranged from between 0.58m and 1.32m across, by between 0.16m and 0.49m deep. Once again, a process of re-digging was evident with the excavation of later pits leaving only remnants of earlier phases features. Gully 71, measuring 0.7m across and recorded for a length of 1.25m, appeared to postdate the pits in group 232 but is of unknown function. A small assemblage of 12 sherds of pottery comprising 4th-century material and non-diagnostic greyware was recovered from three of the pit fills. A small amount of animal bone, recovered largely from the upper fill (207) of feature 205, displayed signs of butchering and dog gnawing, although a general lack of surviving animal bone was again noted.

One further pit (138) belonging to this phase, a discrete feature immediately to the north-west of group 232, produced a single sherd of non-diagnostic greyware.

The continued re-digging of pits exhibited in groups 161 and 232, and evidence from the limited finds assemblage, suggests the disposal of domestic waste within a defined zone outside the main settlement enclosure. The lack of animal bone is surprising although the soil conditions were clearly not conducive to good survival, especially for small animal bones. Few of the pottery sherds are diagnostic but the main period of deposition would appear to be the first half of the 4th century.

Land division

A certain degree of reorganisation or redefinition of the area outlying the main settlement enclosure, indicated by a series of linear ditches, would also appear to have taken place during the 3rd and 4th centuries AD. A number of features identified as part of groups 161 and 232 were truncated by a north-east to south-west aligned ditch (56) extending from the north-eastern corner of the main enclosure (181). The ditch measured up to 1.96m across by 0.79m deep and was recorded for a length of 16.9m. An assemblage of 17 sherds of later 3rd-to-4th-century pottery and a sherd of 4th-century mortarium, were recovered from the ditch fills, including two sherds from the primary fill. A small amount of animal bone, probably representing butchering waste was also recovered. Earlier material in the form of a sherd from a late Antonine dish from a gravel lens (196) at the base of the ditch would appear to represent earlier material incorporated into the ditch fill. Alternatively, the gravel lens may have been the remnants of an earlier, truncated feature.

While the early 4th-century pottery provides a *terminus ante quem* for ditch 56, the alignment of two inhumations implies the ditch itself may have originated as early as the mid 3rd century. Two graves (41 and 65) were located to north-west and south-east, respectively, of ditch 56, on the same north-east to south-west alignment. Skeleton 64 (grave 65; Plate 4) has been radiocarbon dated to 240 AD-410 AD at 95.4% probability. It can be reasonably argued, that this grave was aligned on an existing landscape feature in the form of ditch 56. The skeletons themselves were poorly preserved and of limited interpretive value. Skeleton 40 (grave 41) was only c.25% complete, the lower half having been truncated during soil stripping and the skull missing, presumably disturbed by later ploughing. The skeleton was laid supine in a sub-oval grave, the northern corner of which was truncated by an undated sub-

square posthole (52). The fact that this posthole truncated the right shoulder of skeleton 40 suggests it was not a grave marker and is unrelated. The limited skeletal remains do not allow detailed analysis but suggest an elderly female individual. Skeleton 64 (grave 65) was laid supine, with the head to the north-east and represents a male aged between 35 and 45 years. No grave goods or associated artefacts were recovered from either grave fill.

A further three ditches (114, 124 and 153) were recorded on the same north-east to south-west alignment as ditch 56 representing further land division. Ditch 114, located some 8m to the south-east of ditch 56, measured 0.79m across and was recorded for a length of 19m, across the extent of the excavated area. Although no dating evidence was recovered from the fills, its alignment strongly implies it was broadly contemporary with ditch 56. Ditch 124 was located some 17m to the north-west of ditch 56 and measured 0.95m wide with a distinctive V-shaped profile. Although the ditch fills yielded no secure dating evidence, the presence of three iron nail fragments are indicative of Romano-British activity. Finally, some 9m to the north-west of ditch 124 a short length of linear ditch 153 was exposed, extending across the extent of the excavation area. The ditch measured 1.43m across by 0.33m deep and yielded two sherds of 4th-century pottery from its primary fill. The profile of the ditch also clearly indicated that the ditch had been re-cut (155) on at least one occasion although pottery from the re-cut fills indicated only a broad late 3rd to 4th century date. Two further, undated gullies (111 and 164) may also have belonged to this phase and possibly represent drainage features that fed into ditches 114 and 56 respectively.

Finally, the main enclosure ditch (181) was re-cut during this phase of activity. The re-cut (187), clearly visible in section measured 1.45m wide by 0.67m deep. The re-cut fills yielded a small amount of 4th-century greyware pottery and a fragment of mortarium of possible 3rd century date as well as a small amount of animal bone.

Medieval

Plough furrows were recorded on a north-east to south-west alignment across the southern half of the excavation area. The spatial distribution of the furrows suggested at least two phases of ridge and furrow cultivation. A small assemblage of medieval pottery was recovered from the various furrow fills. Plough furrows on the same alignment were also recorded during archaeological monitoring of soil stripping along a pipeline corridor 200m in length, to the south-east of the wastewater treatment works.

FINDS ASSEMBLAGE

PREHISTORIC POTTERY (Fig. 6)

T. G. Manby

Late Neolithic

The sherd characteristics of all the material from pit 167 (contexts 168 and 169) are those of Late Neolithic Grooved Ware of the Durrington Walls-style. The small-size of the sherd material from the pit does provide enough profile and decorative features for an attribution to the Durrington Walls-style, that is one of the four wide-spread styles, or sub-styles of Grooved Ware identified by Wainwright and Longworth (1971, 240-242). Characteristic of this style of Grooved Ware are large flat-based barrel and bucket profiled jars, internally developed rims, and a particularly favoured decoration of applied strips vertically sub-dividing the pot body, with the intervening spaces commonly in-filled with incised diagonal lines.

The temper agents used are consistent with local manufacture, sharp sand and chalk pebbles readily available in the site landscape composed of fluvio-glacial-laid sands and gravels.

Evidence of use is provided by the patch of carbonised material on interior of 168.1; coupled with the dark surface tones below the rim suggesting scorching, this is either a by-product from a cooking usage of the vessel or it is a residue of a stored contents produced by fire-cleansing.

Analysis for residual animal fats absorbed into the ceramic body of Neolithic pottery (Evershed *et al.* 1997) has recognised pig fats traces associated with Grooved Ware that contrasts with the Peterborough styles that are associated with dairy products in the determinations for assemblages from Walton Basin, Powys (Dudd and Evershed 1999). These results have been obtained on the recently excavated Grooved and Peterborough Ware assemblages from Sewerby Cottage Farm, Bridlington (C. Fenton-Thomas, pers. comm.)

The Grooved Ware styles are well represented in the chalkland of the eastern half of the Yorkshire Wolds, particularly in pit associations at numerous sites on Rudston Wold and in Garton Slack and Wetwang Slack (Manby 1974, 16-76; 1999, 71-73). In recent years there has been a recognition of new sites in lowland areas such as the Vales of Pickering, York and Mowbray; the Pocklington site and another at Hayton (Millet and Halkon, in prep.), in the sandy woldfoot zone setting close to a watercourse, are comparable with Heslerton in the Vale of Pickering (Haughton and Powlesland 1999, 69; and in prep.).

In its wider geographically distribution the Durrington Walls-style, the most widespread of the Grooved Ware tradition, has recently been confirmed as far north as Inverness, in Scotland (Connolly and MacSween 2003, 39-42). And it has an eastern coastland bias extending south down to the south coast of England and westwards into

Wales and Cornwall (Wainwright and Longworth 1971, 268-306; Cleal and MacSween 1999, 177-206).

The dating of Grooved Ware tradition's four designated styles based on radiocarbon determined associations extends from the end of the 4th millennium BC down to the middle or later 3rd millennium BC; a range of c.3000-2000 BC being advocated by Garwood (1999, 157-159, Figs 15.5 and 15.6) from a refined analysis of radiocarbon dates from southern England. For the Durrington Walls-style its earliest dated associations are in Scotland: at Hillend (Beta-73955) 4410+70 BP range 3340-2910 cal BC (Armit *et al.* 1994) and four dates from Milton of Leys (GU-9610-9613) 4540+65, 4470+65, 4445+75, 4490+50 BP, range 3370-2920 cal BC (Connolly and MacSween 2003, 39). These early determinations for the turn of the 4th to 3rd millennia BC are effected by the 3100-2900 Cal BC radiocarbon dating plateau (Brindley 1999, 133). However, there is a comparable assemblage from Littleour in eastern Scotland of (AA-22906) 3750+ 50 BP in a later range of 2350-2030 cal. BC (Barclay and Maxwell 1998, 58-67). For Yorkshire there are determinations in an early to mid-3rd millennium cal BC range from sites in the Vale of Mowbray (Abramson 2003, 115) and the Wolds, but unlike some dated associations from Southern England there are no dates that continue the Durrington Walls-style's range down to the end of that millennium (Manby 1999, 68).

Illustration catalogue

Pit 167, context 168: 124 Pieces (including 86 minute crumbs). Weight 97g. Two vessels represented:

1. Rim, five pieces joining 5 x 5cm, freshly broken edges. Incurving, internally expanded lip. Plain, two short converging scratch lines on the inner surface. Fabric: rough dark grey to brown toned exterior, compact dark grey interior. Temper: fine angular sand, some sub-rounded quartz, rare white flint, some angular voids. Wall thickness 16 mm. A patch of carbonised encrustation on the interior surface.
2. Base angle sherd 3 x 3cm, broken-off along the junction with a disc base. Applied vertical strip pinch-moulded, flanked by spaced diagonal lines made with a blunt point. Also 8 exterior surface flakes, largest 3 x 3cm, four showing short length of an applied strip flanked by diagonal lines and one piece has paired vertical lines flanked by diagonals. Fabric: brittle layered orange-buff exterior, brown interior. Temper: scattered crushed chalk <3mm, some angular voids. Also four featureless flakes and 20 crumbs in this fabric.

Pit 167, context 169: Five pieces. Weight 44g. two vessels represented

3. Rim sherd, 3 x 3.5cm. Broken edges slightly weathered. Pointed lip, slightly hollow internal bevel. Fabric: plain. Compact orange-buff exterior, buff interior, dark grey core. Temper: profuse grog and fine sand. Wall thickness 7mm. Also two small flakes.
- 4 Two joining wall sherds, 5 x 5cm, fresh breaks. Applied horizontal strip with finger tip imprint. Orange-buff exterior, brown interior, dark grey core. Temper: fine

sand, scattered angular chalk <3mm, an angular fragment of dark shale or mudstone 5>mm. Wall thickness 13-15mm. From a vessel of large diameter.

Middle Bronze Age

Pit 141, context 142: three small sherds, three flakes and 12 crumbs. Weight 11g.

The three small wall sherds and a flake join into a wall fragment 4 x 2.5cm, freshly broken edges all round. Fabric: hard, laminated, rough brown exterior, dark grey interior. Temper: sharp sand and much angular stone <3mm that erupts through the external surface; mostly chalk or an off-white limestone, rare dolerite, and angular voids. Wall thickness: 9mm. The profile is featureless except for part of a hollowing in the exterior surface that is broken across and of extent unknown. Exposed within the fractured wall edge of the joined sherds there is a smooth walled cylindrical cast void, 16mm long and less than 1mm diameter that runs parallel to the exterior surface (such voids can be left by grass stems incorporated into the pot clay during manufacture that burn out during firing).

This rejoined sherd does not show any evidence of weathering, the voids developing from solution of calcareous temper in the burial environment. There are few diagnostic characteristics in support of dating and cultural attribution. The exterior surface hollowing may be part of the vertical fluting left on the body surface of Middle Bronze Age bucket or barrel-shaped jars and urns. Also the use of so much angular stone tempering would also be consistent with a Middle Bronze Age Bucket/Barrel pottery of eastern Yorkshire (Manby *et al.* 2003a, 65) that is well represented at the Catfoss cemetery in Holderness (McInnes 1968, 7, P. 2 and P.A)

THE FLINT ASSEMBLAGE (Fig. 7)

Peter Makey

Introduction

The composition and incidence of the assemblage is given in Tables 1 and 2. The excavation produced a total of 373 struck prehistoric lithics, including five pieces of edge utilised natural. Nearly 43% of the material comes from the fill of just two pits (pit 129 and pit 200). A large proportion (*c.*90%) of the material consists of core material and knapping debitage. Despite a restricted range of diagnostic implements the assemblage appears to be of a fairly restricted chronological span. All the material is of a domestic nature. Most of the material appears to have early to later Neolithic affinities, although a component of 'Beaker' type lithic material is probably present. At least two of the cores and one of the core rejuvenation flakes are heavily abraded and are of microlithic character. It is possible that a very small proportion of the material is of later Mesolithic date. The majority of the material is clearly residual. The lithics from ditches 43, 49, 55 and pit 167 have been re-deposited. Flint material from gully 179 is in a variable state. The freshest material consists of a group of 10 spalls and chippings from the upper fill (context 126) of ditch 124. Surprisingly only 21 (5.6%) of the pieces exhibit traces of breakage (seven of the broken pieces came from pit 129). The two largest assemblages come from pits 129 and 200. However,

the material from pit 200 is the most residual. The material from pit 129 is in a moderate state. Some flint from all of these features exhibits a slight degree of plough or agricultural damage; that is probably consistent with a degree of feature truncation.

Table 1: Composition of the flint assemblage

Artefact	Number	Percentage Total	Breakage	Use - Wear	Context / Feature type				
					Layers	Pits	Ditches	Gullies	Burials
Debitage									
Cores	11	2.9	6	1		6	2	2	1
Core rejuvenation flakes	2	0.5	0	NA		1	1		
Chippings	56	15.0	NA	3		45	10	1	
Chunks/lumps	40	10.7	NA	5		26	7	6	1
Spalls	69	18.5	NA	NA		49	20		
Flakes	148	40.0	8	13		81	44	19	4
Blades and bladelets	8	2.1	2	NA	1	5	2		
Utilised									
Edge utilised flakes	3	0.8	NA	2		2	1		
Edge utilised blades	1	0.3	NA	NA			1		
Edge utilised natural	5	1.3	NA	5		1	1	3	
Retouched									
Miscellaneous ret chunks	1	0.3					1		
Miscellaneous ret flakes	6	1.6	2	2		4	1	1	
Edge retouched flakes	2	0.5	NA	2		2			
Edge retouched natural	1	0.3	NA	1			1		
Piercers/points	2	0.5	1	2		2			
Denticulate flakes	1	0.3	NA	NA			1		
Scrapers	16	4.3	2	16		15	1		
Arrowheads:- ptd G	1	0.3	NA	NA		1			
Totals	373		21 (5.6%)	52 (14%)	1 (0.3%)	240 (64%)	94 (25%)	32 (8.6%)	6 (1.6%)

Table 2: Composition of the flint assemblage from individual pits

Artefact	Number	Percentage Pit Material	Pit number									
			83	104	120	129	132	138	167	200	243	252
Debitage												
Cores	6	2.5							5	1		
Core rejuvenation flakes	1	0.4								1		
Chippings	45	18.7	9	3		19			2	12		
Chunks/lumps	26	10.8	4			8			2	12		
Spalls	49	20.4	4	4		2	4		2	33		
Flakes	81	33.8	4	3		37	3	5	14	13		2
Blades and bladelets	5	2.0				3				2		
Utilised												
Edge utilised flakes	2	0.8			1	1						
Edge utilised blades	-	-										
Edge utilised natural	1	0.5				1						
Retouched												
Miscellaneous ret chunks	-	-										
Miscellaneous ret flakes	4	1.7		1		1		1	1			
Edge retouched flakes	2	0.8							2			
Edge retouched natural	-	-										
Piercers/points	2	0.8		1		1						
Denticulate flakes	-	-										
Scrapers	15	6.3				12			1		2	
Arrowheads:- ptd G	1	0.5				1						
Totals	240		21	12	1	86	7	6	29	74	2	2

Knapping and raw material

The assemblage contains only two core rejuvenation flakes and 11 cores but many small (<20mm long) spalls from the final stages of knapping. The small spalls, chippings and flakes are made from different flint to the majority of the cores (cf. Table 4). Nearly 68% of the material is totally un-corticated and comes from final stages of knapping. Pieces retaining cortex only possess it to a small degree (on average <10%). Pieces from primary core reduction total less than 23 (6%). Five of these came from the primary fill 125 of ditch 124.

The selection of raw material is one of the most important aspects of the assemblage. A large quantity (4993 pieces) was recovered along with the struck material and this has allowed for some analysis of raw material procurement. Raw material classes were defined by the author for this report. It is certain that approximately 90% of the material is manufactured on flint that can be obtained from the site. There is a clear selective raw material bias. Although only 26 pieces of fine grained till flint was recovered, the raw material was used in the manufacture of 10 of the 16 (62.5%) scrapers and five of the 11 (45%) cores.

The debitage

The lithic material derived from sample contexts included a large proportion of non-bulbar chippings. The crudeness of the local raw material has clearly imposed constraints on the knapping of flint. The whole assemblage shows a clustering of pieces with 8:10mm, breadths:lengths. Overall there is a slight tendency for the material from pits to be slightly smaller than that from other contexts.

The cores and core rejuvenation flakes

The incidence of the cores is sporadic with five examples coming from the primary fill (168) of pit 167. With the exceptions of a tabular, two platformed, bladelet core from a re-cut (context 155 upper fill) of ditch 153; and a rolled, very-small, two platformed micro-core from pit 200; the cores and core fragments are a variety of irregular examples. It is possible that these two examples may be of later Mesolithic date. The primary fill (context 125) of ditch 124 produced a very small (15mm length) micro platform removal of Mesolithic aspect.

The scrapers (Table 3)

The metrical traits of the small scraper assemblage is given in Table 3. It is however interesting to note that since 12 of the 16 examples come from the fill of pit 129 there is a fair degree of consistency in the scraper morphology. Eight of the scrapers from pit 129 have been manufactured on till flint, as have two small scrapers from different fillings of pit 243. Till flint was selected for the manufacture of 10 of the 16 scrapers. Most of the scrapers are large sub circular forms with lengths in the 36-40mm range and widths in the c.36mm range. Retouch is on various areas. Some examples such as a piece from pit 167 (context 169) have a sub-squared end retouch. Most tend to have fine parallel semi-abrupt to abrupt retouch in 60-70° degree range. A wide variety of butt preparation techniques is a feature of the scraper assemblage.

Table 3: Scraper characteristics

Scraper type	Number	Feature	Length (mm)	Width (mm)	Primary edge angle°	Butt type							
						P	B	F	D	L	S	BA	CF
End	2	Pit 129	36	26-33	55, 90	1					1		
End, square	1	Pit 167	34	41	65			1					
Extended end	1	Pit 243	22	19	60								1
End and side (RHS)	2	Pit 129	36-43	33-44	65, 75			1					1

Scraper type	Number	Feature	Length (mm)	Width (mm)	Primary edge angle°	Butt type							
Extended end and side (RHS)	1	Pit 129	39	34	80			1					
Side (RHS)	1	Pit 129	56	32	90		1						
Side (LHS)	2	Pit 129	37-44	21-36	65, 70					1			1
Double side	1	Pit 129	30	40	60							1	
Double side and end	2	Pit 129	42	37-39	70, 85	1			1				
Circular unclassifiable	1	Ditch 153	27	25	60-70					1			
Oval	1	Pit 243	25	21	55-70			1					
Unclassifiable, flake	1	Pit 129	22	18	70				1				
Totals	16					2	1	4	2	2	1	1	3

Butt Type:-

P= Plain, B= Bifacial, F= Faceted, D= Dihedral, L= Linear, S= Snap Fracture, CF= Core Face, BA= Battered.

Piercers, points and denticulates

Two possible piercers/points were recovered, one from the fill of pit 104 and one from pit 129. The pieces were manufactured on flakes and were rather crude examples and it is probable that they were not purposely manufactured. The upper fill (context 50) of ditch 49 produced a crude denticulate flake with seven denticulations. This piece is un-datable.

Use wear

Use wear is present on only 56 (15%) of the pieces. Those pieces exhibiting traces of edge use are predominately retouched. All the scrapers have been utilised. The scrapers tend to have been heavily used. An unusual feature of the assemblage is the presence of use wear on natural flakes. Three flakes came from gully 179 (context 180), one from pit 129 (context 130) and one from the primary fill (context 124) of ditch 124.

Pit 129

The assemblage from this pit exhibits some degree of selective use of raw material. Since pit 129 contains most of the scrapers it also contains proportionally more till flint.

Pit 200

The assemblage from this pit (74 pieces) is one of the larger of the Pocklington assemblages but does not contain any retouched or utilised elements.

Date

Despite the fact that the flint assemblage is an admixture, there are few datable pieces in the assemblage: although there is a marked degree of stylistic consistency in the debitage and it is probable that the bulk of the material is of a similar date. The un-retouched flakes are stylistically early to later Neolithic in date. With the exception of a hollow based, petit tranchet derivative arrowhead (Clark 1934, fig. 7, no 1) from the upper fill (context 130) of pit 129, most of the retouched pieces are not period diagnostic. This arrowhead is the most diagnostic implement in the assemblage, such pieces have predominately Durrington Walls-style Grooved Ware associations.

Most of the scrapers are consistent with specimens usually associated with later Neolithic Grooved Ware pottery of the Durrington Walls-style (Manby 1974, 82, fig. 7, nos 2-3). The fill of pit 243 produced two small (22-25mm long) circular scrapers of 'Beaker' aspect (Manby 1974, 82, fig. 7, nos 4-5). Local flint assemblages such as those from Caythorpe (near Bridlington) of later Neolithic and early Bronze Age date are known to include scrapers on which traces of butt preparation are a major typological trait (Makey 1996, 59).

The re-cut (context 155) of the upper fill of ditch 153 produced a single, residual, tabular core (Manby 1974, 82, fig. 7, no 6) that may be of later Mesolithic date (*ibid.*).

Raw material (Fig. 8)

Five remarkably localised raw material types have been defined for this report (Groups A-F). A provisional Group E was initially identified but during the course of finds analysis was found to be so close to Group D that it was not used as a category. It was not possible to source a small proportion (*c.*3%, Group G and F) of the struck material.

Basic group descriptions

Group A:

Source: site gravels (SE 798478) and Pocklington Beck.

Dark yellowish orange (Munsell 10YR 6/6) to light brown (Munsell 5YR 5/6) in colour. The colour is variable. Where present cortex is sharply defined and varies from light brown to light grey in colour. Cortex is often rolled and *c.*2-3mm thick. The flint is coarse grained and of matt lustre. Pieces are typically small, <5cm in diameter.

Group B:

Source: site gravels (SE 798478) and Pocklington Beck.

Yellowish grey (Munsell 5Y 8/1) to light olive grey (Munsell 5Y 6/1) in colour. Where present cortex limits are poorly defined. The cortex colour varies from light grey to greyish orange. The flint is medium too, coarse grained and has a slight tendency to be banded. Pieces are typically small, <5cm in diameter.

Group C:

Source: Site gravels (SE 798478) and Pocklington Beck.

Dark yellowish orange (Munsell 10YR 6/6), moderate brown (Munsell 5YR 4/4) to moderate reddish brown (Munsell 10R 4/6) in colour. Few pieces possess cortex. Where present cortex is poorly defined and varies from light brown to light grey in colour. Some pieces are partially coloured pinkish red/brown. The flint is very coarsely grained and of matt lustre. Possibly derived from group A, the flint might be almost be described as a chert. Pieces are typically 5-10cm in diameter.

Group D:

Source: Pocklington Beck.

Light olive grey (Munsell 5Y 5/2) to medium light grey (Munsell N0 6) in colour. Pieces are defined by marked banding. Granularity varies from fine to coarse although occasional chalky inclusions may be present. Where present cortex tends to be smooth, thin (<2mm in thickness) and white to light grey in colour. Pieces are of variable size and tend to be sub-angular in form. This material possibly derived from re-deposited till (Group F) material.

Group F:

Source: boulder clay till flint (East Coast).

Olive grey (Munsell 5Y 3/2) in colour. Very fine grained, often vitreous flint. Where present cortex limits tend to be very sharply defined. Cortex tends to be 2-3mm thick in section. The cortex colour varies from light grey to greyish orange or mid brown in colour.

Group G:

Pocklington Beck?

Unclassifiable, singular pieces that cannot be sourced and do not fit into groups A-D or F.

Table 4: Raw material usage

Artefact	Number	Raw material group					
		A	B	C	D	F (Till)	G ?
Debitage							
Cores	11	5		1		5	
Core rejuvenation flakes	2		2				
Chippings	56	5	49	1		1	
Chunks/lumps	40	14	21	2	1		2
Spalls	69	4	53			4	8
Flakes	148	40	91	6	5	5	1
Blades and bladelets	8	2	5			1	
Utilised							
Edge utilised flakes	3		2	1			
Edge utilised	1	1					

Artefact	Number	Raw material group					
		A	B	C	D	F (Till)	G ?
blades							
Edge utilised natural	5	3	1	1			
Retouched							
Miscellaneous ret chunks	1		1				
Miscellaneous ret flakes	6	1	2	1	2		
Edge retouched flakes	2		1	1			
Edge retouched natural	1	1					
Piercers/points	2		1		1		
Denticulate flakes	1		1				
Scrapers	16	1	3		2	10	
Arrowheads:- ptd G	1				1		
Totals	373	77	233	14	12	26	11
Natural	4993	1677	3198	113	5	-	-

Discussion

The very restricted range of retouched implements in the assemblage is of interest, as is the absence of primary knapping debitage, despite the fact that raw material can be obtained on site. It appears as that pre reduced cores were being worked in this area. The sporadic occurrence of the scrapers is of note since a large proportion came from the fill of pit 129. This feature probably had a different depositional sequence than the other features. The flint assemblage is multi-period although predominately consistent with Durrington Walls-style Grooved Ware. A large component of the assemblage is typical of the regional background scatter. A limited degree of knapping has occurred on the site. Raw material procurement is the most important aspect of the site. A possible pre-Devensian flinty till deposit has been identified. It is possible that future lithic sites may be discovered where this gravel is encountered.

Illustration catalogue

1. Arrowhead: hollowbase. Petit tranchet class G (Clark 1934). Pit 129: context 130. Olive grey. 2.5g.
2. Scraper: double side and end. Edge angle 70°. Pit 129: context 130. Dark olive grey. 20.9g.
3. Scraper: end and side (RHS). Edge angle 60-75°. Pit 129: context 130. Light olive grey. 11.7g.
4. Scraper: oval (small). Edge angle 55-70°. Pit 243: context 244. Olive grey. 4g.
5. Scraper: extended end (small). Edge angle 60°. Pit 243: context 245. Olive grey. 3.5g (mottled white patina).

6. Core: extended end (small). Two platformed. Pinkish red. 34.3g. (total white patina). Ditch 153: context 158 (upper fill), re-cut 155.
7. Core rejuvenation flake: Class A (Saville 1972-73). Pit 200: context 201. Rolled. Light olive flint, patinated and iron stained.

THE IRON AGE, ROMAN AND MEDIEVAL POTTERY

Peter Didsbury, with contributions by Kay Hartley, Felicity Wilde and Jane Young

Introduction and methodology

A total of 223 sherds, weighing 3351g and having an average sherd weight (ASW) of 15.0g, was recovered from the excavations. Material was quantified by both number and weight of sherds, according to fabric category within archaeological context. The data was entered onto an Access database, which, together with an assessment report, now constitutes the ceramic archive for the site.

The site assemblage: fabric distribution

The material submitted was principally of Roman date, with smaller amounts of Iron Age and medieval pottery. The relative incidence of wares within the whole site assemblage is presented in Table 5, below. Common names of Roman and medieval fabrics and wares are in accepted current use. Iron Age hand-made material has been given alphanumeric codes according to the type of temper employed: H1 (calcareous) and H2 (non-soluble stone). Vesicular material is designated H4.

Table 5: Proportional fabric distribution within the site assemblage

Fabric	% no sherds	% wt sherds	ASW (g)
	n = 223	n = 3351g	
Iron Age:			
H1	1.3	0.3	3.0
H2/H4	0.8	1.0	34.0
Roman:			
Dalesware/Dales-type	0.9	0.6	10.5
Colour-coated	0.9	0.1	1.0
Calcite-gritted	16.6	17.8	16.1
Greyware	42.6	44.2	15.6
Crambeck greyware	16.6	14.2	12.9
Crambeck greyware?	5.4	4.1	11.6
Mortaria	1.3	4.6	51.3
Oxidised	0.8	1.5	52.0
Samian	0.9	0.4	6.5
Medieval:			
Staxton	0.4	1.3	43.0
Staxton-type	0.9	0.7	25.0

Fabric	% no sherds	% wt sherds	ASW (g)
Unclassified	8.1	7.2	13.3
York Glazed	0.9	1.4	24.0
Uncertain/other:			
Fired clay	0.4	0.3	9.0
Unclassified	0.9	0.2	4.0
Totals	99.7	99.9	

Discussion: the context assemblages

Phase 2: Iron Age

Two features in pit group (260) have been assigned to this phase on pottery grounds. Fill 119 of pit 118 contained a single sherd of hand-made pottery from a calcareously tempered (H1) jar of probable Iron Age date.

Upper fill 142 of pit 141 produced three sherds of probable Iron Age pottery (H1), in addition to Middle Bronze Age material (Manby, above).

Overlying Group (260), to which the above features belong, was silty deposit 51, which contained two small sherds of Roman greyware. One of these, a small everted rim in a black-faced sandy redware might belong to a Dragonby-style barrel jar or similar (cf. Gregory 1996, 520). On both fabric and form grounds, the sherd would bear a later 2nd- or 3rd-century date.

Phase 3: Romano-British

Primary fill 182 of enclosure ditch 181 contained five joining sherds, giving the complete profile of a dog-bowl with short outbent rim and deep basal chamfer (Fig. 9, no 1). The vessel is in a sandy 'sandwich' fabric with dark surfaces. A decorated example of a similar form from Winterton Villa (Rigby and Stead 1976, no. 13) might suggest an Antonine date for this vessel.

Phase 4: Romano-British

Silty spread (2), which sealed the Romano-British features of group (161), yielded a large, chronologically mixed assemblage (78 sherds, 938g). This represents *c.*28% or 35% of the whole site assemblage, according to the measure of quantification adopted. All except seven of the sherds are of Romano-British date. The full chronological range of the Roman component is not entirely clear, though the great majority would seem to be of 4th century date, the latest diagnostic material being the Huntcliff jar (cf. Fig. 9, nos 2-4) a type which is now held to have come into production in the mid 350s AD (Evans 1996, 76). The remaining seven sherds are medieval, the only diagnostic material being Staxton/Potter Brompton ware, which has a *c.*13th to 14th century floruit. Discrete features in group (161) were only recognised in a series of sondages dug through the deposit.

In Sondage 1, only secondary fill 46 of gully 45 contained pottery. This was a small assemblage of six sherds (ASW 8.3g). A calcareously tempered jar (Fig. 9, no 5) is closely similar to earlier 4th-century vessels from the lower well deposit at Rudston Villa (Rigby 1980, no. 255 *et al.*), while a Dalesware or Dales-type jar rim could be contemporary. A *terminus post quem* in the period c.AD 300-350 would be the optimum for this deposit.

In Sondage 2, two features (both of them also represented in Sondage 3) produced pottery. Gully 175=147 gave a combined assemblage of 14 body sherds weighing 102g. It consisted of body sherds of Holme upon Spalding Moor greyware (hereafter HOSM) together with single sherds of Crambeck greyware and calcite-gritted ware, and a sherd of decorated 2nd-century East Gaulish samian (Wilde, below). Crambeck greyware was in production from c.AD 270/280, but was probably fairly localised until enjoying a wider distribution from the early 4th century onwards (Evans 1989, 79). The presence of Crambeck greyware and HOSM type fabrics in association suggests a 4th century date. Pit 120 also produced 12 sherds, from secondary fill 121. Once again, these consisted of greywares and Crambeck greyware. The latter included two examples of the Type 1 straight-sided flanged bowl (Corder 1937), a form made throughout the pottery's production period (Fig. 9, no 6).

In Sondage 3, pits 143 and 145 (fills 144 and 146 respectively) each yielded single sherds of Roman greyware, not chronologically diagnostic.

A number of features in group 232 produced small amounts of pottery. These were pits 96, 211 and 138 (fills 97, 212 and 140), which produced a combined total of six sherds (65g), all of them chronologically non-diagnostic greywares.

Ditch 56, which cuts various features of groups 161 and 232, produced pottery from primary, secondary and tertiary fills along its length (193, 70, 195, 174) and from gravel lens 196.

There is only a little evidence from primary fill 193, which contained two sherds (ASW 10.5g) of greyware, probably within the range of later 3rd- or 4th-century HOSM products. Tertiary fill 195 of this segment contained three sherds (ASW 68g), one of them a physical join to a sherd from the lower deposit. The vessel in question is a wide-mouthed bowl of later 3rd or 4th century type (Fig. 9, no 7). A flake of possible Crambeck greyware was also present. Secondary fill 70 contained six sherds of greyware (103g), possibly of mixed 2nd to 4th century date on fabric grounds. Other 'early' material is present in lens 196, the only sherd from which was a dish of probable late Antonine or Severan date (Fig. 9, no 8), cf. Rigby and Stead 1976, no. 127 from Winterton Villa. Finally, upper fill 174 contained six sherds (ASW 13.5 grams). The rim of a 'proto-Huntcliff' jar (Fig. 9, no 9) similar to some from the lower well deposit at Rudston Villa (e.g. Rigby 1980, no. 258), with sherds of Crambeck and HOSM greywares, indicate that this is at least an earlier 4th century group.

Re-cut 187 of enclosure ditch 181 had a small amount of calcareously tempered ware and greywares, the latter probably of 4th century date, in primary fill 185 (Fig. 9, no 10); secondary fill 188 of this re-cut contained Crambeck and other greywares, and a

mortarium possibly of 3rd century date (Hartley, below). The presence of Crambeck greyware suggests an early 4th century *terminus post quem* for the fill.

Truncated feature 205, at the interface between 187 and 56, produced a small assemblage of six sherds (62g) from fill 207. A sherd of vesicular pottery (H4) might be residual Iron Age, and some of the greyware is chronologically undiagnostic. A sherd from a flanged Crambeck greyware form, and a fragment from the rim edge of a Huntcliff or proto-Huntcliff jar, however, clearly indicate a 4th century component.

Ditch 153, re-cut as 155, produced small pottery assemblages. Primary fill 154 had single sherds of greyware and calcite-gritted ware, the fabric of the latter comparable to that of the diagnostic proto-Huntcliff and Huntcliff vessels from the site. In the re-cut, primary fill 156 also produced single sherds of greyware and calcite-gritted ware, while upper fill 158 contained single sherds of grey and oxidised ware. The latter was the very worn rim and flange of a hemispherical flanged bowl (imitation form 38) in a rather laminated pinkish fabric (Fig. 9, no 11). A date from the mid 3rd century onwards seems most likely.

Phase 5: Medieval

Secondary fill 253 of pit 252, group (260), contained a single sherd of medieval pottery (Young, below). Not illustrated.

Sherds of medieval pottery were recovered from three different furrow fills. York Glazed ware of the late 12th to mid 13th century was recognized in 9; 13th- or 14th-century Staxton Ware in 33 (Fig. 9, no. 13) and a jug sherd probably of similar date in 39. Furrow fill 163 contained a sherd of residual Roman greyware.

Plough furrow 303, produced two joining freshly fractured sherds of a medieval dripping pan (Fig. 9, no. 14).

Unstratified

The topsoil (1) contained six sherds of Roman and medieval pottery. The Roman material included a gritty greyware fabric of a type associated with Dales-type jars in the region, while the medieval component included a strap handle from a York Glazed ware jug, and sherds of probable 14th-to-16th-century Humberware.

Topsoil 301, to the south-west of the treatment works, contained a single small sherd of sandy oxidised ware, probably of medieval date.

The samian ware

Felicity Wilde

The site produced two sherds of samian ware (not illustrated).

From silt layer 2 below the topsoil came a small fragment with part of a bead rim, probably a dish rather than a bowl, Central Gaulish. Badly abraded, with all trace of

surface slip missing except along the edge of the bead. The mica in the fabric suggests origin at Lezoux. Hadrianic or Antonine.

From fill 176 of gully 175 came the decorated sherd described below. Types and details are quoted from Ricken and Fischer 1963 (RF).

Form 37, East Gaulish, showing a lion (RF T19), hind (RF T78) and large seven-dot rosette (RF O42) beneath a horizontal row of large beads part-way down the decoration. In the absence of an ovolo, it is impossible to be certain of its origins. The animal types were first used at La Madeleine and occur at the Saalburg on bowls attributed to Ricken's earliest group, with his ovolo A (Ricken 1934, Taf. 7, 116 for the hind; Taf. 8, 13 for the lion, zonal decoration with beaded borders and a seven-dot rosette). However, the rosette used on bowls in this style (Ricken 1934, Taf. 7, 1) is smaller than RF O42. Ricken and Fischer record O42 as occurring at La Madeleine with a different ovolo (e.g. Ricken 1934, Taf. 11, 7) in a style showing connections with the work of Ianus at Heiligenberg. It is possible that Ianus may have started his career at La Madeleine before moving to Heiligenberg. Both the animal types were used, in a slightly reduced form, with RF O42 both on Ianus-ware from Heiligenberg and by Ianus I at Rheinzabern. It is impossible to tell from the present sherd whether or not the types are reduced, though this seems unlikely in the case of the hind. A mould in Ianus style from Heiligenberg (Kern 1986, 227, fig. 1, 3) shows the hind, with rosette RF O42 at the ends of the vertical borders. A bowl in Ianus I style from Rheinzabern (Ricken 1948, Taf. 8, 4) shows the hind with RF O42 in the field and a large-beaded vertical border. The parallels from La Madeleine possibly appear slightly closer than those from Rheinzabern, but the piece clearly has connections with Ianus at some point in his career. The potteries at La Madeleine were in production c.AD 130-160: the work of Ianus I at Rheinzabern can be dated c.AD 160-180. The piece must fall somewhere within these limits (176).

The mortaria

Kay Hartley

Two mortaria were found, described below.

Secondary fill 194 of ditch 192 (Fig. 9, no.15):

90g. Rim diameter 250mm. 17%. A mortarium in hard, self-coloured, fairly fine-textured, cream fabric with abundant, minute and tiny inclusions (mostly quartz and red-brown material with rare black ?slag. The trituration grit consists entirely of fairly well-sorted, medium-sized black slag, well-distributed and ending about 1.5cm below the bead. This is an excellent example of Corder type 6 with two grooves (Corder 1937, fig. 3) with trituration grit in very fresh condition; made at the Crambeck potteries in the 4th century. Type 6 was perhaps the commonest mortarium form made there.

Secondary fill 188 of recut 187 of ditch 181 (Fig. 9, no. 16):

65g. Rim diameter 220mm. 17%. Two joining fragments of a mortarium, burnt entirely to black except for patches on the outside surface of the rim which are

indicative of its original red-brown colour. Fortunately this very neat little rim form is sufficiently typical to attribute it to a workshop of unknown location in the Malton-York area, perhaps south of Malton. These mortaria cannot be dated precisely, but the evidence to date suggests activity in the 3rd century. For further details see Monaghan 1997, fig. 374, no. 3404 and p. 939; also Wenham and Heywood 1997, 80, no. 156.

A sherd of grit-tempered medieval pottery

Jane Young

The small rim sherd submitted for examination was examined at x20 magnification. The sherd is mainly reduced with slight flashes of oxidation on the surface. The brokenness of the sherd makes it impossible to be sure if the vessel is handmade or wheelthrown, although the rim line is uneven. The coarse sand temper comprises mixed grains of quartz including Millstone Grit >1mm. Fabrics similar to this are used for a variety of ware types in Yorkshire including handmade Anglian Quartz-tempered wares (Mainman 1993, 567-8), Anglo-Scandinavian handmade wares (Mainman 1990, 396-400) and late 11th-to-12th-century Yorkshire Gritty ware (Mainman 1990, 484-486). The rim type of the submitted sherd cannot be paralleled with any of the handmade wares but does have a similar square profile to that of the most common Yorkshire Gritty ware jar form (Mainman 1993, fig 252. 2561). Yorkshire Gritty ware, however, usually has an oxidised fabric with colours in the white, buff or pink/light orange range, whereas the handmade wares have a reduced fabric similar to that of the Pocklington sherd. The sherd therefore has attributes of both the handmade and Gritty ware types.

The sherd was shown to Alan Vince who favoured (pers. comm.) its identification as a Yorkshire Gritty ware jar rim of late 11th to 12th century date; identification as a possible handmade sherd cannot, however, entirely be ruled out.

Conclusions

The Roman assemblages are principally of low average sherd weight and limited evidential value. There is nothing to suggest that they derive from anything other than a typical rural settlement of the period.

Occasional body sherds of handmade pottery suggest Iron Age activity on the site. The majority of the material, however, is Romano-British, with a chronological range from the 2nd century through to the late 4th or early 5th. It will be evident from the above that the majority of features containing diagnostic pottery suggest the first half of the 4th century as the main period of deposition, though the contents of silt layer 2 show that ceramic deposition on the site continued past the middle of the 4th century.

Illustration catalogue

1. Bowl with short outbent rim and deep basal chamfer. Greyware. Fine sandy fabric, dark grey exterior. Phase 3, context 182.
2. Wide-mouthed bowl. Greyware. Hard, dense, pinkish grey fabric with dark grey surfaces. Phase 4, context 2.

3. Lipped dish/bowl. Greyware. Hard, dense, dark grey fabric. Phase 4, context 2.
4. Huntcliff jar. Shallow lid-seating groove. Ill-sorted chalk and calcite, moderately abundant, to c.5mm. Phase 4, context 2.
5. Necked jar. Very worn. Abundant ill-sorted calcite and chalk to c.5mm. dark grey with thick reddish core margins. Phase 4, context 46.
6. Straight-sided flanged bowl. Crambeck greyware. Type 1. Phase 4, context 121.
7. Wide-mouthed bowl. Dense sandy greyware with worn dark grey surfaces and pinkish core margins. Phase 4, context 195.
8. Dish with externally thickened rim and curved wall. Sandy greyware with thick pale margins. Phase 4, context 196.
9. 'Proto-Huntcliff' jar. Abundant calcareous temper, mainly below 4mm. Phase 4, context 174.
10. Wide-mouthed bowl. Worn, pale grey HOSM-type greyware. Phase 4, context 185.
11. Hemispherical flanged bowl. Soft, worn, laminated pinkish fabric. Phase 4, context 158.
12. Huntcliff jar. Double lid-seating groove. Fabric as no. 4. Phase 4, context 49.
13. Jar. Staxton/Potter Brompton Ware. Soft grey sandy ware with light reddish-brown surfaces. Phase 5, context 33.
14. Two joining sherds from a medieval dripping pan with pulled spout. Coarse, sandy orange fabric, with partial olive green glaze on interior. Light but extensive sooting on the exterior. Area 2, context 303.
15. Crambeck Type 6 mortarium. See Hartley, above. Phase 4, context 194.
16. Mortarium. See Hartley, above. Phase 4, context 188.

THE HUMAN SKELETAL REMAINS

Charlotte Russell

Introduction

The bones presented for examination and analysis were excavated in 2004, in advance of groundworks at the sewage treatment plant at Pocklington near York, North

Yorkshire. A total of four contexts containing human bone were recovered; two extended supine burials (sk40 and sk64) and two crouched (sk172 and sk208). These were also examined by CKR *in situ* during the excavation process.

Preservation

Of the four skeletons examined Sk40 was the least complete (appx 25%), having lost most of the skull and upper torso prior to excavation (probably by ploughing activity in the area), and much of the lower body – femur to feet – to recent machine cleaning of the site. Some of the machined-out bone was subsequently recovered, but all bone from this context was in a highly fragmentary condition. Sk64 was appx 50% complete, although fragmentary. The skull vault and one tooth were recovered from this context (it is supposed that the remainder of the face and jaw was removed by ploughing). Sk172 was recovered >50% complete but fragmentary, and Sk208 was the most complete (albeit fragmentary) skeleton recovered at appx 75%. Dental remains and fragmentary crania were recovered from these latter two contexts.

Additionally, all skeletons were extremely fragile, although bone preservation in itself was reasonably good at grades 0-1 (Brickley & McKinley 2004: 16), and most elements recovered fragmented further upon lifting and washing. Unfortunately, the epiphysial ends (and therefore joint surfaces) of most long bones were not recovered intact, and the bones of the torso (pelvis, vertebrae, ribs) of all contexts were in very poor condition.

Methods

Methods used follow standards laid out in Brickley & McKinley (2004). Additionally, sexing and ageing estimates employed standard techniques as described by Bass (1995), Brothwell (1981), Krogman (1962) and White (2000). Supra-gingival calculus and alveolar resorption were scored according to Brothwell (1981). Stature was calculated using formulae provided by Trotter & Glesser (1970). Metric and non-metric variation was assessed following Brickley & McKinley (2004).

Sex

Sk40 – The greater sciatic notch of the pelvis and the overall gracile nature of the bones present suggest a probable female. No cranial remains were available.

Sk64 – The long bones were large and robust, with prominent muscle attachments, indicative of a probable male. A prominent nuchal crest and mastoid processes also suggest male. No pelvic remains survived for sex assessment.

Sk172 – Cranial features (mastoid processes, supraorbital ridges and the orbital margin) suggest a male individual, as do a relatively robust mandible and large teeth.

Sk208 – The greater sciatic notch and presence of a pre-auricular sulcus along with relatively gracile bones suggest this is a female individual. The pre-auricular sulcus in this case was extreme, measuring appx 22mm in length, 6.5mm greatest width and 3.5mm deep. Cranially, very slight supra-orbital ridges support this assessment.

Age at death

The fragmentary nature of the remains means that age assessments provided here rely largely on molar attrition, employing ranges given for Neolithic to Medieval British populations by Brothwell (1981: 72).

Sk40 – epiphysial fusion of the femur heads was complete, and the nature of the cortical bone suggests an older adult individual – probably the oldest of the four skeletons. Unfortunately no more precise estimate can be given due to the lack of diagnostic elements (teeth, pubic symphysis etc) available for analysis.

Sk64 – no epiphyses were available for analysis, but the fusion of the cranial sutures suggests an adult individual, and attrition of the single molar recovered suggests an age range of 35-45 years.

Sk172 – this individual possessed a full set of 32 teeth, and the 3rd molars were fully erupted. The epiphysial union of observable long bones indicated developmental completeness, and molar attrition suggests an age estimate of 25-35 years.

Sk208 – both right side 3rd molars were fully erupted, indicating a minimum age of appx 21 years, and molar attrition suggests an age range of 17-25 years.

Metric data

Due to the fragmentary nature of the remains, no craniometric measurements could be taken for any of the skeletons. Postcranially, a small number of measurements could be taken (some *in situ*) and these have been used to produce the stature estimations and platymeric and platycnemic indices below.

Stature

Stature was calculated where possible, using *in situ* measurements of bones taken by CKR, as no post excavation measurements could be taken due to fragmentation of the bones. Estimated heights are within the normal range for the period.

Table 6: Stature

Skeleton	Sex	Bone used	Stature estimate (cm)	Stature estimate (in)
40	F	-	-	-
64	M	Femur (left)	167.32 (+/- 3.27)	Appx. 5 ft 6 in
172	M	Femur (right)	164.94 (+/- 3.27)	Appx. 5 ft 5 in
208	F	Humerus (left)	160.45 (+/- 4.45)	Appx. 5 ft 3 in

Platymeria and platycnemia

The proximal (upper) part of the femur and tibia shaft sometimes show differences in shape between populations, and this shape is recorded using the antero-posterior and transverse diameters of the shaft, which are used to generate an index (the platymeric for the femur, the platycnemic for the tibia) giving the degree of flattening of the shaft (antero-posterior in the femur, transverse in the tibia).

A low platymeric index has variously been thought to suggest a mechanical adaptation to supporting body weight (Townesley 1946 in Brothwell 1981) sometimes associated with pathological conditions such as osteoarthritis and osteoporosis, strain on the femur during childhood and adolescence (Cameron 1934 in Brothwell 1981) or

a shortage of bone material due to calcium or vitamin deficiency (Buxton 1938 in Brothwell 1981).

Table 7: Platymeria

Skeleton	Femur side? (left or right)	Index
40	left	88 = eurymeric = moderate
64	Left	91.6 = eurymeric = moderate
172	Left	80.7 = platymeric = flattened
208	Left	74.8 = platymeric = flattened

Table 8: Platynemia

Skeleton	Tibia side? (left or right)	Index
40	-	-
64	Left	75.4 = eurycnemic = broad
172	Right	64.9 = mesocnemic = moderate
208	Left	65.9 = mesocnemic = moderate

Non-metric data

Cranially, Sk64 displayed a retained metopic suture (the suture that divides the frontal bone in childhood is not obliterated, but remains into adulthood) and wormian bones along the lambdoid suture (left side n=3, right side unobservable). The percentage frequencies of retained metopic suture and lambdoidal wormian bones in Iron Age Romano-British populations are 9.91% and 71.03% respectively.

Sk172 displayed a very pronounced lingual tuberculum (swollen into a separate 'cusplet') in both upper canines (Hillson 1996) and a 'double' supra-orbital notch.

The roots of each of the molars of Sk208 were fused.

No postcranial non-metric data were observed in any of the skeletons.

Pathological conditions

Trauma

A single instance of trauma was observed in the bones examined. Sk172 displayed an oblique fracture of the left fibula at about mid-shaft. This was well healed, apparently with minimal shortening, although it was impossible to compare the length of this fibula with that of the right side due to fragmentation and damage of these bones. There was no sign of infection of the fibula.

Infection

One instance of infection was observed in the bones examined. Sk172 had suffered from an episode of periostitis (inflammation) affecting the left tibia. This formed a patch of new bone appx 90.5mm long and 15mm wide on the medial surface of the bone at about mid-shaft. This may have been related in some way to the fractured fibula also suffered by this individual, however the periostitis occurred on the medial side of the bone, while the interosseous surface, opposite the fibula, was unaffected, so any relationship which may exist between the two is unclear.

Joint disease

Sk172 was also the only skeleton to display evidence of joint disease, where slight osteophytosis (bony lipping) was observed affecting the distal joint surfaces of two unisided intermediate hand phalanges.

Dental disease

All the individuals with surviving dental remains displayed pathology to some degree.

Sk64 – Moderate lingual sub-gingival calculus on RM₂ (the only tooth recovered).

Sk172 – Slight to moderate sub- and supra- gingival calculus on most teeth, slight alveolar resorbtion visible in surviving sockets, and one serious caries (appx 6.7mm wide and 5.5mm high) on the buccal (cheek side) crown surface of RM₃.

Sk208 – Slight to moderate supra-gingival calculus on most teeth, slight alveolar resorbtion (2-3mm) in observable sockets, and one small caries (appx 1.5mm round) on the occlusal surface of LM₃.

Summary

These bones represent the remains of four adult individuals, probably two males and two females. Sex and age assessments have been provided, however the generally fragmentary and incomplete nature of the remains means these could not be as comprehensive or precise as would be desirable.

There is evidence of infection, trauma and joint disease only within one individual. This is likely to reflect the poor preservation of the bones, rather than being indicative of good health in the remaining individuals. All dental remains display some form of dental pathology, reflecting the generally poorer oral health of past populations.

In conclusion, no further osteological work needs to be undertaken on this collection, however the provision of secure dates for these burials would enable the relatively isolated data presented here to be included in studies of larger combined samples.

Table 9: Summary of results

Sk No.	40	64	172	208
Sex	Probable Female	Probable Male	Male	Female
Age	Adult	35-45	25-35	17-25
Stature	-	Appx 5' 6"	Appx. 5' 5"	Appx. 5' 3"
Platymeria	Moderate	Moderate	Flattened	Flattened
Platycnemia	-	Broad	Moderate	Moderate
Non-metrics	-	Metopic suture Wormian bones	Canine lingual tuberculum Double supra-orbital notch	Roots of molars fused
Pathology	-	-	Fibula fracture Tibial periostitis Osteophytosis of finger bones	-
Dental pathology	-	Moderate calculus	Slight to moderate calculus Slight alveolar resorbtion One buccal crown caries	Slight to moderate calculus Slight alveolar resorbtion One occlusal crown caries

Catalogue

Abbreviations used:

LBS long bone shaft
EE epiphysial end
JS joint surface

Dental recording:

1, 2, 3 etc permanent tooth & jaw present
- area / tooth missing
~~1, 2, 3~~ etc tooth present, jaw missing
c caries

Sk40

Right Leg: Large fragment femur head and neck (damaged). Large fragment femur shaft.

Left Leg: Fragment femur head and proximal shaft (damaged) ?Portion distal tibia

Right Arm: Nearly complete shafts of ulna and radius (in fragments) minus epiphysial ends.

Left Arm: Near complete humerus shaft including partial distal end. Ulna including some distal end and radius (no epiphysial ends).

Torso: Partial ascetabulum (L&R) (L&R). Numerous rib fragments and a few very small vertebral fragments. Many unidentifiable small fragments.

Small portion fibula & tibia shafts. Numerous unidentifiable long bone shaft fragments.

One complete and two partial (with distal joint surfaces) proximal hand phalanges.

Nine metacarpal shaft fragments.

Three very small skull fragments.

Sk64

Right leg: Large section femur, minus epiphysial areas and small portion head. Large fragment tibia shaft and many smaller fragments of same.

Left leg: Large section femur, minus epiphysial areas and small portion head. Large fragment tibia shaft and many medium and smaller fragments of same. Three medium fragments of fibula (no EEs).

Right arm: Large fragments comprising almost complete shafts of humerus, radius and ulna (no EEs).

Left Arm: Large fragments comprising almost complete shafts of humerus, radius and ulna (no EEs), and smaller fragments of the same. One metacarpal shaft.

Right and Left clavicles: minus medial and lateral ends.

Numerous small rib fragments and unsided patella fragments. Numerous very small fragments of pelvis including small portion ascetabulum. Fragments of left and right scapulae (acromion process) and many very small fragments.

Five fragments of proximal hand phalanges, three with distal JSs. Shaft fragments of four metacarpals. Few smaller fragments hand bones.

fragment unsided cuboid, very damaged.

Skull (almost complete vault in large and smaller fragments) and mandible fragments.

One tooth (lower right second molar).

Sk172

Right leg: Complete patella. Neck and partial head of femur, and large shaft fragment. Portion tibia shaft and partial distal end. Fragments of fibula shaft. Partial calcaneus. Partial ?cuboid. Numerous small unidentifiable fragments LBS.

Right foot, including partial calcaneus, talus, navicular, 1st and 3rd cunifform, four fragments metatarsals (including one distal and two proximal ends) and three fragments of foot phalanges.

Left leg: Most of femur shaft (no proximal or distal ends). Partial tibia shaft, including fragment distal end. Fibula shaft (including small fragments distal and proximal ends). Numerous small unidentifiable fragments LBS.

Left foot, including navicular, 1st, 2nd and 3rd cunifform, fragments talus, fragments of six metatarsals and four proximal foot phalanges (including one with proximal and distal ends).

Skull: Large fragments of frontal, temporal, occipital and parietal bones, and many small fragments of the same.

Torso: Many small and very small fragments of torso. Some medium fragments of pelvis, ribs, scapulae and unsided humerus head fragment.

Left arm: Section distal end humerus shaft (no EE), fragment humerus head, distal end radius. Left ulna complete (fragmentary) minus distal end. Several small unidentifiable fragments.

Right arm: Partial distal humerus shaft including partial distal end and fragments head. Proximal end and shaft of ulna. Fragments of radius shaft, proximal head. Fragments scapula.

Hand bones: Whole or fragments of nine distal hand phalanges, eight intermediate hand phalanges, one proximal hand phalanx and five metacarpals. R&L trapezoid, R& fragment L capitate, R&L scaphoid, L lunate, L&R hamate, fragment triquetral, fragment pisiform.

Maxilla	Right	8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8	Left
Mandible		8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8	
		c	

Sk208

Right leg: Two large fragments femur shaft and small fragment head. One large fragment tibia mid shaft. Fibula shaft (fragments x 2) minus EEs. Numerous small fragments of Femur, tibia and fibula.

Left Leg: Femur shaft complete in two fragments, including head (damaged). No distal end. Tibia shaft almost complete, no distal or proximal end. Fibula shaft almost complete, no distal or proximal ends. Fragments of patella and many small unidentifiable LBS fragments.

Torso: Several large and many smaller fragments of pelvis. Several large fragments ribs and many small unidentifiable torso fragments.

Right arm: Humerus and radius shafts in two fragments each, including fragments of distal humerus and distal radius. Fragment scapula.

Left arm: Humerus, ulna and radius shafts complete, each in two large fragments. Small fragment humerus head, fragment proximal radius, fragment scapula. No other EEs. Many small unidentifiable fragments.

Hand bones: R&L lunate and one other fragment unidentifiable carpal bone, Two metacarpals (including proximal joint surfaces), Three proximal hand phalanges (including distal joint surfaces), three intermediate hand phalanges (including proximal and distal joint surfaces) .

Foot bones: Fragments of seven metatarsals (including one partial proximal JS), fragments of nine proximal foot phalanges including seven distal JSs and three proximal JSs), six very small foot bones – four may be intermediate foot phalanges, and two may be sesamoid bones. One unidentifiable tarsal bone, and numerous small fragments.

Skull: Almost complete skull, but very fragmentary, including partial mandible and maxilla. Three unsided auditory ossicles.

Maxilla	Right	8 7 6 5 4 3 2 1 1 2 3 4 5 - - 8	Left
Mandible		8 7 6 5 4 3 - 1 1 2 3 4 5 6 7 8	

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THE BIOLOGICAL REMAINS

John Carrott and Deborah Jaques

Introduction

Thirty-six bulk sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) and small quantities of hand-collected shell and bone were recovered from the encountered deposits. The samples and hand-collected remains were submitted to Palaeoecology Research Services Limited (PRS), County Durham, for evaluation of their bioarchaeological potential; reported as Mant 2005 and Mant *et al.* 2005. It was determined that a small amount of additional study of the snail assemblages from 24 of the deposits would be worthwhile to allow some more detailed environmental reconstruction, but no further work on the other classes of biological remains present was warranted. This report presents the results of these investigations, with a restatement of the data for material not considered further given below.

Methods

The sediment subsamples were processed by NAA prior to delivery to PRS, and the unsorted dried 'flots' (hereafter termed washovers) and biological remains recovered from the residues submitted for evaluation. The weights and volumes of the subsamples were recorded before being placed onto 500 micron nylon mesh in a sieving tank. The light organic fraction was washed over into a 500 micron sieve to collect the washovers. Both the washover and residue fractions of the processed subsamples were dried.

For the main phase of recording the snails from 24 washovers, obtained from processing of all of the available sediment from each deposit, were recorded. All of the snails were identified as closely as possible (with reference to Ellis 1969, Cameron and Redfern 1976, Kerney and Cameron 1979, Cameron 2003) and counts made of minimum numbers of individuals present. Minimum numbers were determined by numbers of shell apices. Nomenclature for mollusc taxa follows Kerney (1999).

The abundance of unidentified snail fragments present was recorded semi-quantitatively on a four-point scale: f – few (up to 3 individuals); s – some (4 to 20 individuals); m – many (21-50 individuals); v – very many (more than 50 individuals). The same scale was used to record estimated numbers of *Cecilioides acicula*.

Small quantities of shell were sorted from the residues by NAA; the residues were also scanned by PRS but no additional interpretatively useful remains were found.

It was observed during the evaluation that definite species level identifications were often prevented by encrusted sediment obscuring diagnostic features (e.g. in the mouth of the shell) and this was also true of the remains from the analysis samples. This was particularly true of the *Carychium* and *Vertigo* species. Brief notes were made of other invertebrate remains where present.

Results

Summary information regarding the general nature of the washovers is presented as Table 10. A checklist of the identified mollusc taxa is given as Table 11. Details of the assemblages recovered from the washovers are presented in Table 12, and Table 13 summarises these records by date. Table 14 lists the remains recorded from the residues.

The shells were, on the whole, only moderately well preserved, being both eroded and often fragmented, and almost all of the washovers contained appreciable numbers of unidentified fragments. In general, the smaller and relatively more robust shells (e.g. of *Carychium* and *Vallonia* species) were more complete whereas those of larger forms (e.g. *Discus rotundatus*, clausilids and *Trichia hispida*) were most often broken. Some bias in favour of the smaller species, and those larger forms for which small fragments are most easily identified (e.g. *D. rotundatus*) was, therefore, unavoidable.

Shell recovered from the residues was mostly unidentified fragments or of catholic land snail taxa. The exceptions to this were the three *Helicella itala* from the residue of the sample from Context 125. There were occasional fragments of unidentified marine shell but these were too few to provide information for interpretation.

Similarly, the hand-collected land snail remains provided no data for environmental reconstruction; all being fragments of catholic taxa (*Cepaea/Arianta* sp.). The only other hand-collected shell was a single oyster valve recovered from Context 02, of no interpretative value in isolation (see Appendix).

Remains of invertebrates other than molluscs were observed in almost all of the washovers. In the main, these were of adult beetles (Coleoptera), larval beetle cases, and earthworm (Oligochaeta) egg capsules. Some of the remains were of near complete individuals and certainly modern contaminants. Almost all of the examined deposits also gave remains of the snail *Cecilioides acicula*, sometimes in very large numbers. Many, if not all, of the remains of this species are likely to be intrusive, as *C. acicula* will burrow to depths of two metres. For this reason it has not been considered in the interpretation of site environment.

Discussion

Twenty-four deposits were included in the analysis of the snail assemblages, six of these (Contexts 117, 174, 176, 182, 245 and 249) had previously been examined in some detail for the evaluation, whereas the remainder had only been scanned. Five of the deposits which were assessed in detail and seven of those scanned gave very few (or no) interpretatively valuable mollusc remains and were not included in the further analysis (Contexts 89, 113, 121, 165 and 168, and Contexts 48, 119, 142, 156, 157, 158 and 185, respectively).

All of the deposits included in the analysis contained some intrusive modern contaminant remains (modern rootlets, *Cecilioides acicula*), but all bar one (Context 137 – an unphased fill of Pit 136) of the analysis subsamples examined also gave some other snails likely to be contemporary with the formation of the deposits. At the time of writing, seven of the analysis deposits (Contexts 107, 116, 117, 134, 135, 137 and 180) remained unphased and undated, five (Contexts 130, 169, 201, 245 and 249) were late Neolithic, one (Context 182) was early Romano-British, 2nd century and eleven (Contexts 70, 85, 125, 126, 140, 148, 154, 174, 176, 178 and 188) were Romano-British, though particular deposits may be more tightly dated, e.g. Context 174 – early 4th century.

Late Neolithic

Identified mollusc remains from the single Neolithic deposit examined for the evaluation (Context 168) were too few for interpretation but, given their early date, three further deposits of this period (Contexts 130, 169 and 201), all pit fills, were included in the analysis.

Contexts 169 and 201 were fills of two adjacent pits, the secondary fill of circular Pit 167 and the fill of Pit 200, respectively, located towards the centre of the excavation area. Each gave small assemblages of land snails of a similar mixed character. Most of the remains were of dry, open, lightly vegetated places, such as short-turfed calcareous grassland (*Vertigo pygmaea*, *Vallonia excentrica*), probably with areas of exposed rock (*Pupilla muscorum*). Both also contained a few remains of species indicative of damper more sheltered conditions (*Cochlicopa* sp. and to a lesser degree *Trichia ?hispidia*) and perhaps hedgerow or woodland (*Discus rotundatus*, and possibly the clausilid from Context 169), however (although these species could also be exploiting moist crevices in rocks or walls). Context 130, the upper fill of small circular Pit 129 (located approximately 30 metres north of Pits 167 and 200), gave only a very few remains, other than *Cecilioides acicula*, which were of no interpretative value.

Two deposits initially thought to be of Bronze Age date were evaluated (the evaluation identified a grain of barley from Context 249 for radiocarbon dating and there was some rather less suitable oak charcoal from Context 245 but these were not submitted – perhaps because of the doubts over the integrity of the fills). The deposits, Contexts 245 and 249 (the upper fills of Pits 243 and 246, respectively, and both within Pit Group 260 located just to the north of Pits 167 and 200) each gave small assemblages of snails and, for the analysis, all of the remaining sediment from the

samples was processed. The snail assemblages recovered from the evaluation and analysis subsamples from each deposit contained taxa (*Vallonia* species, *Vertigo pygmaea*) indicative of dry, open, lightly vegetated places (e.g. short-turfed calcareous grassland), and the analysis samples also included a few *Pupilla muscorum*, perhaps indicating some areas of exposed rock. There were also some species of damper, perhaps even wet, habitats (*Carychium* species, *Cochlicopa ?lubricella*, *Trichia ?hispida*) – *Carychium ?minimum*, though classed as a terrestrial form, is virtually amphibious, living in such places as fens, marshes and water meadows; it can survive prolonged periods of winter flooding. At least two freshwater snails (*Bithynia ?leachii* (Sheppard)) were tentatively identified from the evaluation subsample from Context 245 and there were at least three *Lymnaea truncatula* recovered during the analysis of Context 249. *Lymnaea truncatula*, the dwarf pond snail, is a species which inhabits marshy grassland, shallow ephemeral ponds and the like, and lives mostly out of water (it can also be of some economic importance as it is the intermediate host of the sheep liver-fluke, *Fasciola hepatica*). Overall, it would appear that Pits 243 and 245 held, or received (perhaps via flood or the disposal of waste), an input of water, though this was probably only temporary, at the time of the deposition of their upper fills. Unfortunately, the number of individuals recovered remained very small and, as previously stated in the evaluation results, the likelihood of one interpretation as opposed to the other was unclear.

Early Romano-British (2nd century)

No deposits attributed to this phase were examined for the evaluation and only a single context (Context 182, primary fill of Ditch 181) was included in the analysis.

The analysis sample from this deposit gave a snail assemblage of mixed character, mostly of terrestrial forms but including a small number of aquatic taxa (*Pisidium* sp., *Lymnaea truncatula*, *Anisus leucostoma/vortex*). The presence of *Lymnaea truncatula*, accords well with the occurrence in this deposit of 14 of the 19 *Carychium ?minimum* recorded from the site. Taken together, these snails suggest that Ditch 181 intermittently held standing water at the time of the formation of this primary fill. Furthermore, there is a strong implication that the records of *Anisus leucostoma/vortex* must be *A. leucostoma*, as *A. vortex* is a species of well-oxygenated, slow-moving water with plenty of weed growth and is never found in places subject to desiccation, whereas *A. leucostoma* is typical of swampy pools and ditches, especially those subject to drying up in the summer, and commonly associated with *Lymnaea truncatula* and other drought resistant species.

Small numbers of other terrestrial snails suggested some damp areas (*Carychium tridentatum*, *Vitrea crystallina*), presumably around the margins of the water when present or within vegetation in the more sheltered environment of the ditch. However, most of the land snail fauna again indicated a dry, open, lightly vegetated environment, such as short-turfed calcareous grassland (*Vertigo pygmaea*, *Vallonia excentrica*, *Helicella itala*), probably with areas of exposed rock (*Pupilla muscorum*). This component of the assemblage reflects the wider landscape surrounding Ditch 181 at this time.

Romano-British

Five of the processed sample fractions examined in more detail for the evaluation were from deposits of Romano-British date, one of these being Context 182 (see above). Two other ditch fills (Contexts 174 and 176) gave slightly larger and more diverse snail assemblages than those from the deposits of earlier date, both of similar character. The two other deposits, Contexts 89 and 121, were both pit fills and gave few snail remains other than of *Cecilioides acicula*.

For the analysis, samples from 11 pit and ditch fill deposits (Contexts 70, 85, 125, 126, 140, 148, 154, 174, 176, 178 and 188 – additional sediment from Contexts 174 and 176) were processed. Suites of snails very similar to those representing the dry, open, lightly vegetated habitats recorded from earlier phases were again present (composed largely of *Vallonia* species, *Vertigo pygmaea* and *Pupilla muscorum*). It would seem that this continued to be the predominant environment of the area but there were some local variations evident. Contexts 125 and 126, the primary and upper fills, respectively, of Ditch 124 each yielded significant numbers of *Punctum pygmaeum*. This species was not recorded from any other deposits but 30 individuals were recorded from Context 125 and there were 110 from Context 126. *Punctum pygmaeum* is a generally catholic species but avoids the very exposed habitats favoured by *Pupilla muscorum* (though small numbers of this species were nevertheless present in each assemblage) and is particularly characteristic of leaf litter in deciduous woods. Sixteen of the 25 *Vitrea crystallina* recorded from the site were also from these two deposits (seven of the remainder were also from deposits of this period); this is another fairly catholic species but one which again avoids dry, exposed areas inhabiting all kinds of moist, sheltered places, including woods. Together, the concentrations of these two species within the fills of Ditch 124 suggest that this feature was located within the prevalent open landscape but close to the edge of an area of deciduous woodland.

There were traces of other taxa perhaps indicating denser vegetative cover (e.g. woodland, hedgerow) from four other deposits of this period, but only ever in the form of single individuals of *Discus rotundatus* (Contexts 154 and 174, the primary and upper fills of Ditches 153 and 173, respectively) or an unidentified clausilid (Contexts 140 and 148, upper fills of Pit 138 and Ditch 147, respectively).

Generally damper, more sheltered, conditions within the cut features (perhaps in part provided by, for example, longer grass growth) were indicated by small numbers of *Carychium* and *Cochlicopa* species in some of the ditch and pit fills: Contexts 140 (upper fill of Pit 138), 148 (upper fill of Ditch 147), 154, 174, 176 (upper fill of Ditch 175), 178 (upper fill of Pit 177) and 188 (secondary fill of re-cut of Ditch 181). This impression was reinforced for Contexts 140, 174 and 188 by further records of small numbers of *Vitrea crystallina*.

Unphased

Three of the deposits included in the evaluation were of unknown date (Contexts 113, 117 and 165) and all contained some land snails. From the first and last (both gully fills) the assemblages were mostly of *C. acicula*, with only a few other snails present which were insufficient for an environmental reconstruction. The third, Context 117

(upper fill of Ditch 114), gave a small assemblage very similar in character to those from the Romano-British ditch fills.

Additional sediment from Context 117 was processed for the analysis (although the evaluation identified no material for radiocarbon dating and the fill remained unphased), together with samples from a further six unphased deposits (Contexts 107, 116, 134, 135, 137 and 180; mostly pit fills, with exceptions of a ditch fill, Context 116, and a gully fill, Context 180). Each of these six samples gave only a few snails, other than *Cecilioides acicula*, of no interpretative value. Despite the larger quantity of sediment processed for the analysis, the snail fauna from Context 117 was still small and essentially the same as that recovered from the evaluation subsample, once again reflecting an open, lightly vegetated landscape, very similar to that shown by the Romano-British assemblages.

Overview

In summary, the mollusc assemblages recovered indicated that the dominant landscape of the area from the late Neolithic through to the Romano-British period was one of rather dry, open, short-turfed calcareous grassland – most likely with areas where the underlying rock was exposed. The late Neolithic pits (Pits 243 and 245) and 2nd century ditch (Ditch 181) held or received some input of freshwater, though permanent bodies of water were not indicated. The assemblages from two of the late Neolithic deposits gave hints of some denser vegetation, perhaps hedgerow or woodland, and there were similar hints from some of the Romano-British deposits, with quite strong evidence for the presence of deciduous woodland in the vicinity of Ditch 124 at this later period.

The mollusc assemblages, particularly those of Romano-British date, were similar to others recorded from sites elsewhere in the East Riding of Yorkshire (e.g. Roman Melton – Carrott *et al.* 1999a – and the later settlement at Cottam – Carrott *et al.* 1999b), which largely reflect past grassland habitats of the kind that would be expected on the chalk in and around The Wolds.

Table 10: General notes on the washovers from the analysis samples. Key: CN = context number; S = NAA sample designation; Vol = approximate volume of washover; Snails = subjective size of snail assemblage present – s = small; m = medium; l = large; Main = main components of washover.

CN	S	Vol	Snails	Main	Notes
70	AA	30	s	Fine sediment, sand and modern rootlet fragments.	Other modern remains included some unidentified seeds, earthworm (<i>Oligochaeta</i>) egg capsules and fragments of beetle (<i>Coleoptera</i>) cuticle. There were also a few charred seeds (also unidentified).
85	AA	35	s	Fine sediment, modern rootlets and sand.	There were some modern contaminant seeds and invertebrate remains (earthworm egg capsules, beetle sclerites) present. There was also a little charred material including charcoal (to 5 mm) and occasional charred grain fragments (unidentified).
107	AA	40	s	Sand, fine sediment and fragments of modern rootlet.	Some modern insect (including beetles) remains, earthworm egg capsules and seeds were noted. There was also a little charcoal and a few charred seed and grain fragments.
116	AA	25	s	Sand grains and modern rootlet fragments.	There were some modern seeds (including <i>Chenopodiaceae</i> (goosefoot family) and <i>Sambucus nigra</i> L. (elder)) as well as a little charred plant material which included an occasional grain (unidentified) and some other seeds.
117	AA	50	s	Fine sediment and modern rootlets.	Some modern seeds, including many <i>Chenopodiaceae</i> , present.
125	AA	40	l	Fine sediment, sand and fragments of modern rootlet.	Modern earthworm egg capsules and beetle sclerites were present and there was a trace of charred plant material including an occasional unidentified grain fragment.
126	AD	115	l	Fine sediment, sand grains and modern rootlets.	Other modern contaminants included seeds, adult and larval beetle fragments, ?ants (cf. <i>Formicidae</i>) and earthworm egg capsules. Charred (and probably ancient) plant remains included charcoal (to 12 mm), grain fragments and some seeds. There were also one or two fragments of unidentified amphibian or small mammal bone.
130	AC	10	s	Fine sediment, with some modern rootlet fragments and sand grains.	A few modern seed fragments, including <i>Chenopodiaceae</i> . Also a little charcoal (to 18 mm, but most to 4 mm).
134	AA	10	s	Fine sediment, sand grains and modern rootlets.	Modern plant (seeds) and invertebrate (earthworm egg capsules) remains were present. There was also a trace of unidentified charcoal and charred grain fragments.
135	AA	20	s	Fine sediment, sand and modern rootlet fragments.	Other modern remains included some unidentified seeds, earthworm egg capsules and fragments of beetle cuticle. There were also a few charred seeds (also unidentified).
137	AA	10	s	Fine sediment and modern rootlets.	Some modern insect fragments were noted. Also a little charred plant content including a few unidentified charred seeds.
140	AA	60	s	Fine sediment, sand and modern rootlets.	Other modern remains included earthworm egg capsules and other invertebrate fragments. Charred plant remains included a few poorly preserved (and unidentified) grains and a little charcoal. There were also occasional pieces of coal present.
148	AA	60	s	Fine sediment, sand and modern rootlet	Some modern plant and invertebrate remains including <i>Chenopodiaceae</i> and <i>Rumex</i> (dock)

				fragments.	seeds, and beetle (and ?other insect) sclerites and earthworm egg capsules. Also traces of ?charred grain (~5 fragments).
154	AA	75	s	Modern rootlets and very poorly preserved charred grain fragments (unidentified; probably representing over 100 grains), with some fine sediment and sand grains.	Some modern insect fragments were also present and there were some other charred remains including a little charcoal, a few seeds and some ?cinder (though this could also be further charred grain fragments).
169	AA	50	s	Fine sediment and sand grains, with some modern rootlets.	Some modern plant (seeds) and insect (e.g. beetle elytra and pronota) remains were present. There were also some charred seeds and very poorly preserved grains and grain fragments which were most likely to be of ancient origin.
174	AA	60	m	Fine sediment, sand grains and modern rootlets.	Other modern contaminants included seeds, adult and larval beetle fragments, ?ants (cf. Formicidae) and earthworm egg capsules. Charred (and probably ancient) plant remains included charcoal (to 12 mm), grain fragments and some seeds.
176	AA	40	s	Fine sediment and sand grains, with some modern rootlets and seeds.	Modern earthworm egg capsules and other invertebrate remains were noted. Some charred material was present, including a few poorly preserved (unidentified) charred grain fragments, a little charcoal and some ?cinder.
178	AA	15	s	Modern rootlets, sand and fine sediment.	Some modern earthworm egg capsules and insect (including beetle) remains were seen. There were also occasional fragments of charred grain and charcoal.
180	AA	35	s	Modern rootlets, sand and fine sediment.	There were some modern earthworm egg capsules and insect (including beetle) remains present as well as occasional fragments of charred grain and charcoal.
182	AA	25	m	Fine sediment, sand and modern rootlets.	Modern plant and invertebrate remains present – including Chenopodiaceae seeds, beetle sclerites and earthworm egg capsules. Also traces of charcoal/cinder (to 3 mm).
188	AA	40	s	Fine sediment and sand grains, with some modern rootlets.	Some modern plant (seeds) and insect (e.g. beetle elytra and pronota) remains were present. Some charred seeds and very poorly preserved grains and grain fragments (all probably ancient) were noted.
201	AA	40	s	Fine sediment and sand grains, with some modern rootlets.	Some modern seeds and insect (e.g. beetle elytra and pronota) remains were noted. There were also some charred seeds and very poorly preserved grains and grain fragments which were probably ancient.
245	AA	35	s	Fine sediment, modern rootlets and sand.	Some modern contaminant insect fragments were present and there was a little charred plant, including a few unidentified grains.
249	AA	25	m	Sand, fine sediment and modern rootlet fragments.	Other modern contaminants noted included seeds, earthworm egg capsules and beetle sclerites. There were also occasional fragments of ?cinder/?charred grain and coal.

Table 11: Checklist of identified mollusc taxa recorded analysis phase sediment samples. Nomenclature and taxonomic order follows Kerney (1999).

Carychium ?minimum Müller
Carychium tridentatum (Risso)
Carychium sp.
Lymnaea truncatula (Müller)
Anisus leucostoma (Millet) or *A. vortex* (L.)
Succineidae sp. indet (small)
Cochlicopa ?lubrica (Müller)
Cochlicopa ?lubricella (Porro)
Cochlicopa sp.
Vertigo pusilla Müller
Vertigo pygmaea (Draparnaud)
Vertigo sp.
Pupilla muscorum (L.)
P. muscorum/Lauria cylindracea (da Costa)
Vallonia costata (Müller)
Vallonia excentrica Sterki
Punctum pygmaeum (Draparnaud)
Discus rotundatus (Müller)
Vitrea crystallina (Müller)
Aegopinella nitidula (Draparnaud)
Oxychilus ?cellarius (Müller)
Cecilioides acicula (Müller)
Clausilidae sp. indet.
?Helicella itala (L.)
Trichia ?hispida (L.)
Cepaea ?nemoralis (L.)
Pisidium sp?p.

Table 12: Land snails recovered in the washovers (flots) from the analysis stage sediment samples. Key: CN = context number; S = NAA sample designation; D = Date; V = volume of processed sediment (litres); U = quantity of unidentified snails; LN = late Neolithic; RB = Romano-British; f = few (up to 3 individuals); s = some (4 to 20); m = many (21 to 50); vm = very many (more than 50); figures give minimum numbers of individuals. Nomenclature and taxonomic order follows Kerney (1999).

CN	S	D	V	<i>Carychium ?minimum</i> Müller	<i>Carychium tridentatum</i> (Risso)	<i>Carychium</i> sp.	<i>Lymnaea truncatula</i> (Müller)	<i>Anisus leucostoma</i> (Millet) or <i>A. vortex</i> (L.)	Small ?succineid	<i>Cochlicopa ?lubrica</i> (Müller)	<i>Cochlicopa ?lubricella</i> (Porro)	<i>Cochlicopa</i> sp.	<i>Vertigo pusilla</i> Müller	<i>Vertigo pygmaea</i> (Draparnaud)	<i>Vertigo</i> sp.	<i>Pupilla muscorum</i> (L.)	? <i>P. muscorum</i> – juvenile	<i>P. muscorum</i> / <i>Lauria cylindracea</i> (da Costa)	<i>Vallonia costata</i> (Müller)	<i>Vallonia excentrica</i> Sterki	<i>Punctum pygmaeum</i> (Draparnaud)	<i>Discus rotundatus</i> (Müller)	<i>Vitrea crystallina</i> (Müller)	<i>Aegopinella nitidula</i> (Draparnaud)	<i>Oxychilus ?cellarius</i> (Müller)	<i>Cecilioides acicula</i> (Müller)	Clausid (apex fragment)	? <i>Helicella itala</i> (L.)	<i>Trichia ?hispidula</i> (L.)	<i>Cepaea ?nemoralis</i> (L.)	<i>Pisidium</i> sp?p.	U		
70	AA	2nd-4th C		2	1						1			1				1	5							s		2				s		
85	AA	RB									1			2		4				6							v m		5				s	
107	AA	-/-										2		6	4	2		2	7	39							v m		4				s	
116	AA	-/-												2		1	1			16							v m		16				m	
117	AA	-/-								1				2		5		1		18					2	v m			12				m	
125	AA	RB									4	2		9		6	1	3	1 3	85	30		5		2	m		1	18	1			vm	
126	AD	1st-3rd C								1	11			18	6	5			8	382	110		11				v m		1	86				vm
130	AC	LN														1											m		1				4	

Table 13: Identified land snails recovered in the washovers (flots) from the analysis stage sediment samples summarised by date. **Key:** No. = number of contexts; LN = late Neolithic; BA = Bronze Age; RB = Romano-British; vm = very many (more than 50); figures give minimum numbers of individuals. Nomenclature and taxonomic order follows Kerney (1999).

	Date	No.	<i>Carychium ?minimum</i> Müller	<i>Carychium tridentatum</i> (Risso)	<i>Carychium</i> sp.	<i>Lymnaea truncatula</i> (Müller)	<i>Anisus leucostoma</i> (Millet) or <i>A. vortex</i> (L.)	Small ?succineid	<i>Cochlicopa ?lubrica</i> (Müller)	<i>Cochlicopa ?lubricella</i> (Porro)	<i>Cochlicopa</i> sp.	<i>Vertigo pusilla</i> Müller	<i>Vertigo pygmaea</i> (Draparnaud)	<i>Vertigo</i> sp.	<i>Pupilla muscorum</i> (L.)	? <i>P. muscorum</i> – juvenile	<i>P. muscorum</i> / <i>Lauria cylindracea</i> (da Costa)	<i>Vallonia costata</i> (Müller)	<i>Vallonia excentrica</i> Sterki	<i>Punctum pygmaeum</i> (Draparnaud)	<i>Discus rotundatus</i> (Müller)	<i>Vitrea crystallina</i> (Müller)	<i>Aegopinella nitidula</i> (Draparnaud)	<i>Oxychilus ?cellarius</i> (Müller)	<i>Ceciloides acicula</i> (Müller)	Clausilid (apex fragment)	? <i>Helicella itala</i> (L.)	<i>Trichia ?hispidula</i> (L.)	<i>Cepaea ?nemoralis</i> (L.)	<i>Pisidium</i> sp?p.
	LN	5	2	2	-	3/26	-	-	-	16	2	-	7	3	5	1	2	-	59	-	3	-	-	-	vm	1	-	17	-	-
	2nd century	1	14	40	5	1/23	2	-	-	4	1	1	-	1	3	1	1	11	-	-	2	1	-	vm	-	1	4	1	2	
	RB	11	2	38	3	-	-	1	5	37	12	-	51	10	35	5	11	40	613	140	2	23	2	3	vm	2	2	161	-	-
subtotal		17	18	80	8	4/29	2	1	5	57	15	1	59	13	41	9	14	45	683	140	5	25	3	3	vm	3	3	182	1	2
Unphased	-	7	1	1	-	-	-	-	1	-	2	-	12	5	8	1	3	8	78	-	-	-	1	2	vm	-	-	32	1	-
% unphased		29	5	1	0	0	0	0	17	0	12	0	17	28	16	10	18	15	10	0	0	0	25	40	-	0	0	15	50	0
Total			19	81	8	4/29	2	1	6	57	17	1	71	18	49	10	17	53	761	140	5	25	4	5		3	3	214	2	2

Table 14: Summary information for the shell remains recovered from the residues of the analysis phase sediment samples. **Key:** CN = context number; S = NAA sample designation.

CN	S	Notes
70	AA	1 <i>Trichia ?hispidia</i> (L.) shell fragment
85	AA	1 unidentified land snail fragment
107	AA	1 <i>Trichia ?hispidia</i> , 2 <i>CepaealArianta</i> sp. and 3 unidentified shell fragments
116	AA	1 unidentified marine shellfish fragment to 5 mm; <1 g
117	AA	1 unidentified shell fragment to 14 mm; ~1 g
125	AA	3 <i>Helicella itala</i> (L.), 2 fragments of <i>CepaealArianta</i> sp. (minimum number of individuals = mni = 1)
126	AD	17 <i>Trichia ?hispidia</i> , 1 <i>CepaealArianta</i> and 5 unidentified fragments
130	AC	1 unidentified fragment to 8 mm; <1 g
137	AA	1 unidentified fragment to 12 mm; <1 g
154	AA	4 unidentified land snail shell fragments
174	AA	1 <i>Trichia ?hispidia</i> fragment and 1 unidentified marine shellfish (perhaps oyster) to 26 mm
182	AA	5 unidentified land snail shell fragments
188	AA	1 <i>CepaealArianta</i> sp.
201	AA	4 marine shellfish fragments (perhaps all oyster) to 26 mm; 8 g

Re-statement of evaluation results for biological remains from the sediment samples, and the hand-collected shell and bone

Sediment samples

Biological remains from the evaluation sediment samples are summarised in Table 15.

All of the washovers that were examined in more detail (marked ‘*’ in Table 15) were mostly of rootlets (with the exception of that from Context 182 which was mostly of land snails) and a range of uncharred seeds and fruits were also present. The latter were considered to be modern contaminants and are not listed. All of the ancient plant remains recorded were preserved by charring. No ancient insect remains were recovered but modern contaminant beetles and/or other arthropods were present in Contexts 89, 121, 165, 168, 174, 176, 245 and 249. All of the bone recovered from the samples was poorly preserved with considerable surface erosion.

Hand-collected shell

Three of the four deposits from which shell was recovered (Contexts 70, 156 and 206) by hand-collection gave only a few land snail remains. For each the total weight of shell was 1 g or less and the remains represented one or at most two (Context 70) individuals of *CepaealArianta* sp.

The fourth deposit, Context 02, gave a single left oyster valve (26 g). This was rather poorly preserved (both erosion and fragmentation being recorded as ‘2’ – moderate) and not measurable. There was perhaps the remains of evidence of the oyster having been opened using a knife (or similar), but this could not be definitely determined owing to the poor preservation. There was no fresh breakage evident and no damage to the shell from other marine biota was detected.

Hand-collected vertebrate remains

One box (of approximately 20 litres) of vertebrate remains, amounting to 899 fragments was recovered from 25 deposits. Of these fragments, four were measurable and so of use for providing biometrical data. Many of the deposits were from pits and ditches dated to the Roman period, although material was also recovered from a pit dated to the late Neolithic and from several undated features. Pottery spot dates indicated that some of the Roman material could be further sub-divided into a number of date groups: 1st to 3rd century AD, 2nd to 4th century AD, 3rd to 4th century AD, 4th century AD and mid 4th to early 5th century AD (see Table 16).

Preservation of the remains was generally poor, although material from two deposits (Contexts 50 and 69) was described as well preserved. Several deposits (Contexts 44, 49 and 188) included remains of variable appearance, which may suggest the presence of some residual or re-deposited material. Two deposits (Context 2 and 80) included probable human remains, which may also indicate material of mixed origin. Fragmentation of the remains resulting from fresh breakage was extensive and affected material from most deposits. One piece of burnt bone was recovered (Context 44) and evidence of dog gnawing was limited to three contexts (Contexts 156, 185 and 207). Some of the remains had been butchered, including cattle and large mammal metapodials that had been chopped or split through the shaft (Contexts 69, 193 and 207) and a cattle tibia with knife marks on the shaft (Context 194). However, some evidence of butchery may have been obscured by the poor preservation of the material, as the surfaces of the bones were severely eroded.

Over 90% of the assemblage could not be identified to species as a result of the poor preservation of the remains. Of the species that could be identified, cattle were the most common but pig, horse, dog and sheep/goat were also present. A large part of the unidentified remains appeared to be large mammal, although some of the material was very fragmented.

There is a clear bias towards isolated teeth in the skeletal elements represented. Two-thirds of the cattle remains were teeth and they were also the most common element of horse recovered. This represents a preservation bias as when conditions for preservation are poor, enamel usually survives better than bone. The other cattle elements present were mostly bones from the head and feet, which probably represent primary butchery waste. However, the remains of medium-sized mammals, such as pig and caprovid, suggest that there was also a component of domestic waste. The bone-bearing deposits were mostly the fills of pits and ditches which were probably used as convenient places to dispose of rubbish.

Table 15: Summary of the biological remains from the evaluation subsamples. Key: f – few (1 to 3); s – some (4 to 20); m – many (21-50).

Context/ Sample	Charcoal fragments	Charred grains/seeds	Land snails (other than <i>C. acicula</i>)	<i>C. acicula</i>	Bone/Marine shell
48/AB	f (to 6 mm)	-	f	yes	-
70/AA	-	-	s	yes	Six small unidentifiable bone fragments.
85/AA	f (to 5 mm)	-	s	yes	-
89/AA*	s (to 4 mm)	This sample produced six grains of emmer/spelt wheat (<i>Triticum dicoccum</i> Schübl./ <i>T. spelta</i> L.), one grain of oat (<i>Avena</i>), one grain of barley (<i>Hordeum distichon</i> L./ <i>H. vulgare</i> L.), and three more cereal grains that could not be identified more precisely.	m	yes	-
107/AA	f (to 3 mm)	-	s	yes	-
113/AA*	f (to 3 mm)	This sample gave nine cereal grains that were poorly preserved and could not be identified more closely and one caryopsis of brome (<i>Bromus</i>).	Six <i>T. hispida</i> apex fragments, single <i>Pupilla muscorum</i> (L.)/ <i>Lauria cylindracea</i> (da Costa) and <i>Aegopinella nitidula</i> (Draparnaud). [There was also a fossilised fragment of a Jurassic bivalve <i>Gryphaea</i> sp. (Devils' toenails).]	yes (m)	-
116/AA	f (to 3 mm)	-	s	yes	-
117/AA*	f (to 2 mm)	-	Snail taxa present included <i>T. hispida</i> (5 or more individuals), <i>V. costata</i> (Müller) (2), <i>V. excentrica</i> (3), <i>C. lubrica</i> (3) and single remains of <i>Vertigo pygmaea</i> (Draparnaud) and <i>Carychium tridentatum</i> (Risso).	yes (m)	-
119/AA	f (to 4 mm)	-	f	yes	-
121/AA*	s (to 5 mm)	The sample gave five grains of emmer/spelt wheat, one barley grain and 24 other cereal grains that could not be identified more precisely. Some chaff was also present, with three glume bases of spelt wheat being identified. There were also three caryopses of brome.	Five apex fragments of <i>T. hispida</i> and a single <i>V. costata</i> were recorded.	yes (m)	-
125/AA	f (to 5 mm)	-	m	yes	-

Context/ Sample	Charcoal fragments	Charred grains/seeds	Land snails (other than <i>C. acicula</i>)	<i>C. acicula</i>	Bone/Marine shell
126/AA	f (to 4 mm)	-	m	yes	-
130/AC	f (to 7 mm); also a little cinder	-	s	yes	-
134/AA	f (to 4 mm)	-	s	yes	-
135/AA	f (to 5 mm)	-	s	yes	-
137/AA	f (to 6 mm)	-	s	yes	-
140/AA	s (to 7 mm)	-	s	yes	-
142/AA	f (to 6 mm)	-	f	yes	-
148/AA	f (to 5 mm)	-	s	yes	One unidentifiable bone fragment.
154/AA	f (to 5 mm)	The sample contained ~50 poorly preserved cereal grains. Those that could be identified were mostly emmer/spelt wheat, but at least two barley grains were also present and there was one caryopsis of brome.	s	yes	-
156/AA	f (to 4 mm)	Of all the contexts investigated this gave the largest number of plant remains. Around 250 cereal grains were found, both emmer/spelt wheat and hulled barley being present. Some spelt wheat chaff was preserved and there was one seed of garden pea (<i>Pisum sativum</i> L.) – the only record of a pulse from the site. Weeds included corncockle (<i>Agrostemma githago</i> L.), brome, thistle (<i>Carduus/Cirsium</i>), knotweed (<i>Persicaria</i>) and dock (<i>Rumex</i>). Preservation was slightly better than in most other contexts.	f	yes	Four 'bone' fragments including sheep/goat lower molar.
157/AA	s (to 8 mm)	Approximately 80 cereal grains, hulled barley and emmer/spelt wheat being present in more or less equal numbers. There was also a small amount of spelt wheat chaff and some brome caryopses.	f	yes	-
158/AA	f (to 5 mm)	~12 poorly preserved cereal grains.	f	yes	Four bone fragments including medium-sized mammal shaft.

Context/ Sample	Charcoal fragments	Charred grains/seeds	Land snails (other than <i>C. acicula</i>)	<i>C. acicula</i>	Bone/Marine shell
165/AA*	f (to 3 mm)	Of the three cereal grains found two could be identified: one was barley and the other emmer/spelt wheat.	A few identifiable remains including one each of <i>V. ?costata</i> and <i>V. ?excentrica</i> and fragments of six <i>?Trichia</i> sp., together with further unidentified fragments.	yes (m)	A single small fragment (to 10 mm) of very soft ?marine shell.
168/AA*	-	Two unidentified cereal grain fragments.	A single <i>V. ?costata</i> and a few other unidentified fragments.	yes (m)	Thirteen fragments of medium-sized mammal shaft (weight 2 g).
169/AA	f (to 5 mm)	-	s	yes	Four pieces of bone including fragmented large mammal tooth and calcined medium-sized mammal shaft.
174/AA*	-	Four cereal grains, one of which was barley and one wheat, the two others being unidentifiable. In addition, there were two caryopses of brome.	The land snail assemblage from this sample included <i>P. muscorum</i> (4 individuals), <i>V. ?excentrica</i> (12), apex fragments of <i>T. hispida</i> (6), <i>?C. lubrica</i> (1) and nine shell fragments (probably all of a single <i>Cepaeal/Arianta</i> sp.)	yes (m)	Five fragments of medium-sized mammal vertebrae and shaft (weight 2 g).
176/AA*	-	Of 13 cereal grains seen only five could be identified to genus level; they were all wheat (<i>Triticum</i>).	The land snail assemblage from this sample was similar in composition to that from the preceding deposit including <i>P. muscorum</i> (1 adult and 1 juvenile), <i>V. ?excentrica</i> (5) and <i>T. hispida</i> (3), but with two additional taxa, <i>V. pygmaea</i> (1) and <i>C. ?tridentatum</i> (2) present.	yes (m)	-
178/AA	f (to 5 mm)	-	s	yes	-
180/AA	f (to 4 mm)	-	s	yes	-
182/AA*	-	-	The small washover from this sample was mostly of land snails including <i>T. hispida</i> (11 individuals), <i>Cochlicopa ?lubricella</i> (Porro) (3), <i>C. ?lubrica</i> (3), <i>P. muscorum</i> (9), <i>Carychium ?minimum</i> Müller (1), <i>V. ?excentrica</i> (7) and <i>C. acicula</i> (15). There was also a single shell tentatively identified as the freshwater snail <i>Valvata cristata</i> Müller.	yes (s)	A single small, unidentifiable fragment of bone (weight <1 g).
185/AA	f (to 4 mm)	-	f	yes	-
188/AA	f (to 12 mm)	a few unidentified fragments	s	yes	-

Context/ Sample	Charcoal fragments	Charred grains/seeds	Land snails (other than <i>C. acicula</i>)	<i>C. acicula</i>	Bone/Marine shell
201/AA	f (to 6 mm)	-	s	yes	-
245/AA*	f (most to 4 mm). One larger fragment was stem wood of oak (<i>Quercus</i>).	-	There was a small snail assemblage present which included some terrestrial forms— <i>C. ?tridentatum</i> (1), <i>T. ?hispidata</i> (4), <i>V. ?costata</i> (1) and <i>V. ?excentrica</i> (2)—and two freshwater snails, <i>Bithynia ?leachii</i> (Sheppard) (a further apex fragment may have represented a third individual of this species).	no	-
249/AA*	s (to 3 mm)	A single whole, but poorly preserved, grain of barley.	A small land snail assemblage was present which included <i>V. ?costata</i> (3 individuals), <i>V. ?excentrica</i> (5), <i>T. hispidata</i> (5) and a single <i>P. muscorum/L. cylindracea</i> .	no	-

Table 16: Summary of the hand-collected vertebrate remains by date group. NB: Dating is based on pottery spot dates supplied at the time of the evaluation; ‘undated’ includes material from deposits from which no pottery was recovered.

species		late Neolithic	?iron age to 4thC	1st-3rdC	2nd-4thC	3rd-4thC	4th C	mid 4th-early 5thC	Roman	undated	total
<i>Canis f. domestic</i>	dog	-	-	-	-	-	1	1	-	-	2
<i>Equus f. domestic</i>	horse	-	1	1	-	5	-	1	2	1	11
<i>Sus f. domestic</i>	pig	-	-	-	-	9	-	3	1	-	13
<i>Bos f. domestic</i>	cattle	2	-	-	8	2	3	19	9	2	45
caprovid	sheep/goat	-	-	-	-	-	-	1	-	-	1
<i>Homo sapiens</i>	human	-	-	-	-	-	-	-	-	1	1
? <i>Homo sapiens</i>	?human	-	-	-	-	-	-	-	4	-	4
unidentified		16	39	4	28	33	28	98	298	278	822
total		18	40	5	36	49	32	123	314	282	899

DISCUSSION

Neolithic

Evidence of Neolithic activity, in the form of surface finds, is abundant in the Pocklington area and implies occupation during this period. However, the significance of the excavated pits at the wastewater treatment works can be defined in terms of a stratified finds assemblage comprising flint and pottery clearly representing occupation. Neolithic pits are well documented on the Yorkshire Wolds and more recently an increasing number of sites have been identified in lower lying areas, such as the Vale of Mowbray and the Vale of Pickering (Manby 1999). The pits at Pocklington are an important addition to this growing compendium of lower lying sites.

The four, possibly five, late Neolithic pits, at Pocklington, three of which are definitely of the Grooved Ware tradition, occurred as single (104), or paired pits (167 and 200, 129 and 132) within a relatively small area. This distribution is consistent with the pattern of dispersed groups of Grooved Ware pits identified during excavations along the Caythorpe gas pipeline on the Yorkshire Wolds (Abramson 1996). The character of the fills of four of the pits would be consistent with the deposition of domestic waste or 'midden' material. The fills of pit 167 in particular, which contained Durrington Walls-style pottery (representing parts of numerous vessels), flint, largely comprising debitage and fragments of animal bone can be seen as characteristic of general waste. Likewise, the flint assemblage recovered from pit 200, though sizeable, wholly comprised debitage.

The composition of the flint assemblage recovered from pit 129, however, was markedly different. The pit yielded 12 scrapers comprising 14% of the total flint assemblage, a further 5.8% of which comprised retouched or utilised pieces, including a petit tranchet derivative arrowhead. Only one abraded sherd of Durrington Walls-style Grooved Ware pottery was recovered. It follows that this assemblage, distinct from the other pits, must be a reflection of either different activities prior to deposition, or a different process of deposition. While the high proportion of scrapers may represent specially selected objects and a form of 'structured deposition' (Garrow, forthcoming) this is difficult to prove when not in an overtly ritual context. The nature of the assemblage could equally be the result of a specific task or activity prior to deposition, animal hide processing, for example, for which specific tools such as scrapers were required and then discarded.

Iron Age

Although a relatively small component of the excavated remains as a whole, the two Iron Age inhumations encountered at Pocklington represent one of the most significant aspects of the site. This significance is based largely on cropmark evidence indicating the presence of a cluster of three, or possibly four, square barrows immediately to the south-west of the excavation area, which provides a context for the burials. At least 3,250 square barrows have been identified as cropmarks, largely in East Yorkshire, many forming large cemeteries (Stoertz 1997, 39). While proportionally few examples have been excavated (eg. Stead 1991, Dent 1982) they represent a distinctive and widespread tradition, often referred to as the 'Arras

Culture', within East Yorkshire. Burials are typically single articulated inhumations, although multiple burials are not uncommon, often accompanied by La Tène grave goods. Two key aspects of the burials at Pocklington were consistent with this tradition; firstly the crouched and contracted position and secondly the late 4th to mid 1st century dates, which fall well within the chronological range of the 'Arras Culture'.

Despite the absence of an enclosing square ditch it can be argued that an 'Arras Culture' association should not be discounted on that basis alone. It is possible that traces of a square ditch may have been removed by ploughing; both skeletons were encountered directly below the topsoil and had been damaged, apparently by later ploughing. While the burials appear to have been positioned too closely together to each be enclosed by a square ditch, it is possible that burial 208 may represent a later insertion into the ditch of a square barrow raised over burial 172, no trace of which remains, a rite recorded in numerous instances at Burton Fleming and Rudston (Stead 1991). If, however, the absence of a square ditch is genuine it can be argued that square barrows represent only the most visible aspect of the local burial tradition during the Iron Age. With radiocarbon dates placing inhumation firmly in the Iron Age it is not unreasonable to suggest that the burials represent an aspect of the Arras burial tradition, less visible both at the time of deposition and within the archaeological record. A small number of the flat graves excavated at the Makeshift cemetery, Rudston, for example, appear to have never been covered by a square barrow (Stead 1991). Furthermore, isolated inhumations, such as that excavated at Hayton (Halkon 2003, 270), show that Iron Age burials were not always enclosed by a square ditch or indeed placed within cemeteries but still have characteristics of the Arras burial rite.

The Iron Age date of the burials reinforces the interpretation of the cropmark evidence to the south-west of the site, which in turn provides a context for the burials. This evidence, combined with the current field name, *Barrow Flat*, seems to confirm the presence of a cluster or small cemetery of square barrows. While the burials may represent truncated square barrows, it is also possible that the burials encountered during the excavation formed a less visible part of this cemetery, perhaps representing lower status individuals buried in simple graves without grave goods.

Romano-British

Cropmark evidence and the results of the excavation indicate that the next major phase of activity was the establishment of a Romano-British settlement directly over at least part of the possible square barrow cemetery. There is currently no evidence that this settlement was based on an Iron Age precursor, though given the limited scope of the excavation it cannot be discounted. The abandonment of the square barrow funerary tradition, coinciding with a move towards enclosed settlement during the late Iron Age and early Romano-British periods is a trend identified elsewhere in East Yorkshire (Bevan 1997, 187-189). Previous excavations and aerial photographs indicate that in many instances, square barrow cemeteries ceased to function as cemeteries both in terms of physical deposition and veneration of the dead and were possibly even levelled at this time (Mackey 2003, 119).

Although the features excavated have been assigned to two broad phases, the general pottery assemblage suggests that the site as a whole was occupied throughout the

period between the 2nd and early 4th century AD. The main focus of the Romano-British settlement almost certainly lay to the south-west of the site, within the rectilinear enclosure clearly visible on aerial photographs. The work at Pocklington, however, has allowed the appraisal of associated, outlying remains and crucially provided the opportunity to excavate part of the main enclosure ditch.

The results of the excavation show that the main enclosure was established no later than the Antonine period, during the earliest recorded phase of Romano-British settlement. 'Outside' this enclosure, evidence of peripheral activities in the form of disposal of domestic and butchering waste, possibly in a defined zone was recorded. The fact that only a small amount of fragmentary animal bone including dog, horse, pig, cattle and sheep/goat was recovered from these features is almost certainly down to poor preservation indicated by a bias towards isolated teeth in the assemblage. Based on material culture the majority of this activity belonged to the mid 3rd to 4th century.

The 3rd and 4th centuries also saw a certain degree of re-organisation and sub-division of the area 'outside' the settlement enclosure. The enclosure ditch (181) was re-cut (187) and therefore redefined during this period and the area to the north-east sub-divided by up to four small linear ditches (56, 114, 124 and 153). A lack of secure dating evidence does not allow a detailed interpretation of these features, specifically whether they are contemporary and part of the same field system. However, it would appear that the ditches represent a secondary phase of enclosure to the north-east of and adjoining the main settlement.

Palaeoecological evidence recovered indicates that the environment during this period was predominantly dry and lightly vegetated, typical of short-turfed calcareous grassland. This suggests that stock rearing formed a major part of the agricultural economy. While cereal remains, including wheat, barley and oats, were recovered, the preservation was poor and of little interpretive value. Indication of some denser vegetation, perhaps hedgerow or woodland, came from some of the Romano-British deposits, with quite strong evidence for the presence of deciduous woodland in the vicinity of Ditch 124 at this later period.

The mollusc assemblages for this period were similar to others recorded from sites elsewhere in the East Riding of Yorkshire (e.g. Roman Melton – Carrott *et al.* 1999a – and the later settlement at Cottam – Carrott *et al.* 1999b), which largely reflect past grassland habitats of the kind that would be expected on the chalk in and around The Wolds.

Although the main focus of settlement probably lay to the south-west of the excavation area, the cropmark evidence and excavation results provide a useful insight into the nature of Romano-British occupation on the site. The evidence implies a non-villa rural settlement (Hingley 1989) within a spatially organised agricultural landscape. A general lack of building materials, such as brick and tile indicating substantial structures, or imported goods in the finds assemblage, suggest that the settlement was not highly Romanised or of particularly high status. The evidence points to a fairly typical rural Romano-British site, albeit one which should be considered in a wider landscape which potentially saw a much higher degree of Romanisation during the 3rd and 4th centuries (Ottaway 2003).

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Figure 1 Pocklington Wastewater Treatment Works: site location

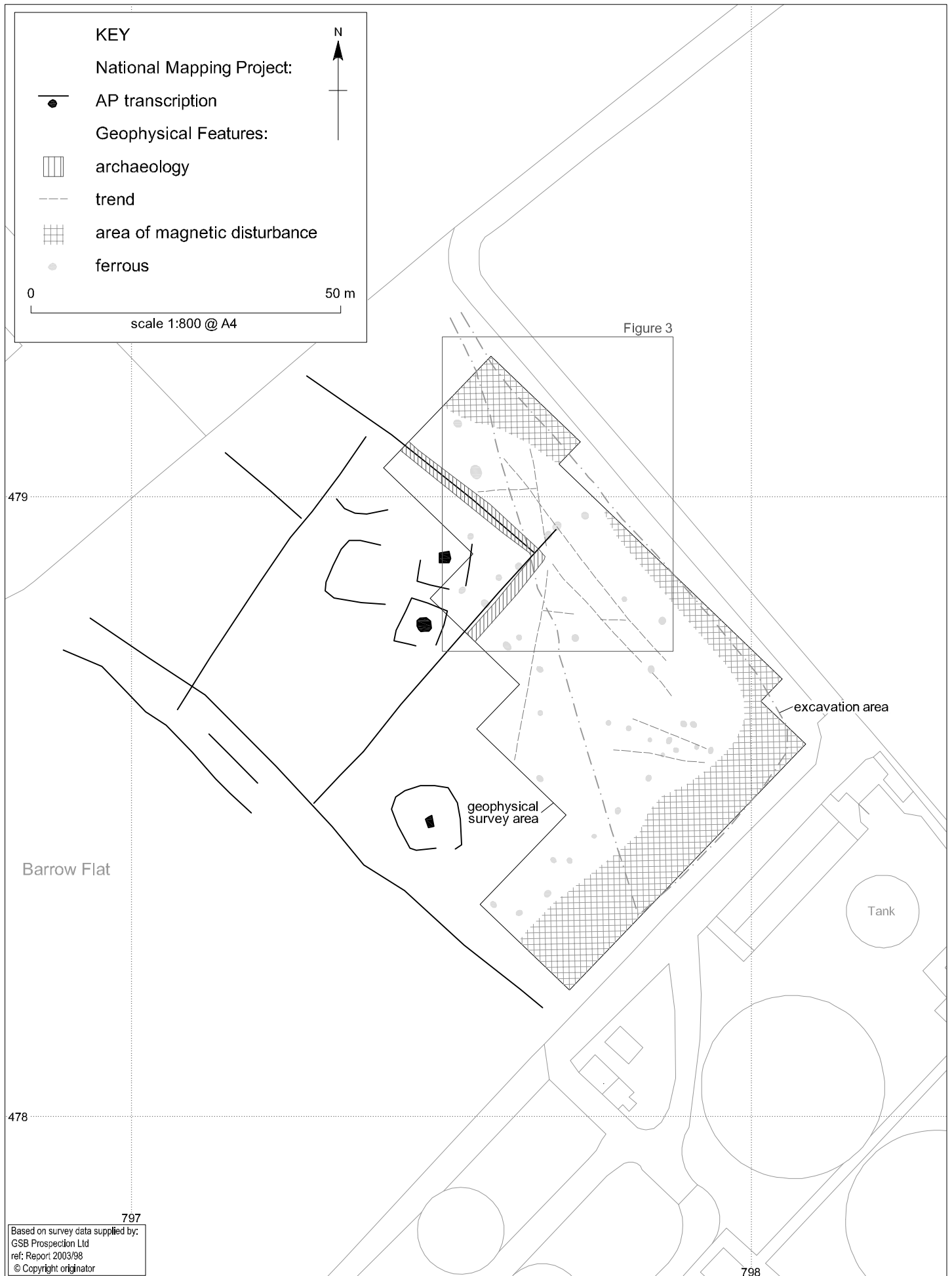


Figure 2 Pocklington Wastewater Treatment Works: cropmark evidence and results of geophysical survey

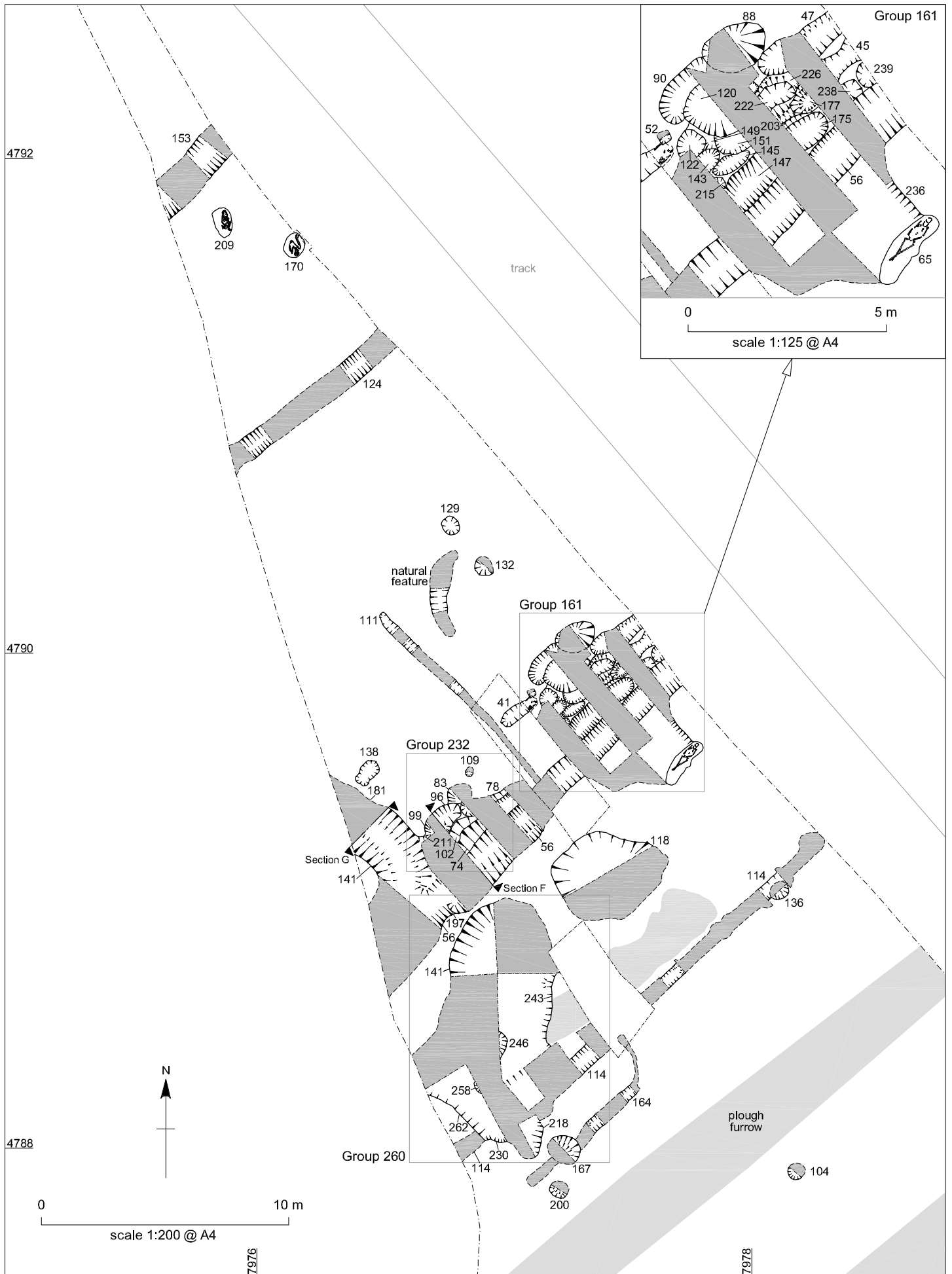
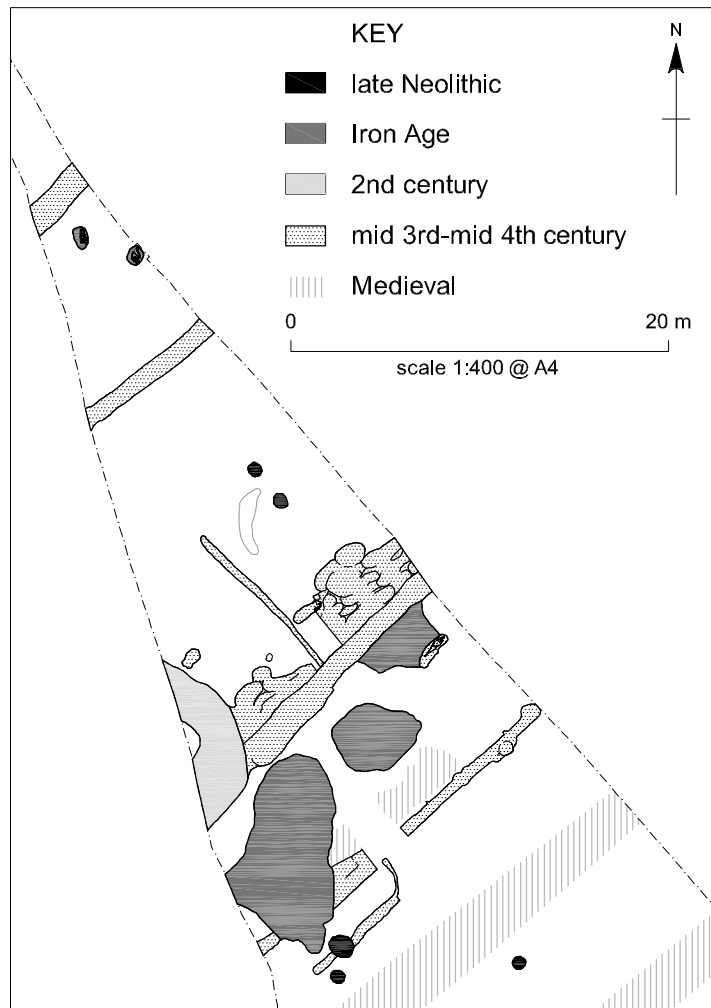


Figure 3 Pocklington Wastewater Treatment Works: feature plan



*Figure 4 Pocklington Wastewater Treatment Works:
phased feature plan*

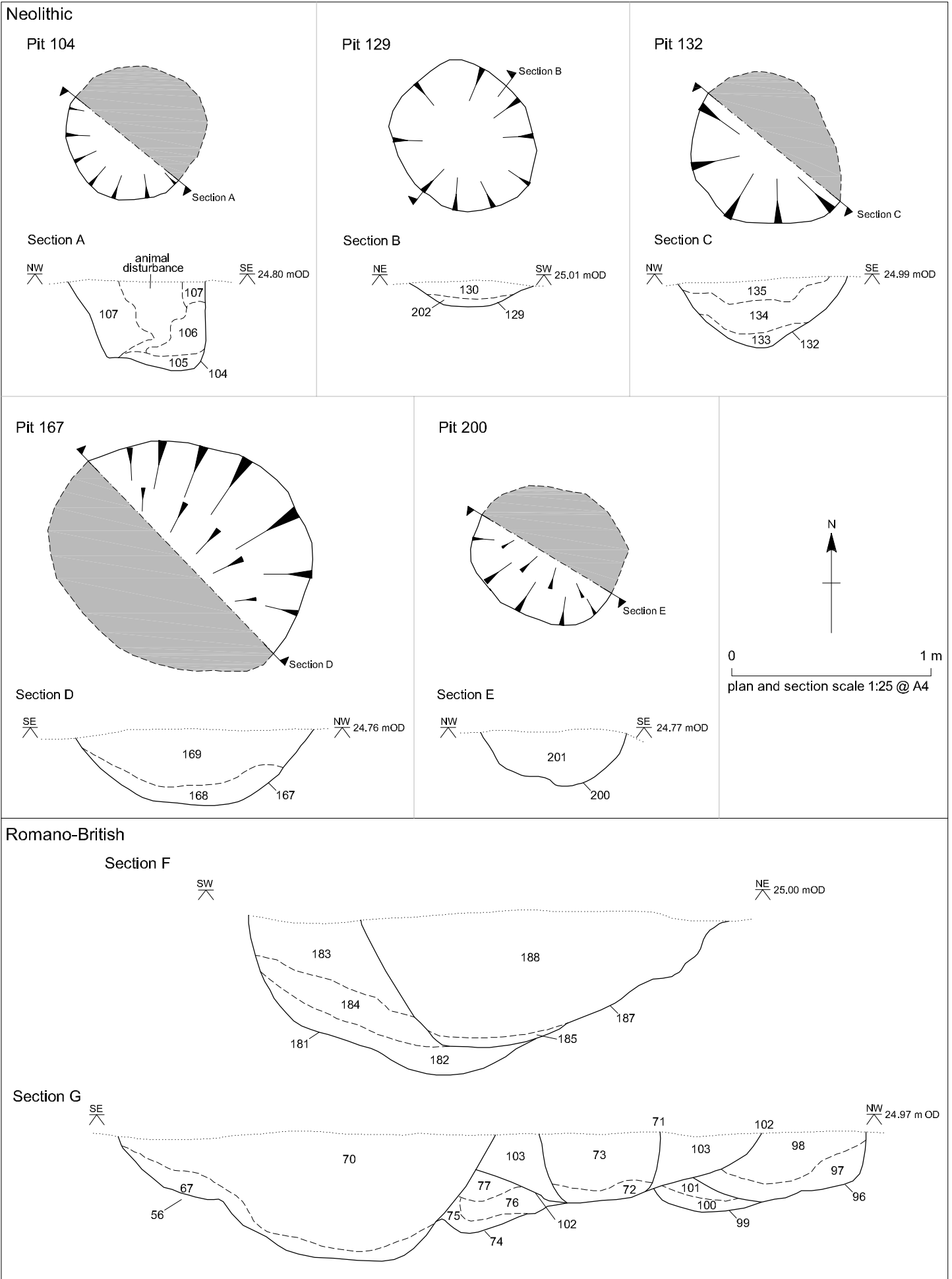
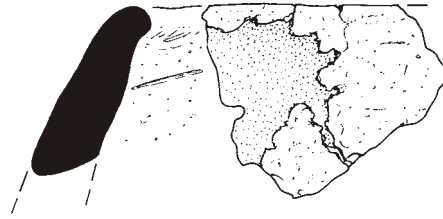
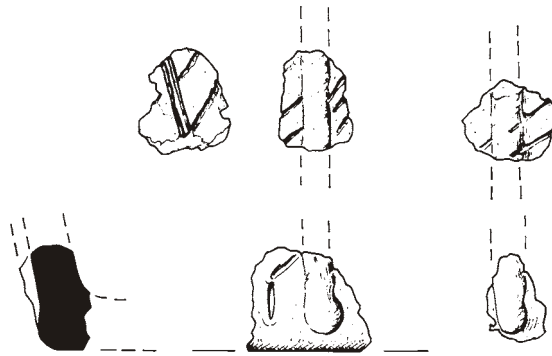


Figure 5 Pocklington Wastewater Treatment Works: plans and sections of Neolithic pits, Romano-British sections



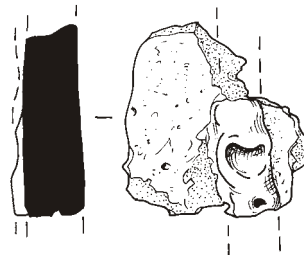
(1)



(2)



(3)



(4)

0 5 cm

Figure 6 Pocklington Wastewater Treatment Works: Neolithic pottery (scale 1:2)

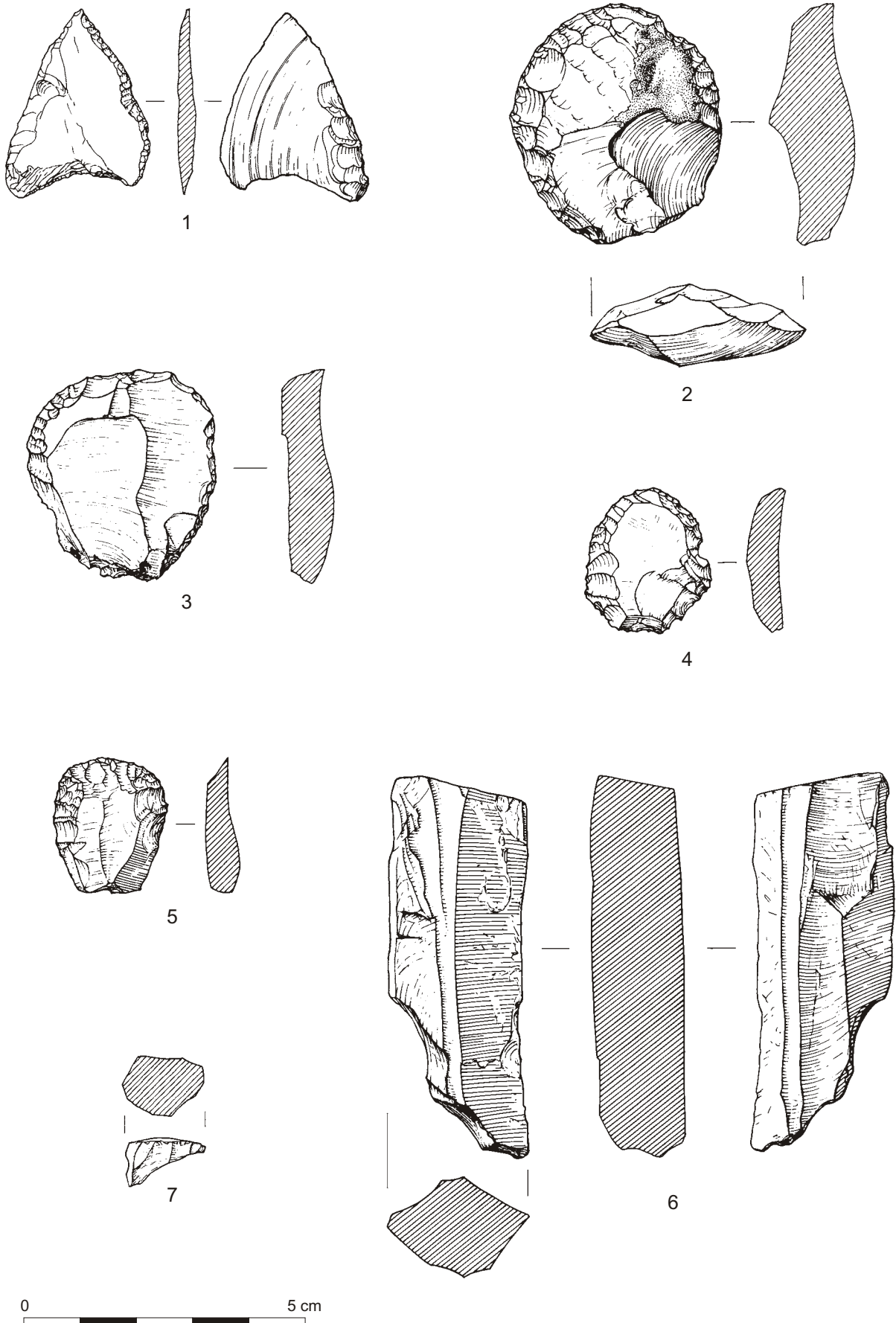
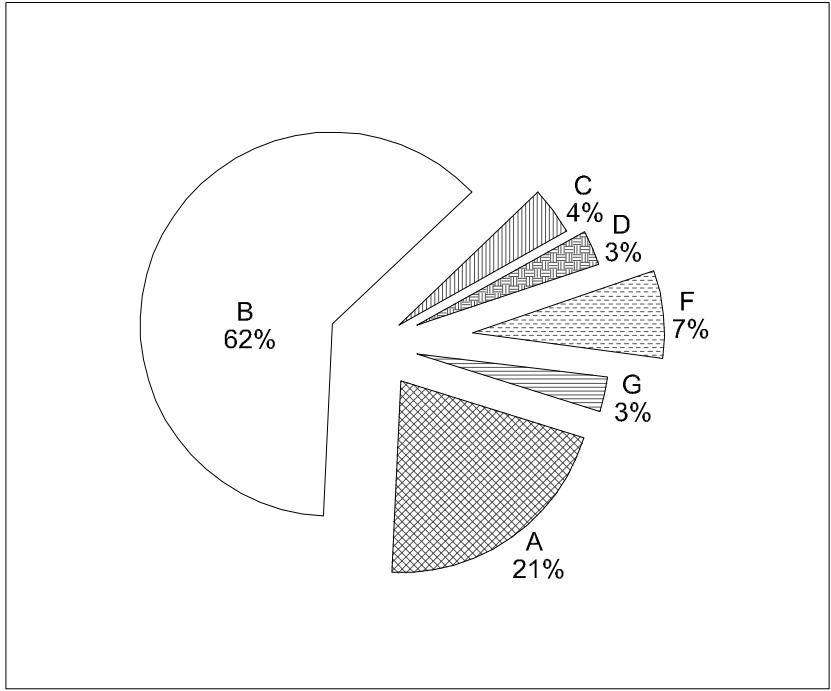


Figure 7 Pocklington Wastewater Treatment Works: flint (scale 1:1)



*Figure 8 Pocklington Wastewater Treatment Works:
struck assemblage, raw material composition*

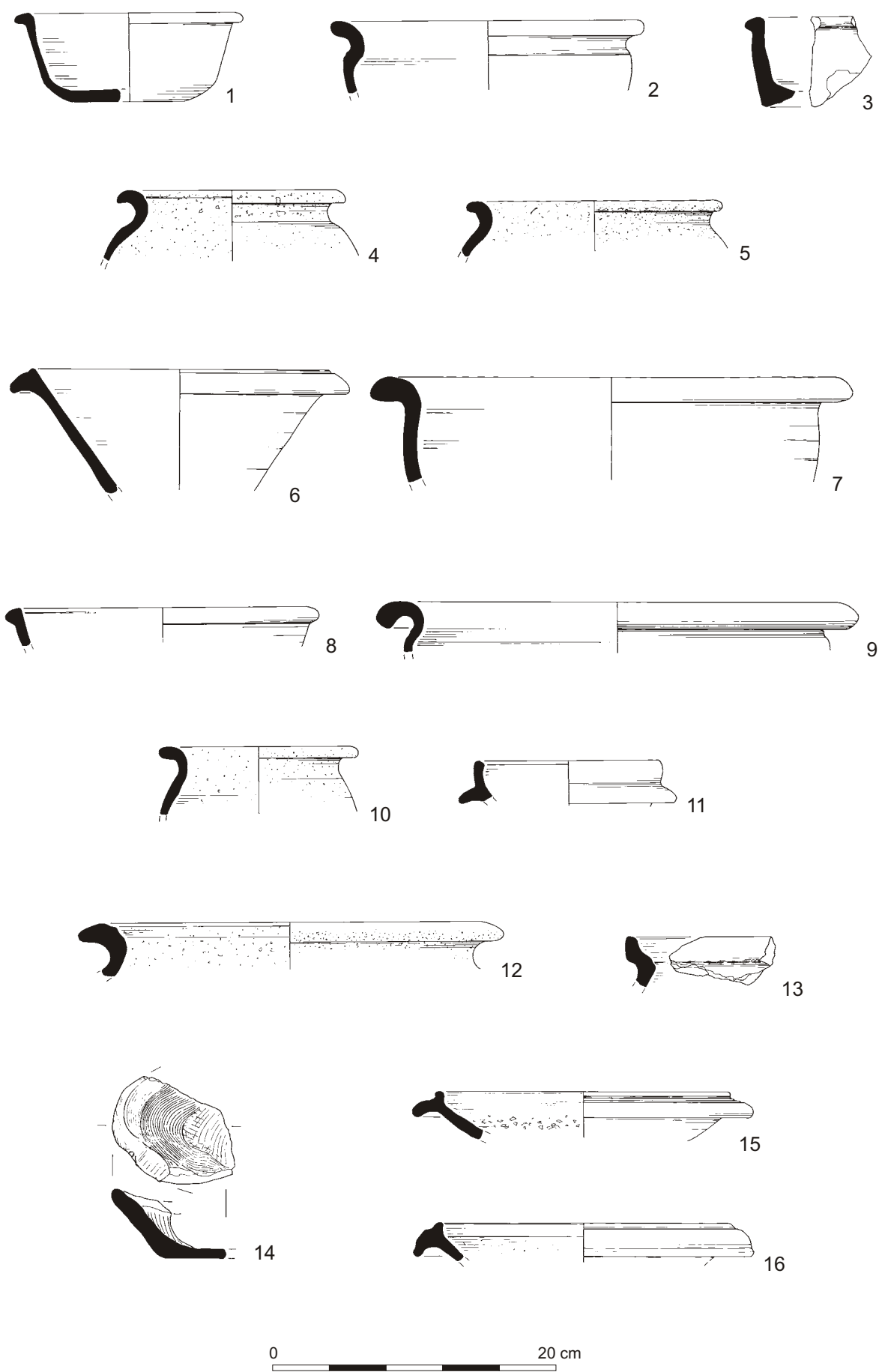


Figure 9 Pocklington Wastewater Treatment Works: Roman pottery (scale 1:4)



Plate 1 Pocklington Wastewater Treatment Works: skeleton 172



Plate 2 Pocklington Wastewater Treatment Works: skeleton 208



Plate 3 Pocklington Wastewater Treatment Works: enclosure ditch 181

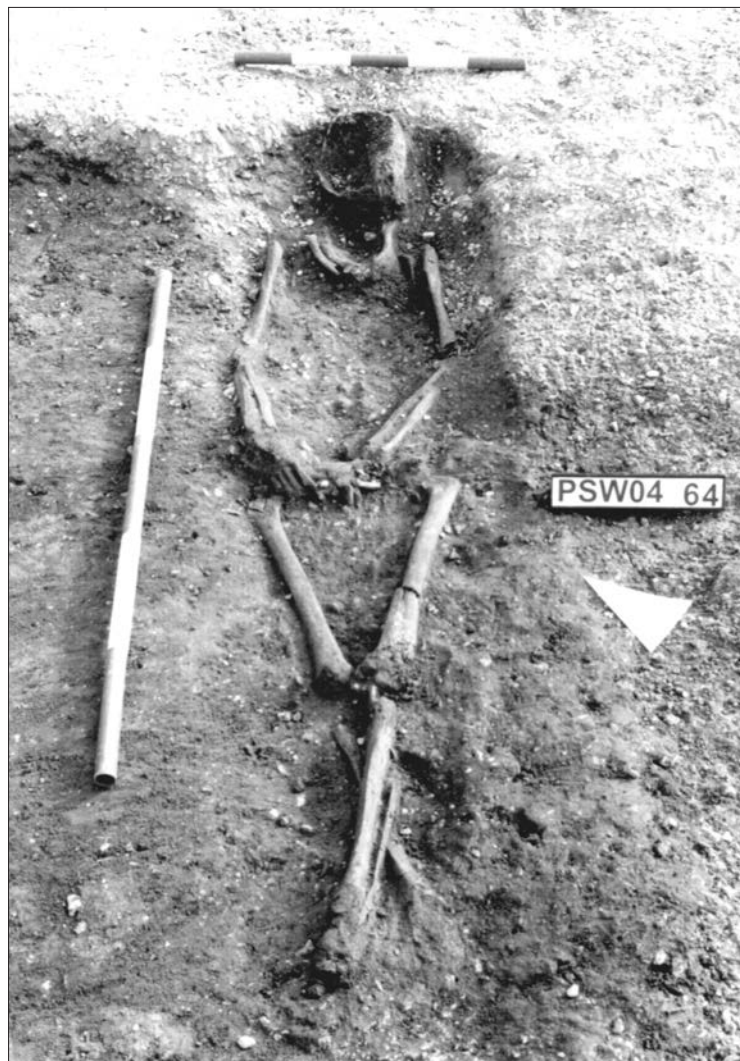


Plate 4 Pocklington Wastewater Treatment Works: skeleton 64